Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited

vs

the Gas and Electricity Markets Authority

Final determination

Volume 3: Individual Grounds

Issued: 28 October 2021

The Competition and Markets Authority has excluded from this version of the final determination information which the inquiry group considers should be excluded having regard to section 23G Gas Act 1986 and section 11H Electricity Act 1989. The omissions are indicated by [✂].

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9. Cadent Ground 1A: LTS rechargeable diversion

Introduction

9.1 Ground 1 in Cadent's NoA on Baseline Totex Errors included three subgrounds: 1A (LTS rechargeable diversions), 1B (London regional factors) and 1C (Ongoing efficiency target). Ground 1C was joined with the ongoing efficiency grounds of other appellants and discussed in Chapter 7. Grounds 1A and 1B are assessed as individual grounds in this and the following chapter.

9.2 The Local Transmission System (**LTS**) is the high-pressure tier of the gas distribution network.[1] An LTS diversion is work undertaken by a Gas Distribution Network (**GDN**) to decommission and replace existing LTS pipelines with new LTS pipelines in different locations. LTS diversions costs are either recovered from third parties requesting the diversions works (rechargeable costs) or from all consumers through network charges (non-rechargeable costs).[2]

9.3 GEMA included the LTS rechargeable diversions costs in the econometric assessment in order to assess the overall efficiency of the GDNs.[3] GEMA then made a post modelling adjustment to allow for the fact that LTS rechargeable diversions costs were funded by third parties and thus did not need to be funded through totex allowances (funded by all consumers).[4]

9.4 Cadent appealed GEMA's Decision, and submitted that GEMA was wrong to include these LTS rechargeable diversions costs in its econometric assessment as this materially distorted GEMA's efficiency benchmarking exercise and unfairly penalised (and discriminated against) Cadent for its uniquely high share of such costs.[5]

9.5 In the following we:

(a) give the background to GEMA's RIIO-GD2 approach to LTS rechargeable diversions costs;

(b) set out the grounds of appeal raised by Cadent;

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[1] *Wagner 6 (GEMA),* paragraphs 5 and 16.
[2] GEMA Response B, paragraph 315; An LTS diversion may be funded either by consumers through price control revenues, by a third party requesting the diversion work (for example where the diversion of a pipeline is required to make way for a new development) or a combination of both. An LTS diversion funded either partially or wholly by a third party was referred to as rechargeable LTS diversion. *Wagner 6 (GEMA),* paragraphs 18 and 19.
[3] *Wagner 6 (GEMA),* paragraph 13; GEMA Response B, paragraph 316.
[4] *Wagner 6 (GEMA),* paragraph 11.
[5] Cadent NoA, paragraph 1.4(a)(i).

(c) present the evidence put forward by Cadent in support of this ground of appeal;

(d) present GEMA's response to Cadent's ground of appeal;

(e) present GEMA's reconsideration of its approach following Cadent's appeal and Cadent's response to GEMA's reconsideration of its approach following Cadent's appeal;

(f) set out our assessment of the evidence and arguments;

(g) provide our determination on whether GEMA was wrong to include LTS rechargeable diversions costs in its econometric assessment; and

(h) assess the appropriate relief.

Background

9.6 In this section we provide background on GEMA's approach to LTS rechargeable diversions costs in the RIIO-GD2 Decision.

Approach in the RIIO-GD2 Decision

9.7 GEMA used an econometric model to estimate a large part of the GDNs' costs based on an average relationship, across all GDNs, between costs and a set of relevant cost drivers.[6] GEMA used the results of this model in the benchmarking analysis to assess each GDN's relative efficiency by comparing its performance with the other GDNs.[7]

9.8 Costs can be modelled using either:[8]

(a) gross costs: the actual total expenditure incurred by the networks; or

(b) net costs: the total expenditure excluding the contributions received from third parties.

9.9 GEMA said that it assessed all costs on a gross basis (ie including costs covered by contributions from third parties) in order to assess the overall efficiency of the GDNs and to ensure that the modelled relationship between costs and cost drivers was not distorted by funding methods resulting from differences in the proportion of costs recovered from third parties between

[6] *Wagner 1 (GEMA),* paragraphs 35 and 39.
[7] *Wagner 1 (GEMA),* paragraph 59.
[8] *Wagner 6 (GEMA),* paragraph 11.

GDNs.[9] GEMA explained that including as much capex as possible in the models (including LTS diversions) allowed it to best account for opex/capex trade-offs and reporting inconsistencies.[10] GEMA then made a post modelling adjustment to convert gross costs to net costs, which allowed for the fact that some costs were rechargeable to third parties (such as LTS rechargeable diversions), and did not need to be funded through totex allowances (and funded by all consumers).[11]

9.10 Capex projects tend to be larger and more discrete in nature than opex and repex projects.[12] Given this, GEMA decided that some capex investments would not be well suited for modelling or other benchmarking analysis, due to being uncommon across networks, lacking historical comparators, or having other unique characteristics.[13] GEMA generally decided to exclude RIIO-GD2 capex projects from the regression if they met both of the following criteria:[14]

(a) a gross cost of over £5 million at the network level (ie materiality threshold); and[15]

(b) an investment that is uncommon across the networks, lacks historical comparators, or is highly unique (ie atypical).

9.11 GEMA said that the purpose of the atypicality criterion was to identify the discrete atypical projects that it considered unsuitable for comparative benchmarking. GEMA said that it used information in the project engineering justification packs (**EJPs**) to determine if a project was atypical and to check it was a discrete project rather than several smaller projects aggregated together. GEMA stated that this approach allowed it to keep investment and projects similar in nature to those carried out by other networks (ie non-atypical projects) in the totex regression, regardless of their materiality.[16]

9.12 GEMA smoothed the capex that was included in the regression model by using a seven-year rolling average.[17] It stated that this allowed for opex/capex trade-offs to be accounted for while avoiding any risk of distortions in the modelling caused by year-on-year variations in capex.[18]

[9] *Wagner 6 (GEMA),* paragraph 11; GEMA Response B, paragraph 316; GEMA Clarification Hearing Transcript, 21 May 2021, page 144, lines 4–17.
[10] GEMA Clarification Hearing Transcript, 21 May 2021, page 143, line 18–page 144, line 3.
[11] *Wagner 6 (GEMA),* paragraph 11.
[12] *Wagner 1 (GEMA),* paragraph 37.
[13] *Wagner 1 (GEMA),* paragraph 62.
[14] GEMA, RFI GEMA 011, paragraph 4.
[15] GEMA Response B, paragraph 343.
[16] GEMA, RFI GEMA 011, paragraph 4.1.
[17] *Wagner 1 (GEMA),* paragraph 38.
[18] *Wagner 1 (GEMA),* paragraph 38.

9.13 GEMA stated that LTS diversions formed part of capex.[19] However, GEMA said that it did not exclude any of the atypical LTS rechargeable diversions projects from its econometric model in RIIO-GD2, despite some of them having gross costs of over £5 million.[20]

9.14 GEMA said that all modelling decisions should be viewed 'in the round' with its other decisions in relation to outputs, allowed revenues and uncertainty and other risk mitigating mechanisms as this was the basis on which it constructed its RIIO-GD2 package.[21]

The grounds of appeal

9.15 Cadent submitted in its appeal that GEMA was wrong to include LTS rechargeable diversions costs in its econometric assessment.[22] It stated that GEMA's econometric model did not adequately control for factors that would affect the level of LTS rechargeable diversions costs.[23] It said that this materially distorted GEMA's efficiency benchmarking exercise and unfairly penalised (and discriminated against) Cadent for its uniquely high share of such costs (as the model did not adequately control for the factors that would affect the level of these costs).[24] It stated that this inclusion introduced material errors into the econometric modelling such that the outputs were not reliable, making Cadent appear artificially less efficient compared to other GDNs.[25]

9.16 Cadent said that the LTS rechargeable diversions costs should have been excluded from the model altogether.[26]

Statutory grounds of appeal

9.17 Cadent submitted that the alleged errors (as outlined above) in relation to Ground 1A resulted in GEMA's Decision being wrong on the following statutory grounds:

(a) GEMA had failed properly to have regard to, and failed to give appropriate (ie sufficient) weight to, its Best Practice Duty;[27] and

[19] *Wagner 6 (GEMA),* paragraph 20.
[20] *Wagner 6 (GEMA),* paragraph 13; GEMA Response B, paragraph 343.
[21] *Wagner 1 (GEMA),* paragraph 74.
[22] Cadent NoA, paragraph 1.4(a)(i).
[23] Cadent NoA, paragraph 1.12(a).
[24] Cadent NoA, paragraph 1.4(a)(i).
[25] Cadent NoA, paragraph 1.12(c).
[26] Cadent NoA, paragraph 1.13.
[27] Cadent NoA, paragraph 3.144 FN 169 referring to paragraph 3.31.

(b) GEMA had committed a number of errors of fact in respect of the evidence that was before it.[28]

9.18 In relation to Ground 1 as a whole, Cadent further submitted that GEMA had committed an error of law by 'proceeding on the basis of no, or no adequate, evidential base in relation to a number of its conclusions'.[29]

Parties' submissions

9.19 In this section we set out the evidence submitted by Cadent in support of its alleged error that GEMA was wrong to include LTS rechargeable diversions costs in its econometric assessment. We then set out GEMA's submissions in relation to this ground.

Cadent's submissions

9.20 In this section we present the evidence put forward by Cadent in support of this ground of appeal.

9.21 Cadent submitted that GEMA had been wrong to include LTS rechargeable diversions costs in its econometric assessment.[30]

9.22 Cadent said that this error had three elements:[31]

(a) GEMA's econometric modelling had failed to control for factors (besides efficiency) affecting the level of LTS rechargeable diversions costs;

(b) GEMA's approach had disadvantaged (and unfairly discriminated against) Cadent for its uniquely high share of such costs; and

(c) GEMA's approach had compromised the efficiency benchmarking exercise, reducing Cadent's baseline totex allowance and materially compounding the effect of the other totex errors raised by Cadent.

9.23 We now set out further detail on each of these elements.

GEMA's failure to control for LTS rechargeable diversions costs

9.24 Cadent submitted that the inclusion of LTS rechargeable diversions costs in econometric modelling without appropriate drivers was an error, which penalised GDNs that submitted such costs by making them appear inefficient.

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[28] Cadent NoA, paragraph 3.144 FN 170 referring to paragraph 3.42(b).
[29] Cadent said in footnote 171 in its NoA that the impugned evidence in question was identified in the relevant paragraphs of Section 3, Sub-Sections C–E, but did not add any further detail.
[30] Cadent NoA, paragraph 1.4(a)(i).
[31] Cadent NoA, paragraph 3.29.

It stated that GEMA's approach did not, therefore, meet the standards of good econometric practice because the inclusion of those costs introduced additional unexplained differences in the levels of costs between GDNs, which were incorrectly attributed to their relative efficiency.[32]

9.25 Cadent said that none of the drivers included by GEMA in its econometric modelling adequately controlled for differences in LTS rechargeable diversions costs.[33] It stated that while GEMA assumed that the modern equivalent asset value (**MEAV**) component of its driver, which measured the scale of GDNs' network assets, could explain those costs, this assumption was demonstrably incorrect. It stated that MEAV was related to a network's scale (and the replacement value of its assets) and was therefore unrelated to the levels of work required to divert LTS pipelines. It submitted that this type of work was not driven by network needs (or scale); it was undertaken on a highly bespoke, ad hoc basis as and when third parties requested diversions.[34] Cadent said that even costs below £5 million were distorting the efficiency benchmark and therefore there was no logic for leaving those in the regression.[35] NERA,[36] Cadent's advisers, said diversions were not likely to affect the value of a GDN's MEAV, since diversions typically involved replacing older assets with new ones of the same or similar length and diameter.[37]

9.26 Cadent submitted that GEMA's assessment of regressed costs on a gross basis constituted a departure from its approach at RIIO-GD1 where GEMA assessed costs on a net basis.[38]

9.27 Cadent said that GEMA's claim that it adjusted to net costs after modelling was not relevant. It stated that GEMA in fact used gross costs to benchmark the GDNs before it converted modelled costs into net allowances. It was the impact of those gross costs which materially distorted the efficiency benchmarking.[39]

9.28 Cadent stated that GEMA performing its assessment over a long time period and smoothing the costs using a 7-year trailing average to address volatility did not eliminate or even reduce the downward bias in Cadent's allowances from including LTS rechargeable diversions in the regression, without a driver

[32] Cadent NoA, paragraph 3.31.
[33] Cadent NoA, paragraph 3.30.
[34] Cadent NoA, paragraph 3.30.
[35] Cadent Main Hearing Transcript, 5 July 2021, page 18, lines 3–5.
[36] NERA submissions referred to in this chapter were on behalf of Cadent.
[37] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 165.
[38] Cadent NoA, paragraph 3.25.
[39] Cadent NoA, paragraph 3.34.

to explain them.[40] NERA (on behalf of Cadent) said that smoothing capex was only intended to improve the estimation of the benchmarking regression and therefore did not alleviate the understatement of Cadent's efficient totex caused by including LTS rechargeable diversions in the regression.[41]

9.29 Cadent submitted that notwithstanding GEMA's reasons for wishing to assess costs on a gross basis, in order to do so it would have been necessary to ensure that the econometric modelling for LTS rechargeable diversions costs could control for factors affecting the level of those costs.[42] NERA said that it may have been challenging to identify a single cost driver that explained differences in LTS costs across the GDNs because such projects were bespoke, large capital schemes.[43] NERA also submitted that suggesting that the driver used to explain LTS rechargeable diversions should have some observable correlation or theoretical link to this cost category was an entirely reasonable standard to apply when performing a comparative benchmarking regression.[44] It further said that there was no need for GEMA to find a more appropriate cost driver because GEMA had no need to include rechargeable LTS costs in its model at all.[45]

9.30 NERA said that it was unlikely that the possibility of opex/capex trade-offs between LTS capex and other categories of costs would mitigate the effect of GDNs undertaking different amounts of LTS diversions work during the RIIO-GD2 control period,[46] and that supposed trade-offs between cost categories did not justify the inclusion of LTS rechargeable diversions costs in the regression.[47] It said that GEMA's examples concerning soil and river erosion were irrelevant to rechargeable diversions projects which were carried out due to bespoke third-party requests to move a pipeline. NERA noted that in GEMA's example of a pipeline impeding a landowner's ability to develop its land, GEMA had argued that Cadent could instead compensate the landowner for the loss of development (see paragraph 9.56(c)). NERA understood from Cadent that opex solutions such as this were very rare in practice, and did not apply for any of the LTS rechargeable diversions Cadent

[40] Cadent NoA, paragraph 3.34; NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 176.
[41] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraphs 78–79; NERA stated that while GEMA smoothed capex costs over seven years in its benchmarking model, GEMA relied on unsmoothed costs when calculating GDNs' efficiency scores and allowances.
[42] Cadent NoA, paragraph 3.35.
[43] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 166.
[44] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraph 77.
[45] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraph 77.
[46] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 178B.
[47] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraph 71.

would carry out during RIIO-GD2. NERA said that this hypothetical trade-off did not justify GEMA including LTS rechargeable diversions costs in its regression. It said that it would not be in customers' interests for a GDN to incur opex (funded by customers through the price control) to pay a landowner not to request a rechargeable diversion of a pipeline that the landowner itself would have been asked to pay for.[48]

9.31 NERA stated that it is possible that replacing an older LTS pipeline with a new (and diverted) LTS pipeline may reduce maintenance costs. It said, however, that while this longer-term cost saving might marginally reduce a GDN's long-term expenditure requirements, it does not address the fact that a GDN undertaking a lot of diversions during RIIO-GD2 would incur very high upfront capital expenditure that would make it appear inefficient in GEMA's RIIO-GD2 cost assessment.[49]

9.32 NERA said that GEMA's treatment of rechargeable LTS diversions was inconsistent with its treatment of other large capital projects.[50] It said that GEMA's approach to LTS rechargeable diversions was also inconsistent with its approach to mains diversions (ie on pipes at lower capacity than the LTS). It stated that GEMA excluded all costs associated with rechargeable and non-rechargeable repex mains diversions from the regression model, and then assessed them separately.[51] This report said that GEMA did not seem to consider Cadent's ability to avoid maintenance costs a material concern for mains diversions.[52]

9.33 NERA stated that while it was factually correct that a non-Cadent GDN (NGN – see paragraph 9.58) expected to carry out a third-party requested diversion which could not be recharged to the third-party, this example was irrelevant, since GEMA excluded this non-rechargeable LTS diversion from the regression model.[53]

9.34 Cadent said that Cadent's London and West Midlands networks had net negative LTS diversion costs over the 13 years (RIIO-GD1 and RIIO-GD2) due to overhead recovery charged to third parties. Cadent said it could recover such overhead costs from third parties for rechargeable LTS

[48] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraph 71B.
[49] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 178B.
[50] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraphs 165–166.
[51] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 169.
[52] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraph 72.
[53] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraph 74.

diversions they requested and paid for. It said that the net negative LTS diversion costs reported in the RIIO-GD1 period had no impact on Cadent's Ground 1A analysis, or proposed remedy, because Cadent had removed the full rechargeable amount.[54]

GEMA's approach penalised and unfairly discriminated against Cadent

9.35 Cadent said that GEMA's failure to exclude LTS rechargeable diversions costs had a particularly onerous and adverse effect on Cadent.[55] NERA said that Cadent would appear to be less efficient in GEMA's comparative benchmarking regression than it would if it did not incur these additional costs.[56]

9.36 Cadent said that GEMA's guidance instructed GDNs to include costs associated with rechargeable works in their Business Plan Data Templates (**BPDTs**).[57] It said that the BPDTs were the business plan template documents that set out each GDN's detailed submitted costs, which GEMA used for its assessment and benchmarking of costs.[58]

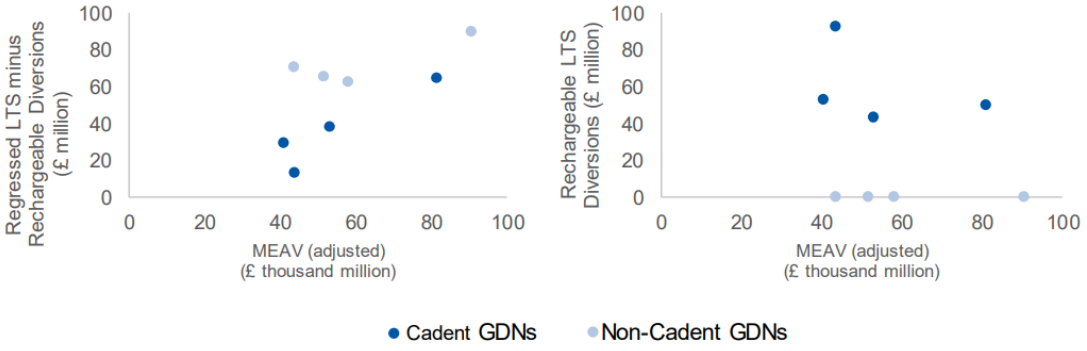
9.37 Cadent submitted that its BPDTs reported approximately £240 million of LTS rechargeable diversions costs which it expected to incur over RIIO-GD2. It stated that those costs were driven by a substantial volume of LTS rechargeable diversions requested (and paid for) by third parties as a result, in particular, of a number of large infrastructure projects which fell within Cadent's area of operations, such as HS2, the Lower Thames River Crossing, and Heathrow Terminal 5.[59] It stated that by contrast other GDNs' BPDTs specified zero gross costs associated with LTS rechargeable diversions for RIIO-GD2, despite all eight GDNs having incurred such costs over RIIO-GD1.[60] It stated that, unlike some other activities which were funded by third parties, such as connections to the network, GEMA had not conducted any consistency checks or adjustments on the level of LTS rechargeable diversion costs included in the GDNs' plans.[61]

9.38 NERA stated that Figure 9-1 below illustrated the correlation between LTS costs over RIIO-GD2 and GEMA's chosen cost driver, MEAV. It submitted that GEMA's 'LTS, Storage and Entry costs' category of costs included LTS

[54] Cadent, RFI Cadent 005, paragraph 1.
[55] Cadent NoA, paragraph 3.36; Cadent submitted that it had raised concerns in its response to the DD, and thereafter engaged in numerous bilateral discussions with GEMA to explain why its approach was an error. *Moon 1 (Cadent)*, paragraph 69.
[56] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 184.
[57] Cadent NoA, paragraph 3.37; *Moon 1 (Cadent)*, paragraph 66.
[58] Cadent NoA, paragraph 3.37.
[59] Cadent NoA, paragraph 3.38.
[60] Cadent NoA, paragraph 3.39.
[61] Cadent Main Hearing Transcript, 5 July 2021, page 21, line 21–page 22, line 2.

diversions costs. It said that the left-hand panel below showed that some positive correlation appeared to exist between MEAV and the remainder of this cost category excluding rechargeable diversions, suggesting they had some relationship with GDNs' scale (GEMA's assumed cost driver). It said that there was no apparent correlation between LTS rechargeable diversions and MEAV, most notably because the value of these rechargeable LTS diversions was zero for all but the Cadent GDNs.[62]

Figure 9-1: LTS, storage and entry costs and MEAV over RIIO-GD2, excluding rechargeable diversions from LTS, storage and entry costs (left hand panel) and only rechargeable diversions (right hand panel).



Source: NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, page 60.

9.39 Cadent submitted that GEMA's claim that if Cadent had wished for its LTS rechargeable diversions costs to be assessed outside the regression model it should have submitted EJPs, was not valid and was inconsistent with the process that GEMA followed at RIIO-GD1.[63] It submitted that at RIIO-GD1 GEMA did not include rechargeable LTS diversions costs in its econometric model and, as such, Cadent did not see why it was necessary to submit EJPs in order to exclude these costs from GEMA's econometric assessment. Cadent said that the Business Plan Guidance for RIIO-GD2 did not indicate that the provision of EJPs for projects largely or wholly funded by third parties was mandatory. It also submitted that GEMA did not request EJPs for these projects despite explicitly reserving the right to do so in its guidance.[64]

9.40 Cadent submitted that rechargeable LTS diversions were undertaken solely to facilitate third party projects and were not driven by a network engineering need, which therefore precluded the preparation and submission of EJPs. Moreover, it said that rechargeable LTS diversions were fully paid for by the

[62] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 173.
[63] *Moon 1 (Cadent)*, paragraphs 73–74.
[64] *Moon 1 (Cadent)*, paragraph 74.

requesting third parties who performed their own due diligence on the costs Cadent quoted to undertake the relevant works.[65]

9.41 Cadent said that its engagement with GEMA between DD and FD concerned a wider issue of whether GEMA's assessment should be performed on a wholly net basis. For its appeal, Cadent decided to focus on the narrower issue of LTS rechargeable diversions because the inclusion of those costs had the greatest adverse impact on its relative efficiency and allowances.[66]

Impact on econometric modelling and efficiency benchmarking

9.42 NERA recommended that the CMA exclude rechargeable LTS diversions from GEMA's analysis entirely.[67] Cadent said that its remedy would fully address the econometric issue and also recognise that the third party infrastructure projects were uncertain, and that timelines and specific requirements could change (eg Heathrow terminal and HS2).[68]

9.43 Cadent submitted that this simple and pragmatic approach (which GEMA itself applied at RIIO-GD1) would have wide-ranging effects, both for industry allowances and efficiency rankings.[69] In brief, removing LTS rechargeable diversions costs from regressed costs would:[70]

(a) increase Cadent's baseline totex allowance by £14 million over RIIO-GD2, while decreasing the total allowance for the industry by £144 million;

(b) materially alter the efficiency rankings of the GDNs such that Cadent's GDNs would rank second, third, fourth and seventh, with Cadent's East of England and the North West networks setting the efficiency benchmark for RIIO-GD2, while West Midlands would be only marginally behind; and

(c) improve the reliability of the econometric modelling, by increasing the R-squared value from 0.929 to 0.943, which indicated that the drivers captured a greater proportion of the variation in costs than under GEMA's approach.

9.44 Cadent said that the resulting change in the Cadent GDNs' efficiency scores and rankings would have wider implications for the relief sought in respect of its Grounds 1B and 1C.[71]

[65] *Moon 1 (Cadent)*, paragraph 75.
[66] *Moon 1 (Cadent)*, paragraph 70.
[67] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD1, paragraph 186.
[68] Cadent letter to GEMA, 28 May 2021, page 1.
[69] Cadent NoA, paragraph 3.42.
[70] Cadent NoA, paragraph 3.42.
[71] Cadent NoA, paragraph 3.42.

9.45 Cadent said that any non-rechargeable workload may be within Cadent's control and could consequently be subject to capex/opex trade-offs. It said that it was therefore economically rational to keep any non-rechargeable element in the model which was exactly what Cadent's remedy achieved. It said that in any event only around £1 million of Cadent's LTS rechargeable diversions costs in RIIO-GD2 were not rechargeable.[72]

9.46 Cadent said that GEMA's process had been characterised by a significant number of errors. It stated that there had been significant delays in Cadent receiving material information, with an errata process taking place after the FD. It submitted that this had had a significant impact on Cadent's ability to assess GEMA's proposals, likely hampered GEMA's ability to assess the overall price control package and resulted in a number of errors remaining in GEMA's final decision, particularly in relation to cost allowances.[73] It said that many of the errors identified in Cadent's grounds of appeal were attributable in whole or in part to GEMA's failure to carry out a robust and efficient process.[74] Cadent submitted that at the time of DD several new proposals had been included which had not been discussed in detail or consulted on.[75] It stated that errors had been made worse (or, in some cases, had occurred as a result of) the econometric model chosen by GEMA, which was hugely complex from a computational perspective.[76] It said that the issues that had arisen throughout the price control process had been further exacerbated by a number of changes in key GEMA personnel.[77]

GEMA's submissions

9.47 In this section we present GEMA's response to Cadent's ground of appeal (see paragraphs 9.48 to 9.77), its response to our provisional determination (see paragraph 9.78), and then its reconsideration of its approach following Cadent's appeal (see paragraphs 9.79 to 9.87).

9.48 GEMA stated that Cadent's Ground 1A amounted to little more than a disagreement with the approach which GEMA considered to be appropriate in its regulatory discretion. It said that the labels of statutory grounds of appeal (paragraphs 9.17 and 9.18) did not appear to reflect the substance of the complaint under Ground 1A.[78]

[72] Cadent Closing Statement, Table 1, pages 1–3.
[73] Cadent Reply, paragraph 24.
[74] Cadent Reply, paragraph 25.
[75] *Moon 2 (Cadent)*, paragraph 11.
[76] *Moon 2 (Cadent)*, paragraph 17.
[77] *Moon 2 (Cadent)*, paragraph 21.
[78] GEMA Response B, paragraph 345.

9.49 GEMA said that using gross costs for the efficiency analysis was reasonable and appropriate.[79] It stated that Cadent simply disagreed with GEMA's exercise of its expert regulatory judgement in determining an appropriate way to carry out efficiency assessments and how it treated rechargeable LTS Diversions costs in its modelling. It submitted that Cadent failed to demonstrate that GEMA was wrong in its approach, and that:[80]

(a) it was appropriate for GEMA to have included gross costs in the regression analysis rather than net costs;

(b) having carried out an extensive consultation on MEAV and other cost drivers it was entitled to conclude that (i) MEAV was the most appropriate driver available to it; and, (ii) regressing gross LTS diversions costs with reference to MEAV was preferable to omitting rechargeable LTS diversions costs from the regression analysis altogether; and

(c) its approach did not penalise or unfairly discriminate against Cadent.

9.50 We now present each of these arguments in more detail.

GEMA was entitled to assess gross costs

9.51 GEMA said that the purpose of the benchmarking analysis was to establish efficiency.[81] GEMA said that it considered that a GDN's overall efficiency was best assessed on the overall costs it incurred, regardless of how those costs were funded. It said that there was no discernible connection between whether LTS diversions costs were paid for by third parties or GDNs/consumers, and whether such costs were efficient.[82]

9.52 GEMA stated that its objective was to include as much of the GDNs' cost base within the totex regression as possible, removing cost categories as the exception rather than the rule. It said that where GEMA did assess costs outside of the regression, this was typically either large atypical projects or areas of work where it was not possible to develop a robust cost driver.[83]

9.53 GEMA submitted that excluding all LTS rechargeable diversions costs from the regression would have undermined the integrity of the top-down model.[84] It said that a single model best accounted for trade-offs, cost

[79] GEMA Response B, paragraph 317.
[80] GEMA Response B, paragraph 317.
[81] GEMA Response B, paragraph 347(1).
[82] GEMA Response B, paragraph 347(1).
[83] GEMA, RFI GEMA 011, paragraph 3.
[84] GEMA Response B, paragraph 347(2).

complementarities, and potential reporting inconsistencies across GDNs; and carried a higher level of confidence in its statistical robustness.[85]

9.54 GEMA said that, having decided to employ a single econometric model, it considered that including costs in it where possible was necessary to maximise the benefit of top-down assessment, in particular to ensure that opex-capex trade-offs were captured.[86] GEMA said that it excluded cost items from the totex model by exception only.[87] It said it considered that its top-down model captured bottom-up considerations by including cost drivers from the RIIO-GD1 bottom-up regression models in the totex composite scale variable (**CSV**) overall cost driver.[88]

9.55 It said that Cadent expressed agreement with the importance of including as many costs in the regression as possible at sector specific methodology consultation (**SSMC**), and DD consultation; and specifically referred to the example of trade-offs between LTS pipeline opex and capex in support of aggregated modelling during SSMC. It said that at DD stage, Cadent also argued that fewer projects should be excluded from the regression to ensure that trade-offs were best captured.[89]

9.56 GEMA stated that there were a number of opex/capex trade-offs associated with LTS diversions that GDNs highlighted in their RIIO-GD2 business plan submissions. It said that trade-offs could come about where GDNs faced a choice between an opex or a capex solution to a problem. For example:[90]

(a) for a pipeline suffering from reduced depth of cover, intervention could involve diverting the pipeline (capex) or adding additional topsoil (opex);

(b) for a pipeline at risk from riverbank erosion, intervention could involve diverting the pipeline (capex) or maintenance of the riverbank (opex);

(c) for a pipeline impeding a landowner's ability to develop their land, intervention could involve diverting the pipeline (capex) or compensating the landowner for the loss of development (opex).

9.57 GEMA submitted that the diversion of older LTS pipelines could lead to reduced maintenance (opex) costs on the new assets in the future. It stated that assessing all LTS diversions costs in the totex regression alongside opex

[85] GEMA Response B, paragraph 323.
[86] GEMA Response B, paragraph 347(2).
[87] *Wagner 6 (GEMA),* paragraph 10.
[88] *Wagner 6 (GEMA),* paragraph 86.
[89] GEMA Response B, paragraph 347(2).
[90] *Wagner 6 (GEMA),* paragraph 71.

costs allowed for all of these trade-offs to be taken into account in the assessment of overall GDN efficiency.[91]

9.58 GEMA said that the distinction between rechargeable and non-rechargeable LTS diversions costs was arbitrary and usually outside the GDNs' control.[92] It said omitting LTS rechargeable diversions costs from the model might have distorted the relationship between costs and the cost drivers, as the model would be accounting for a GDN's ability to recover costs from third parties rather than its operational efficiency.[93] GEMA said that GDNs have differing abilities to recover costs for LTS diversions from third parties, for example due to legacy arrangements that are outside network company control.[94] It said that the use of net costs in the assessment could introduce bias against network companies which could recover a smaller portion of LTS diversions costs from third parties.[95] GEMA said that GDNs could not always recover costs from third party-driven diversions, for example due to the presence of a 'lift-and-shift clause' requiring the GDN to cover the full cost of the diversion.[96] It stated that non-rechargeable LTS diversions could also be driven by a third party, but the GDN was liable for the costs (eg NGN's TransPennine electrification project requiring diversions to remove several overcrossings following a formal instruction from Network Rail), which it then recovered through its price control revenues (ie totex allowances).[97] GEMA provided four examples from RIIO-GD1 of small or non-atypical LTS diversions projects where GDNs had to fund part or all of the work due to legacy arrangements such as terms in the land easements. It said that as these projects were small and non-atypical they were included in the RIIO-GD2 totex regression model.[98]

9.59 GEMA said that, since some projects were only partially rechargeable to a third party, removing the rechargeable element of LTS diversions would result in the totex regression no longer using a basket of discrete projects, but rather a mixture of some discrete projects and some fractional projects. GEMA stated that this clearly lacked engineering rationale.[99]

9.60 GEMA submitted that including net LTS diversions costs in the regression would also cause distortions because Cadent's net figures were negative for

[91] *Wagner 6 (GEMA),* paragraph 72.
[92] GEMA Response B, paragraph 347(3).
[93] GEMA Response B, paragraph 347(3).
[94] GEMA stated that for example the ability of a GDN to charge for connections work could depend on regional differences in the connections work mix. *Wagner 6 (GEMA),* paragraph 80.
[95] *Wagner 6 (GEMA),* paragraph 124(a).
[96] *Wagner 6 (GEMA),* paragraph 102. GEMA stated that a lift-and-shift clause is a legal instrument that requires an asset owner to relocate a particular asset, usually at their own cost, upon request; *Wagner 6 (GEMA),* footnote 62.
[97] *Wagner 6 (GEMA),* paragraph 19.
[98] GEMA, RFI GEMA 017, page 1. These examples were: [✂]
[99] GEMA Main Hearing Transcript, 8 July 2021 (AM session), page 64, line 23–page 65, line 11.

two of its GDNs.[100] It said that as a result, assessing costs on a net basis could make Cadent appear more efficient than it is.[101]

9.61 GEMA stated that it had acted fairly and consistently in regressing all costs on a gross basis.[102] It said that LTS diversions costs were not the only cost category containing significant rechargeable costs which GEMA has assessed on a gross basis.[103] It submitted that it had adopted a uniform approach across all cost categories to avoid treating any GDN unfairly. It said that omitting only LTS rechargeable diversions costs from the model would have constituted 'cherry-picking'. It said that this would have been hard to justify to other GDNs and may have prompted one or more appeals on the need for consistency across all areas which involved substantial rechargeable costs.[104] GEMA said that at FD it included the majority of capex costs in the totex regression.[105]

9.62 GEMA said that any volatility caused by year-on-year variability across GDNs was addressed through a combination of (i) basing the assessment on the longest time period available (RIIO-GD1 and RIIO-GD2 combined – amounting to 13 years), (ii) smoothing capex costs included in the regression using a 7-year trailing average, and (iii) excluding atypical projects and large historical capex projects from the regression on the basis of qualitative and quantitative criteria.[106] GEMA said that at FD it subjected 12 discrete capex projects to technical assessment, including two LTS non-rechargeable diversions projects.[107]

9.63 GEMA said that the decision to regress gross costs was supported by regulatory precedent (RIIO-ED1 and PR19).[108]

9.64 GEMA stated that NERA (Cadent's adviser) went so far as to accept that GEMA was in principle entitled to regress gross costs.[109]

9.65 GEMA said that the list of projects presented in Cadent's main hearing did not show that GEMA had not applied the materiality threshold in the same way across all of capex (see paragraph 9.94).[110]

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[100] GEMA Response B, paragraph 347(3).
[101] *Wagner 6 (GEMA),* paragraph 124e).
[102] GEMA Response B, paragraph 347(4).
[103] It said that GDNs have forecasted £218m of third-party contributions over GD2 for connections, of which only £47m have been forecasted by Cadent. GEMA Response B, paragraph 347(4).
[104] GEMA Response B, paragraph 347(4).
[105] *Wagner 6 (GEMA),* paragraph 90.
[106] GEMA Response B, paragraph 347(5).
[107] GEMA Response B, paragraph 342.
[108] GEMA Response B, paragraph 347(6); GEMA Main Hearing Transcript, 8 July 2021 (AM session), page 63, lines 7–9.
[109] GEMA Response B, paragraph 348.
[110] GEMA, RFI GEMA 017, page 5.

GEMA was entitled to use MEAV as a driver to explain LTS diversions (and other capex) costs

9.66 GEMA said that it was fully aware of the fact that the single, top-down model necessarily required some approximation and that the model could not fully account for all the ways in which GDNs' costs might have varied. However, GEMA submitted that it was entitled to conclude:

(a) that MEAV was the most appropriate driver available to it; and

(b) that regressing gross LTS diversions costs (as well as various other capex costs) with reference to MEAV was preferable to omitting LTS rechargeable diversions costs from the regression analysis altogether.[111]

9.67 GEMA submitted that Cadent had not proposed a more appropriate cost driver than MEAV. It said that Cadent's proposed remedy tacitly accepted the use of MEAV to explain regressed net LTS diversions costs.[112] GEMA recognised that the scale of a network's assets was not directly related to the level of LTS diversions work, but it thought it was reasonable to expect that a larger scale network would generally carry out more LTS pipeline diversions.[113] It said that there was not a clear distinction between the categories of rechargeable and non-rechargeable diversions; they both involved decommissioning and replacing an existing LTS pipeline with a new LTS pipeline in a different location. GEMA submitted that it thought it was appropriate to assess both rechargeable and non-rechargeable LTS diversions in the same way, by including them in the regression with MEAV as the driver.[114]

9.68 GEMA stated that it carried out early and extensive consultation on potential drivers and, in light of general support for the use of MEAV, concluded that it was the most appropriate driver to explain LTS diversions costs.[115] It said that it did not receive any criticism from Cadent (or any other GDN) as to why MEAV was inappropriate for LTS diversions costs during the SSMC or multiple cost assessment working groups meetings. It said that it was only at DD stage that NERA (acting for Cadent) expressed misgivings similar to those raised on this appeal.[116]

9.69 GEMA submitted that it had a robust justification for including cost activities in the regression analysis where it was possible to do so. It said that having concluded that MEAV was the best available driver to explain LTS diversions

[111] GEMA Response B, paragraph 350.
[112] GEMA Response B, paragraph 351(1).
[113] *Wagner 6 (GEMA),* paragraph 118.
[114] *Wagner 6 (GEMA),* paragraph 119.
[115] GEMA Response B, paragraph 351(2).
[116] GEMA Response B, paragraph 351(2).

costs, it was entitled to conclude that the benefits of including such costs in the model outweighed any imperfections arising from the use of MEAV.[117]

9.70 GEMA said that its decision needed to be considered in light of its regression of other significant capex cost categories and opex cost categories using MEAV.[118] It said that regressing LTS rechargeable diversions using MEAV as a cost driver was consistent with the approach for these other activities.[119]

9.71 GEMA said that it was confident in the cost drivers used in the model.[120] It said that the estimated coefficient of the totex CSV was statistically significant at the 1% level. It said that the model fit had a high adjusted R-squared value of 92.7%.[121]

9.72 GEMA said that adopting sets of measures (excluding large historical capex projects, basing assessment on the longest time period available and smoothed capex costs) ensured that costs were significantly more comparable across GDNs.[122]

9.73 GEMA said that it excluded rechargeable and non-rechargeable mains diversions as it was unable to develop robust cost drivers for these costs. It submitted that this differed from its approach to LTS diversions where it considered MEAV to be a suitable cost driver, once GEMA had removed large atypical projects from the data.[123]

GEMA's approach did not unfairly penalise or discriminate against Cadent

9.74 GEMA said that LTS rechargeable diversions costs were not unique to Cadent. It submitted that only Cadent had forecast LTS rechargeable diversions costs for RIIO-GD2. However, all GDNs had submitted historical rechargeable costs from RIIO-GD1, some of which surpassed Cadent's costs over that price control.[124]

9.75 GEMA stated that the key justification for GEMA's approach to LTS diversions costs was to treat all GDNs fairly and equally. It said that omitting LTS rechargeable diversions costs from the regression analysis would unfairly penalise and discriminate against other GDNs which had incurred or forecast rechargeable costs in other capex cost categories (eg for 'connections').[125]

[117] GEMA Response B, paragraph 351(3).
[118] GEMA Response B, paragraph 351(4).
[119] GEMA Response B, paragraph 351(4).
[120] GEMA Response B, paragraph 351(5).
[121] GEMA Response B, paragraph 351(5).
[122] GEMA Response B, paragraphs 353–356.
[123] GEMA, RFI GEMA 011, paragraph 3.1.
[124] GEMA Response B, paragraph 358; *Wagner 6 (GEMA),* paragraph 121.
[125] GEMA Response B, paragraph 359.

9.76 GEMA said that through the RIIO-GD2 BPDTs, it had asked network companies to provide data on each disaggregated cost activity. GEMA stated that for capex activities it typically asked for data on gross costs, contributions (eg costs recovered from third parties for rechargeable work), workload, and some additional information relating to the assets.[126] GEMA said that it had confidence in the forecast costs provided because all network companies were required to provide assurance reports and board-level sign-off on the final RIIO-GD2 business plans and BPDTs.[127]

9.77 GEMA submitted that lumpy costs and short-term inconsistencies had been addressed through the three mechanisms, which applied in respect of all capex costs:[128]

(a) basing the assessment on the longest time period available;

(b) smoothing capex costs included in the regression using a 7-year trailing average; and

(c) excluding atypical projects and large historical capex projects from the regression.

9.78 In response to the CMA's provisional determination, GEMA said that it agreed with the CMA that modelling LTS diversions costs on a net basis (as suggested by Cadent) could introduce bias against network companies which recover a smaller proportion of LTS diversions costs from third parties.[129] It stated that at more disaggregated levels the relationship between MEAV and costs may have appeared weaker for the reasons reiterated by the CMA in paragraph 9.115 below, but that did not necessarily mean that GEMA's approach was incorrect.[130] It said that it supported the CMA's view that allowing the GDNs to focus too much on disaggregated costs could lead to 'cherry-picking'.[131]

GEMA's reconsideration of its approach following Cadent's appeal

9.79 In this section we discuss GEMA's reconsideration of its approach following Cadent's appeal and Cadent's response to GEMA's reconsideration of its approach following Cadent's appeal.

[126] *Wagner 6 (GEMA),* paragraph 43.
[127] GEMA, RFI GEMA 011, paragraph 2.2. ; GEMA Main Hearing Transcript, 8 July 2021 (AM session), page 61, lines 2–19.
[128] GEMA Response B, paragraph 361.
[129] GEMA Response to PD, paragraph 293.
[130] GEMA Response to PD, paragraph 295.
[131] GEMA Response to PD, paragraph 296.

GEMA's submissions

9.80 Following Cadent's appeal, GEMA said that it had reconsidered its approach to rechargeable LTS diversions and rechargeable capex projects more widely.[132] GEMA submitted that:[133]

(a) it recognised that it would have been more consistent to treat atypical rechargeable capex projects in the same way that it had treated atypical non-rechargeable capex projects, by removing those with gross costs of over £5 million from the totex regression; and

(b) it now considered that the £5 million criterion, which formed part of the threshold for excluding capex projects from the regression, should have been applied on a gross basis to ensure consistency with the gross cost modelling approach.

9.81 GEMA submitted that adopting this approach would ensure (i) greater comparability across GDNs, and (ii) that the materiality threshold's purpose had its desired effect, in particular that trade-offs were accounted for in the model while eliminating the risks of unfairness caused by large atypical projects.[134]

9.82 GEMA said that through a review of the RIIO-GD1 annual regulatory reporting pack submissions, it had identified several historical rechargeable capex projects with gross costs over £5 million that GEMA thought should have been excluded from the regression due to their being material, discrete and network-specific.[135, 136] GEMA said that based on the information it had available on Cadent's RIIO-GD2 LTS diversions costs at the time of its response to Cadent's NoA, it would be able to exclude only two forecast projects from the regression. GEMA noted in particular that Cadent had included only two named LTS rechargeable diversions schemes in its business plan: HS2 and Lower Thames Crossing. These projects had also been identified in GEMA's letter of 8 April 2021.[137,138]

9.83 GEMA said that excluding these two projects identified by GEMA would decrease Cadent's baseline totex allowance by £14 million over RIIO-GD2, while decreasing the total allowance for the industry by £138 million. [139]

[132] *Wagner 6 (GEMA),* paragraph 14.
[133] GEMA Response B, paragraph 533.
[134] GEMA Response B, paragraph 533.
[135] *Wagner 6 (GEMA),* paragraph 112.
[136] GEMA letter to Cadent, 8 April 2021, page 1.
[137] *Wagner 6 (GEMA),* paragraph 111; GEMA Response B, paragraph 533.
[138] GEMA letter to Cadent, 8 April 2021, page 1.
[139] GEMA, RFI GEMA 011, Table 3, page 7.

9.84 GEMA said that the remaining Cadent costs associated with LTS diversions had been labelled as 'diversions other' in Cadent's business plan, despite GEMA's BPDT guidance making clear that all projects exceeding £0.5 million should have been separately identified.[140] GEMA stated that Cadent had not provided any supporting information for those costs (including project-level EJPs).[141] GEMA said that GDNs were asked to consider submitting an EJP, in particular where such projects were of significant materiality.[142]

9.85 GEMA requested that the CMA direct the modification proposed by GEMA (ie for GEMA to exclude from its analysis the identified projects in the regression analysis) when directing any amendments to allowances at the end of the appeals process.[143] It stated that because there were potential interactions with other aspects of Cadent's allowances, GEMA considered it would be appropriate to make further submissions to the CMA on the precise form/nature of the remedy following the CMA's determination on all issues of liability.[144]

9.86 GEMA stated that, should it be appropriate to apply a remedy to this appeal, the criteria for selecting rechargeable projects for exclusion from the regression should be based on the same two criteria used at FD (ie both the materiality threshold and the atypicality criterion as specified in paragraph 9.10). GEMA said that this would ensure that projects suitable for comparable benchmarking remained in the totex model, consistent with GEMA's treatment of other capex activities in its modelling.[145] GEMA said that it had used similar criteria in the past when considering whether to separate costs out of a model (eg in RIIO-GD1 and RIIO-ED1), and that other regulators had also used materiality thresholds to identify and scrutinise exceptional projects (eg in PR19).[146] It said that determining atypicality required a certain amount of engineering judgement.[147]

9.87 GEMA submitted that to enable it to determine if any projects were discrete and atypical projects, Cadent would need to provide sufficient information on each project.[148] GEMA stated that the label of 'project' is a construct that

[140] GEMA Response B, paragraphs 482 and 533.
[141] GEMA Response B, paragraph 533.
[142] GEMA Response B, paragraph 341.
[143] GEMA Response B, paragraph 536.
[144] GEMA Response B, paragraph 537.
[145] GEMA, RFI GEMA 011, paragraph 4.2.
[146] GEMA Main Hearing Transcript, 8 July 2021 (AM session), page 50, line 13–page 51, line 12.
[147] GEMA Main Hearing Transcript, 8 July 2021 (AM session), page 52, lines 4–12.
[148] GEMA, RFI GEMA 011, paragraph 5.1. GEMA submitted that sufficient information on each project would include but may not be limited to: project name; project costs, including annual profile of forecast expenditure; description of the project scope; who the customer is and why they are requesting the work; description of the project options selection process; explanation of any non-rechargeable elements of the project, including costs; whether there are any related projects or any similar previous projects; and a detailed description of why Cadent believe these projects to be atypical.

companies have a degree of control over (eg scale, scope, cost allocation) and so GEMA needed enough information to understand the underlying investment in order to assess whether any such project would be exceptional.[149] GEMA said that in Cadent's BPDT submissions, Cadent had reported a cost accuracy figure of +/- 5% against its LTS diversions costs, which indicated that Cadent had relatively high confidence in its forecast costs. GEMA stated that it was reasonable to expect that Cadent could provide the additional information on these projects.[150]

Cadent's submissions

9.88 In this section we present Cadent's response to GEMA's reconsideration of its approach following Cadent's appeal (see paragraphs 9.89 to 9.95) and then Cadent's response to our provisional determination (see paragraphs 9.96 to 9.97).

9.89 Cadent said that it welcomed GEMA's admission (see paragraph 9.80) that its approach to LTS rechargeable diversions costs was in error because it had wrongly failed to exclude those costs related to projects over £5 million to ensure they did not distort the modelling.[151] Cadent submitted that it had repeatedly highlighted during the administrative process that including rechargeable costs distorted the modelling.[152] However, Cadent said that GEMA had not accepted Cadent's specific grounds of appeal, which it stood by.[153] Cadent said that GEMA's proposal introduced inconsistency and incoherence.[154]

9.90 Cadent said that despite GEMA's effective acceptance of Cadent's Ground 1A, GEMA had raised four points, none of which was valid. Cadent submitted that:[155]

(a) GEMA argued that, save for two projects, GEMA was unable to identify whether the remaining LTS rechargeable diversions costs corresponded to projects over £5 million in value, and that this was because Cadent had not submitted EJPs. Cadent said that EJPs were used only for technically assessed costs. It stated that LTS rechargeable diversions costs were not technically assessed costs. It submitted that GEMA was wrong to allocate a minority of Cadent's LTS rechargeable diversions costs to projects over

149 GEMA Main Hearing Transcript, 8 July 2021 (AM session), page 52, lines 3–24.
150 GEMA Closing Statement, paragraph 19.
151 Cadent Reply, paragraph 27.
152 Cadent Reply, paragraph 28.
153 Cadent Clarification Hearing Transcript, 17 May 2021, page 15, lines 23–24.
154 Cadent Closing Statement, Table 1, pages 1–3.
155 Cadent Reply, paragraphs 29–33.

£5 million. It said that the large majority in fact corresponded to such projects.[156]

(b) Despite GEMA's concession that it had erred on LTS rechargeable diversions costs, GEMA maintained that its approach was nevertheless appropriate in its regulatory discretion. Cadent said that GEMA was wrong.[157]

(c) GEMA's remedy was flawed because it did not address the most important problem with its approach: that the MEAV variable did not control for LTS rechargeable diversions costs. Cadent submitted that the alternative remedy, which excluded all LTS rechargeable diversions costs, was robust and demonstrably superior.[158]

(d) GEMA claimed that Cadent's statutory grounds of appeal did not reflect the substance of Ground 1A. Cadent said that GEMA's inclusion of LTS rechargeable diversions costs understated Cadent's baseline totex allowance and otherwise overstated allowances for the rest of the industry, that this was not in consumers' interests, and so GEMA had failed to have proper regard to its Principal Objective (and related duties).[159]

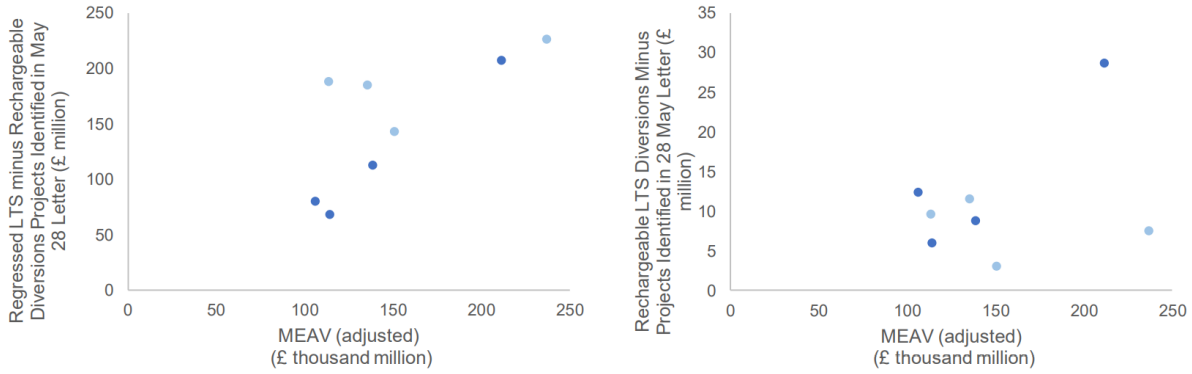
9.91 Cadent stated that GEMA's submissions about using two criteria (as stated in paragraph 9.10) would be inconsistent with how GEMA had approached other aspects of the cost assessment, and that many projects that were below £5 million had been excluded from the modelling.[160]

9.92 NERA said that if the CMA decided to implement GEMA's proposed remedy (including the use of its proposed criteria), it would need to identify and exclude LTS diversions projects that had gross costs exceeding the £5 million threshold, accounting for the fact that some projects may have been broken into multiple phases of work, as well deciding how to treat projects that potentially affected multiple GDNs.[161] It said that the CMA would also need to identify the relevant projects from RIIO-GD1 to implement GEMA's remedy (as historical costs from RIIO-GD1 were also part of GDNs' submitted costs).[162]

[156] Cadent Reply, paragraph 30.
[157] Cadent Reply, paragraph 31.
[158] Cadent Reply, paragraph 32.
[159] Cadent Reply, paragraph 33.
[160] Cadent Main Hearing Transcript, 5 July 2021, page 22, lines 3–14.
[161] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraph 5B.
[162] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, Exhibit RD2, paragraph 5C.

9.93 Cadent said in its 28 May 2021 response to GEMA's 8 April 2021 letter that out of its £240 million of LTS rechargeable diversions costs forecast over RIIO-GD2, £226 million (ie 94%) corresponded to projects over £5 million in value.[163] Cadent submitted that it was more challenging for it to identify precisely the costs associated with projects for non-Cadent GDNs as they were not specifically named in GEMA's FD modelling files.[164] NERA said that Cadent London's baseline totex allowance would increase by £20 million compared to GEMA's FD model when both the Cadent and non-Cadent GDNs' rechargeable LTS diversion costs which exceed the £5 million threshold were excluded.[165] NERA adjusted Figure 9-1 by adding RIIO-GD1 historical reported costs and by excluding the LTS rechargeable diversion projects that were identified in Table 1 and Table 2 of Cadent's 28 May 2021 letter[166] (Figure 9-2); and by adding RIIO-GD1 historical reported costs and by excluding LTS rechargeable diversion projects that were identified in Table 1 of GEMA's 8 April 2021 letter[167] (Figure 9-3).[168] NERA said that both Figure 9-2 and Figure 9-3 showed that there might be some correlation between MEAV and LTS costs in the left-hand panel but no evidence of correlation in the right-hand panel.[169]

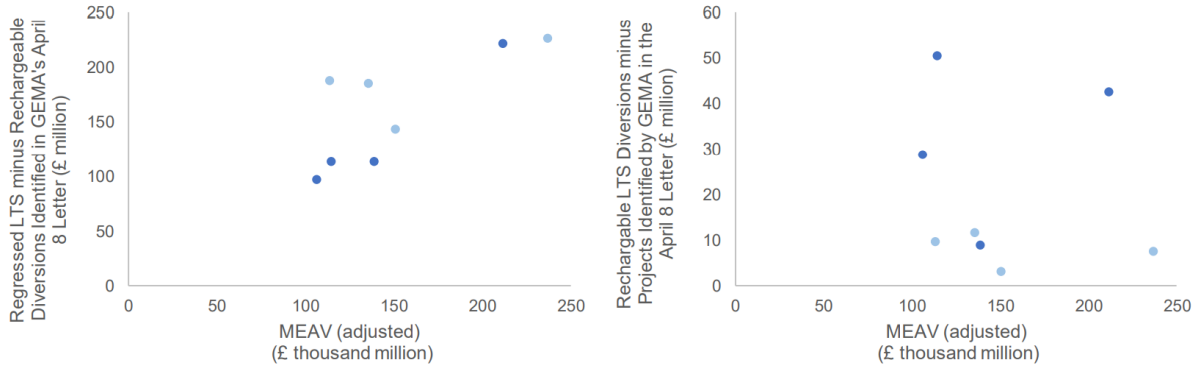
Figure 9-2: Revised Figure 9-1 to include RIIO-GD1 historical reported costs and exclude LTS rechargeable diversion projects identified in Cadent's 28 May 2021 Letter



Source: NERA Report in Support of Cadent Response of 6 July 2021 to RFI Cadent 005 of 2 July 2021, page 6.

[163] Cadent letter to GEMA, 28 May 2021, page 2.
[164] Cadent letter to GEMA, 28 May 2021, page 3.
[165] Cadent, NERA Report attached to RFI Cadent 004, pages 7–8.
[166] Cadent letter to GEMA, 28 May 2021, page 3.
[167] GEMA letter to Cadent, 8 April 2021, page 1.
[168] Cadent, NERA Report attached to RFI Cadent 005, pages 6–7.
[169] Cadent, NERA Report attached to RFI Cadent 005, paragraph 7 and 11.

Figure 9-3: Revised Figure 9-1 to include RIIO-GD1 historical reported costs and exclude LTS rechargeable diversion projects identified in GEMA's 8 April 2021 Letter



Source: NERA Report submitted in support to Cadent Response of 6 July 2021 to RFI Cadent 005 of 2 July 2021, page 7.

9.94 Cadent submitted that effectively all of these LTS rechargeable diversions projects would be atypical because they were driven by third party requests and requirements, and so each represents a completely different infrastructure project with differing requirements in terms of the activities needed to divert the network.[170] Cadent stated that since the LTS rechargeable diversion costs were not adequately explained by the MEAV in the modelling, they should be considered to be atypical.[171] Cadent said that it was unclear why GEMA needed so much additional information in order to assess whether these projects were atypical, particularly when the level of requested detail was more than had been provided for the two projects which GEMA had already accepted should be removed from the models.[172] Cadent said that a large number of projects that the GDNs did put into their business plans that had a value below £5 million were excluded from the regression and treated as exceptional.[173]

9.95 Cadent stated that GEMA's proposed approach risked the introduction of inconsistency across GDNs in how the cost of such projects was determined. It submitted that these issues arose because GDNs' cost data for large capex projects was often anonymised within the shared Regulatory Reporting Packs data and was not always easily comparable. For example, projects were sometimes split into multiple phases and could also span network boundaries.[174] It said that the CMA may need to validate Cadent's cost estimates for other companies by engaging with the relevant GDNs.[175]

9.96 In response to the CMA's provisional determination, Cadent said that it did not contest the provisional determination that only large and atypical projects

[170] Cadent Main Hearing Transcript, 5 July 2021, page 15, lines 1–16 and lines 23–24.
[171] Cadent Main Hearing Transcript, 5 July 2021, page 17, lines 4–8.
[172] Cadent Main Hearing Transcript, 5 July 2021, page 18, lines 3–10.
[173] Cadent Main Hearing Transcript, 5 July 2021, page 22, lines 4–7.
[174] Cadent letter to GEMA, 28 May 2021, page 2.
[175] Cadent letter to GEMA, 28 May 2021, page 4.

should be excluded from the model, provided that the definition of atypical was clear, objective and, most importantly, achieved the common goal of avoiding the distortion of the regression and catch-up efficiency benchmark.[176]

9.97 Cadent said that this should not, however, be taken as Cadent's acceptance of the provisional determination's findings regarding non-large and/or non-atypical LTS projects. It said that it maintained that MEAV was not in fact capable of controlling for any LTS rechargeable diversion costs remaining in the model. Therefore, and consistent with the CMA's assessment, Cadent's approach was predicated on the assumption that the remaining rechargeable costs were a small proportion of total LTS rechargeable diversion costs. It stated that in practical terms, this required that all of Cadent's large LTS rechargeable diversion projects were removed from the regression. It said that otherwise the remedy would not achieve the agreed aim of preventing the model from being distorted by the inclusion of costs associated with such large LTS rechargeable diversion projects, which could not be controlled for by GEMA's model and had a material adverse impact on Cadent's GDNs.[177]

Our assessment

9.98 In this section we give our assessment and address two questions to assess the error raised by Cadent – whether GEMA was wrong to include LTS rechargeable diversions costs in its econometric assessment:

(a) Did GEMA err in including atypical LTS rechargeable diversion projects with gross costs of over £5 million?

(b) Did GEMA err in including other LTS rechargeable diversion projects (ie those not covered by (a) above)?

Did GEMA err in including atypical LTS rechargeable diversion projects with gross costs of over £5 million?

9.99 We agree with GEMA and Cadent that these large atypical rechargeable projects should be removed from the econometric model and consequently from the benchmarking. Given that these are large atypical projects the econometric model cannot adequately control for the drivers of these costs. Further, we are not aware of any alternative cost drivers that could adequately control for these projects. Therefore, they distort the econometric model and the efficiency scores. When these projects are included, Cadent's GDNs

[176] Cadent Response to PD, paragraph 5.
[177] Cadent Response to PD, paragraph 8.2.

(which incurred and are forecast to incur a substantial share of the costs) would appear less efficient in the benchmarking than they actually are, while other GDNs would appear more efficient than they actually are.

9.100 Including these large, atypical rechargeable projects in the econometric model would also be inconsistent with GEMA's treatment of large, atypical non-rechargeable capital projects. GEMA removed these projects from the econometric model and consequently from the benchmarking in order not to distort the modelling.

9.101 GEMA conceded that it had made an error in including atypical rechargeable projects with gross costs over £5 million as this distorted the econometric model, with implications for GEMA's assessment of the GDNs' efficient totex allowances.[178] This is not a matter of contention between the parties.

9.102 GEMA also recognised that the inclusion of these costs on a gross basis in the model had a material impact on totex allowance.[179]

9.103 On this basis, we conclude that GEMA was wrong in including these projects, and we find that it was a material error.

Did GEMA err in including other LTS rechargeable diversion projects?

9.104 In this section we discuss the other LTS rechargeable diversion projects which:

(a) meet the materiality threshold (ie gross costs of over £5 million at the network level), but are not atypical;

(b) are atypical (ie focus on investments that are uncommon across the networks, lack historical comparators, or are unique), but do not meet the materiality threshold; or

(c) neither meet the materiality threshold nor are atypical.

9.105 For these other projects, there is a disagreement between GEMA and Cadent as GEMA said that these other projects should be included in the econometric model (in line with its FD) while Cadent said they should be removed. We assess whether it was wrong to:

(a) include the other LTS rechargeable diversion projects in the econometric model by assessing costs on a gross basis; and

[178] Updating the analysis to reflect this error will affect the efficiency scores of the Cadent GDNs and the efficiency scores of the other non-Cadent GDNs.
[179] GEMA letter to Cadent, 8 April 2021, page 2.

(b) use MEAV to control for these other LTS rechargeable diversion projects.

Was GEMA wrong to include the other LTS rechargeable diversion projects by assessing costs on a gross basis?

9.106 GEMA assessed costs on a gross basis by including rechargeable costs (such as LTS rechargeable diversions costs) in the econometric model. It did so to better assess the efficiency of the GDNs.

9.107 Costs can be assessed on either a gross basis (including rechargeable costs in the econometric model) or a net basis (excluding them from it). While costs were assessed in RIIO-GD1 on a net basis, GEMA did assess them on a gross basis in RIIO-ED1. GEMA provided reasons why it assessed the costs on a gross basis and supported these by examples. In particular, it provided reasons and examples in relation to GDNs' ability to recover third party requested diversions and opex-capex trade-offs.[180]

9.108 We agree with GEMA that if the GDNs' ability to recover costs from third parties differs, that could distort the relationship between costs and cost drivers. For example, the use of net costs could introduce bias against network companies which recover a smaller proportion of LTS diversions costs from third parties. This is because the model would account for both GDNs' ability to recover costs, and their operational efficiency.

9.109 GEMA provided a number of examples from RIIO-GD1 of small or non-atypical LTS diversions projects where GDNs had to fund part or all of the work. GEMA also provided an example of a third party requesting a large atypical LTS diversion project which could not then be recovered from that third party.[181] We have no reason to assume that in the case of atypical projects with a gross cost of over £5 million, GDNs would be more or less likely to differ in their ability to recover costs from third parties. Therefore, assessing costs on a net basis could penalise some GDNs. Consequently, the GDNs' differing abilities to recover costs from third parties provide a reason to assess LTS rechargeable diversions costs on a gross basis.

9.110 We also agree with GEMA that opex-capex trade-offs can be best accounted for if costs are excluded from the assessment only by exception. GEMA provided several examples of opex-capex trade-offs in relation to LTS diversions costs.[182] NERA said that these were irrelevant to rechargeable projects, very rare in practice, or their effect was extremely small relative to

[180] See paragraphs 9.55–9.58.
[181] See paragraph 9.58.
[182] See paragraph 9.56.

the LTS rechargeable diversion projects.[183] Overall, even though the opex-capex trade-offs in GEMA's examples show that these trade-offs have limited ability to distort GEMA's benchmarking exercise, they still provide a further reason for assessing costs on a gross basis.

9.111 For the above reasons we conclude that GEMA did not err by assessing costs on a gross basis.

Was GEMA wrong to use MEAV to control the other LTS rechargeable diversion projects?

9.112 GEMA used MEAV to control for several capex cost categories including LTS diversions.[184]

9.113 The MEAV driver essentially assumes that larger scale networks incur more of these other LTS rechargeable diversions projects (ie not including atypical projects with a gross cost of over £5 million). We consider that it is a reasonable assumption for GEMA because, all else being equal, larger networks are likely to receive more requests for diversions.

9.114 In Figure 9-2 NERA showed the relationship between MEAV and the other LTS rechargeable diversions that would not be excluded from the modelling based on Cadent's view of large projects. Figure 9-3 showed the relationship between MEAV and the other LTS rechargeable diversions that would not be excluded from the modelling based on GEMA's view of large, atypical projects. The data in the right hand panels in Figure 9-2 and Figure 9-3 do not indicate an obvious relationship between these costs and MEAV. Excluding more or fewer of the other LTS rechargeable diversion projects could give a positive, negative or no relationship but for the reasons given below we do not think this matters.

9.115 We consider that it is important to set these other LTS rechargeable diversions projects into context. We note that:

(a) the other LTS rechargeable diversions projects are not large and not atypical (see paragraph 9.104);

(b) the other LTS rechargeable diversions costs are a small proportion of LTS rechargeable diversions costs;

[183] See paragraphs 9.30–9.31.
[184] See paragraph 9.66.

(c) all GDNs' submitted costs included other LTS rechargeable diversion costs;[185,186]

(d) it is not unreasonable to assume that large networks incur more of other LTS rechargeable diversions costs in the long term, even if this relationship may not be apparent over the duration of a price control; and

(e) in Figure 9-2 and Figure 9-3 the left hand panels show that the other LTS rechargeable diversion costs aggregated within the regressed LTS, storage and entry costs appear to show a positive relationship with MEAV.

9.116 The other LTS rechargeable diversion costs, which were submitted by all GDNs, are a small part of a larger cost category (LTS, storage and entry as shown in Figure 9-2 and Figure 9-3) which appears to show a positive relationship with MEAV. Allowing GDNs to focus too much on disaggregated costs in the circumstances noted in paragraph 9.115 could lead to 'cherry-picking'. For these reasons, our view is that GEMA was not wrong to include other LTS rechargeable diversion costs and as such GEMA did not err by using MEAV to control for the other LTS rechargeable diversion projects.

9.117 Given that GEMA did not err by assessing the other LTS rechargeable diversion projects on a gross basis and using MEAV for these, we conclude that GEMA did not err in including these other LTS rechargeable diversion projects in the econometric model.

9.118 For the same reasons discussed above in paragraph 9.115, in our view including the other LTS rechargeable diversions costs would not materially disadvantage and unfairly discriminate against Cadent and would not materially compromise the efficiency benchmarking exercise.

Our determination

9.119 Based on our assessment above and recognising that GEMA has conceded that it made an error, we determine that GEMA was wrong in including large, atypical LTS rechargeable diversions projects in the econometric model. In doing so GEMA reached an incorrect conclusion when calculating the regressed costs that are used in the econometric modelling, which was thus based wholly or partly on an error of fact.

[185] See Figure 9-2 and Figure 9-3.
[186] We have not received adequate evidence that would suggest that non-Cadent GDNs' forecasts of zero LTS rechargeable diversions costs should not be relied on. The fact that they have incurred these costs in RIIO-GD1 does not necessarily indicate that they will incur these in RIIO-GD2.

9.120 It follows, and we conclude, that by incorrectly incorporating large, atypical LTS rechargeable diversions in the above exercise, GEMA failed to have regard to best regulatory practice.

9.121 For the reasons discussed in paragraphs 9.104 to 9.118, we determine that GEMA was not wrong in including the other LTS rechargeable diversions projects in the econometric model.

Relief

9.122 Based on our assessment above and recognising that GEMA has conceded that it made the error, we have determined that GEMA was wrong to include large, atypical LTS rechargeable diversions projects in the econometric model.

9.123 We decided that the large, atypical LTS rechargeable diversion projects should be excluded from the econometric model and the model should be re-estimated (see paragraphs 9.119 to 9.120).

9.124 Below we set out the views of Cadent and GEMA in relation to relief and then our assessment.

9.125 The implementation of the appropriate relief will result in a change in Cadent's overall totex which has wider consequences for its licence and associated documents that will need to be reflected. In Chapter 17 we discuss how we have implemented Cadent's relief to give effect to our final decisions on all relevant grounds.

Parties' submissions on the consideration of new information

9.126 In response to our provisional determination, GEMA and Cadent did not agree whether new information (relative to the business plan submissions) should be considered to determine the exact list of large, atypical LTS rechargeable diversion projects.[187] GEMA said that new information should not be considered while Cadent said that new information which it provided to GEMA on 27 August 2021 should be considered. Cadent provided a spreadsheet that included a breakdown of all of the projects with a value above £5 million (according to the materiality threshold) that were included within the LTS rechargeable diversion costs submitted in its final business plan.[188]

[187] GEMA Response to PD, paragraph 300 ; Cadent letter to CMA, 7 September 2021, pages 1–2; GEMA, RFI GEMA 024, paragraphs 17–22; Cadent Relief Hearing exhibit, pages 5–6.
[188] Cadent letter to GEMA, 27 August 2021; Cadent, RFI GEMA 006, page 1. Cadent stated that in its 8 April letter, GEMA proposed to exclude 5 of Cadent's 13 LTS rechargeable diversions projects (over £5m). It said that it has provided the project information GEMA requested to assess the atypicality of the additional 8 projects (which total £72m over RIIO-GD2). Cadent Relief Hearing exhibit, page 8.

9.127 In this section we set out the evidence submitted by the parties in relation to whether new information on the list of projects should be considered.

Cadent's submissions

9.128 Cadent said that when preparing its business plan it reasonably did not anticipate that LTS rechargeable diversion projects would be included in the model based on the fact that LTS rechargeable diversion projects were assessed on a net basis at RIIO-GD1 and it would be appropriate to exclude these atypical projects from the comparative benchmarking.[189] It stated that as soon as it became aware of the proposed gross treatment of LTS rechargeable diversions at DD, it raised concerns with GEMA. It submitted that these concerns were raised on at least six specific occasions between DD and FD and again through the Final Determination Query process.[190]

9.129 Cadent said that if GEMA's position was that additional LTS projects (beyond HS2 and the Lower Thames Crossing) should not be considered for omission from the regression analysis, on the basis that these were not separately itemised in Cadent's business plan data tables, this should have been clearly and centrally stated in GEMA's Response to the Notice of Appeal. In its letter to the CMA of 7 September 2021, Cadent stated that GEMA cannot change course at this late stage of the Appeal, by bringing a new argument as to why consideration of the complete portfolio of rechargeable LTS diversions projects over £5 million should not be allowed.[191]

9.130 Cadent stated that GEMA's position was inconsistent with the basis on which both parties (and indeed the CMA through its questioning) had been proceeding in this appeal to date. It stated that GEMA recognised that (i) it had made an error in the application of the £5 million criterion and (ii) certain projects now needed to be excluded from the regression model to correct that error.[192] Cadent submitted that, since then, GEMA had consistently acknowledged that if provided with what it considered to be the necessary information it would be able to assess the materiality and atypicality of all the LTS projects.[193] It stated that the CMA was entitled to have regard to the project information provided in the course of the Appeal.[194]

[189] Cadent Response to PD, Appendix A.1(c)(ii).
[190] Cadent, RFI GEMA 006, page 2.
[191] Cadent letter to CMA, 7 September 2021, page 1.
[192] GEMA letter to Cadent, 8 April 2021, page 1.
[193] GEMA Response B, paragraphs 532–537; *Wagner 6 (GEMA),* paragraph 111; GEMA, RFI GEMA 011, paragraph 5.
[194] Cadent letter to CMA, 7 September 2021, pages 1–2.

9.131 Cadent said that GEMA did not need to engage with other GDNs on LTS rechargeable diversions to rectify the error it has made when setting Cadent's allowances because:

(a) as GEMA acknowledged, the other GDNs forecast zero LTS rechargeable diversion costs for the RIIO-GD2 period which was data which influenced the catch-up efficiency allowance calculation, and

(b) GEMA had already assessed the other GDNs' LTS rechargeable diversion projects for the RIIO-GD1 period. Cadent said that it was willing to accept GEMA's analysis (set out in its 8 April letter), of non-Cadent GDNs' projects, as being fair and representative.[195]

GEMA's submissions

9.132 GEMA said that it did not think it would be necessary to collect information from GDNs to determine the list of projects which should be excluded from the model as indicated provisionally by the CMA. It stated that based on the information GEMA had on RIIO-GD1 and the RIIO-GD2 forecasts, it was confident that it had identified the full list of large, atypical rechargeable capex projects for exclusion from the regression.[196]

9.133 GEMA said that it recognised that Cadent submitted some information during this appeal that identified several additional LTS diversions projects that were not named in Cadent's BPDTs. It stated that its BPDT guidance clearly asked companies to report individually details for projects over £0.5 million. GEMA said that it considered that Cadent had had sufficient opportunity to provide it with this information in its BPDTs and other business plan documents before FD. It said that it questioned whether it was appropriate and fair to consider this new information from Cadent.[197]

9.134 GEMA stated that if, however, the CMA finally determined that it was appropriate for GEMA to consider the information from Cadent submitted during this appeal, the CMA should provide clear instructions that Cadent was to submit a project-by-project breakdown of the aggregate LTS rechargeable diversion costs that it had originally included within its final business plan submission, rather than an updated list of LTS rechargeable diversion projects.[198]

9.135 GEMA said that if the CMA were to direct GEMA to consider information submitted by Cadent as part of this appeal process, in the interests of

[195] Cadent Relief Hearing exhibit, page 5.
[196] GEMA Response to PD, paragraph 300.
[197] GEMA Response to PD, paragraph 301.
[198] GEMA Response to PD, paragraph 302.

procedural fairness, the CMA may wish to consider whether it may be necessary to give the non-Cadent GDNs an opportunity to review and submit information that is needed to identify all their large, atypical rechargeable capex projects for exclusion from the regression.[199] GEMA said that it was important to ensure that GEMA had taken a consistent and accurate approach to identifying projects for exclusion across all GDNs. It stated that this was particularly important for historical data, for which GEMA was relying on information from annual regulatory reporting submissions made by all GDNs over several years.[200] In relation to giving the other networks the ability to comment on the historical projects, GEMA said it was not expecting something significantly different from what it proposed.[201]

Our assessment on relief

9.136 In this section we

(a) assess whether new information on the list of projects should be considered;

(b) discuss the list of projects based on the set of information determined in (a).

Consideration of new information on the list of projects

9.137 In our assessment in paragraphs 9.98 to 9.121 above, we determine that large, atypical LTS rechargeable diversion projects should be removed from GEMA's FD econometric model as these costs would distort the modelling.

9.138 In terms of using new information on the list of projects compared to what was included in the business plans, GEMA's view is that new information should not be used while Cadent's view is that the breakdown of its business plan LTS rechargeable diversion costs should be used.

9.139 In our view, this breakdown should be used given the below circumstances:

(a) the breakdown would provide important additional information to determine the list of large, atypical LTS rechargeable diversion costs;

[199] GEMA Response to PD, paragraph 303.
[200] GEMA, RFI GEMA 024, paragraph 19.
[201] GEMA proposed to exclude certain historical LTS rechargeable diversions projects in paragraph 534 in its Response B. GEMA Response B, paragraph 534; Relief Hearing Transcript, 17 September 2021, page 45, lines 9–10.

(b) the approach to large, atypical LTS rechargeable diversion projects changed from GEMA's FD as we have determined that GEMA erred and decided that these projects should be removed from the model; and

(c) Cadent explained that its original business plan submissions erroneously did not report individually details of its large LTS rechargeable diversion projects because GEMA changed its approach to the LTS rechargeable diversion costs between RIIO-GD1 and RIIO-GD2 which resulted in these costs being included in the models, which Cadent could not have reasonably anticipated. In addition, we understand that Cadent has several times noted its issues with LTS rechargeable diversion costs to GEMA (see paragraph 9.128), and GEMA could have requested this additional information during the course of its process.

9.140 Therefore, we determine that the breakdown of Cadent's LTS rechargeable diversion costs that were included in its business plan should be considered when assessing the list of large, atypical LTS rechargeable diversion projects. Cadent provided this information in its 27 August letter. It provided a spreadsheet that included a breakdown of all of the projects with a value above £5 million (according to the materiality threshold) that were included within the LTS rechargeable diversion costs submitted in its final business plan.[202]

9.141 In relation to non-Cadent GDNs' historical large, atypical LTS rechargeable diversion projects, GEMA relied on GDNs' annual regulatory reporting submissions to identify these. GEMA said that it may be necessary to give the non-Cadent GDNs an opportunity to review and submit information in relation to these but it said that it would not expect substantial changes after a consultation with non-Cadent GDNs.[203] Cadent said that it accepts GEMA's analysis of non-Cadent GDNs' historical large, atypical LTS rechargeable diversion projects and there is no need to consult with these GDNs. Based on GEMA's and Cadent's views, we do not see a need to consult with the non-Cadent GDNs on their historical large, atypical LTS rechargeable diversion projects as we understand from GEMA that it would not really affect the list of projects or their materiality.

List of projects

9.142 We determined in paragraph 9.140 that the breakdown of the LTS rechargeable diversion costs (that were included in Cadent's business plan) should be considered when assessing the list of large, atypical LTS

[202] Cadent letter to GEMA, 27 August 2021, page 1.
[203] We note that non-Cadent GDN forecasted zero LTS rechargeable diversion costs.

rechargeable diversion projects. GEMA reviewed the information Cadent provided in its 27 August letter and considered whether the projects included would meet the two criteria of being large and atypical.

9.143 Based on this set of information, GEMA and Cadent agree on the list of large, atypical LTS rechargeable diversion projects.[204] Table 9-1 shows the list of these projects. The list includes all the 14 projects included in Cadent's 27 August letter and four historical non-Cadent projects included in GEMA's 8 April letter.[205]

Table 9-1: List of large, atypical LTS rechargeable diversion projects

Gas distribution operators	*GDN*	*Project*	*Gross costs (£m 18/19)*	*£m 18/19 Price Control*
Cadent	*EoE*	[✂]	7.7	RIIO-1 and RIIO-2
Cadent	*EoE*	[✂]	6.1	RIIO-1 and RIIO-2
Cadent	*EoE*	[✂]	29.7	RIIO-2
Cadent	*Lon*	[✂]	17.1	RIIO-1 and RIIO-2
Cadent	*Lon*	[✂]	48.9	RIIO-1 and RIIO-2
Cadent	*Lon*	[✂]	55.5	RIIO-1
Cadent	*Lon*	[✂]	7.0	RIIO-2
Cadent	*Lon*	[✂]	10.2	RIIO-2
Cadent	*Lon*	[✂]	10.1	RIIO-2
Cadent	*Lon*	[✂]	20.5	RIIO-1
Cadent	*NW*	[✂]	40.9	RIIO-2
Cadent	*WM*	[✂]	141.5	RIIO-1 and RIIO-2
Cadent	*WM*	[✂]	10.3	RIIO-1 and RIIO-2
Cadent	*WM*	[✂]	6.0	RIIO-1 and RIIO-2
SGN	*Sc*	[✂]	26.0	RIIO-1
SGN	*Sc*	[✂]		RIIO-1
SGN	*So*	[✂]	16.8	RIIO-1
WWU	*WWU*	[✂]	8.8	RIIO-1

Source: Cadent letter to CMA, 1 October 2021, page 1, GEMA letter to CMA, 30 September 2021, page 1. , GEMA RFI 040, LTS Remedy – Non Cadent GDNs_rev; Cadent RFI 014, page 1.

Our determination on relief

9.144 We therefore determine that the projects listed in Table 9-1 should be excluded from the model.

[204] CMA letter to GEMA and Cadent, 17 September 2021, paragraph 6; GEMA letter to CMA, 30 September 2021, page 1; Cadent letter to CMA, 1 October 2021, page 1.
[205] GEMA letter to Cadent, 8 April 2021, pages 1–2.

10. Cadent Ground 1B: London regional factors

Introduction

10.1 GEMA used pre-modelling adjustments for regional factors to account for the variations in GDNs' costs due to operating in different regions of GB.[206] These adjustments were applied to GDNs' submitted costs before the efficiency benchmark analysis, and were used to improve the comparability of Gas Distribution Networks' (**GDNs**') costs.

10.2 Cadent submitted in its appeal that GEMA had erred because the pre-modelling adjustments for regional factors and GEMA's cost assessment had failed to account adequately for the substantially higher costs involved in serving the very densely populated London area.[207]

10.3 In this chapter we:

(a) give the background to GEMA's RIIO-GD2 approach to London regional factors;

(b) discuss the grounds of appeal raised by Cadent; and

(c) set out our assessment on whether GEMA was wrong.

Background

10.4 In this section, we provide background on GEMA's approach to London regional factors.

10.5 GEMA used an econometric model to estimate a large proportion of the GDNs' costs based on an average relationship, across all GDNs, between costs and a set of relevant cost drivers.[208] GEMA used the results of this model in the benchmarking analysis to assess each GDN's relative efficiency by comparing its performance with that of other GDNs.[209] To be able to compare each GDN's performance, GEMA went through a process to identify, amongst other alternatives, a model that would appropriately capture the factors that drive GDNs' costs.[210]

10.6 In GEMA's econometric model the CSV, which is a weighted average of different cost drivers, is adjusted in order to appropriately capture all the

[206] GEMA Response B, paragraphs 365–366; *Wagner 1 (GEMA),* paragraph 30.
[207] Cadent NoA, paragraph 1.14.
[208] *Wagner 1 (GEMA),* paragraphs 25 and 39.
[209] *Wagner 1 (GEMA),* paragraph 59.
[210] *Wagner 1 (GEMA),* paragraph 41.

drivers of GDNs' costs.[211] To account for the differences due to regional factors, GEMA applied pre-modelling adjustments to the GDNs' submitted costs (2013/14 to 2025/26) to improve comparability between the GDNs.[212]

10.7 GEMA then used these adjusted submitted costs in the econometric model to benchmark GDNs and calculate their efficiency scores. The regional pre-modelling adjustments were then added back to the GDNs' costs after modelling, so that they were eventually included in the allowances, after being subject to the efficiency benchmark.[213]

10.8 GEMA applied four main adjustments for regional factors:[214]

(a) A regional labour cost adjustment to account for higher wages in London and the South-East of England than in the rest of Great Britain.

(b) A sparsity adjustment to account for the lower productivity from operating in a sparse environment.

(c) Two urbanity adjustments applied to those GDNs that operated in parts of London:[215]

(i) An urbanity productivity adjustment to account for the lower productivity on repex, connections and reinforcement work in London.

(ii) An urbanity reinstatement adjustment to account for the higher reinstatement costs (ie reinstating land following work).[216]

(d) Company-specific adjustments based on the companies' claims for material factors that had not been already accounted for by the above adjustments or the econometric model, were outside GDNs' control, and only affected one or a small number of GDNs.[217] GEMA either accepted, partially accepted or rejected these claims. GEMA considered the evidence provided by the GDNs in support of these factors against the following five criteria:[218]

(i) Was the claim material (ie higher than 0.5% of the GDN's submitted totex)?

[211] *Wagner 1 (GEMA),* paragraphs 30, 49; GEMA FD Step-by-Step Guide to Cost Assessment, paragraph 1.27.
[212] *Wagner 1 (GEMA),* paragraph 25; GEMA FD Step-by-Step Guide to Cost Assessment, paragraph 1.5.
[213] *Wagner 1 (GEMA),* paragraph 31.
[214] GEMA Response B, paragraph 366.
[215] *Wagner 1 (GEMA),* paragraph 31.
[216] *Wagner 7 (GEMA),* paragraph 93.
[217] *Wagner 1 (GEMA),* paragraph 32.
[218] *Wagner 1 (GEMA),* paragraph 32.

(ii) Was the claim unique in nature (ie applied to only one or a small number of GDNs)?

(iii) Was the claim outside of the GDN's control?

(iv) Was the claim excluded from cost drivers in the econometric modelling?

(v) Was the claim excluded from other adjustments (ie regional labour cost, sparsity, and urbanity adjustments)?

10.9 GEMA submitted that the aim of these criteria for company-specific claims was to ensure that GEMA made adjustments only for claims that were well-evidenced and justified and were likely to have a material impact on the benchmarking analysis.[219] GEMA made company-specific adjustments to the London and Southern GDNs for emergency job times and plant hire associated with the repex programme by broadening the scope of the urbanity productivity adjustment and for repex reinstatement by broadening the scope of the urbanity reinstatement adjustment.[220]

10.10 GEMA submitted that all modelling decisions should be viewed 'in the round' with GEMA's other decisions in relation to outputs, allowed revenues and uncertainty and other risk mitigating mechanisms. This was the basis on which GEMA had constructed its RIIO-2 package.[221]

10.11 We provide further detail in the individual sections below.

The ground of appeal

10.12 Cadent submitted that GEMA's cost assessment had failed to account adequately for the substantially higher costs involved in serving the very densely populated London area.[222] Cadent raised multiple errors regarding GEMA's approach to accounting for the cost of operating in London, from which it identified two main errors:[223]

(a) GEMA had understated or rejected legitimate pre-modelling adjustments for known regional factors.

[219] *Wagner 1 (GEMA),* paragraph 33.
[220] *Wagner 1 (GEMA),* paragraph 33.
[221] *Wagner 1 (GEMA),* paragraph 74.
[222] Cadent NoA, paragraph 1.14.
[223] Cadent NoA, paragraphs 1.18–1.19.

(b) GEMA had ignored quantitative and qualitative evidence which showed that it was inappropriate and insufficient to rely solely on discrete pre-modelling adjustments to account for regional factors.

10.13 In the case of the first main error, Cadent identified several sub-errors which we discuss below from paragraph 10.17.[224]

Statutory grounds of appeal

10.14 Cadent submitted that the alleged errors (as outlined above) in relation to Ground 1B resulted in GEMA's Decision being wrong on the following statutory grounds:

(a) GEMA had failed properly to have regard to, and failed to give appropriate (ie sufficient) weight to, its Best Practice Duty.[225]

(b) GEMA had committed a number of errors of fact in respect of the evidence that was before it.[226]

(c) GEMA had adopted modifications that failed to achieve, in whole or in part, the effect stated by it in respect of Cadent's baseline totex, which was to set baseline totex at an efficient level.[227]

10.15 In relation to Ground 1 as a whole, Cadent further submitted that GEMA had made an error of law by 'proceeding on the basis of no, or no adequate, evidential base in relation to a number of its conclusions'.[228]

Structure of our assessment

10.16 We have structured our assessment around the two key errors identified by Cadent, as set out in paragraph 10.12 above, specifically:[229]

(a) Whether GEMA understated or rejected legitimate pre-modelling adjustments for known regional factors.

(b) Whether GEMA ignored quantitative and qualitative evidence which showed that it was inappropriate and insufficient to rely solely on discrete pre-modelling adjustments to account for regional factors.

[224] Cadent NoA, paragraphs 3.58–3.84.
[225] Cadent NoA, paragraph 3.144(d) referring in footnote 169 to paragraph 3.57.
[226] Cadent NoA, paragraph 3.144(f) referring in footnote 170 to paragraph 3.85.
[227] Cadent NoA, paragraph 3.144(g).
[228] Cadent NoA, page 49: Cadent said in footnote 171 that the impugned evidence in question was identified in the relevant paragraphs of Section 3, Subsections C–E, but did not add any further detail.
[229] Cadent NoA, paragraphs 1.18–1.19.

Whether GEMA understated or rejected legitimate pre-modelling adjustments for known regional factors

10.17 In this section we consider Cadent's alleged errors that GEMA understated or rejected legitimate pre-modelling adjustments for known regional factors.

10.18 We first discuss the relevance of the size of the efficiency gap and the alternative density driver model evidence submitted by Cadent on the CMA's approach to assessing discrete pre-modelling adjustments. We then address the following alleged errors:

(a) Did GEMA sufficiently adjust for regional labour costs?

(b) Did GEMA sufficiently adjust for urbanity and for the related partially accepted company-specific claims?

(c) Did GEMA correctly apply the materiality criterion for company-specific claims?

(d) Did GEMA account for London's emergency workload?

Relevance of the size of the efficiency gap and the alternative density driver model to the assessment of discrete pre-modelling adjustments

10.19 During the appeal Cadent made submissions about the interlinkages between its different arguments on this ground, and particularly that its arguments that GEMA should not have relied solely on discrete pre-modelling adjustments were also relevant to our assessment of those pre-modelling adjustments. We therefore set out the relevance of these points before examining the specific criticisms made by Cadent about GEMA's pre-modelling adjustments in the rest of this section.

Cadent's submission

10.20 In response to the CMA's provisional determination, Cadent submitted that given: (i) the large efficiency gap, and (ii) the alternative density driver model evidence showing that the efficiency gap resulted from omitted factors in GEMA's modelling, the CMA should complete an in-the round assessment of the evidence. Cadent submitted that in doing so the CMA should conclude that greater pre-modelling adjustments are necessary to control for the London GDN's efficient costs.[230]

[230] Cadent's response to PD, paragraphs 9.15 and 9.16. See paragraphs 10.168–10.174 for Cadent's submissions on efficiency gap and paragraphs 10.195–10.216 for Cadent's submission on density driver.

Our assessment

10.21 In relation to the large efficiency gap, we do not agree that the size of the efficiency gap is a relevant factor when assessing Cadent's claims for pre-modelling adjustment or that it should be considered as part of an in the round assessment. As explained in paragraphs 10.254 to 10.260 below, it is not possible to identify on the basis of the size of the gap alone whether Cadent is or is not efficient. Given this, we do not agree with Cadent that GEMA should have used this factor as part of an in the round assessment when considering discrete pre-modelling adjustments.

10.22 With respect to Cadent's evidence on the alternative density driver, as explained in paragraphs 10.267 to 10.275 below, we have found that the density driver cross-check does not demonstrate that the London GDN is undercompensated with respect to the cost of operating at the level of density of London. Given this, we do not agree with Cadent that GEMA should have used this factor as part of an in the round assessment when considering discrete pre-modelling adjustments.

Did GEMA sufficiently adjust for regional labour costs?

10.23 In this section, we discuss Cadent's alleged errors that GEMA insufficiently adjusted for regional labour costs. These can be summarised under two errors identified by Cadent in relation to GEMA's calculations of the level of the regional labour cost adjustment:

(a) Did GEMA err in using notional labour shares?

(b) Did GEMA use an incorrect timeframe?

10.24 For each of the alleged errors we first summarise GEMA's Decision, followed by Cadent's and GEMA's submissions. We then set out our assessment and conclusions.

Did GEMA err in using notional labour shares?

The RIIO-2 Decision

10.25 GEMA made a regional labour cost adjustment for Cadent's London and East of England gas distribution networks and SGN's Southern gas distribution network. These faced higher wages than other GDNs.[231] To adjust for regional labour costs, GEMA calculated labour cost indices that captured

[231] *Wagner 7 (GEMA),* paragraph 24.

relative wage differentials across regions and applied these indices to notional labour shares.[232]

10.26 The notional labour shares are the average labour costs as a proportion of total costs across GDNs, rather than labour shares specific to individual GDNs.[233] GEMA used these shares in the calculation of the regional labour cost adjustment to obtain like-for-like comparisons and avoid rewarding potentially inefficient GDN decisions.

Cadent's and GEMA's submissions

10.27 Cadent submitted that the notional labour shares used in the calculation of the regional labour cost adjustment were unrepresentative and reduced this adjustment. It submitted that GEMA should have uplifted the notional labour shares to reflect the additional labour costs incurred by GDNs operating in the London region.[234]

10.28 GEMA submitted that Cadent had misunderstood GEMA's regional labour cost adjustment process,[235] and provided further information as to its process.[236] GEMA stated that Cadent's suggestion of uplifting the notional labour share and also applying a regional labour factor adjustment would result in double-counting the required adjustment.[237]

10.29 GEMA submitted that the use of notional labour shares would avoid double-counting the increased labour costs of operating in London.[238]

10.30 In its Reply, Cadent stated that, after reviewing the technical points made by GEMA in its Response, NERA[239] (Cadent's advisers) agreed that the discrete issue of the notional pay discrepancy no longer applied.[240]

Our conclusion

10.31 Cadent agreed that there was no error in GEMA's approach of using notional labour shares for the calculation of the regional labour cost adjustment.

10.32 Therefore, we conclude that GEMA was not wrong in this regard.

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[232] *Wagner 7 (GEMA),* paragraph 72; NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 205.
[233] GEMA Response B, paragraph 396; *Wagner 7 (GEMA),* paragraph 72.
[234] Cadent NoA, paragraphs 3.60–3.63.
[235] GEMA Response B, paragraph 396.
[236] *Wagner 7 (GEMA),* paragraphs 116–123.
[237] *Wagner 7 (GEMA),* paragraph 163. See also GEMA Response B, paragraph 398.
[238] *Wagner 7 (GEMA),* paragraph 121.
[239] NERA submissions referred to in this chapter were on behalf of Cadent.
[240] Cadent Reply, paragraph 42; NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraphs 44–45.

Did GEMA use an incorrect timeframe?

The RIIO-2 Decision

10.33 GEMA calculated the labour cost indices using Office for National Statistics (ONS) data on mean annual wages by region.[241] GEMA calculated these indices based on the average of the last five years (2014/15 to 2018/19) for the GDNs.[242] For London, GEMA found an 18% labour cost index for RIIO-GD2,[243] which means that London was found to have labour costs 18% higher than the rest of GB excluding the South East.[244] In RIIO-GD1, GEMA calculated the indices based on the most recent year of available data, while in RIIO-ED1 it calculated them based on the average of the last five years.[245]

Cadent's submissions

10.34 Cadent submitted that GEMA relied on outdated data in the calculation of the regional labour cost adjustment that depressed the quantum of the adjustment.[246] Cadent submitted that GEMA used data from 2014/15 to 2018/19 rather than using the most recent data from 2017/18 to 2018/19. It stated that while using a longer timeframe may have addressed year-on-year fluctuations in wages, this consideration was outweighed by the fact that data from earlier years would be over a decade old by the end of RIIO-GD2. It stated that it prepared its business plan over 2018 and 2019 and therefore its submitted costs were consistent with the pay premia prevailing.[247]

10.35 Cadent submitted that GEMA was wrong to view this point as a disagreement regarding an expert view adopted by GEMA, and that it was not a matter of discretion. It submitted that GEMA's FD did not account properly for the unique features of London.[248]

10.36 Cadent agreed that there was a degree of judgement involved in selecting the appropriate averaging timeframe for labour cost indices, and it required a trade-off between the benefit of drawing on more historical data to address year-on-year variation in wages, and the benefit of accounting for more recent data.[249]

[241] *Wagner 7 (GEMA),* paragraph 24.
[242] *Wagner 7 (GEMA),* paragraph 183.
[243] GEMA FD Step-by-Step Guide to Cost Assessment, Table 8.
[244] GEMA FD Step-by-Step Guide to Cost Assessment, Appendix A.
[245] *Wagner 7 (GEMA),* paragraph 68.
[246] Cadent NoA, paragraph 3.89.
[247] Cadent NoA, paragraph 3.91.
[248] Cadent Reply, paragraph 48(c).
[249] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 290.

10.37 Cadent stated that using the most recent data from 2017/18 and 2018/19 (so as to avoid relying on a single year) would increase the London GDN's allowance by £7 million over RIIO-GD2.[250]

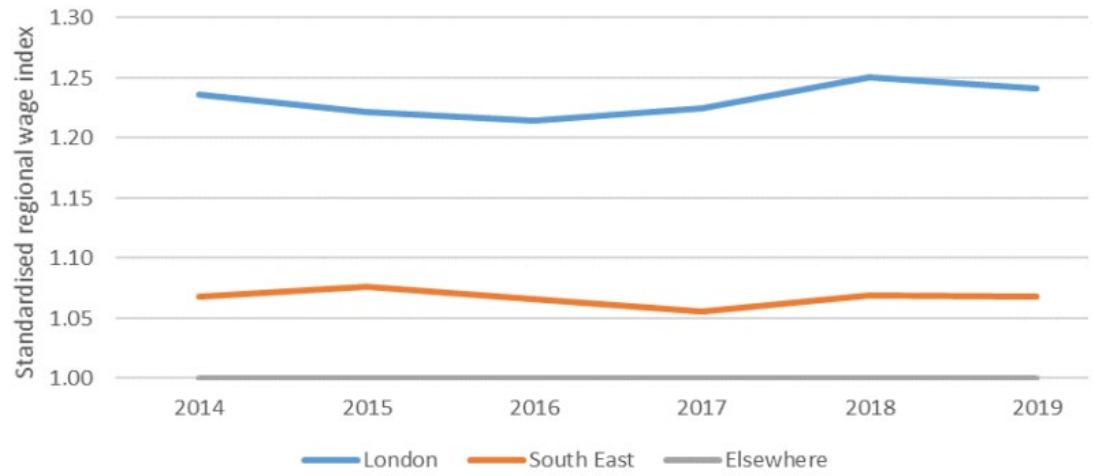
GEMA's submissions

10.38 GEMA submitted that Cadent's argument amounted to nothing more than a disagreement regarding GEMA's exercise of regulatory discretion. It submitted that the level of this adjustment was appropriate and well within GEMA's margin of discretion.[251]

10.39 GEMA submitted that there were advantages and disadvantages relating to using shorter or longer timeframes to base the wage indices on – longer time frames would use older data, while shorter timeframes would be susceptible to fluctuations that diverged from trends.[252]

10.40 GEMA submitted that it considered a range of options and calculated the labour index for London using one, two, three, four, five, and six years' worth of data, which provided a range of similar adjustments from 18.3% to 19.6%.[253] GEMA submitted that its analysis, as shown in Figure 10-1 below, showed that the wage index fluctuated and there was no obvious upward trend, and the trend from 2017/18 to 2018/19 was downward.[254]

Figure 10-1: Regional labour cost indices



Source: *Wagner 7 (GEMA)*, page 18.

[250] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 289. See also Cadent NoA, paragraph 3.92.
[251] GEMA Response B, paragraphs 452–457.
[252] *Wagner 7 (GEMA),* paragraph 184.
[253] *Wagner 7 (GEMA),* paragraph 69.
[254] *Wagner 7 (GEMA),* paragraph 70.

10.41 GEMA submitted that a five-year average provided a larger sample size and more robust estimate than a short-term estimate.[255]

Our assessment and conclusion

10.42 In our provisional determination we found that GEMA used an appropriate timeframe to calculate the level of the adjustment and that its choice of timeframe was within its margin of appreciation. We did not receive any submissions specifically relating to this assessment following our provisional determination.

10.43 The use of either the two-year (Cadent's suggestion) or five-year timeframes (GEMA's FD approach) has advantages and disadvantages. The five-year timeframe provides a lower allowance to Cadent than the two-year timeframe. This is due to the five-year labour cost index for London being lower than the one calculated over two years (this is shown in the blue line for 2015 and 2018 in Figure 10-1).

10.44 The data in Figure 10-1 shows that labour indices fluctuate around a relatively stable average over time. Moreover, there is no observable upward trend over time which would indicate that there is a risk that Cadent could be materially undercompensated during RIIO-GD2 using the five-year timeframe. In this context, using a five-year timeframe has the benefit of smoothing out yearly fluctuations in the labour indices.

10.45 For the reasons above, we conclude that GEMA used an appropriate timeframe to calculate the level of the adjustment. GEMA has exercised regulatory judgement in selecting the five-year timeframe from two alternative solutions. As set out in the Legal Framework,[256] where GEMA has to choose between alternative options which have competing pros and cons, and none is clearly superior, it will be more difficult to persuade us that GEMA has erred. In such circumstances, we will not substitute GEMA's assessment or weighting of the evidence or reasoning with our own unless we are satisfied that GEMA's approach was wrong. As we are not persuaded by Cadent that GEMA should have adopted a two-year rather than a five-year timeframe, we do not consider the choice of a five-year timeframe to be wrong for the reasons set out.

[255] GEMA Response B, paragraph 455.
[256] See in particular paragraphs 3.43 and 3.77.

Did GEMA sufficiently adjust for urbanity and for the related partially accepted company-specific claims?

10.46 In this section, we discuss Cadent's alleged errors that GEMA insufficiently adjusted for urbanity and for the related company-specific claims. These can be summarised under three errors identified by Cadent:[257]

(a) Did GEMA err in setting the level of urbanity reinstatement adjustment for repair reinstatement costs and for repex reinstatement costs?

(b) Did GEMA err in applying an urbanity productivity adjustment for the longer duration of emergency jobs?

(c) Did GEMA err in applying an urbanity productivity adjustment for high plant hire associated with the repex programme costs?

10.47 For each of these errors we first summarise the RIIO-2 Decision and then the submissions. Finally, we give our assessment and conclusions.

Did GEMA err in setting the level of urbanity reinstatement adjustment for repair and repex reinstatement costs?

The RIIO-2 Decision

10.48 Reinstatement costs are the costs of restoring excavated ground to its prior condition following works.[258] GEMA made an urbanity reinstatement adjustment for the additional cost of reinstatement activities in London. GEMA maintained its RIIO-GD1 approach to calculating this adjustment and applied the regional labour indices to the reinstatement activities. This was an 18% adjustment for the London GDN, which was applied to reinstatement costs for emergency, repairs, maintenance, and other direct activities cost categories.[259] At FD, GEMA extended these urbanity reinstatement adjustments to include repex reinstatement costs in relation to Cadent's company-specific claim.[260]

Cadent's submissions

10.49 Cadent submitted that its business plan requested a 21% adjustment for: (i) repair reinstatement costs and (ii) repex reinstatement costs.[261]

[257] Cadent, RFI Cadent 002, pages 1–3.
[258] *Wagner 7 (GEMA),* paragraph 139.
[259] *Wagner 7 (GEMA),* paragraph 80; GEMA Response B, paragraph 403.
[260] *Wagner 7 (GEMA),* paragraphs 137–138 ; Cadent NoA, paragraph 3.73.
[261] Cadent, RFI Cadent 002, page 2.

10.50 Cadent stated that GEMA's urbanity reinstatement adjustment was unevidenced, insufficient and did not adequately reflect the higher reinstatement costs associated with urbanity.[262] Cadent submitted that the higher reinstatement costs in Cadent's London network than elsewhere were driven by a number of reasons including access to quarries and recycling facilities, and different surface types.[263]

10.51 Cadent submitted that its business plan presented GEMA with evidence for a substantially larger 21% adjustment (for repair reinstatement costs and for repex reinstatement costs) based on an analysis of reinstatement unit costs comparing tender costs per metre of reinstatement between the London and East of England GDNs.[264] Cadent's analysis was based on the unit costs observed in tender data from 2012, workloads from RIIO-GD1, and actual costs from 2013/14 to 2018/19.[265] Cadent submitted that while East of England is Cadent's sparsest network, it was comparable to the industry average.[266]

10.52 Cadent submitted that the use of data from a single contractor for both London and another gas distribution network was intended to provide a clean, like-for-like, comparison between the costs of serving London and other areas. It submitted that GEMA's criticism was selective, considering that it readily accepted basing the urbanity productivity adjustment on price evidence from a single contractor.[267]

10.53 Cadent submitted that it controlled for labour cost differences in the same way as GEMA when calculating the repex reinstatement adjustment. It submitted that the only difference between the two approaches was that GEMA used an 18% adjustment, while tender price evidence put forward by Cadent suggested this adjustment should be higher (21%).[268]

10.54 Cadent submitted that, to the extent that Cadent had control over the reinstatement costs, it had managed them by conducting a competitive tender

[262] Cadent NoA, paragraph 3.70.
[263] *Moon 1 (Cadent)*, paragraph 107.
[264] Cadent NoA, paragraph 3.71; Cadent, RFI Cadent 002, page 2; Cadent said it had provided GEMA with tender data from the same contractor for reinstatement work in its London and East of England networks. *Moon 1 (Cadent)*, paragraph 108.
[265] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 254.
[266] NERA, on behalf of Cadent, stated that East of England was the fourth sparsest network among eight GDNs with a sparsity index (as computed by GEMA using ONS land area and population estimates) of 1.08, close to the industry average of 1.07. NERA stated that comparing the eight GDNs on their customers per kilometre of network length (ie density), East of England ranks fourth, only 2% different from the industry average (excluding London). NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 35.
[267] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 36. In footnote 54 of its report, NERA noted that it understood from Cadent for this comparison it used data from tRIIO, which was the Tier 1 contractor that operated in East of England and London in RIIO-1 carrying out mains replacement and connections work in particular.
[268] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 37.

process. Cadent had also incentivised its contractors to control their costs through contractual mechanisms, such as provisions for variations from target costs to be shared 50:50. Cadent had completed assurance on the work in the form of sample checks that tested the quality of the reinstatement as well as photographic surveys.[269]

10.55 Cadent submitted that using Cadent's estimate of 21% would increase the London GDN's allowance by £2.55 million over RIIO-GD2.[270]

GEMA's submissions

10.56 GEMA submitted that it was right to dismiss Cadent's proposed additional 3% reinstatement adjustment because Cadent's supporting evidence was insufficiently robust. GEMA submitted that this was for three main reasons:[271]

(a) Cadent's comparison between its London and East of England GDNs was unsound. It submitted that East of England was Cadent's sparsest gas distribution network and one of the most rural of all the networks. It submitted that it was therefore not representative of a typical gas distribution network outside London, which would hypothetically serve a combination of rural and (non-London) urban areas, and as a result incur higher reinstatement costs than East of England.[272] GEMA stated that all GDNs outside London served some urban areas to varying degrees. It submitted that these areas were likely to be more expensive to serve than other parts of the country for largely the same reasons as London. It submitted that no adjustments were deemed necessary in these cases and the additional costs were assumed to have been sufficiently captured by the model cost drivers. It submitted that the urbanity regional factor adjustments aimed to capture the effect of urbanity/density on costs over and above the GDNs that also serve large urban areas.[273]

(b) Cadent's comparison was based on data derived from a single tenderer. GEMA submitted that because of information asymmetry between GEMA and Cadent, it was unable to consider comparative tenderers and therefore verify whether the costs in question were efficient and whether the comparison had been 'cherry-picked'. It submitted that it concluded that this data was insufficiently robust and that there was a significant risk that the comparison overstated the cost differential.[274] It submitted that in

[269] *Moon 1 (Cadent)*, paragraph 108.
[270] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 253.
[271] GEMA Response B, paragraph 404.
[272] GEMA Response B, paragraph 405.
[273] *Wagner 7 (GEMA),* paragraph 144.
[274] GEMA Response B, paragraph 406.

Firmus[275], the CMA had adopted similar reasons for dismissing a price differential argument based on data obtained from a single contractor.[276]

(c) Cadent's comparison did not seek to address whether the higher costs per metre for London tenderers might have partially been explained by productivity and pay differentials the supplier in question would face when working in London. It submitted that these factors were already accounted for through the regional labour cost adjustment and productivity adjustments. It submitted that accepting Cadent's proposed adjustment would therefore carry a significant risk of double-counting.[277]

10.57 GEMA stated that as the costs in Cadent's company-specific claim were for reinstatement, GEMA considered that it was appropriate to apply the urbanity reinstatement adjustment, which it had already applied to Cadent's other reinstatement costs.[278]

10.58 GEMA submitted that the difference between the two approaches was small – amounting to only 3%. It submitted that even according to NERA (Cadent's advisers), adopting Cadent's proposed approach would increase Cadent's allowances by only £2.55 million over the RIIO-GD2 price control.[279]

Our assessment and conclusion

10.59 In our provisional determination we found that, GEMA did not make an error in setting the level of urbanity reinstatement adjustment for repair and repex reinstatement costs. We did not receive any submissions specifically relating to this assessment following our provisional determination.

10.60 GEMA recognised the need for an urbanity reinstatement adjustment for the additional cost of reinstatement activities in London. GEMA applied an 18% adjustment repair to a series of cost items. Cadent submitted that the adjustment for reinstatement costs and repex reinstatement costs should be increased to 21%.

10.61 Cadent's 21% estimate has the advantage of being based solely on reinstatement costs and does not assume the difference in cost is due solely to labour costs.

10.62 However, Cadent's estimate might be due to the company's inefficiency. Indeed, the evidence provided by Cadent was based on costs from a single

[275] CMA's final determination of 26 June 2017 of Firmus's appeal of Northern Ireland Authority for Utility Regulation's price control.
[276] GEMA Response B, paragraph 407.
[277] GEMA Response B, paragraph 407.
[278] GEMA Response B, paragraph 422.
[279] GEMA Response B, paragraph 409.

contractor. Under circumstances of complex contracting, where design of the contract and tendering strategy are important in driving efficiency, the evidence from a single competitive tender does not prove efficiency. Therefore, while the evidence from a single contractor who participated in a competitive tender may be relevant, it is not enough in itself to demonstrate that Cadent's procurement was efficient. Further, Cadent's estimate is based on a comparison between London and East of England. Given that the East of England is a particularly rural area with fewer urban areas than other GDNs it is not clear that it would be a reasonable benchmark.

10.63 In addition, we note that in GD1 GEMA considered evidence from two GDNs, SGN and National Grid Gas Distribution[280] before setting the level of urbanity productivity adjustment and this was reviewed in GD2 (see paragraph 10.82). Therefore, we do not consider GEMA's criticism was selective in this case.

10.64 Finally, Cadent estimated its adjustment would increase its allowance by £2.55 million over RIIO-GD2, or £0.51 million per year. This represents a small proportion (slightly over 0.1% of its yearly totex) of Cadent's allowance.

10.65 For the reasons set out above, Cadent has failed to persuade us that the adjustment for reinstatement costs and repex reinstatement costs should be increased to 21%. We are not satisfied, on the basis of Cadent's evidence, that GEMA's approach was inferior to that proposed by Cadent. Consequently, we conclude that GEMA did not make an error in setting the level of urbanity reinstatement adjustment for repair and repex reinstatement costs.

Did GEMA err in the application of the urbanity productivity adjustment for the longer duration of emergency jobs?

The RIIO-2 Decision

10.66 GEMA made a 15% urbanity productivity adjustment to account for the reduced productivity in some activities due to the crowded population and utilities infrastructure in the London region.[281] The 15% adjustment was based on evidence from SGN suggesting a 15% to 20% loss of productivity from working in London.[282] This 15% adjustment was also used in RIIO-GD1 and is described more fully in paragraph 10.82. This adjustment was made only to the proportion of each GDN's work which lay in the London region, thus the London GDN received a 11% adjustment because 77% of its customers

[280] National Grid Gas Distribution was the former owner of Cadent's networks (see Chapter 2 in this regard).
[281] *Wagner 7 (GEMA),* paragraphs 26, 75–76.
[282] *Wagner 7 (GEMA),* paragraph 77.

reside within London.[283] This adjustment was applied to connections, reinforcements and repex cost categories.[284]

10.67 At FD, in response to Cadent's company-specific claim (see paragraph 10.68), GEMA extended the scope of the urbanity productivity adjustments by applying it to emergency job times costs.[285] GEMA partially accepted Cadent's claim that emergency job times were longer in its London network compared to its other networks and provided an additional adjustment for emergency costs.[286] Emergency jobs are those where GDNs are required to attend Public Reported Escapes (**PREs**) of gas within a stipulated timeframe.[287]

Cadent's submissions

10.68 Cadent said that it had submitted evidence to GEMA based on an analysis of productive labour time showing that London required on average 41% more time than the average of Cadent's other gas distribution networks to perform external jobs and 26% more for internal jobs.[288]

10.69 Cadent submitted that it had used data from 2015/16 to 2017/18 to compare London's emergency job times to the average of its other networks.[289] It said that GEMA's reasons for confining the adjustment to 11% were not well-founded. Cadent told us that, among other matters, it was inappropriate in this case for GEMA to apply an adjustment developed at RIIO-GD1 for a different activity that was based on a selective reading of evidence presented by one GDN (SGN) over eight years ago.[290]

10.70 Cadent submitted that GEMA's choice of 15% was not the result of any further assessment of SGN's estimate to determine what point in the range of suggested adjustments best reflected the reality of operating in London.[291] It submitted that GEMA's reliance upon a 2019 report by NERA and Arcadis to justify the same 15% adjustment to productivity in London used at RIIO-GD1 was incorrect.[292]

10.71 Cadent submitted that emergency interventions (in the event of gas escapes) took more time due to Cadent's high population density (for instance, a gas

[283] GEMA Response B, footnote 202; *Wagner 7 (GEMA),* paragraph 79.
[284] *Wagner 7 (GEMA),* paragraph 79.
[285] *Wagner 7 (GEMA),* paragraphs 130, 138, 147; Cadent NoA, paragraph 3.73.
[286] *Wagner 7 (GEMA),* paragraph 128.
[287] *Wagner 7 (GEMA),* paragraph 96.
[288] Cadent NoA, paragraph 3.74.
[289] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 233; *Moon 1 (Cadent)*, paragraph 99.
[290] Cadent NoA, paragraph 3.74.
[291] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 218.
[292] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 220.

escape in a large block of flats could affect multiple properties at once).[293] It submitted that GEMA had offered no evidence to support its suggestion that the difference between Cadent's costs for attending emergencies in London as compared to elsewhere were caused (even in part) by inefficiency.[294]

10.72 Cadent stated that while this 15% assumption was itself an understatement, as Cadent presented evidence at RIIO-GD1 that the loss of productivity in central London was higher than this, it was also not computed from any analysis of emergency cost data.[295]

10.73 Cadent submitted that it agreed with GEMA that the size of the adjustment should have been deflated to account for regional labour costs to avoid double-counting. Cadent submitted it had adjusted the claim for regional labour costs in its own analysis.[296] Cadent said that, even if the urbanity productivity adjustment was appropriate for reinforcement, connections and repex, it was not necessarily appropriate for other cost categories.[297]

10.74 Cadent submitted that using Cadent's estimate would increase the London GDN's allowance by £6.33 million over RIIO-GD2.[298]

GEMA's submissions

10.75 GEMA submitted that it accepted that the urbanity productivity adjustment had not been developed for emergency costs. However, it had decided that this adjustment was appropriate for emergency job times.[299] GEMA stated that the constraints caused by operating in an urban environment were likely to be no higher for emergency jobs than they were for reinforcement, connection and repex. GEMA stated that it was not clear to it why emergency jobs would be significantly more affected by urbanity than other work similarly constrained by the same operational environment.[300] GEMA submitted that Cadent had accepted the appropriateness of the urbanity productivity adjustment to explain increased London reinforcement, connection and repex costs in its DD consultation response and business plan. It submitted that Cadent had failed to demonstrate why emergency costs should be treated any differently.[301]

[293] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 232.
[294] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 235.
[295] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 237.
[296] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 32.
[297] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 33.
[298] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 303.
[299] GEMA Response B, paragraph 412.
[300] *Wagner 7 (GEMA),* paragraph 170.
[301] GEMA Response B, paragraph 412.

10.76 GEMA stated that the methodology used to calculate the urbanity productivity adjustment was largely the same as in RIIO-GD1, and that SGN had made no claim for emergency job times despite also operating in London. GEMA saw no compelling reason to change the RIIO-GD1 approach to urbanity productivity adjustments and considered the quantum of adjustment made at FD to be appropriate.[302]

10.77 GEMA stated that it had accepted much of the information provided by Cadent but did not agree with Cadent's assumption that 100% of the observed longer job times in London relative to its other networks must have been due to factors outside of its direct control, which effectively ruled out any potential for inefficiency.[303]

10.78 GEMA stated that in partially allowing Cadent's claim, GEMA recognised that longer durations of emergency interventions were higher for reasons outside the London GDN's control (eg as a result of longer travel times). However, it submitted that it did not accept Cadent's assumption that the costs recorded by Cadent were wholly exogenous and unrelated to its efficiency.[304]

10.79 GEMA submitted that its concerns were particularly pronounced given the magnitude of the recorded cost differential. It submitted it had serious concerns about applying an adjustment which significantly exceeded the levels of other London regional factor adjustments. GEMA said it was not prepared to accept that the same London constraints (ie dense population and utilities infrastructure) affected emergency costs around twice as much as they did comparable activities.[305]

10.80 GEMA submitted that it also had concerns about how Cadent had calculated the size of the adjustment. It stated at FD that, before doing the calculation, GEMA considered that labour costs should have been deflated using London's labour index to avoid double-counting with the labour adjustment. GEMA submitted that it also had concerns that Cadent's proposed approach risked double-counting.[306]

10.81 GEMA stated that it was entitled to make an adjustment which recognised the challenges and increased cost of emergency interventions in London, while concluding that the very large adjustment proposed by Cadent overstated those effects and was partially explained through the London GDN's

[302] *Wagner 7 (GEMA),* paragraph 172.
[303] *Wagner 7 (GEMA),* paragraph 129.
[304] GEMA Response B, paragraph 413.
[305] GEMA Response B, paragraph 414.
[306] GEMA Response B, paragraph 415.

inefficiency. It submitted it had acted well within its expert margin of discretion in reaching this conclusion.[307]

10.82 GEMA submitted that it applied the 1.15 productivity factor as an estimate of the impact of urbanity based on information submitted by GDNs. GEMA considered evidence submitted at the time of RIIO-GD1 from National Grid Gas Distribution that suggested contractor costs were 25% higher in London, as well as evidence from SGN that suggested a 15% to 20% loss of productivity in London. GEMA considered the SGN evidence was better justified and adopted the minimum value in SGN's range on the basis that an efficient company would minimise the impact of urbanity on its productivity.[308] GEMA also submitted that the use of the 1.15 productivity factor was also supported by other GDNs in their business plans and responses to GEMA's DD.[309]

Our assessment and conclusion

10.83 In our provisional determination we found that GEMA did not make an error in applying the urbanity productivity adjustment for emergency costs. We did not receive any submissions specifically relating to this assessment following our provisional determination.

10.84 As explained in paragraph 10.82, GEMA applied an urbanity productivity adjustment after having considered evidence from SGN and National Grid Gas Distribution on the extra costs that they incurred in London.[310] While the estimate was more than eight years old, GEMA said it was supported in RIIO-GD2 by the GDNs in their business plan submissions and responses to the DD consultation.[311]

10.85 Cadent's estimate has the advantage of being based on emergency costs data. However, Cadent failed to provide evidence supporting the different treatment of emergency jobs. Moreover, there are weaknesses in Cadent's estimate of the productivity adjustment as it is based solely on Cadent's own cost data, which is not an appropriate efficiency comparator. Therefore, Cadent did not provide strong evidence to show that GEMA's estimate for the urbanity productivity adjustment was understated.

[307] GEMA Response B, paragraph 416.
[308] *Wagner 7 (GEMA),* paragraph 77.
[309] *Wagner 7 (GEMA),* paragraph 78.
[310] RIIO-GD1: Initial Proposals – Supporting document – Cost efficiency, paragraph 1.13, says: 'We have decided to apply a 15 per cent one way productivity adjustment for London and Southern GDNs capex and repex mains and services, and capex connections work carried out within the M25. 15 per cent is the minimum value of the productivity range submitted by SGN in a study undertaken for them by Morrison Utility Services. We have adopted the minimum value because we believe that an efficient company minimises its productivity impact.' See also *Druce 1 (Cadent)*, paragraph 237 B.
[311] *Wagner 7 (GEMA),* paragraph 78.

10.86 For the reasons above, Cadent has failed to persuade us that its estimate is superior to that of GEMA's. By contrast, we consider that GEMA's estimate was supported by relevant evidence. We conclude therefore that GEMA did not make an error in applying the urbanity productivity adjustment for emergency costs.

Did GEMA err in the application of the urbanity productivity adjustment for high plant hire associated with the repex programme costs?

The RIIO-2 Decision

10.87 At FD, in response to Cadent's company-specific claim (see paragraph 10.88), GEMA extended the scope of the 15% urbanity productivity adjustments to plant hire associated with the repex programme costs.[312]

Cadent's submissions

10.88 Cadent submitted that its business plan presented evidence based on the difference in tender prices between its London and East of England gas distribution networks demonstrating that the former incurred 19.7% higher costs associated with plant hire for the repex programme.[313] Cadent claimed that this was due both to the lower repex productivity in London requiring longer hire periods, and to the additional storage and labour costs in London.[314] Cadent stated that repex plant hire costs were between 8% and 25% higher per metre of mains replaced in London compared to East of England, based on tender data hire from the same party across both networks.[315]

10.89 Cadent submitted that there was no uncertainty as to its plant hire costs, which were quantified accurately and in their entirety by reference to competitive tender prices. It submitted that there was no basis for GEMA's claim that the additional plant hire repex costs were covered by the regional labour cost adjustment.[316]

10.90 Cadent stated that the 11% productivity adjustment was outdated, based on information for another company, and did not originally relate to plant hire

[312] *Wagner 7 (GEMA),* paragraphs 138, 147 ; Cadent NoA, paragraph 3.73.
[313] Cadent NoA, paragraph 3.75.
[314] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 241. *Moon 1 (Cadent)*, paragraph 105.
[315] *Moon 1 (Cadent)*, paragraph 106.
[316] Cadent NoA, paragraph 3.75.

costs. It submitted that GEMA had not said what further evidence Cadent could reasonably have presented to provide GEMA with a better estimate.[317]

10.91 Cadent submitted that these costs were not covered by the labour adjustments at all. It said that GEMA applied its regional labour cost adjustment to the categories of cost identified as labour costs. It stated that Cadent had classified plant hire expenditure associated with the repex programme separately from labour costs.[318]

10.92 Cadent stated that although East of England is Cadent's sparsest network, it was the fourth sparsest of all gas networks and its sparsity index of 1.08 was close to industry average of 1.07.[319]

10.93 Cadent submitted that using Cadent's estimate would increase the London GDN's allowance by £4.1 million over RIIO-GD2.[320]

GEMA's submissions

10.94 GEMA submitted that it had decided against applying the entirety of the adjustment proposed by Cadent for largely the same reasons it had rejected tender-based data produced by Cadent in support of its claim to increase the urbanity reinstatement adjustment. Its reasons were:[321]

(a) serious flaws in the comparison between the London gas distribution network and East of England gas distribution network; and

(b) the reliance on a single tenderer's data was insufficiently robust.

10.95 GEMA stated that it now accepted that plant hire costs were classified separately from labour costs in Cadent's business plan, and that plant hire costs were not already partially captured by the regional labour cost adjustment. However, it submitted that the overall decision under challenge was GEMA's application of the urbanity productivity adjustment.[322]

10.96 GEMA submitted that its main justification for its approach was that higher plant hire costs derived primarily from lower productivity in London, which resulted in longer hire times. It told us it placed weight on the fact that Cadent had supported the application of the urbanity productivity adjustment to similar

[317] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 246.
[318] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 24.
[319] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 35.
[320] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 303.
[321] GEMA Response B, paragraph 418.
[322] GEMA Response B, paragraph 419.

cost activities affected by lower productivity, such as repex, reinforcement and connections.[323]

10.97 GEMA submitted that it was entitled, within its expert margin of discretion, to conclude that the urbanity productivity adjustment was a more accurate way of accounting for increased plant hire costs.[324]

10.98 GEMA accepted that costs of operating in London were higher. It had given Cadent an opportunity to present supporting evidence, but the evidence had been insufficient.[325]

Our assessment and conclusion

10.99 In our provisional determination we found that GEMA did not make an error in applying the urbanity productivity adjustment for plant hire costs. We did not receive any submissions specifically relating to this assessment following our provisional determination.

10.100 GEMA's urban productivity adjustment is not based on plant hire costs. The 15% adjustment was based on evidence considered in RIIO-GD1 and supported in RIIO-GD2 from SGN suggesting a 15% to 20% loss of productivity from working in London (see paragraph 10.83).[326] Instead, Cadent's estimate has the advantage of being based on plant hire costs data.

10.101 However, Cadent's estimate has some drawbacks:

(a) It is based on a comparison between London and East of England. From the evidence available, Cadent did not demonstrate whether and why East of England would be a reasonable benchmark.

(b) It might overestimate the productivity adjustment as it is likely to be due, at least partly, to inefficiency because it is based solely on its own cost data. As mentioned in paragraph 10.62, while the evidence from a single contractor who participated in a competitive tender may be relevant, is not enough in itself to demonstrate that Cadent's procurement was efficient.[327]

10.102 Cadent's own estimates range from 8% to 25% higher depending on the various diameter bands, lay method and surface type.[328] GEMA's

[323] GEMA Response B, paragraph 419.
[324] GEMA Response B, paragraph 420.
[325] GEMA Main Hearing Transcript, 8 July 2021 (AM session), page 69, lines 13–22.
[326] *Wagner 7 (GEMA),* paragraph 77.
[327] Firmus Final Determination, paragraph 4.47.
[328] *Moon 1 (Cadent)*, paragraph 106.

adjustment, despite being based on different evidence, falls within that range and sits near the midpoint of that range.

10.103 GEMA stated that plant hire was affected by lower productivity in a similar way that repex, reinforcement and connections were (see paragraph 10.96). We described GEMA's estimate in paragraph 10.82. Cadent's evidence, namely a substantially larger estimate for the urbanity productivity adjustment, might be affected by the London GDN's own inefficiency because it is based solely on its own data.

10.104 For the reasons above, Cadent has not persuaded us that its own estimates were better than GEMA's. We consider that GEMA's estimates took account of the available evidence and involved an appropriate exercise of regulatory judgement. Accordingly, we consider that GEMA was acting within its margin of appreciation. We conclude that GEMA did not make an error in applying the urbanity productivity adjustment for plant hire costs**.**

Did GEMA correctly apply the materiality criterion for company-specific claims?

10.105 In this section we discuss Cadent's alleged error that GEMA incorrectly applied the materiality criterion for company specific claims. We first summarise the RIIO-2 decision and then the submissions before setting out our assessment and conclusions.

The RIIO-2 Decision

10.106 GEMA submitted that Cadent had made claims for factors mainly affecting its operations in the London area:

(a) Parking bay suspensions and temporary traffic restriction orders.

(b) Traffic management hire.

(c) London depot rental costs.

(d) London congestion charges.

(e) London Local Authority tunnels.

(f) Locksmiths.[329]

[329] GEMA FD Cadent Annex, paragraph 3.107.

10.107 GEMA rejected these claims at DD primarily due to their low materiality.[330]

10.108 GEMA submitted that it recognised that these claims related to operating in the London area, however it did not agree that they could all be considered together as one single factor as they related to different aspects of operations and affected different cost activities. For example, the challenges of operating in London included higher wages and lower productivity which were being recognised and adjusted for separately and GEMA did not see merit in considering these other items jointly as one single factor. While GEMA accepted that some of these claims had merit in principle, it did not believe that they were material enough to warrant an adjustment.[331]

Cadent's submissions

10.109 Cadent submitted that its claims were rejected due to an arbitrary application of the materiality threshold.[332] Cadent said it had identified costs specific to the operations of the London GDN for which adjustment was required.[333]

10.110 Cadent submitted that GEMA had declined to adjust for these costs on the basis that they were insufficiently material. Cadent said the total value of the costs in question amounted to approximately £9 million over RIIO-GD2, which comfortably exceeded GEMA's materiality threshold once it was applied to net totex as Cadent considered it should be. Cadent added that, in any event, the costs were only marginally short of that threshold on GEMA's incorrectly applied gross basis. Cadent said that GEMA had instead applied a line-by-line approach to the materiality threshold on the basis that the items claimed 'relate[d] to different aspects of operations and affect different cost activities'.[334]

10.111 Cadent submitted that GEMA's reasons for rejecting Cadent's claim were without merit for the following reasons:[335]

(a) First, the relevant costs were all linked to the London region. GEMA did not question the uniqueness or merit of the vast majority of the claims, a number of which were self-evidently specific to operating in London.[336]

[330] GEMA FD Cadent Annex, paragraph 3.108.
[331] GEMA FD Cadent Annex, paragraph 3.113.
[332] Cadent NoA, paragraph 3.78.
[333] Cadent NoA, paragraph 3.78.
[334] Cadent NoA, paragraph 3.79.
[335] Cadent NoA, paragraph 3.80.
[336] Cadent NoA, paragraph 3.81.

(b) Second, GEMA provided little or no evidence or analysis to support its assertions of why Cadent's claims regarding the high costs of operating in London might be covered by other adjustments.[337]

(c) Third, GEMA's insistence on treating the various items in question discretely was in contrast with its approach at RIIO-ED1, where it accepted a large number of claims made by UK Power Networks as part of an overall London regional adjustment. Its failure to do so in this case was an error and led to the incorrect exclusion of a material category of London-specific costs.[338]

(d) Fourth, GEMA's materiality threshold was in any event arbitrary and prevented Cadent from recovering its efficient costs. This was inconsistent with the intended effect of the regulatory regime, which was to remunerate all efficient costs. Further, GEMA applied the materiality threshold to 'gross' totex (ie including costs associated with Rechargeable Works), which disadvantaged (and discriminated against) companies like Cadent that undertook a large volume of third-party funded projects. Applying the materiality threshold to 'net' totex was more appropriate and allowed Cadent's rejected claims to comfortably meet the materiality criterion.[339]

10.112 NERA, in a report submitted by Cadent, said that one particular problem with GEMA's assessment of Cadent's efficient costs related to its use of a materiality threshold for considering requests from Cadent to fund particular cost items.[340]

10.113 NERA said that the strict application of the materiality threshold was in any case wrong for the following reasons:[341]

(a) First, in its FD, GEMA had not questioned the 'merit' of these claims in terms of the efficiency of Cadent's expenditure or the uniqueness of London, which in many cases was not surprising for cost items so obviously unique as the London congestion charge.[342]

(b) Second, the materiality criterion should also be considered in light of the performance of the London GDN in the comparative benchmarking modelling, which suggested it was the least efficient of the GDNs and received allowances markedly below its business plan cost forecasts.

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[337] Cadent NoA, paragraph 3.82.
[338] Cadent NoA, paragraph 3.83.
[339] Cadent NoA, paragraph 3.84.
[340] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 297.
[341] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 300.
[342] With respect to London Congestion Charges and London Local Authority Tunnels, Cadent said that the costs associated with these activities need to be incurred and there is essentially no scope to materially reduce them through improved efficiency. Cadent's response to PD, paragraph 9.22.

Given that GEMA had no disagreement with the uniqueness of these cost claims, it was entirely inconsistent with the need for the regulatory framework to remunerate all GDNs' efficient costs for GEMA to disallow otherwise valid regional factor claims purely on materiality grounds.[343]

(c) Third, by setting a materiality threshold as a percentage of gross totex, this disadvantaged companies like Cadent, which undertook a large proportion of works requested and funded by third parties, such as connections work and diversions. The threshold for evaluating the materiality of company-specific claims by Cadent when computed in net terms (ie 0.5% of net unnormalised totex) would be £1.5 million per year. If GEMA had used this more appropriate approach, Cadent's claims that GEMA rejected on materiality grounds would – when considered together – have met the materiality criterion comfortably.

(d) Fourth, GEMA had allowed a number of company-specific claims (eg emergency job times and repex plant hire) that had a value below the materiality threshold, showing that GEMA itself had been inconsistent in its application of this arbitrary materiality threshold.

(e) Fifth, evaluating the combined effect on London costs of all of these factors combined, ie as part of an overall regional adjustment, would be consistent with GEMA's past decisions.

10.114 Cadent accepted that some of the claims in isolation could look minor, but said they were all caused by the densely urban environment that was London and should be considered together. These claims amounted to approximately £9 million over the RIIO-2 period.[344]

10.115 Cadent told us that it had provided GEMA with substantial evidence demonstrating why these costs were unique to London, or uniquely higher in London. Cadent submitted that GEMA appeared to have rejected these claims purely on the basis of individual materiality without seeming to consider Cadent's evidence, and despite recognising that some of them had 'merit in principle'. Cadent submitted that in a totex regression, applying materiality separately on these individual items did not appear to be consistent with the overall modelling approach. It said that in an approach that considered all costs and activities, it seemed logical to consider the normalisations in totality rather than in disaggregated form.[345]

[343] Also mentioned by Cadent in its response to PD, paragraph 9.22.
[344] *Moon 1 (Cadent)*, paragraph 109.
[345] *Moon 1 (Cadent)*, paragraph 110.

10.116 Cadent submitted that GEMA mounted a vague and hypothetical defence of its high evidential bar for pre-modelling adjustments, as well as its materiality threshold. Cadent did not dispute that GEMA was in principle entitled to require well-evidenced material claims. What it said was wrong, however, was for GEMA to assess evidence using excessive subjectivity and to apply its threshold in an overly restrictive and mechanistic manner, particularly in circumstances where it had clear evidence that this approach rendered the London GDN unable to recover efficient costs.[346]

10.117 In response to our provisional determination Cadent submitted that, it was concerned that the application of such a strict materiality threshold may affect detrimentally all energy network companies' incentives to reduce costs in the future, in those cost areas covered by regional factor adjustments. Cadent said that, if a cost item was funded through a company-specific factor and was only marginally above 0.5% of totex, a company's incentive to reduce that cost would be blunted by such a strict application of the materiality criterion, as it would likely lead to the entirety of that cost item being unfunded in the next price control settlement.[347]

GEMA's submissions

10.118 GEMA submitted that it had acted at all times within its expert margin of discretion when carefully exercising its judgement as to whether claims put forward by Cadent were robustly evidenced and whether they related to exogenous factors. GEMA said it had also applied its materiality threshold fairly and transparently, and it had accepted more than 70% of the total value of Cadent's specific claims. GEMA said its approach was similar to the one adopted at RIIO-GD1, in respect of which the London GDN was ranked last in the efficiency benchmarking and comfortably outperformed its allowances.[348]

10.119 GEMA submitted that the first Cadent criticism was that each of these costs were 'all linked to the ultra-dense characteristics of the London region' and should therefore have been considered in sum. GEMA said that this would have had the effect of rendering the materiality threshold useless and would have permitted GDNs to submit a large number of small claims. GEMA submitted that it was fully entitled to adopt an effective materiality threshold for RIIO-GD2, and that Cadent had not challenged its ability to do so.[349]

10.120 GEMA submitted that, having established an effective materiality threshold, it was required, as a matter of fairness and transparency, to apply it

[346] Cadent Reply, paragraph 49b.
[347] Cadent's response to PD, paragraphs 9.23.
[348] GEMA Response B, paragraph 368(1).
[349] GEMA Response B, paragraph 424.

equally to all GDNs. GEMA said it was therefore right to treat individual claims separately where (a) each was based on a distinct methodology and (b) GEMA was required to exercise a standalone judgement on whether the claim should be allowed.[350] In any event, GEMA said that Cadent had accepted in its NoA that, if the threshold was applied to 'gross' unnormalised costs, then these costs in aggregate still fell 'marginally short' of the threshold.[351]

10.121 GEMA submitted that Cadent's second criticism was that 'GEMA provides little or no evidence or analysis to support its assertions of why Cadent's claims regarding the high costs of operating in London may be covered by other adjustments'. This was based on a misreading of GEMA's FD. The point made by GEMA was that the increased costs of operating in London were caused by a disparate number of factors, rather than the nebulous concept of a single 'London factor'. This was evidenced through the different purposes served by the regional labour cost and productivity adjustments. Therefore it was inappropriate to consider increased costs related to London regional factors in aggregate.[352]

10.122 GEMA submitted that Cadent's third criticism was that GEMA had adopted a more stringent approach to materiality than at RIIO-ED1. GEMA denied that it had acted inconsistently with RIIO-ED1, and said that the RIIO-ED1 adjustment referred to by Cadent was for 'similar costs', while the costs categories in RIIO-GD2 had 'no obvious link to each other'.[353] GEMA said that its approach for RIIO-GD2 was clearly within its margin of discretion, and this could be seen by comparing the materiality threshold with previous price controls. GEMA's 0.5% threshold was consistent with the threshold it applied at RIIO-ED1 and RIIO-GD1, and which Ofwat applied at PR14.

10.123 GEMA submitted that Cadent's argument at paragraph 10.111(d) above was misplaced, because:[354]

(a) First, insofar as Cadent challenged the setting of a materiality threshold: it was appropriate to do so, consistent with regulatory precedent, and manifestly within GEMA's margin of discretion.

(b) Second, insofar as Cadent challenged the level of the threshold: all materiality thresholds were to an extent 'arbitrary'. The alternative, of reserving a broad discretion to exclude immaterial costs, would be opaque

[350] GEMA Response B, paragraph 425.
[351] GEMA Response B, paragraph 425.
[352] GEMA Response B, paragraph 427.
[353] GEMA Response B, paragraph 428.
[354] GEMA Response B, paragraph 430.

and unfair. The level of the threshold was also consistent with regulatory precedent.

10.124 In response to Cadent's argument at paragraph 10.113(c) above, GEMA submitted that it had considered that a threshold based on gross totex was more consistent with the broader cost assessment framework. Further, GEMA said that the suggestion that this approach discriminated against Cadent had no basis in fact. GEMA said that, subject to a small claim submitted by SGN for the costs of working on the Isle of Wight, only Cadent submitted company-specific claims.[355]

10.125 GEMA submitted that it had made adjustments only for those company-specific claims that were well-evidenced and justified and likely to have a material impact on the benchmarking analysis, in order to address information asymmetry between the GDNs and GEMA.[356]

10.126 GEMA submitted that there was no apparent link between costs relating to locksmiths, plant hire and London authority tunnels. GEMA decided to implement the DD proposal and applied a 0.5% materiality threshold to individual company-specific factor claims. GEMA submitted that it would be inconsistent with the aims of a top-down benchmarking model to lower the threshold or aggregate small individual claims into a larger single claim.[357]

10.127 GEMA submitted that Ofwat's PR19 materiality threshold for cost adjustment claims was higher than GEMA's threshold for company specific claims, which ranged from 1% to 6%.[358] Furthermore, overall, Ofwat's PR19 evidential bar was arguably more demanding than GEMA's. In these circumstances the CMA had upheld a more stringent approach to materiality in the CMA PR19 Redetermination than that adopted by GEMA at RIIO-GD2. It followed that there was nothing in the CMA's decision which indicated GEMA exceeded the bounds of its expert judgement in applying the materiality threshold it did.[359]

Our assessment and conclusion

10.128 In our provisional determination we found that GEMA did not err in its application of the materiality criterion to Cadent's claims. Our reasoning for finding that GEMA did not err was:

[355] GEMA Response B, paragraph 431.
[356] *Wagner 7 (GEMA),* paragraph 11.
[357] *Wagner 7 (GEMA),* paragraphs 115 and 178.
[358] GEMA Response B, paragraph 429.
[359] GEMA PR19 Response on Totex, paragraph 21.

(a) The 0.5% materiality threshold set by GEMA was consistent with the threshold it applied at RIIO-ED1 and RIIO-GD1, and which Ofwat applied at PR14. The materiality threshold was also consistent with the CMA PR19 Redetermination, where 0.5% and larger figures were used.[360]

(b) We found that it was appropriate to apply the materiality threshold to single cost items. We noted that aggregating cost items according to broad criteria as suggested by Cadent introduces an avoidable element of arbitrariness and reduces the efficacy of the materiality threshold. Given that each cost claim was below the materiality threshold regardless of whether that was computed on a gross or net basis, we did not find it necessary to conclude on this issue in this case.

10.129 In its response to our provisional determination, Cadent stated that it was not so much that the 0.5% threshold should be reduced to a lower value but rather that GEMA was wrong to apply it in an overly restrictive and mechanistic manner in circumstances where it had clear evidence that this approach rendered the London GDN unable to recover obviously efficient costs.[361] We do not agree with Cadent. First, GEMA applied its materiality threshold to a number of small claims that relate to different aspects of operations and affect different cost activities each of which was comfortably below the 0.5% threshold. This represents an appropriate use of a materiality threshold, the principle of which Cadent has not challenged. Second, we are not persuaded that GEMA's application of the materiality criteria would render the London GDN unable to recover efficient costs. As discussed in paragraphs 10.21 to 10.22, we do not agree that the size of the efficiency gap is a factor that GEMA should have considered when assessing pre-modelling adjustments; and we have found that the density driver cross-check does not demonstrate that the London GDN is undercompensated with respect to the cost of operating at the level of density of London.

10.130 Cadent submitted that GEMA's strict application of the materiality criterion will have a detrimental effect on the incentives of GDNs to reduce costs in future price controls (see paragraph 10.117). We note that it is possible for the use of this kind of materiality criterion to generate undesirable incentive effects, in particular where relevant costs are close to the applicable threshold. However, we agree that GEMA has a strong basis for only accepting claims that are well-evidenced and likely to have a material impact on allowances given the information asymmetry between GEMA and the GDNs. A negative effect on the incentives of the GDNs to reduce costs would also arise if GEMA were to accept immaterial claims without sufficient

[360] CMA PR19 Redetermination, paragraphs 5.12(b) and 5.16.
[361] Cadent's response to PD, paragraph 9.21.

evidence or unrelated claims that were inappropriately aggregated against a materiality threshold. In either case, this would result in GDNs submitting large numbers of poorly evidenced factors in the expectation that some or all of them will be funded (potentially above the efficient level) and/or would require GEMA and the company to expend disproportionate resources to evaluate these immaterial claims robustly. Therefore the extent to which the use of a materiality threshold would be expected to give rise to such effects in practice would depend on how it was applied. Given that we have found that GEMA used its materiality threshold appropriately, we do not consider GEMA's application of its materiality threshold for RIIO-GD2 as likely to give rise to significant negative incentive effects.

10.131 Finally, as noted in the Legal Framework,[362] where GEMA has exercised regulatory judgement in selecting among various solutions to a regulatory problem, we will not substitute our own assessment or weighting of the evidence or reasoning for GEMA's unless we are satisfied that GEMA's approach is wrong.

10.132 Cadent has failed to persuade us that its alternative approach to the application of the materiality criterion was clearly superior for the reasons set out above. Accordingly, we consider that GEMA's choice and use of materiality threshold was within its margin of appreciation as an expert regulator.

10.133 We conclude that GEMA's application of the materiality criterion to Cadent's claims was not wrong.

Did GEMA account for London's emergency workload?

10.134 In this section we discuss Cadent's alleged error that GEMA failed to account or adjust for London's high emergency workload. We first summarise the RIIO-2 decision, then the submissions related to the alleged error. Finally, we provide our assessment and conclusion.

10.135 The error alleged by Cadent regarding the longer time needed to carry out an emergency job was discussed above from paragraph 10.66. In this section, we discuss the error Cadent has alleged regarding London's high emergency workload.

[362] See in particular paragraph 3.78

The RIIO-2 Decision

10.136 GEMA in its econometric model used a CSV driver, which was a weighted average of different drivers.[363] GEMA used an emergency CSV, included in its CSV driver, as the driver for emergency costs in the econometric model.[364] The emergency CSV was a weighted average of customer numbers and total external condition reports, with weight 80% and 20% respectively. This driver was used in RIIO-GD1.[365] GEMA stated that customer numbers captured the fixed element of emergency costs, while total external condition reports were assumed to drive the variable element.[366]

Cadent's submissions

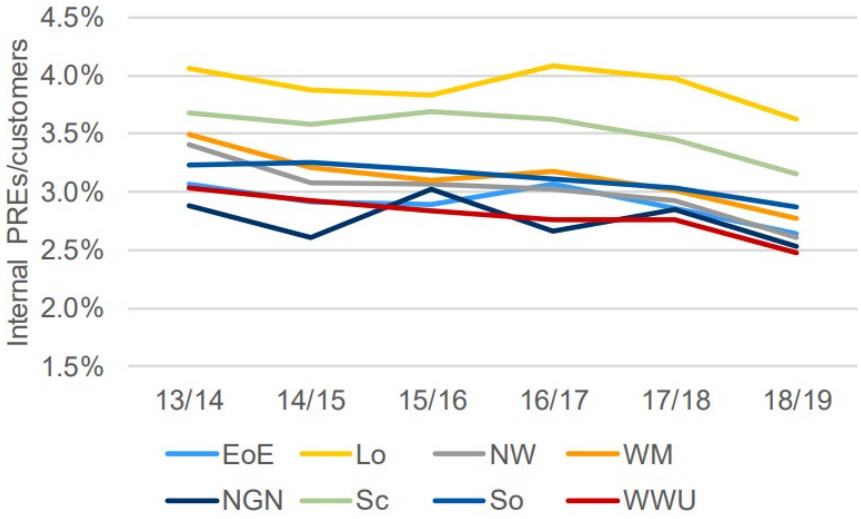
10.137 Cadent submitted that it had incurred substantial emergency costs associated with responding to suspected internal and external PREs.[367] Cadent submitted that variations in the emergency costs incurred by different GDNs would be most appropriately explained by the inclusion of a driver in GEMA's econometric model based on the levels of PREs (and not based on customer numbers as with GEMA's driver). NERA stated that Cadent calculated the PREs as the maximum number over five years to control for annual fluctuations.[368] It submitted that using PREs as a cost driver would be more consistent with engineering and economic sense.[369]

10.138 Cadent submitted that internal PREs were suspected gas escapes occurring inside customer properties in pipework or other apparatus owned by the customer and for which the customer was responsible. It submitted that external PREs were suspected escapes of gas on Cadent's network, so outside customers' homes or commercial buildings.[370]

10.139 Cadent submitted that London had higher numbers of internal PREs than other parts of the country.[371] Figure 10-2 shows the difference in PREs per customer among the GDNs. NERA stated that this figure showed that London and Scotland's internal PREs per customer were approximately 30% and 20%, respectively, higher than the average of the other GDNs.[372]

[363] GEMA FD Step-by-Step Guide to Cost Assessment, paragraph 1.27.
[364] *Wagner 7 (GEMA),* paragraph 61; Cadent, Exhibit RD1, paragraph 119.
[365] *Wagner 7 (GEMA),* paragraph 134.
[366] *Wagner 7 (GEMA),* paragraph 61.
[367] Cadent NoA, paragraph 3.65.
[368] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 283.
[369] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 287.
[370] Cadent NoA, paragraph 3.66.
[371] Cadent NoA, paragraph 3.66.
[372] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraphs 284–285.

Figure 10-2: Level of internal PREs per customer



Source: NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, page 98.
Note: Levels of internal PREs were averages.

10.140 Cadent submitted that the factors leading to suspected internal PREs were all beyond Cadent's control.[373] NERA stated that Cadent's maintenance of the network would not affect the number of internal PREs per customer, and that even if the number of gas escapes was controllable through GDNs' influence on network condition, this concern would apply to external condition reports as well as internal PREs. Therefore, NERA submitted that GEMA's own regression approach assumed gas escapes were not controllable.[374] Cadent stated that the factors that fed into the higher number of internal PREs in London included the higher number of flats, increased levels of rented/tenanted accommodation and social factors, including higher levels of fuel poverty. All of these may have impacted the level of regular maintenance and inspection of internal pipework and internal gas appliances.[375] Cadent stated that in the event of an internal PRE, Cadent had an obligation to attend to an emergency and make safe. Then the customer would need to arrange any necessary repair work with a gas safe registered engineer.[376] NERA, in response to GEMA's claim that the volume of internal PREs may have been influenced by reporting inconsistencies, stated that GEMA did not provide any evidence to suggest reporting inconsistencies between GDNs. It submitted that four of the eight GDNs were owned by Cadent, so it was reasonable to assume at least half of the industry reported PREs on a common basis.[377]

[373] Cadent NoA, paragraph 3.65.
[374] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 26A.
[375] Cadent NoA, paragraph 3.66.
[376] *Moon 1 (Cadent)*, paragraph 96.
[377] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 26B.

10.141 Cadent submitted further evidence in its response to our provisional determination, responding to GEMA's assertion that there were no obvious reasons identified that would explain why internal PREs per customer would be materially higher in London and Scotland relative to other networks. Cadent submitted that the combined effect of having a high share of flats and lower quality of housing explains why Scotland and London are outliers in terms of internal PREs per customer, where the share of flats is the primary driver.[378]

10.142 With respect to the higher proportion of flats, Cadent submitted that the share of flats is the primary driver because the proximity of housing determines the number of households that may report an internal PRE based on a single gas escape. Cadent submitted that London (c. 52%) and Scotland (c. 37%) have a higher share of flats compared to the rest of Great Britain (c. 17%), and that the combination of a large number of flats, buildings in close proximity and underground ducts makes gas escapes likely to enter more properties than elsewhere, leading to a higher number of PREs per gas leak incident.[379]

10.143 With respect to the lower quality of housing, Cadent submitted that poorer standards of maintenance for gas appliances is a driver of gas escapes; therefore, one would expect higher internal PREs per customers in operating areas with a high share of substandard dwellings.[380] Cadent submitted that in its experience rented housing, in particular privately rented housing, is associated with poorer gas appliance maintenance. Cadent submitted data from England Housing Survey's data on the quality of dwellings in England which showed that private rented properties were more likely to be defined as 'Non-decent'. Cadent submitted that its GDN had a higher proportion of privately rented properties (25%) which was higher than the rest of England (17%) and SGN's southern network (19%); however, Scotland's proportion of privately rent housing is lower at 14%.[381]

10.144 Cadent also compared dwelling quality by comparing the proportion of Scottish housing that failed the Scottish Housing Quality Standard (43%) and the proportion of English housing that failed the Decent Homes criteria (17%). Cadent acknowledged that it is important to note that these are different sets of criteria with different methodological choices. However, it noted that a

[378] Cadent response to PD, paragraph 9.20c.
[379] Cadent response to PD, appendix 2, paragraph A.1.
[380] Cadent response to PD, appendix 2, paragraph B.1.
[381] Cadent response to PD, appendix 2, paragraph B.3. The share of privately rented properties identified as non-decent was 23% compared to owner occupied (16%), local authority (13%) and housing association (12%).

comparison at very least provides an indication of the general standard of housing in each nation.[382]

10.145 In response to GEMA's assertion that reporting inconsistencies were identified as a possible explanation for the differences between the number of PREs per customer between GDNs. Cadent submitted that GEMA's own Regulatory Instructions and Guidelines (**RIGS**) provide clear and consistent requirements for all GDNs to provide data into the annual regulatory reporting, and that it was not aware of any issues that GEMA has expressed previously on a material risk of inconsistency in the data on emergencies.[383]

10.146 NERA stated that, while some of the GDNs' emergency costs may have been fixed, in the sense that they did not change with the number of emergency callouts, it would be wholly irrational and inefficient for GDNs to size their emergency workforce based on customer numbers without regard to the number of observed historical and/or expected future PREs.[384]

10.147 Cadent submitted that GEMA's emergency CSV ignored the consistently higher number of internal PREs per capita recorded by Cadent's London GDN and SGN's Scotland GDN over the RIIO-GD1 period.[385] It submitted that GEMA's use of customer numbers to explain 80% of emergency costs belied the fact that some networks had a higher volume of emergencies per customer. NERA submitted that under GEMA's approach Modern Equivalent Asset Value (**MEAV**) was expressly not used to control for emergency costs.[386]

10.148 Cadent submitted that to address this flaw in GEMA's emergency CSV driver, Cadent had asked GEMA to either:[387]

(a) replace the emergency CSV with a driver based on PREs; or

(b) make a pre-modelling adjustment uplifting the customer numbers for the London and Scotland GDNs by 32% and 19% respectively, to reflect the higher proportion of Internal PREs per customer recorded by each network relative to the average.

10.149 Cadent submitted that GEMA had contended that using PREs as a driver would not produce substantially different results compared to its approach, but did not substantiate its claim and did not address the merits of

[382] Cadent Response to PD, appendix 2, paragraph B.4.
[383] Cadent Response to PD, paragraph 9.20b.
[384] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 28.
[385] Cadent NoA, paragraph 3.67.
[386] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 27B.
[387] Cadent NoA, paragraph 3.67.

Cadent's proposed driver. This was despite Cadent highlighting in its DD response that using PREs generated positive statistical effects.[388] NERA submitted that GEMA did not disclose the threshold for identifying a substantial difference.[389] NERA submitted that replacing customer numbers with the maximum PREs variable in the emergency CSV improved the model fit from 0.929 to 0.932 and would have increased the London GDN's allowance by £9 million over RIIO-GD2. It submitted that GEMA's suggestion that the maximum PREs variable would not improve the reliability of the totex model was incorrect.[390] Cadent stated that GEMA did not acknowledge Cadent's alternative solution of uplifting customer numbers to reflect the higher number of PREs per customer in London and Scotland.[391]

10.150 NERA submitted that rerunning a regression of emergency costs with the uplifts applied to customer numbers led to higher modelled costs for the London GDN of £8.46 million over RIIO-GD2.[392]

10.151 NERA submitted that the inclusion of risers within the definition of MEAV was intended to reflect better the scale of GDNs' operations as the pipes within these buildings were an intrinsic part of the gas system. The GDNs were responsible for maintaining these pipes and responding to emergencies.[393]

10.152 NERA submitted that despite including risers in the MEAV, uplifting customer numbers still had a significant effect on results. These issues were not adequately controlled for by GEMA's raw model. There was still overarching evidence that there was a statistical relationship between density and costs, which was not represented in GEMA's modelling.[394]

10.153 Cadent stated that in relation to Non-**MOB**s/**MOB**s,[395] if a townhouse was converted into three flats, the GDN would get three service allowances. However, these allowances would not be adequate to cover the cost of providing these services.[396] Cadent stated that although including MOBs in

[388] Cadent NoA, paragraph 3.68.
[389] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 286.
[390] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 29.
[391] Cadent NoA, paragraph 3.68.
[392] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 285.
[393] Cadent Main Hearing Transcript, 5 July 2021, page 43, lines 16–21.
[394] Cadent Main Hearing Transcript, 5 July 2021, page 45, lines 5–10.
[395] MOB refers to 'multi-occupancy building'.
[396] Cadent Main Hearing Transcript, 5 July 2021, page 45, lines 14–24. Cadent submitted that these MOBs typically involve grand old buildings with parquet floors and there is more work in terms of the steelwork, the pipework, the copperwork at the side of the buildings. Cadent further noted that, the operating procedures are equivalent to those required for high rise buildings.

the CSV does account for some of the scale of the activities that it is carrying out on the network, it does not account for all of these additional costs.[397]

GEMA's submissions

10.154 GEMA submitted that it was entitled to opt for the emergency CSV driver over Cadent's two proposals, and that it had acted within its margin of discretion when doing so.[398]

10.155 GEMA submitted that it had substantial concerns about Cadent's proposed solutions.[399] It submitted the following:

(a) Cadent was unable to demonstrate that the higher number of internal PREs for London and Scotland was due to exogenous factors and not factors which the company could address (eg network condition or reporting inconsistencies). However, GEMA recognised that if Cadent's categorisation of PREs ensures that internal PREs only relate to gas escapes that originate from the part of its network that is downstream of the emergency control valve[400] Cadent may not have direct control over the level of internal PREs.[401]

(b) Cadent's proposed solutions in these circumstances would result in a risk of over-recovery.[402]

(c) GEMA submitted that reporting inconsistencies were identified as a possible explanation for the differences between the number of PREs per customer between GDNs, noting that GEMA identified reporting inconsistencies with external reporting during RIIO-GD1. It submitted that it had assessed the information submitted by Cadent. However it could not identify what was driving any differences in the data. There were no obvious reasons identified that would explain why internal PREs per customer would be materially higher in London and Scotland relative to other networks, particularly given the difference in network composition in these two regions. [403] In response to additional evidence on housing quality and the proportion of housing stock that is flats submitted by Cadent in response to our provisional determination (see paragraphs 10.141 to 10.145), GEMA acknowledged that this additional information

[397] Cadent Main Hearing Transcript, 5 July 2021, page 45, line 25 and page 46, line 1.
[398] GEMA Response B, paragraph 402.
[399] GEMA Response B, paragraph 400.
[400] An emergency control valve is a safety mechanism on a gas service pipe connecting a gas meter to the gas main.
[401] GEMA response to RFI 027, Question a(i).
[402] GEMA Response B, paragraph 400(1).
[403] GEMA, RFI GEMA 001, page 1.

may provide a better explanation for regional differences in PREs and may alleviate GEMA's concerns about reporting inconsistencies.[404]

(d) Two of the three explanations for higher PRE costs in London put forward by Cadent in its NoA – higher number of flats and increased levels of rented/tenanted accommodation – were indirectly accounted for in the model through use of MEAV. GEMA submitted that this was because the inclusion of risers within this driver accounted for GDNs having to provide services to a higher proportion of MOBs.[405]

(e) Higher number of PREs had also been recorded in Scotland. It was doubtful that any increased costs could be explained by the challenges of operating in London, which Ground 1B was generally concerned with.[406]

10.156 GEMA submitted that GEMA did not consider that Cadent's alternative proposal to uplift customer numbers was more robust than using an emergency CSV driver or an accurate indicator of the size of a regional adjustment for emergency workload.[407] GEMA submitted that it had derived significant confidence in its use of the emergency CSV driver. GEMA stated that this driver had regulatory precedent in that it was used in RIIO-GD1.[408] GEMA submitted the following:[409]

(a) The justification for adopting the emergency CSV at RIIO-GD1 was that emergency costs were largely fixed, and GDNs had to maintain an emergency service irrespective of the number of reports they received. It submitted this was reflected in the weighting of the driver: 80% on customer numbers (to account for fixed costs) and 20% on total external condition reports (to account for variable costs). It submitted that it was satisfied that this rationale continued to apply.

(b) It had decided to use the emergency CSV at RIIO-GD2 following a transparent consultation with GDNs. GEMA stated that all other GDNs had supported the use of the emergency CSV.[410]

(c) It had undertaken sensitivity testing of the emergency CSV alongside a PRE-based driver at two stages: in advance of DDs and in advance of FDs. It submitted that neither set of results indicated that there were any substantial differences between the two approaches. GEMA submitted that the results, using the model data as per post-FD publication, in terms

[404] GEMA response to RFI 027, Question c.
[405] GEMA Response B, paragraph 400(2).
[406] GEMA Response B, paragraph 400(3).
[407] *Wagner 7 (GEMA),* paragraph 136.
[408] *Wagner 7 (GEMA),* paragraph 134.
[409] GEMA Response B, paragraph 401.
[410] *Wagner 7 (GEMA),* paragraph 131.

of allowances, were not substantially different between all three model specifications (FD approach, replacing the emergency CSV with a maximum PREs variable, replacing customer numbers with maximum PREs within the emergency CSV). It submitted that this had corroborated GEMA's position taken at FD.[411]

10.157 GEMA stated that Cadent's engineering rationale behind the higher number of internal PREs – a higher number of MOBs and the general quality/composition of housing stock – may well provide an explanation for why the number of PREs is both higher in London and outside of Cadent's direct control. However, GEMA noted that it had identified some issues with the analysis. GEMA stated that Cadent's data shows that SGN's Southern network's share of flats (30%) is approximately double the share in regions outside of London, Scotland and the South East; however its number of PREs per capita (3.1%) is broadly the same as the Great Britain average when London and Scotland GDNs are excluded. Moreover, although Cadent has provided information from the England Housing Survey demonstrating that there is a higher prevalence of accommodation classified as 'non-decent' in London and Scotland, this is not conclusive evidence. GEMA noted that there may be other factors that could result in this classification completely unrelated to poor maintenance of gas appliances. Finally, GEMA submitted that does not consider the explanation for what drives the higher number of PREs to be a relevant factor in selecting an appropriate cost driver for the GDNs' emergency workload.[412]

10.158 GEMA submitted that it does not consider the number of PREs to be an appropriate driver for modelling emergency costs, regardless of whether internal PREs are controllable or non-controllable. GEMA acknowledged that there is a variable element of emergency costs that is driven by the volume of activity needed to appropriately respond to external PREs, which is largely driven by network condition. The worse the condition of the network, the higher the likelihood of gas escapes. Therefore 20% of the Emergency CSV weighting is based on the number of external condition reports. GEMA submitted that it accepted that the number of PREs (whether internal or external) can influence the variable element (ie volume of activity needed to respond to emergencies) in the short term, and potentially the fixed costs of the service in the longer term. However, GEMA had concerns that the relationship between the number of PREs and the total emergency costs is not sufficiently robust or stable for GEMA to use PREs as a cost driver, and

[411] GEMA, RFI GEMA 001, pages 2–3.
[412] GEMA response to RFI 027, Question d(i).

this still does not provide any insight or evidence about what actually drives emergency costs.[413]

10.159 In response to Cadent's assertion that the share of flats is the primary driver of higher PREs because the proximity of housing determines the number of households that may report an internal PRE based on a single escape, GEMA submitted that this statement assumes that multiple internal PREs could be reported following a single gas escape. However, the cost of Cadent attending a MOB to respond to multiple PREs concerning a single gas escape will be significantly lower (per PRE) than attending multiple properties to respond to multiple gas escapes.

Our assessment and conclusion

10.160 The emergency CSV captures the fixed part of the emergency costs by including customer numbers and accounts for the variable part by including total external condition reports.

10.161 Cadent provided some evidence that the emergency CSV did not capture the higher number of internal PREs per capita in London, including evidence and engineering rationale that may explain why PREs per customer are higher both in London and Scotland. This evidence may indicate that the higher number of PREs in London may to some extent result from exogenous factors relating to the poor maintenance of gas appliances which differ across different housing stock. However, we agree with GEMA that there may be other relevant factors unrelated to poor maintenance of gas appliances. GEMA's example of the comparison between SGN's share of flats compared to its number of PREs per capita supports the view that other factors may be driving the levels of PREs. Further, we find the comparison between the England Housing Survey and the Scottish House Condition Survey difficult to interpret and place weight on, given that the surveys rely on different sets of criteria with different methodological choices.

10.162 Even if the higher PREs per customer in London resulted from these factors, it is not clear that PREs capture emergency costs better than GEMA's methodology of using customer numbers and external condition reports. Although emergency costs cover the costs related to PREs there are reasons why the number of PREs would not accurately capture the costs that an efficient GDN would need to incur to meet this licence obligation. First, there is a fixed component of cost that must be incurred regardless of the number of PREs. Second, the cost per PRE may differ depending on features of the housing stock; for example, GEMA has explained that the cost of attending a

[413] GEMA response to RFI 027, Question a(iii).

MOB to respond to multiple PREs concerning a single gas escape may be lower per PRE than attending multiple properties to respond to multiple gas escapes, which suggests that PREs may not be a robust driver of emergency costs. The evidence provided by Cadent does not directly show how the number of PREs capture emergency costs, while GEMA's approach of capturing both a fixed and variable component of emergency costs is based on economic reasoning that reflects the nature of the costs.

10.163 For these reasons, we conclude that Cadent has not convinced us that GEMA erred in accounting for London's emergency workload in the emergency CSV.

Whether GEMA ignored quantitative and qualitative evidence which showed that it was inappropriate and insufficient to rely solely on discrete pre-modelling adjustments to account for regional factors

10.164 In this section we consider the error that Cadent has alleged regarding GEMA's approach being inappropriate and insufficient in relying solely on discrete pre-modelling adjustments to account for regional factors. We first summarise the submissions and then provide our assessment and conclusions.

Cadent's submissions

10.165 Cadent submitted that GEMA was wrong to rely solely on discrete pre-modelling adjustments to account for regional factors where evidence showed that this approach was insufficient. It submitted that GEMA's failure was material and had led to Cadent's London GDN's baseline totex allowance falling below the efficient costs it would incur delivering its obligations.[414] Cadent stated that the key question before the CMA in Ground 1B was whether GEMA had adequately accounted for the higher costs of operating in the London region.[415]

10.166 Cadent submitted that the biggest issue that it had with GEMA's cost assessment was GEMA's reliance on a single econometric model.[416] Cadent stated that GEMA's model had some very substantial econometric limitations.[417] NERA submitted that the driver in this single model did not capture regional differences in the GDNs' operating environments.[418] It submitted that GEMA faced the problem that it could not account for all the

[414] Cadent NoA, paragraph 1.4.
[415] Cadent Reply, paragraph 49.
[416] Cadent Clarification Hearing Transcript, 17 May 2021, page 34, lines 6–8.
[417] Cadent Clarification Hearing Transcript, 17 May 2021, page 37, lines 7–9.
[418] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraphs 179–201.

relevant drivers of GDNs' costs due to the low number of observations.[419] It stated that GEMA had attempted to address this problem using a CSV (weighted average of different drivers). However this restricted the statistical relationships between costs and drivers and did not consider how costly it may have been to deliver a given volume of work in different regions.[420] It stated that GEMA may not have identified an economically and statistically robust functional form, as illustrated by GEMA's model failing the RESET test.[421]

10.167 NERA submitted that GEMA had accounted for the regional differences in GDNs' operating environments using pre-modelling adjustments to the submitted costs.[422] Cadent stated that GEMA was wrong to suggest that the MEAV CSV component accounted for regional factors to any extent.[423] NERA submitted that MEAV captured the size and volume of assets, not any characteristics of the environment in which they were located. It submitted the inclusion of risers (ie vertical pipes in a building) in MEAV addressed a failure in DD that had incorrectly ignored these parts of the gas network. It stated that GEMA's approach of constructing the CSV expressly assumed that MEAV explained only a subset of GDNs' costs.[424]

10.168 NERA submitted that London was an outlier whose costs were not well-captured by the model.[425] It stated that while GEMA's decision to set the efficiency benchmark using the 'glide path' to the 85th percentile had indicated that GEMA was providing some allowance for its model not being entirely accurate, this decision affected the allowances of all GDNs, including London.[426] It submitted that it did not change the fact that London was ranked last in the benchmarking, and that an adjustment was required to prevent GEMA's model from conflating inefficiency with 'omitted factors' when setting allowances for the London GDN. It stated that the RIIO price controls needed to renumerate all GDNs' efficient costs, and the presence of an outlier in GEMA's model showed it had failed to achieve this important objective in respect of London.[427]

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[419] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraphs 195–197.
[420] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraphs 197–201.
[421] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 13A. The Ramsey RESET is used to assess whether the econometric model was mis-specified. It tests whether non-linear combinations of the cost drivers help explain the costs. NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 495B.
[422] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 202.
[423] Cadent Reply, paragraph 46.
[424] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 13C(i).
[425] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 13.
[426] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 15.
[427] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 13D.

10.169 Cadent stated that even after applying the pre-modelling adjustments GEMA's model produced a large efficiency gap of 9% for its London GDN relative to the industry average costs forecasted by the model (efficiency score of 1.09).[428] Cadent submitted that this efficiency gap was striking: its three other GDNs submitted lower costs than forecasted by the model. NERA submitted that the London GDN was ranked last among the eight GDNs and its efficiency score was ten percentage points worse than the lowest ranked of the other three Cadent GDNs (West Midlands).[429] Cadent stated that the reduction in London's efficiency gap between DDs and FDs arose principally from the correction of material data and arithmetic errors.[430]

10.170 In response to the CMA's provisional determination, Cadent said that the model incorrectly disallowed the 'hugely material' sum of £150 million over GD2. It stated that this disallowance was additional to the significant savings already built into the business plan.[431] It said that it could not run the London network on the 'patently insufficient' allowance it has been given.[432] It submitted that this outcome arose as a result of the provisional determination showing undue deference to GEMA's discretion and affording excessive weight to its evidence, which largely relies on a deeply flawed regression model that is incapable of assessing the true efficiency of the London network.[433]

10.171 Cadent stated that this efficiency gap did not accord with reality.[434] It stated that there was no observable material difference in efficiency between the London GDN and its other GDNs. It stated that these GDNs all worked under the same management, had the same training, performance culture, standards, and level of ambition.[435]

10.172 Cadent submitted that it routinely flexed resource between networks, with repair teams working across the country.[436] It stated that when individuals and teams were taken into a different operating environment, they delivered in line with the 'native' teams.[437] It stated that the London network had spans of control (eg 1:7 on repair crews) consistent with Cadent's other networks with the key differentiator being the environment they operated in.[438] Cadent submitted that it harmonised its operating model, and did that on a

[428] Cadent NoA, paragraph 3.46; NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 226; *Moon 1 (Cadent)*, paragraph 88.
[429] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 225.
[430] Cadent Reply, paragraph 40.
[431] Cadent Response to PD, paragraph 9.3.
[432] Cadent Response to PD, paragraph 3.
[433] Cadent Response to PD, paragraph 9.4.
[434] Cadent NoA, paragraph 3.47; *Forster 1 (Cadent)*, paragraph 12.
[435] Cadent NoA, paragraph 1.16; *Forster 1 (Cadent)*, paragraph 13.
[436] *Forster 1 (Cadent)*, paragraph 13.
[437] *Forster 1 (Cadent)*, paragraph 13.
[438] *Forster 1 (Cadent)*, paragraph 17.

consistent basis across Cadent's four networks.[439] Cadent stated that, at its creation four years ago, Cadent's inherited performance and efficiency was among the worst in the sector, but under new leadership it had worked relentlessly to improve its efficiency.[440] Cadent submitted that the London GDN efficiency gap was because GEMA's approach did not sufficiently account for regional factors.[441] NERA submitted that while the London GDN may have had some inefficiency in its cost base at RIIO-GD1, it may also have been an outlier in that cost assessment, just as it was an outlier in the RIIO-GD2 cost assessment.[442]

10.173 Cadent stated that the London GDN was also different from other licensed networks operating in the London area, such as those of UK Power Networks and Thames Water, whose geographical spread was wider creating a more balanced network. It submitted that this meant that the London network was uniquely, and substantially, impacted by the shortcomings of GEMA's modelling approach.[443]

10.174 Cadent submitted that it was facing losses of over £300,000 every week on its repex programme in London because the supposed efficient level of cost GEMA modelled was substantially lower than the real cost of its contractors, own staff, and operations.[444]

10.175 Cadent submitted that while GEMA had accepted approximately 80% of the value of Cadent's claims in relation to London regional factors, it had disallowed in error £46 million of legitimate claims.[445] Cadent submitted that these rejected claims added up to a material amount for Cadent's business.[446] NERA stated that allowing these £46 million regional pre-modelling adjustments would raise the London GDN's allowance by £40 million. However it would still be ranked last, with an efficiency gap of five percentage points relative to the industry average.[447] It stated that these five percentage points could not be ascribed to inefficiency.[448] Cadent submitted that allowing all of these claims in full, discussed above from paragraph 10.17 to 10.160, would go some way towards resolving GEMA's failure but would be

[439] Cadent Clarification Hearing Transcript, 17 May 2021, page 32, lines 11–13.
[440] Cadent Reply, paragraph 38.
[441] Cadent NoA, paragraph 3.48.
[442] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 19.
[443] *Forster 1 (Cadent)*, paragraph 18.
[444] Cadent Clarification Hearing Transcript, 17 May 2021, page 8, lines 21–25.
[445] £37 million regional pre-modelling adjustment without the notional labour share claims. As discussed in paragraph 10.27 in this section Cadent agreed that the notional labour share claims no longer applies. Cadent NoA, paragraphs 3.58–3.63.
[446] *Moon 1 (Cadent)*, paragraph 93.
[447] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraphs 307–308.
[448] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 315; *Moon 1 (Cadent)*, paragraph 111.

insufficient to ensure that the London GDN was not disadvantaged.[449] Cadent stated that:[450]

(a) pre-modelling adjustments did not adequately account for London regional factors;

(b) the regional labour cost adjustment illustrated the subjectivity of GEMA's reliance on pre-modelling adjustments; and

(c) econometric analysis (ie the inclusion of density driver(s)) supported Cadent's claim.

10.176 We set out this evidence in more detail below from paragraph 10.177 to 10.199.

Inadequacy of pre-modelling adjustments

10.177 Cadent stated that it was not possible to identify and quantify all the cost disadvantages of the uniquely challenging environment its London GDN faced into discrete claims for pre-modelling adjustments.[451] NERA submitted that companies might not have known all the ways in which their operating environments differed from those of other companies, and even if they did, they might not have had access to the data on other companies' operations that would be required to quantify these factors.[452] Cadent submitted that GEMA had explicitly admitted that its pre-modelling adjustments could not alone account for regional factors.[453]

10.178 Cadent stated that the challenges of operating in London arose from the built environment, the onerous traffic and highways regulatory environment, the complex stakeholder management, the 24/7 nature of London and the supply chain.[454] Cadent submitted that these challenges gave rise to London-specific features such as the high number of MOBs, crowded utility infrastructure, protected buildings and additional costly traffic management schemes.[455]

10.179 Cadent submitted that the problem with the identification and quantification of claims had been compounded by GEMA's approach of setting unduly stringent criteria for company-specific claims and disincentivising the submission of lower-confidence baseline costs through the

[449] Cadent NoA, paragraph 3.85; NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 332.
[450] Cadent NoA, paragraphs 3.86–3.99.
[451] Cadent NoA, paragraph 3.87. Cadent Closing Statement, paragraph 3.1(a).
[452] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 310.
[453] Cadent Reply, paragraph 43.
[454] *Forster 1 (Cadent)*, paragraph 15.
[455] Cadent NoA, paragraph 3.87.

Business Plan Incentive (**BPI**) mechanism.[456] It submitted that the effect may have been to deter the submission of claims that were more complex to quantify or not sufficiently material in isolation.[457] Cadent stated that it had applied a high bar to the evidence that it had required to support any claim it had submitted to GEMA.[458] Cadent stated that it did not submit a number of claims that it felt were either not sufficiently evidenced or that it could not be sure were caused by environmental factors outside of Cadent's control. Cadent submitted that its view was that its claims were a conservative estimate of the costs of operating in London.[459]

10.180 NERA stated that the London GDN incurred higher costs for a series of operational and technical reasons, other than higher wages, related to the dense London environment. NERA and Cadent submitted the following potential sources of additional costs not covered by Cadent's pre-modelling adjustment claims:[460]

(a) Service jobs for London's higher occurrence of 'hidden' MOBs were treated as standard domestic services in GEMA's regression, but actually required engineering standards similar to those applied to high-rise buildings.[461] These service jobs required increased contractor costs and longer job times. Cadent estimated the increased costs from this issue to be up to £10 million over RIIO-GD2.[462] Cadent submitted that this issue was not raised in Cadent's business plan and had come into focus over the last quarter as Cadent was completing the detailed design of its investment programme.

(b) The London GDN had a larger number of jobs connected to historical buildings and other tourism infrastructure. These jobs required additional permissions to perform. Cadent stated that Cadent had to obtain well over 100 permissions for each year of RIIO-GD1.[463]

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[456] The term lower-confidence costs is a specific term used by GEMA for the purpose of determining rewards and penalties under the BPI mechanism. Cadent NoA, paragraph 3.88.
[457] Cadent NoA, paragraph 3.88; NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 312.
[458] *Moon 1 (Cadent)*, paragraph 111.
[459] *Moon 1 (Cadent)*, paragraph 90.
[460] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 314; *Moon 1 (Cadent)*, paragraph 112.
[461] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 314A. NERA submitted that hidden MOBs were effectively MOBs, but were not recognised as such (for instance, former single-family houses converted into multiple flats, which therefore had multiple gas meters).
[462] *Moon 1 (Cadent)*, paragraph 112(A).
[463] *Forster 1 (Cadent)*, paragraph 20(E). He cited Cadent's work on Albert Hall Mansions as an example. He submitted that Cadent had required extensive planning permission from Westminster and Historic England, and the process had involved many site meetings with the managing agent of the property and the local planning authority. He stated that the tourism and public transport infrastructure had added complexity to the built environment, which Cadent's activities needed to work around, and had been on a different scale to those seen elsewhere on Cadent's networks.

(c) Cadent's business support costs were incurred centrally, and 26% of the total costs was allocated to the London GDN in the business plan to manage its complex environment.[464] However, the CSV component associated with business support costs was MEAV, which allocated only 20% of business support costs to the London GDN.[465] As such, Cadent's internal costs allocation rules suggested a higher share of business support costs was attributable to the London GDN than GEMA's regression would identify as efficient.[466] Cadent submitted that there was a £6 million per year difference between Cadent's and GEMA's allocation of these costs. It submitted that the ultimate effect of using MEAV to explain the London GDN's business support costs was that £6 million per year of these costs could not be explained by GEMA's driver. Therefore, the London GDN performed worse in the benchmarking because the model, through MEAV, overstated the inefficiency of its costs.[467]

(d) London's greater underground congestion impacted the efficiency of repair activity and locating gas escapes, and increased the precautions required. NERA submitted that these difficulties were compounded by local authorities, which could restrict the time allotted to carry out repair work.[468] Cadent submitted that the crowded utility infrastructure made the gas escape location more complicated as gas could enter utility ducts and then travel into customers' properties.[469]

10.181 Cadent stated that many of the additional costs could not be forensically captured or accurately quantified but were still incurred on an ongoing basis, and could be material.[470] Cadent stated that the various issues set out above in paragraph 10.180 were layered, complex and cumulative in their impact on Cadent's works.[471] Cadent stated that the combination of these issues would increase complexity and the cost of a job disproportionally.[472] NERA submitted that these may have explained why, despite allowing for Cadent's requested pre-modelling adjustments, the London GDN was still ranked last and GEMA's approach was likely to have understated the costs it incurred.[473]

[464] *Moon 1 (Cadent)*, paragraph 112(B).
[465] Cadent, RFI Cadent 001, page 3.
[466] Cadent submitted that its business support costs in its business plan have been populated in accordance with GEMA's Regulatory Instructions and Guidance (RIGs). It submitted that where costs were not directly attributable to a GDN, Cadent has followed its cost allocation methodology, which it notified to GEMA. It submitted that GEMA allocated business support costs based on the scale of the networks. Cadent, RFI Cadent 001, page 3.
[467] Cadent, RFI Cadent 001, page 4.
[468] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 314D.
[469] *Forster 1 (Cadent)*, paragraph 20(B).
[470] *Forster 1 (Cadent)*, paragraph 35.
[471] *Moon 1 (Cadent)*, paragraph 114.
[472] *Forster 1 (Cadent)*, paragraph 9.
[473] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 314.

10.182 NERA submitted that GEMA had stated that it applied a materiality threshold because the one-sided nature of company-specific claims provided companies with no incentive to put forward factors that reduced their costs relative to other comparator companies. NERA stated that this concern did not apply in respect of London because London appeared materially more expensive than other GDNs and Cadent identified costs not incurred by other companies and for which GEMA had not controlled.[474]

10.183 Cadent submitted that GEMA's process had been characterised by a significant number of errors (see paragraph 9.46).[475] It also added that GEMA's concerns about asymmetric information between Cadent and GEMA were misplaced in this context because Cadent had been fair and transparent throughout, including by raising errors and issues, and regional factors that decreased its allowances, and noting that GEMA implemented mechanisms to mitigate asymmetry in cost assessment.[476]

10.184 Cadent stated that there were differences between GEMA's approach in RIIO-GD1 and RIIO-GD2. This included a fundamental difference in benchmarking, including the way the BPI worked and the reliance put on the pre-modelling, including the removal of the IQI mechanism.[477]

10.185 NERA submitted that GEMA also placed less reliance on individual models.[478]

10.186 In response to the CMA's provisional determination, Cadent said that it had presented 'overwhelming evidence' that the provisional determination was wrong to assume that alleged issues or mitigating factors such as information asymmetry, the perceived ability of the model to account for (positive or negative) regional factors to some extent (which is denied) or the use of a glide path to the 85th percentile, could compensate for GEMA's 'evident failure' to properly control for the London GDN's higher but efficient costs.[479]

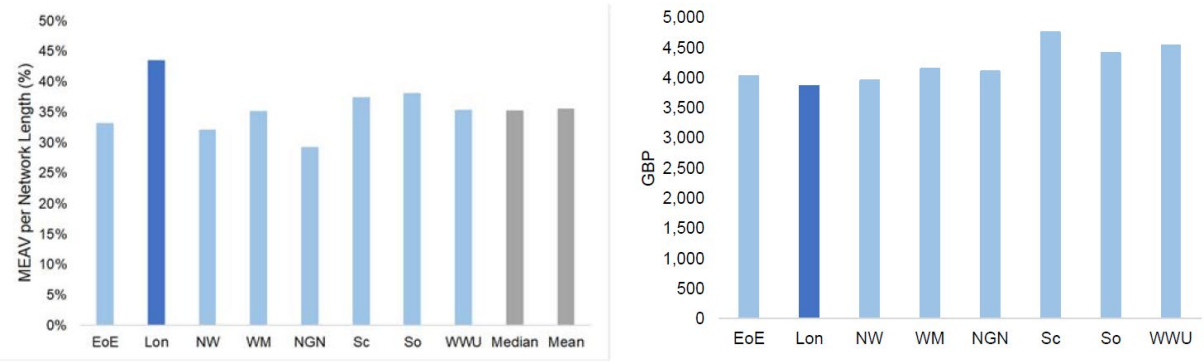
10.187 In relation to MEAV, Cadent said that the provisional determination wrongly assumed that the inclusion of risers in MEAV controlled for regional factors.[480]

[474] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 25.
[475] Cadent Reply, paragraph 24.
[476] Cadent Closing Statement, paragraph 3.2.
[477] Cadent Main Hearing Transcript, 5 July 2021, page 30, lines 5–13.
[478] Cadent Main Hearing Transcript, 5 July 2021, page 31, lines 9–11.
[479] Cadent Response to PD, paragraph 9.6.
[480] Cadent Response to PD, paragraph 23.

10.188 Cadent said that MEAV simply reflected the scale of GDNs' networks, not urbanity, density, or any other regional factor. It stated that if MEAV was to function as intended by GEMA, it had to be an accurate reflection of a GDN's asset base. It submitted that as risers are an integral part of any GDN's asset base, they should therefore be included in MEAV to reflect their true scale. It said that risers were included because they were part of the network, and consequently, GEMA was demonstrably wrong to argue that including risers in MEAV 'helped control for urbanity'.[481]

10.189 Cadent stated that GEMA's evidence could not support its conclusion because it relied entirely on an arbitrary normalisation of MEAV (in this case, using network length). It provided new analysis showing that if MEAV was normalised to customer numbers the London network's MEAV per customer was the lowest of all GDNs (see Figure 10-3). It submitted that gas pipes in London were shorter because properties were closer together, but they also needed to be larger to serve demand in densely populated areas. Therefore, there was no basis whatsoever to conclude that the inclusion of risers in MEAV controls for density or urbanity.[482]

Figure 10-3: MEAV per network length (%) and value of MEAV per customer (GBP)



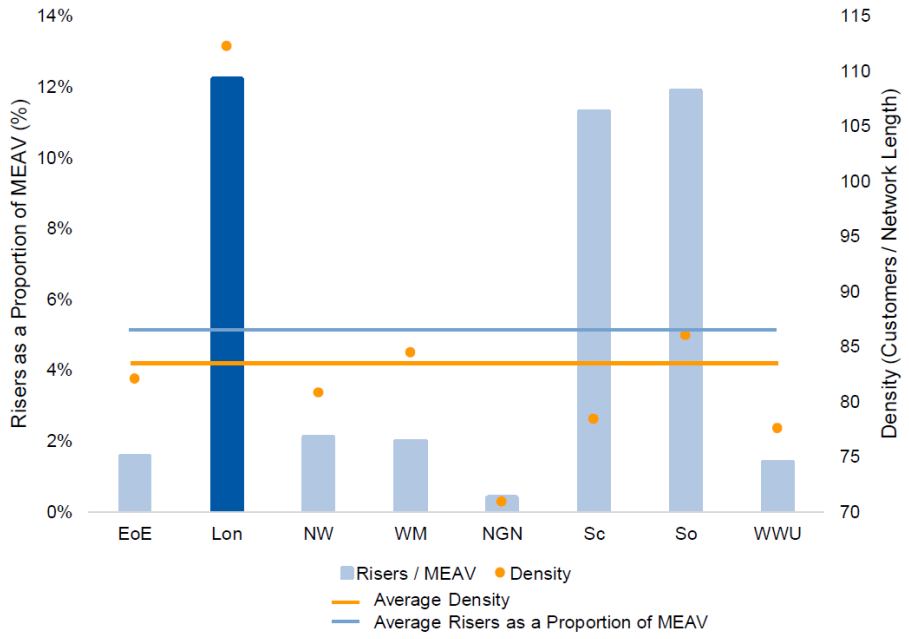
Source: Cadent Response to PD, page 35.
Note: Left hand side was normalised using network length as a network scale variable. *Wagner 7 (GEMA)*, paragraph 111.

10.190 Cadent provided a chart which it submitted shows conclusively that the London GDN was not an outlier in terms of risers as a proportion of MEAV (see Figure 10-4). It said that the London GDNs' risers were comparable to that of both the Scotland and Southern GDNs', which differed significantly in urbanity and density to the London GDN. It submitted that both the Scotland and Southern GDNs had a density close to the industry average, but their risers (as a proportion of their total MEAV) were significantly higher than the industry average. In contrast, the London GDN had both density and risers (as a proportion of MEAV) significantly above the industry average. Cadent said that this further undermined GEMA's incorrect assertion that the inclusion

[481] Cadent Response to PD, paragraph 9.13(a), (b).
[482] Cadent Response to PD, paragraph 9.13(c).

of risers in MEAV could in any way control for urbanity, density, or regional factors.[483]

Figure 10-4: Comparison of GDNs' risers as a proportion of MEAV



Source: Cadent Response to PD, page 36.

10.191 NERA, for Cadent, said that even if there were a correlation between risers and urbanity, this did not mean that the inclusion of risers in MEAV controlled for the London GDN's ultra-dense operating environment. Had this been the case, the coefficient on density in the density driver models (which also includes risers in MEAV) would not have been statistically significant (see paragraph 10.196). It stated that it would have been improper for GEMA to have sought to control for urbanity by including risers in MEAV. It submitted that this was shown by the West Midlands GDN having substantially fewer risers than the Southern GDN but comparable density, which was a quantifiable proxy for urbanity (see Figure 10-4).[484] It said that while there may or may have not be some correlation between risers and urbanity, risers were clearly a very imperfect proxy for urbanity.[485]

Subjectivity of pre-modelling adjustments

10.192 Cadent submitted that GEMA's reliance on pre-modelling adjustments introduced a material element of subjectivity into the cost assessment process.[486] Cadent stated that it was wrong for GEMA to assess evidence

[483] Cadent Response to PD, paragraph 9.13(d).
[484] Cadent, RFI Cadent 008, page 16.
[485] Cadent, RFI Cadent 008, paragraph 25.
[486] Cadent NoA, paragraph 3.89.

using excessive subjectivity and to apply its threshold in an overly restrictive and mechanistic manner, particularly in circumstances where it had clear evidence that this approach rendered the London GDN unable to recover efficient costs,[487] and GEMA made an error in artificially constraining its regional factors analysis to a bottom-up process.[488] NERA submitted that it appeared from GEMA's description of its cost assessment process that it held a prior view that the London GDN was not efficient.[489]

10.193 As an example, Cadent stated that GEMA relied on outdated data in the calculation of the regional labour cost pre-modelling adjustment that depressed the quantum of the adjustment. This is described in paragraph 10.34.

10.194 NERA submitted that it agreed that there was a degree of judgement involved in selecting the appropriate averaging timeframe for labour cost indices.[490] It submitted that GEMA's approach contained a series of methodological choices and judgements that, when taken together, disadvantaged the London GDN in the cost assessment. NERA stated that this left the London GDN as an outlier in GEMA's regression.[491]

Density driver(s) cross-check

10.195 Cadent submitted that the inadequacy of pre-modelling adjustments was confirmed by NERA's work including density drivers in the econometric model.[492] It submitted that this driver had been employed by regulators in other contexts, such as the CMA in the PR19 Redetermination, as a proxy for the effect of urbanity and sparsity on costs.[493] Cadent stated that the majority of the broad and varied challenges were rooted in issues related to the density of London.[494]

10.196 NERA stated that it had included both the linear and squared term, to account for possible non-linearity in the relationship between density and costs.[495] It submitted that that it had removed GEMA's sparsity, urbanity, and company-specific adjustments but had added a density driver measured in customers/km of network.[496] It submitted that the coefficients on the density

[487] Cadent Reply, paragraph 49(b).
[488] Cadent Closing Statement, paragraphs 3.1(c) and (d).
[489] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 17.
[490] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 290.
[491] NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 39.
[492] Cadent NoA, paragraph 3.94. Cadent Closing Statement, paragraph 3.1(b) and Table 2.
[493] Cadent NoA, paragraph 3.94.
[494] *Forster 1*, paragraph 19.
[495] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 323.
[496] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 322.

drivers were statistically significant, supporting the hypothesis that density had a material influence on GDN's costs.[497] It stated that the inclusion of density drivers increased the London GDN's modelled allowance over RIIO-GD2 by £101 million and moved the London GDN from eighth ranked in terms of efficiency to sixth.[498]

10.197 NERA submitted that it had presented the regression results for the model which implemented its recommended Local Transmission System (**LTS**) remedy (ie excluding all rechargeable LTS diversion costs) and had included the density driver. It stated that it had shown versions of the regression with density included as a linear variable, and as both a linear and quadratic variable. It submitted that the density driver was statistically significant and positive when it was included as a linear term.[499] It stated that the inclusion of the linear and quadratic density drivers, in addition to implementing the LTS remedy, had resulted in the coefficients on the density drivers being individually statistically insignificant. However, it submitted that the coefficients on the linear and quadratic terms were jointly significant.[500] These models increased the London GDN's allowance by £96 million and £95 million relative to GEMA's model.

10.198 NERA submitted that the advantage of this approach was that it did not rely on subjective judgements about materiality and uniqueness.[501] It stated, however, that the effect of adding density to the model may have been to force the regression line to go through the London GDN's data points so it might have overstated efficient costs for London (referred to as over-fitting).[502] Cadent submitted this problem of over-fitting arose fundamentally because of the small sample size.[503] NERA stated that if this density model were applied at future reviews, it could blunt incentives for the London GDN to reduce costs, as high costs might be passed through as part of the next price control determination. It submitted that, despite this limitation, the density model provided a useful cross-check on the degree to which GEMA's bottom-up assessment of the extra costs of serving London.[504]

10.199 Cadent submitted that even if the CMA excluded the London GDN from the sample, it would still find a statistically significant relationship between totex and density.[505] NERA stated that the relationship observed between

[497] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 324.
[498] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 325.
[499] Cadent, NERA paper attached to RFI Cadent 002, paragraph 11.
[500] Cadent, NERA paper attached to RFI Cadent 002, paragraph 12.
[501] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 331.
[502] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraphs 331–332.
[503] Cadent Clarification Hearing Transcript, 17 May 2021, page 36, lines 11–12.
[504] NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 331B.
[505] Cadent Clarification Hearing Transcript, 17 May 2021, page 36, lines 24–25. Cadent Closing Statement, Table 2.

density and costs was not spurious and was not solely identified because the London GDN was included in the sample. Cadent submitted that there was a relationship between density and costs that was missing from GEMA's analysis, and it could be statistically identified using a regression. Cadent submitted that GEMA was wrong to dismiss the density driver model in its entirety. It submitted that at the very least, the density driver served as a cross-check showing that GEMA had materially understated efficient costs.[506]

10.200 NERA stated that it had presented the regression results of a model, which included a density driver while excluding the London GDN from the regression, while also applying the LTS remedy proposed (remove LTS rechargeable diversions costs entirely).[507] It submitted that the density driver was statistically significant and the value of the coefficient decreased only slightly suggesting a relatively stable relationship between density and cost.[508] It submitted that the resulting coefficients were used to calculate modelled costs, efficiency scores and allowances for all of the GDNs (estimating an £84 million increase in the London GDN's baseline allowances).[509]

10.201 NERA submitted that it was true that different cost areas would be impacted differently by density; however, this did not undermine the reliability of the results of the density model. It submitted that including a density driver as an independent variable allowed the regression procedure itself to estimate the average relationship between totex and density.[510]

10.202 NERA submitted that accepting the London GDN's company specific adjustments was insufficient to address the limitation of GEMA's model. It stated that this could be evidenced by the fact that re-estimating the model (accepting all Cadent's London pre-modelling adjustment claims and removing LTS rechargeable diversions costs entirely) but including a density driver still returned a statistically significant coefficient on the density driver.[511]

10.203 In response to the CMA's provisional determination, Cadent said that a fundamental problem was that the provisional determination did not appear to engage fully or properly with Cadent's econometric evidence. It stated that the density driver evidence demonstrated that GEMA's decision on pre-modelling adjustments was a clear error and needed to be moderated. The CMA had cut

[506] Cadent Reply, paragraph 48(d); NERA (Cadent), Second Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, paragraph 13F.
[507] Cadent, NERA paper attached to RFI Cadent 002, paragraph 22.
[508] Cadent, NERA paper attached to RFI Cadent 002, paragraph 23.
[509] Cadent, NERA paper attached to RFI Cadent 002, paragraph 27.
[510] Cadent, NERA paper attached to RFI Cadent 002, paragraph 24.
[511] Cadent, NERA paper attached to RFI Cadent 002, paragraph 20.

short its analysis on each of these, showing far too much deference to GEMA.[512]

10.204 Cadent said that neither NERA nor Cadent advocated for the use of any density driver model to set allowances. It submitted that the intention behind the density driver model was to test the sufficiency of GEMA's pre-modelling adjustments. It stated that the evidence provided showed conclusive, statistically significant evidence – across several alternative model specifications (see Table 10-1) – that GEMA's model did not adequately account for the additional costs of operating in a dense urban environment.[513]

Table 10-1: Alternative model specifications

Regression Variant	(1)	(2)	(3)	(4)	(5)	(6)
Includes London GDN	✓	✓	✓	✓	✓	✓
Pre-modelling adjustments[1]	×	*Sparsity only*	✓	×	*Sparsity only*	✓
Constant	-4.855	-5.830	-11.780	-2.445	-2.552	-1.877
CSV Totex	0.814	0.815	0.801	0.815	0.817	0.808
Forecast Trend	-0.004	-0.005	-0.005	-0.005	-0.005	-0.005
Time Trend	0.005	0.006	0.006	0.006	0.006	0.006
Density (Customers/ Network Length)	1.565	1.983	4.798	0.495	0.519	0.375
Density²	-0.118	-0.162	-0.491			
Adjusted R²	0.972	0.972	0.971	0.972	0.972	0.969
Individually or jointly significant density terms (at the 5% level)	✓	✓	✓	✓	✓	✓

Note: (1): "✓": *GEMA's pre-modelling adjustments at Final Determination;* "×": *"sparsity adjustments", "urbanity reinstatement" and "urbanity productivity" adjustments switched off, and regional factors for London and Southern removed;* "Sparsity only": *"urbanity reinstatement" and "urbanity productivity" adjustments switched off, and regional factors for London and Southern removed.*

Source: NERA (Cadent), Exhibit for Cadent Main Hearing, page 14.

10.205 Cadent stated that the oral and written evidence is entirely inconsistent with the over-fitting concerns raised in the provisional determination which failed even to acknowledge Cadent's evidence. It submitted that NERA did not suggest that the density driver model excluding London is a potential solution to any perceived over-fitting. It stated that this modelling sensitivity was intended to demonstrate that the density model including London did not suffer from over-fitting, because the coefficient on density remained statistically significant and the magnitude of the coefficient on density was similar when London was excluded from the modelling (see Table 10-2).[514]

[512] Cadent Response to PD, paragraphs 22–24.
[513] Cadent Response to PD, paragraph 9.8.
[514] Cadent Response to PD, paragraphs 9.8–9.9.

Table 10-2: Alternative model specifications when London was excluded

Regression Variant	(7)	(8)	(9)	(10)	(11)	(12)
Includes London GDN	✗	✗	✗	✗	✗	✗
Pre-modelling adjustments[1]	✗	*Sparsity only*	✓	✗	*Sparsity only*	✓
Constant	-16.911	-12.775	-28.620	-2.601	-2.734	-2.426
CSV Totex	0.817	0.818	0.807	0.813	0.815	0.800
Forecast Trend	-0.006	-0.006	-0.005	-0.006	-0.006	-0.005
Time Trend	0.008	0.008	0.008	0.008	0.007	0.008
Density (Customers/ Network Length)	7.096	5.169	12.523	0.535	0.565	0.514
Density[2]	-0.753	-0.529	-1.379			
Adjusted R^2	0.973	0.973	0.972	0.973	0.974	0.972
Individually or jointly significant density terms (at the 5% level)	✓	✓	✓	✓	✓	✓

Note: (1): "✓": GEMA's pre-modelling adjustments at Final Determination; "✗": "sparsity adjustments", "urbanity reinstatement" and "urbanity productivity" adjustments switched off, and regional factors for London and Southern removed; "Sparsity only": "urbanity reinstatement" and "urbanity productivity" adjustments switched off, and regional factors for London and Southern removed.

Source: NERA (Cadent), Exhibit for Cadent Main Hearing, page 15.

10.206 NERA, for Cadent, submitted that the coefficient on density moved from 0.375 to 0.535 (including and excluding London respectively).[515] It stated that given the extremely small sample of GDNs, this limited movement in the coefficient showed the relationship with density that was not captured by GEMA's pre-modelling adjustments was material, with or without London in the sample.[516] It said that one would always expect some differences in regression coefficients when changing the regression data and one would particularly expect changes in coefficients in such a small sample (only seven GDNs when London is excluded).[517]

10.207 NERA said that the particular importance to the CMA's assessment of this ground of appeal was a comparison between Model 6 and Model 12 in Table 10-1 and Table 10-2. NERA stated that these models showed that, even after GEMA's pre-modelling adjustments were applied, the coefficient on density was statistically significant.[518]

10.208 NERA stated that GEMA's concerns regarding the functional form of the density relationship were irrelevant because all model specifications (linear and quadratic) show that (1) GEMA's pre-modelling adjustments did not adequately control for the effects of density on cost, and (2) this finding

[515] Cadent said that to put this in context, a coefficient on density of 0.535 suggested that London's costs would be 16 per cent per year higher than the GDN with the next highest density, and this cost was not controlled for within GEMA's model. RFI Cadent 008, paragraph 14B.
[516] Cadent, RFI Cadent 008, paragraph 14B.
[517] Cadent, RFI Cadent 008, paragraph 16B.
[518] Cadent, RFI Cadent 008, paragraph 8.

was not driven by the over-fitting of the model because the density driver was statistically significant with or without London included in the sample.[519] It stated that the statistical evidence provided no guidance as to the 'shape' of the quadratic function in this case. It said that the lack of a quadratic relationship may have also resulted from GEMA having adequately controlled for the effects of sparsity through the pre-modelling adjustments.[520]

10.209 NERA provided additional analysis whereby the relationship between density and costs was tested by including an interaction term in the regression between a London 'dummy variable' and density. NERA stated that this showed that the relationship between costs and density was the same for the London GDN as it was for the other seven GDNs – hence, the statistically significant relationship between costs and density was not driven by over-fitting of the model. NERA stated that this was because the coefficient on the interaction term was shown to be statistically insignificant.[521]

10.210 NERA reran the density driver models presented in Table 10-1 and Table 10-2 after implementing Cadent's suggested remedies to LTS rechargeable diversions and Embedded OE. It stated that there was a statistically significant relationship between density and regressed cost across all permutations of the density model. It stated that GEMA's model did not adequately account for density, to the detriment of the London GDN, which operated in a highly dense, urban environment. It said that this was particularly clear from a comparison of models, which included GEMA's pre-modelling adjustments for London.[522]

10.211 Cadent said it had been fair and transparent throughout GEMA's price control process (raising errors that were to its disadvantage), and NERA confirmed that the density driver model captured both positive and negative unknown/unquantifiable factors. It said that it was extremely disconcerting that CMA's provisional determination relied on these demonstrably false concerns to dismiss Cadent's Ground 1B appeal and its core econometric evidence. It re-emphasised the critical role of this density driver evidence for its Ground 1B appeal.[523]

10.212 Cadent said that the CMA's provisional determination appeared repeatedly to have taken the view that as long as GEMA has considered a certain matter, it was not for the CMA to question whether GEMA has given the relevant factor appropriate weight or indeed whether its consideration of the matter could be seen as wrong for other reasons, short of being irrational.

[519] Cadent, RFI Cadent 008, page 5.
[520] Cadent, RFI Cadent 008, paragraph 10.
[521] Cadent, RFI Cadent 008, page 12.
[522] Cadent, RFI Cadent 010, paragraphs 15–17.
[523] Cadent Response to PD, paragraphs 9.10–9.11.

For example, the provisional determination's conclusion that GEMA was not wrong to dismiss the density driver model because GEMA considered NERA's analysis but concluded that it had certain perceived limitations.[524]

10.213 Cadent said that the best regulatory and econometric practice required using a 'rich picture' approach when assessing efficiency through econometric benchmarking to compensate for the inevitable limitations of any single model. It stated that the alternative density driver model demonstrated that GEMA's approach was unsafe and overstated the London GDN's inefficiency, yet it was dismissed by GEMA.[525]

10.214 NERA re-ran the GEMA FD model (after removing the LTS rechargeable projects with cost above £5 million, assuming embedded OE of 0.94% for all Cadent's networks, removing the innovation uplift, and including a density driver (linear and quadratic). It said that the efficiency scores for the London and West Midlands GDNs became extremely similar in this new density model (0.98 and 0.97 respectively). It stated that because it is reasonable to assume that GDNs under the same management should not have substantially different efficiency scores, the model that includes the density variable yields an eminently sensible result.[526]

10.215 NERA submitted that it validated this finding by comparing the efficiency scores of the two SGN networks (Southern and Scotland) within the same management group. Controlling for density within the model causes the scores of the two SGN GDNs converge to be 1.04 for Southern and 1.05 for Scotland. These are very similar efficiency outcomes for both the networks within this management group. This undermines the provisional determination's statement that it does "not expect, and indeed [it] does not find, that all GDNs under the same management have the same efficiency score".[527]

10.216 Cadent said that the level of discretion that had been afforded to the regulator would create a precedent which would effectively put regulatory decisions on certain matters such as the regional factors beyond review.[528] It said that allowances for a network's regional factors would be totally dependent on whether specific items could be isolated and quantified, without any ability to challenge whether the efficiency benchmark modelling properly reflected them through a robust top-down, 'in the round' assessment.[529] It

[524] Cadent Response to PD, paragraph 7.6(b).
[525] Cadent Response to PD, paragraph 7.10(a)(i).
[526] Cadent Response to PD, paragraphs 9.28–9.29.
[527] Cadent Response to PD, paragraph 9.30.
[528] Cadent Response to PD, paragraph 3.
[529] Cadent Response to PD, paragraph 7.18(b).

stated that the CMA must look at the bigger picture when assessing whether the outcome that GEMA had arrived at was supportable.[530]

GEMA's submissions

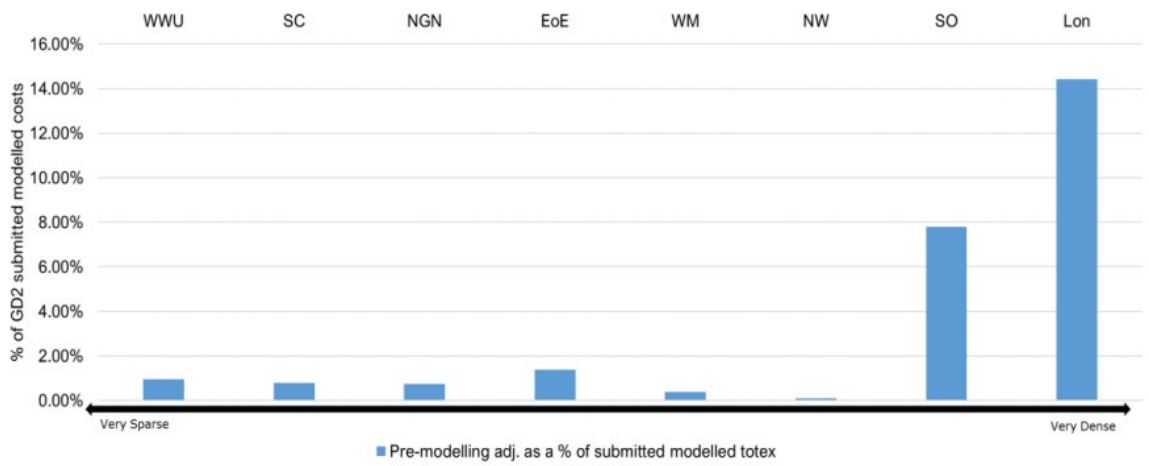
10.217 GEMA submitted that the question for the CMA on this ground was whether GEMA had exceeded the bounds of its expert regulatory discretion in rejecting or partially allowing certain adjustments put forward by Cadent.[531] It submitted that it had considered all of the specific proposals put forward by Cadent and carefully exercised its expert judgement. GEMA submitted that it was clearly appropriate for it to require company-specific claims to be robustly evidenced. It stated that adopting a less demanding approach would have undermined the integrity of the econometric model, run a risk of double-counting other regional factor adjustments, and incentivised allocation of (inefficient) costs to the London GDN.[532]

10.218 GEMA submitted that its approach was similar to the one it had adopted at RIIO-GD1, where it had disallowed a similar proportion of the London GDN's allowances and ranked the London GDN last in the efficiency benchmarking.[533] It stated that over RIIO-GD1 the London GDN comfortably outperformed its allowances. GEMA submitted that GEMA had taken into account views which proposed methodological improvements to how some of the regional factor indices were calculated.[534]

10.219 GEMA submitted that following careful assessment of additional information provided by Cadent, it accepted more than 70% of the total value of Cadent's specific claims.[535] GEMA submitted that the regional adjustments made for the London GDN were substantial, reflecting around 14% of its baseline totex (shown by Figure 10-5). It stated that the effect of this was to reduce the London GDN's efficiency score from 1.17 to 1.09.[536]

[530] Cadent Response to PD, paragraph 19.
[531] GEMA Response B, paragraph 391.
[532] GEMA Response B, paragraph 394.
[533] GEMA Response B, paragraph 393.
[534] *Wagner 7 (GEMA),* paragraph 44.
[535] GEMA Response B, paragraph 393.
[536] *Wagner 7 (GEMA),* paragraph 16.

Figure 10-5: Pre-modelling adjustments as a % of submitted modelled totex



Source: *Wagner 7 (GEMA)*, page 5.

10.220 GEMA submitted that the efficiency gap was explained by the inefficiency of Cadent's London GDN compared to its West Midlands GDN and could be closed through the kinds of improvements Cadent made during the RIIO-GD1 price control period.[537] It submitted that it was confident that exogenous London regional factors had been properly accounted for through regional and company-specific pre-modelling adjustments and the use of MEAV as a cost driver, with the inclusion of risers. The risers accounted for network scale and complexity and explained higher costs where GDN provided services to a higher proportion of MOBs (see paragraphs 10.228 and 10.229 for further information). GEMA submitted that it recognised that operating in highly dense urban areas posed particular challenges. It submitted that it sought to capture those challenges in a robust and quantifiable manner.[538]

10.221 GEMA submitted that it could have adopted the arguably more demanding approach of post-modelling adjustments and required GDNs to justify the additionality of any cost factor adjustment not captured in the econometric model as Ofwat did at PR19.[539] GEMA stated that by contrast its pre-modelling adjustments prima facie accepted the need for regional factor adjustments and GDNs were not specifically required to quantify to what extent any regional or company-specific factors were not already accounted for in the modelling.[540]

10.222 GEMA stated that within regulatory benchmarking analysis, regional factors were typically controlled for at one of three points in the process – pre-modelling adjustments, within-model adjustments, post-modelling adjustments

[537] GEMA Response B, paragraph 433.
[538] GEMA Response B, paragraph 436.
[539] GEMA Response B, paragraph 451.
[540] GEMA Response B, paragraph 373.

(sometimes referred to as Special Cost Factor adjustments) – all of which had advantages and disadvantages that GEMA considered ahead of deciding at DDs.[541]

10.223 GEMA stated that when considering the advantages and disadvantages of both approaches, it was GEMA's view that as regional and company-specific costs could be identified and had a clear monetary value these were best controlled for using pre-modelling adjustments. GEMA submitted that this approach had been subject to consultation at RIIO-GD2 DDs.[542]

10.224 GEMA stated that it summarised some improvements identified in Cadent's business plan (eg improvements of services to MOBs, improved gas connection time for customers living in high rise buildings, moving to a decentralised, depot-centric operating system for repair and maintenance work). It submitted that other sources of efficiency improvements might become apparent during RIIO-2.[543]

10.225 In response to the CMA's provisional determination, GEMA said that the principles that GEMA applied to its cost assessment were appropriate and the assessment itself was robust. It stated that these principles were well-established, designed to protect consumers' interests, and had precedent from previous price controls. It said that it was important to protect consumers' interests by ensuring that any cost claims were robustly evidenced.[544]

10.226 Below from paragraph 10.227 to 10.245 we present GEMA's response to the Cadent arguments listed in paragraph 10.175.

Inadequacy of pre-modelling adjustments

10.227 GEMA submitted that Cadent's factual evidence was impressionistic and unsupported by any meaningful statistical analysis. It submitted that it was entirely possible that either Cadent's 'ethos and culture' in fact worked differently in the different GDNs – something that would be extremely difficult to assess – or that it worked better in solving issues outside London than in London, an exercise in management quality analysis that would not be feasible.[545]

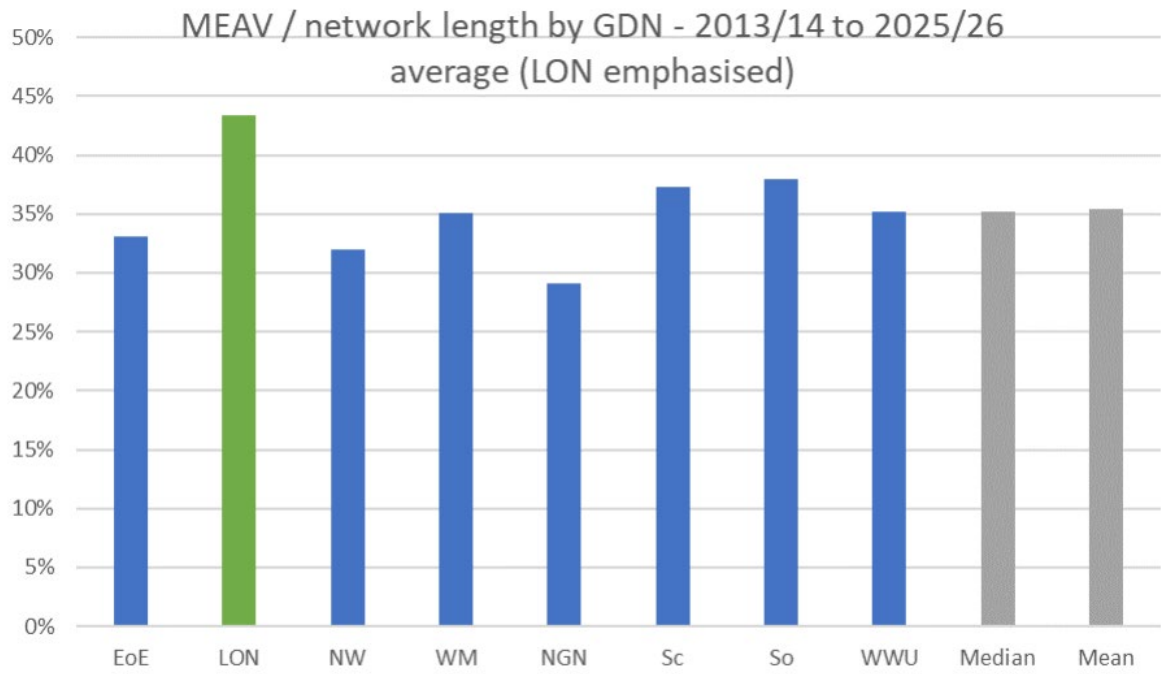
[541] *Wagner 7 (GEMA),* paragraph 46.
[542] *Wagner 7 (GEMA),* paragraph 48.
[543] GEMA, RFI GEMA 011, paragraph 9.3.
[544] GEMA Response to PD, paragraphs 308–309.
[545] GEMA Response B, paragraph 446.

10.228 GEMA submitted that its econometric model captured a large amount of information to explain differences in costs between GDNs.[546] It stated that the richness of the information contained in the model was demonstrated by a very high overall model predictive power of 92.7% (adjusted R-squared). GEMA stated that MEAV was the variable GEMA used to measure the scale and complexity of networks. GEMA submitted that MEAV controlled for some regional and company factors (ie network composition, complexity, and density) within the model, however GEMA recognised that further adjustments were required to ensure comparability in the modelling.[547] GEMA submitted that it was also clear that the use of MEAV in the econometric model accounted for a number of the additional factors referred to including the costs of serving a higher number of MOBs.[548] GEMA submitted that it had included risers in MEAV at RIIO-GD2 FD to better reflect the scale of operations for GDNs who had to provide services to a higher proportion of MOBs.[549]

10.229 GEMA stated that risers had not been included in RIIO-GD1. GEMA also stated that the inclusion of the number of risers in MEAV had ensured that GEMA had a more accurate measure of network scale, complexity and composition compared to RIIO-GD1. This helped control for urbanity. GEMA submitted that this was because the London GDN had a relatively high volume of high-rise buildings with a gas supply, which reflected its urban operating environment. GEMA stated that this in turn led to a relatively higher number of risers and a higher MEAV relative to other GDNs.[550] GEMA submitted that this was demonstrated in Figure 10-6, which shows that MEAV (normalised using network length as a common network scale variable) was proportionally higher for the London GDN than for the other GDNs.[551]

[546] GEMA Response B, paragraph 374.
[547] *Wagner 7 (GEMA),* paragraph 47.
[548] GEMA Response B, paragraph 449.
[549] GEMA Response B, paragraph 376.
[550] *Wagner 7 (GEMA),* paragraph 110.
[551] *Wagner 7 (GEMA),* paragraph 111.

Figure 10-6: MEAV/network length by GDN, 2013/14 to 2025/26 average



Source: Wagner 7 (GEMA), page 28.
Note: This figure is the same as the left hand side of Figure 10-3.

10.230 GEMA stated that including MEAV as a key cost driver in the totex model controlled for Cadent London being an 'outlier' relative to the other GDNs in terms of network density even before applying any pre-modelling adjustments for other regional and company specific factors.[552]

10.231 GEMA stated it considered that its econometric model did explain the hidden MOBs (discussed in paragraph 10.180). It submitted that the driver for emergency jobs used a proxy largely based on customer numbers rather than property type.[553]

10.232 GEMA submitted that if risers were excluded from MEAV, as per RIIO-GD1, the London GDN's modelled costs would have been £31.4 million lower. It submitted that the inclusion of risers within the model also increased the model's statistical fit (in terms of adjusted R-squared) from 0.909 to 0.928.[554] It stated that within the model it was straightforward to include/exclude risers from the MEAV calculation and quantify the difference between the two approaches.[555]

10.233 GEMA submitted that Cadent had not highlighted hidden MOBs as a cost driver in its business plan. It submitted that Cadent had not provided any evidence that these jobs required engineering standards like those used in

[552] *Wagner 7 (GEMA),* paragraph 111.
[553] GEMA, RFI GEMA 001, page 4.
[554] GEMA, RFI GEMA 011, paragraph 8.1.
[555] GEMA, RFI GEMA 011, paragraph 8.2.

high-rise buildings, nor that they took longer or cost more. It submitted that it considered that there may have also been some increased efficiency in completing multiple jobs at a single converted property as opposed to completing single jobs in multiple un-converted properties.[556]

10.234 GEMA submitted that it had decided to set the efficiency benchmark on a glide path to the 85th percentile, a decision which recognised that GEMA's model, while comprehensively accounting for regional and company-specific factors, was unlikely to capture perfectly all the drivers of the GDNs' costs.[557]

10.235 GEMA submitted that it doubted that the factors referred to by Cadent that had not been accounted for through pre-modelling adjustments or in the model itself were material.[558]

10.236 GEMA submitted that it required specific claims to be robustly evidenced and material.[559] It submitted that this approach was entirely justified and open to GEMA as a matter of regulatory discretion. GEMA stated that setting a high evidential bar for accepting company-specific claims was done for the following reasons:

(a) To ensure adjustments reflected exogenous factors.[560]

(b) To ensure consistency with, and protect the integrity of, the top-down econometric model. The rationale for the use of a single model was that it captured the interactions and trade-offs between different activities and costs and overcame information asymmetry issues that reduced the effectiveness of a more detailed, bottom-up approach.[561]

(c) To reduce the risk of double-counting via the regional labour costs and urbanity adjustments; and the way in which MEAV accounted for London regional factors in the model itself.[562]

(d) There was a risk that a lower bar could incentivise GDNs to allocate costs to GDNs that operated in London in the expectation that those costs would be removed before the efficiency benchmarking exercise.[563]

10.237 GEMA submitted that it had adopted a materiality threshold for company-specific claims at 0.5% of gross unnormalised totex.[564] It submitted

[556] GEMA, RFI GEMA 001, page 4.
[557] GEMA Response B, paragraph 376.
[558] GEMA Response B, paragraph 450.
[559] GEMA Response B, paragraph 451.
[560] GEMA Response B, paragraph 379.
[561] GEMA Response B, paragraph 379. See also GEMA Closing Statement, paragraph 15.
[562] GEMA Response B, paragraph 379.
[563] GEMA Response B, paragraph 379.
[564] GEMA Response B, paragraph 381.

that the CMA had applied a more stringent approach to materiality in its PR19 Redetermination than that adopted by GEMA.[565]

10.238 GEMA submitted that while the model may have failed to account for some company-specific factors which had both positive and negative effects on GDNs' costs, because of information asymmetry between GEMA and GDNs, GDNs were in practice likely only to request adjustments that increased their allowances. It submitted that adopting an effective materiality threshold ensured that consumers were protected from this one-way process.[566] GEMA submitted that GDNs had detailed knowledge of their business and were far closer than GEMA to the issues that might have driven relative cost differences. In the cost assessment process, it stated that it placed the onus for identifying locational/operational factors that would lead to increased/reduced costs firmly onto the GDNs.[567]

10.239 In response to the CMA's provisional determination, GEMA said that Cadent had not provided convincing evidence that GEMA failed to adequately control for the higher costs of operating in London or that the efficiency gap between London and the other GDNs was caused by any errors in its approach to the totex model. It said that the inclusion of risers in MEAV better captured the complexity and scale of networks, particularly in urban environments.[568]

10.240 GEMA submitted that the efficiency benchmarking exercise at FD resulted in an almost symmetrical range of efficiencies between NGN (most efficient, 0.92) and Cadent London (least efficient, 1.09), each with a similar variance from the sector average efficiency. Based on these scores GEMA did not consider London to be a particular outlier in the sector.[569]

10.241 GEMA submitted that Cadent did not provide any specific detail or quantification of the drivers of regional cost differences that were not already controlled for through pre-modelling adjustments and its choice of cost drivers. It was entirely reasonable that if a company argued for additional cost allowances or modelling adjustments, then the onus must have been on them to appropriately characterise and quantify those costs, which Cadent had failed to do.[570]

10.242 GEMA said that the inclusion of risers in MEAV better reflected the composition and complexity of networks, including those networks that

[565] GEMA PR19 Response on Totex, paragraph 21.
[566] GEMA Response B, paragraph 381(2).
[567] GEMA, RFI GEMA 004, page 1. GEMA Closing Statement, paragraph 15.
[568] GEMA Response to PD, paragraphs 321–323.
[569] GEMA Response to PD, paragraphs 324–325.
[570] GEMA Response to PD, paragraph 326.

maintained a large number of such assets in order to serve MOBs. It said that even if London was not an outlier on risers/MEAV (as per Cadent's analysis in Figure 10-4), it was overall being provided higher allowances as a result of including risers into MEAV. It stated that MEAV, with the inclusion of risers, was a good cost driver able to accurately capture variation across GDNs. If GDNs other than London had a large volume of risers in their asset base, it was entirely appropriate that this was reflected in their MEAV.[571] GEMA said that it did not suggest that risers in MEAV control for regional factors.[572]

Subjectivity of pre-modelling adjustments

10.243 GEMA submitted that it was required to exercise regulatory judgement and discretion on a number of issues as a part of the overall cost assessment process and carefully considered the merits of alternative approaches when doing so.[573] In various instances, GEMA had made various 'subjective' decisions affecting all the GDNs which improved Cadent's allowances (eg the decision at DDs to include risers in MEAV).[574]

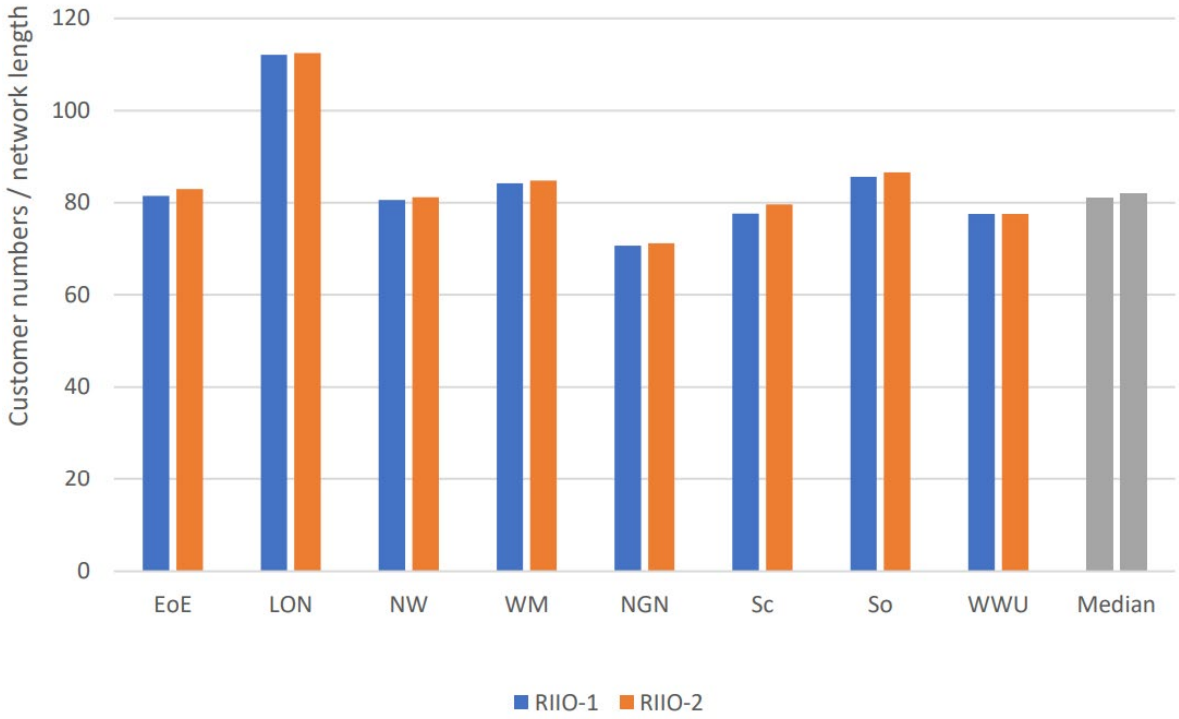
10.244 In relation to the regional labour costs pre-modelling adjustment, GEMA submitted that its level was appropriate and well-within GEMA's margin of discretion.[575] GEMA stated that it had considered a range of options, which provided a range of similar adjustments.[576] GEMA submitted that the wage index fluctuated and there was no obvious upward trend. It submitted that a five-year average provided a larger sample size and more robust estimate than a short-term estimate.[577]

Density driver(s) cross-check

10.245 GEMA submitted that the limitations identified by NERA were consistent with the outcome of GEMA's own testing, in particular that the use of a density driver led to over-fitting.[578] GEMA stated that as the density measure used in the model was much higher in London than in other networks (see Figure 10-7), density driver coefficients in the regression analysis would tend to capture any differences between London and other GDNs, whether these were actually related to density or not.[579]

[571] GEMA, RFI GEMA 028, page 3.
[572] GEMA, RFI GEMA 028, page 4.
[573] GEMA Response B, paragraph 456.
[574] GEMA Response B, paragraph 457.
[575] GEMA Response B, paragraph 454.
[576] *Wagner 7 (GEMA),* paragraph 70.
[577] GEMA Response B, paragraph 455.
[578] GEMA Response B, paragraph 459.
[579] *Wagner 7 (GEMA),* paragraph 153.

Figure 10-7: Customers/network length across RIIO-1 and RIIO-2 for GDNs



Source: *Wagner 7 (GEMA)*, page 39.

10.246 GEMA identified the following further limitations:[580]

(a) It appeared that the density driver did not actually account for urbanity/sparsity. GEMA submitted that SGN's Southern GDN had only marginally higher density than the sample median, despite having parts of the geographical region in a similar operating environment as London.

(b) The density driver was applied to all totex, but it was problematic to assume that urbanity affected all cost categories.

(c) Density may have been already accounted for through the application of the regional labour cost adjustment and the inclusion of MEAV in the econometric model.

10.247 GEMA stated it considered that NERA's analysis, which excluded London GDN from the sample and estimated a density driver, was flawed and of limited value in terms of setting efficient allowances.[581]

(a) It stated that this analysis ignored the pre-modelling adjustments GEMA made to control for density. It submitted that the fundamental difference between GEMA and Cadent's position was whether density was best controlled for using pre-modelling adjustments for urbanity/sparsity, or a

[580] GEMA Response B, paragraph 460.
[581] GEMA, RFI GEMA 011, paragraph 7.

within-model density driver variable. It submitted it considered the pre-modelling adjustments approach to be preferable.[582] It stated that this analysis only sought to highlight a correlation between density and costs and did not engage with the details of GEMA's modelling approach.[583]

(b) It submitted that this analysis did not consider the limitations of using a density driver variable. It stated that its view was the inclusion of density variables within the FD model was problematic for two reasons. First, it resulted in over-fitting of the model. Second, it impacted all totex costs, instead of targeting specific cost areas where density had a demonstrable impact.[584]

(c) It submitted that this analysis did not demonstrate that the model did not still suffer from over-fitting when London was included in the model. It submitted it considered that the presence of a statistical relationship between GDNs' totex and the density driver did not prove that the density variable did not cause over-fitting when London was included in the analysis.[585] It submitted that the results of the analysis, including or excluding the London GDN, did not offer clear guidance on how the effect of operating in urban operating environments should necessarily have been accounted for within allowed totex.[586] It submitted that this made it challenging to conclude how the analysis should have been interpreted and applied in determining the impact of urban operating environments on allowed GDN totex.[587]

(d) It stated that this analysis used a different model specification and a different sample from that previously submitted to GEMA and the CMA. It submitted that in the latest version the density regression variable was linear, as opposed to the earlier version that used both density and the quadratic density-squared term.[588]

(e) It submitted that this analysis ignored interaction with sparsity. It stated that the linear model essentially meant that the potential effects of sparsity – which GDNs had accepted drove additional costs and was assessed and quantified for FDs – did not appear to have been factored into the model. Therefore, the model was not fully comparable with the pre-

[582] GEMA, RFI GEMA 011, paragraph 7.2.
[583] GEMA, RFI GEMA 011, paragraph 7.3.
[584] GEMA, RFI GEMA 011, paragraph 7.7.
[585] GEMA, RFI GEMA 011, paragraph 7.9.
[586] GEMA, RFI GEMA 011, paragraph 7.10.
[587] GEMA, RFI GEMA 011, paragraph 7.11.
[588] GEMA, RFI GEMA 011, paragraph 7.13.

modelling adjustment approach chosen by GEMA which accounted for both density and sparsity.[589]

10.248 GEMA submitted that the model specification used by Cadent to demonstrate the impact of density on totex both in response to DDs and in Cadent's NoA (within NERA's first expert report) included variables for both density (linear) and density squared (quadratic) within the model. However, when the London GDN was excluded from the sample, the model specification included only the density variable (linear).[590] It submitted that it compared the data using these different model specifications and the results suggested that when both the density and density squared variables were included within the regression specification, then including and excluding the London GDN from the regression impacted the relationship between totex and density. It stated that the density variables were statistically significant when London was included, but not when London was excluded.[591]

10.249 GEMA stated that in both cases the sign of the coefficient for the quadratic term was counter-intuitive, as it would suggest an inversed-U relationship with costs (ie lower costs in urban and sparse areas). It submitted that undermined the accepted economic rationale that costs were higher in the presence of either low or high density.[592]

10.250 In response to the CMA's provisional determination, GEMA said that the fundamental problem with using any of these density driver models was that when the London GDN was included within the model, the model suffered from over-fitting. It stated that the results of a model that excluded the London GDN could not be extrapolated and robustly applied to the London GDN. In other words, it was not clear how a relationship between costs and density estimated on a sample that excluded London could be reasonably applied to the London network.[593]

10.251 GEMA said that Cadent's results did not convincingly rule out the risk of over-fitting with the density model. It stated that when London was excluded, the model estimated the relationship between density and totex on a sample of seven GDNs which were relatively similar to one another in terms of density. The statistical significance of this relationship within this sample did not demonstrate that the same relationship applies to London; which was characterised by much higher density than the sample. It submitted that the magnitude of the coefficients in the quadratic models varied with the exclusion

[589] GEMA, RFI GEMA 011, paragraph 7.14.
[590] GEMA, RFI GEMA 011, paragraph 7.16.
[591] GEMA, RFI GEMA 011, paragraph 7.17.
[592] GEMA, RFI GEMA 011, paragraph 7.18.
[593] GEMA Response to PD, paragraph 330.

of London; suggested a risk of over-fitting.[594]GEMA said that when comparing results with and without London the magnitude of the coefficients on density was only similar for the linear model. It stated that this was not conclusive evidence of the reliability of density models. It submitted that the density coefficient was higher when London was excluded suggesting a potential, uncaptured non-linear relationship between density and totex. It said that a quadratic relationship would be indeed more in line with economic logic (higher costs for both sparse and urban areas).[595]

Our assessment and conclusion

10.252 In its RIIO-GD2 assessment, GEMA used the same approach to pre-modelling adjustments, as in RIIO-GD1, to account for regional factors. In its FD, regional pre-modelling adjustments made for the London GDN were around 14% of its baseline totex.

10.253 In this section, we examine whether or not GEMA ignored quantitative and qualitative evidence which showed that it was inappropriate and insufficient to rely solely on discrete pre-modelling adjustments to account for regional factors. In order to answer this, we assess the arguments made in relation to the:

(a) efficiency gaps between the London GDN and other GDNs;

(b) presence of unidentified and unquantified regional factors;

(c) subjectivity of pre-modelling adjustments; and

(d) inclusion of a density driver.

Efficiency gaps

10.254 Table 10-3 shows the efficiency scores and ranking of GDNs according to GEMA's FD. Efficiency scores above one indicate that the GDN is estimated to be less efficient than the industry average forecasted by the model. For example, an efficiency score of 1.09 means that the GDN is 9% less efficient than the industry average.

Table 10-3: GDNs' efficiency scores and ranking in GEMA's FD

GDNs	*Efficiency score*	*Position*
Northern Gas Network	0.92	1
Wales and West Utilities	0.97	2
North West	0.97	3
East of England	0.97	4

[594] GEMA, RFI GEMA 028, pages 1–2.
[595] GEMA, RFI GEMA 028, page 2.

Scotland	0.98	5
West Midlands	0.99	6
Southern	1.05	7
London	1.09	8

Source: NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, page 174;

10.255 From this table, it is possible to see that the two GDNs with a presence in London (Southern and London) have the highest scores. In fact, they are the only two GDNs with a score above the industry average. A possible concern is that GEMA's FD model does not control for some London-specific factors, artificially inflates these GDNs' scores, and thus overestimates their inefficiency.

10.256 A further issue is that GDNs under the same management display substantially different efficiency scores. However, the adjustment for LTS discussed under Ground 1A partly address this concern. Below, we present a comparison of the efficiency scores with other GDNs under the same management. Table 10-4 compares two GDNs owned by Cadent: London and West Midlands (Cadent's second least efficient GDN). Table 10-5 compares two GDNs owned by SGN: Southern and Scotland. The models considered are:

(a) GEMA's FD; and[596]

(b) GEMA's approach to correct for the LTS error based on the projects large projects identified by Cadent.

Table 10-4: London and West Midlands GDNs' efficiency scores

	London GDN		*West Midlands GDN*		
	Efficiency score	*Position*	*Efficiency score*	*Position*	*Efficiency gaps*
FD	1.09	8	0.99	6	0.10
GEMA's LTS error correction with all large projects identified by Cadent	1.04	7	0.97	4	0.07

Source: GEMA Response B, paragraph 386; NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, pages 174-190; Cadent, RFI Cadent 004.

Table 10-5: Southern and Scotland GDNs' efficiency scores

	Southern GDN		*Scotland GDN*		
	Efficiency score	*Position*	*Efficiency score*	*Position*	*Efficiency gaps*
FD	1.05	7	0.98	5	0.07
GEMA's LTS error correction with all large projects identified by Cadent	1.06	8	1.03	6	0.03

Source: NERA (Cadent), Expert Report on Ofgem's Approach to Cost Assessment at RIIO-GD2, pages 174–190; Cadent, RFI Cadent 004

10.257 Table 10-4 shows that the efficiency gap identified by GEMA's model between London and West Midlands is ten percentage points (1.09 vs 0.99)

[596] This refers to GEMA's re-published FD, as revised to reflect the outcome of the Errata Process.

for GEMA's FD. This gap decreases to seven percentage points (1.04 vs 0.97) when GEMA's approach to correct for the LTS error is used based on the large projects identified by Cadent.

10.258 Table 10-5 shows that the efficiency gap identified by GEMA's model between Southern and Scotland is seven percentage points (1.05 vs 0.98) for GEMA's FD. This difference decreases to three percentage points (1.06 vs 1.03) when GEMA's approach to correct for the LTS error is used based on the large projects identified by Cadent.

10.259 On the one hand, the magnitude of the efficiency gaps in GEMA's FD indicate possible limitations in GEMA's approach as it raises the question of whether GDNs under the same management can have such substantial differences in efficiency. On the other hand, we do not expect, and indeed we do not find, that all GDNs under the same management have the same efficiency score. Moreover, the time-period since Cadent was established and took over the London GDN (only four years) may have been insufficient for it to substantially reduce any efficiency gap that existed between its GDNs.[597]

10.260 Overall, we do not consider that the evidence on efficiency gaps indicates that GEMA erred in its approach to London regional factors. Importantly, the presence of efficiency gaps is not evidence of a problem; at most it may indicate that a problem might exist within the underlying model (we discuss the density driver evidence related to the model below). However, efficiency gaps might equally be explained by actual differences in efficiency. In this case the efficiency gaps decrease further once adjustments due to LTS (Cadent Ground 1A, see Chapter 9) are taken into account. In the circumstances, the evidence is inconclusive, and does not support a conclusion that GEMA erred.

Unidentified and unquantified regional factors

10.261 A possible reason why GEMA's FD model might not fully account for London-specific factors is that pre-modelling adjustments cannot account for unidentified and unquantified regional factors.[598] If, as submitted by Cadent, these factors are material, they might drive the higher scores of the London GDN.

10.262 The unidentified and unquantified nature of these factors means that we cannot fully analyse them in a detailed way and form a precise view on their presence and size. Moreover, there may be factors that could decrease

[597] See paragraph 10.172.
[598] See paragraph 10.180 for more detail on the unidentified and unquantified factors.

GDNs' modelled costs or increase their estimated inefficiency, but that are not raised by GDNs or have not otherwise been identified or quantified.

10.263 GEMA submitted that its cost assessment was unlikely to account fully for all the drivers of the GDNs' costs. The use of a glide path to the 85% efficiency benchmark recognised the fact that the models cannot fully capture all potentially relevant factors. This approach is consistent with the acknowledgement that any model cannot control for all factors. This is especially true for 'unknown unknowns'.

10.264 We remain unpersuaded by Cadent's arguments regarding the unidentified and unquantified factors.[599] On the one hand, Cadent provided several examples of unquantified factors and detailed arguments on why there could be further unidentified factors. On the other hand, there may be examples of factors that could decrease the London GDN's modelled costs. This concern is particularly true where information asymmetry exists between GEMA and the GDNs, and the companies have the incentive to identify only those factors that increase their allowances. In these cases, we agree with GEMA that it is appropriate for GEMA to require company-specific claims to be robustly evidenced. Without Cadent having produced reliable evidence on the scale or (in some cases) on the existence of the factors resulting in a net upward effect, we do not find GEMA to have been wrong in its approach. In addition, the efficiency benchmark accounts for the fact that the models cannot fully capture all the drivers of the GDNs' costs. Therefore, our view is that Cadent's arguments on unidentified and unquantified factors do not support a finding of error.

Subjectivity of pre-modelling adjustments

10.265 Pre-modelling adjustments require the exercise of a degree of regulatory judgement. GEMA has to exercise regulatory judgement in applying the regulatory framework. As set out in the Legal Framework, we should exercise a degree of restraint when considering matters of regulatory judgement, and, in principle, not question issues of judgement unless we are satisfied that GEMA's decision is wrong, for example, because there was a clearly superior alternative approach.[600] In paragraphs 10.17 to 10.163 we conducted a detailed assessment of all GEMA's pre-modelling adjustment decisions that Cadent disputed. For each, we were not persuaded by Cadent's arguments that GEMA's approach was wrong and we found that GEMA was within its margin of appreciation as a regulator. We do not repeat

[599] In our PD we indicated that the MEAV accounts for some of the regional factors. We accept the representations of both GEMA and Cadent that this was not correct. However, this correction does not impact on our overall conclusion.
[600] See in particular paragraph 3.74.

this assessment here, but note that when conducting its process, there were instances when GEMA decided to change its approach (including risers) in a way which increased the London GDN's allowance.

10.266 Therefore, Cadent has not persuaded us that its preferred approach to pre-modelling adjustments (see paragraph 10.20) would have been the better one and we find that GEMA has taken adequate account of the higher costs of operating in London.

Density driver(s) cross-check

10.267 Cadent provided evidence that including a density driver in GEMA's FD model substantially increased the allowance for the London GDN. Cadent included the density driver as a proxy for the effect of urbanity on costs. Cadent provided this evidence to show that GEMA's FD failed to adequately control for the higher costs of operating in London and not to substitute for GEMA's model. Cadent's evidence shows that the coefficient(s) on the density driver(s) is (are) statically significant across several model specifications (see Table 10-1).

10.268 An advantage of this density driver analysis is that it accounts for both the positive and negative effects related to density (ie accounts for all the factors that either increase or decrease the GDNs' costs in relation to operating in more or less dense areas). However, there is a concern that the inclusion of a density driver created the risk of over-fitting the model. This concern arose due to London being an outlier and due to having limited cross-sectional variation in density across the other GDNs (see Figure 10-7). Put in non-technical language, because London is an outlier with respect to density, the OLS estimation procedure might 'force the line to go through the London observation' without supporting a clear assessment of the cost of operating at that level of density.

10.269 One specific concern with the over-fitting problem is that, as GEMA submitted, the density driver would account for not only regional factors but also for inefficiency of the London GDN. This risks artificially increasing the perceived efficiency of the London GDN.

10.270 Cadent provided a sensitivity analysis to show (see paragraph 10.199) that this possible over-fitting concern does not apply to GEMA's FD model with density driver(s). It included the density driver in models that exclude the London GDN. This has the advantage of removing an outlier (in terms of density) that might drive the over-fitting problem. This sensitivity analysis

shows that the coefficient(s) on the density driver(s) is (are) statically significant across several model specifications (see Table 10-2).[601]

10.271 Cadent's evidence shows that the coefficients on the density drivers are statistically significant across the different specifications – even after incorporating pre-modelling adjustments and even when London is excluded.

10.272 However, in this case the question is whether this analysis specifically shows that GEMA's model underestimated the costs of operating in London. London is an outlier with respect to density (ie there is no other network operating at that level of density that could act as a direct comparator to London). Therefore, any attempt to estimate the cost implications of operating at that level of density through an econometric model must either:

(a) place significant weight on the observed cost of Cadent's London network itself (by including London in the sample), in which case it is not possible to disentangle the effect of density from any inefficiency, or

(b) extrapolate from a relationship estimated on the other networks (by excluding London from the sample), in which case the results are contingent on the particular functional form chosen and the assumption that the relationship holds outside the range of density levels spanned by the other networks.

10.273 We note that NERA has estimated models implying different functional forms between density and costs: a 'linear' model which simply adds density to GEMA's model; and a less restrictive model which adds both density and the square of density to GEMA's model. However, the results from the second model are difficult to interpret, both because the coefficients are estimated very imprecisely, and because the resulting cost curve is non-monotonous (ie it implies that costs increase with density until a certain threshold, and then decrease). Moreover, these two models yield very different conclusions regarding the residual impact of density on the cost of operating in London (after applying the pre-modelling adjustments): under the linear model (Model 12 in Cadent's submission), the predicted cost for the London GDN would be £1,208 million, which is higher than the cost prediction under GEMA's model (£1,033 million); under the less restrictive model, (Model 9 in Cadent's submission) the predicted cost for the London GDN would be £1,007 million,

[601] NERA (Cadent), Exhibit for Cadent Main Hearing, pages 14–15. The coefficients of the density drivers are jointly statistically significant when a linear and a quadratic density drivers are included. The magnitude of the coefficients are similar when a linear density driver is included and either i) urbanity reinstatement and urbanity productivity adjustments and regional factors for London and Southern were removed or ii) sparsity adjustments, urbanity reinstatement and urbanity productivity adjustments and regional factors for London and Southern were removed.

which is lower than the cost prediction under GEMA's model.[602] In our view this illustrates the difficulties involved in seeking to extrapolate from a model estimated over networks with very different characteristics.

10.274 The density driver cross-check does not demonstrate that the London GDN is undercompensated with respect to the cost of operating at the level of density of London. Fundamentally, the econometric analysis can only be of limited use in assessing the costs of operating at the London level of density because London is an outlier with respect to density. In that context, it is appropriate to rely on pre-modelling adjustments based on engineering expertise and economic arguments as GEMA did. Accordingly, Cadent has not persuaded us that GEMA erred.

10.275 In response to the provisional determination Cadent argued that we had failed to engage with its econometric evidence and shown too much deference to GEMA's decision on pre-modelling adjustments.[603] It contended that we appeared to have repeatedly taken the view that as long as GEMA has considered a certain matter, it was not for the CMA to question whether GEMA has given the relevant factor appropriate weight or indeed whether its consideration of the matter could be seen as wrong for other reasons, short of being irrational.[604] We disagree. It is evident, from our assessment set out above, that we have we have grappled fully with the evidence on this ground, have accorded GEMA an appropriate level of deference in line with the principles set out in the Legal Framework and have appropriately applied the relevant standard of review set out in the Legal Framework, ie a qualified merits standard of review. Cadent's argument that we have applied a rationality standard of review is therefore misplaced.

10.276 As we have explained above, the results of the density-driver cross-check do not demonstrate an error which we can correct: this is a substantive flaw in the evidence, not merely a 'perceived limitation' in NERA's analysis.[605] Given that there is no clearly superior approach to allowances, GEMA must make a regulatory judgement on how best to proceed. Having considered the matter carefully, we are persuaded that GEMA's allowance was appropriate in the circumstances and within the bounds of its margin of discretion.

[602] The predicted cost of £1,033 million was calculated using Model 3 by removing the density drivers. The predicted costs for the London GDN in case of Model 9 and Model 12 were calculated using the coefficients of these models and the costs drivers used in Model 3. We refer to Model 9 and 12 as GEMA's FD also applied pre-modelling adjustments.
[603] Cadent Response to PD, paragraphs 22 and 24.
[604] Cadent Response to PD, paragraph 7.6(b).
[605] Cadent Response to PD, paragraph 7.6(b).

Our determination

10.277 We determine that the evidence submitted by Cadent does not persuade us that GEMA has erred. GEMA applied substantial pre-modelling adjustments. The arguments in relation to the size of the efficiency gap, the unidentified and unquantified factors, the subjectivity of pre-modelling adjustments and the density driver analysis do not provide adequate evidence for us to find that GEMA's approach was wrong and that its FD failed to adequately control for the higher costs of operating in London. Accordingly, we determine that GEMA's approach to the pre-modelling adjustments for regional factors and its cost assessment was not wrong and accordingly we dismiss this ground of appeal.

11. NGN Ground 4: BPI Stage 4

Introduction

11.1 NGN's fourth ground of appeal concerns GEMA's Business Plan Incentive (**BPI**) Stage 4. The ground is comprised of the following sub-grounds:

(a) Ground 4A(i), related to the absolute level of reward available in BPI Stage 4 and associated incentive effects;[606]

(b) Ground 4A(ii), related to the calculation methodology that GEMA used for the BPI Stage 4 reward;[607] and

(c) Ground 4B, related to the efficient cost benchmark and how this interacts with the level of NGN's BPI Stage 4 reward.[608]

11.2 In this chapter, we set out the background to the RIIO-2 decision insofar as it relates to BPI Stage 4. We then address the submissions from NGN and GEMA in relation to the specific sub-grounds of appeal, before explaining our assessment and our determination.

Grounds 4A(i) and 4B

11.3 NGN sought permission pursuant to Rule 8.1 of the Rules[609] to withdraw sub-grounds 4A(i) and 4B of Ground 4 of its appeal, in light of GEMA's invitation to the CMA to correct the error identified in NGN's Ground 4A(ii).[610]

11.4 On 17 May 2021, the CMA granted permission to NGN to withdraw sub-grounds 4A(i) and 4B of Ground 4 of its appeal.[611]

11.5 As NGN withdrew sub-grounds 4A(i) and 4B of its appeal, the CMA does not make any determination in relation to these grounds of appeal.[612]

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[606] NGN NoA, paragraph 417. We note that, as explained in paragraph 11.3, NGN later withdrew this sub-ground of appeal.
[607] NGN NoA, paragraph 417.
[608] NGN NoA, paragraph 462. We note that, as explained in paragraph 11.3, NGN later withdrew this sub-ground of appeal.
[609] Under Rule 8.1, the CMA's permission is required to withdraw an appeal.
[610] NGN Reply, paragraphs 131–132.
[611] 'By a submission to the CMA dated 10 May 2021, NGN sought permission pursuant to Rule 8.1 of the CMA's Energy Licence Modification Appeal Rules (the Rules) to withdraw part of its appeal, namely sub-grounds 4A(i) and 4B of Ground 4 of its appeal, in light of GEMA's invitation to the CMA to correct the error identified in NGN's Ground 4A(ii), which increases NGN's Business Plan Incentive Stage 4 reward'; CMA Decision on NGN's application to withdraw sub-grounds of appeal.
[612] In light of NGN's withdrawal of sub-grounds 4A(i) and 4B of Ground 4 of its appeal, we have not set out GEMA's Response to these sub-grounds in this chapter.

Background to the RIIO-2 decision

11.6 In order to undertake the RIIO-2 process, GEMA needed information from the gas and electricity network companies on the activities that they intended to undertake in RIIO-2, and their associated costs and outputs. Companies provided this information to GEMA in the form of a business plan, which GEMA then assessed. Companies could earn a reward or be penalised based on GEMA's assessment of their plans, known as the BPI.[613]

11.7 The BPI mechanism was developed by GEMA for RIIO-2 to encourage network companies to submit ambitious business plans that contained the information GEMA required to undertake a robust assessment of the licensees' business plans.[614]

11.8 The BPI comprises four stages of rewards and penalties, and reflected GEMA's position that high quality business plans were essential to enable it to have sufficient, high quality information to set a price control that delivers for consumers at a reasonable cost.[615]

11.9 The four stages of the BPI mechanism are as follows:[616]

(a) Stage 1: GEMA carried out a qualitative assessment of business plans in order to ensure that they contained all of the information set out in the minimum requirements. Business plans either passed or failed Stage 1, and GEMA imposed an upfront penalty of 0.5% of allowed baseline totex for failing Stage 1. Any network company that failed Stage 1 was not eligible for any reward under the BPI but could still be penalised under Stage 3.

(b) Stage 2: GEMA carried out a qualitative assessment of what additional value the business plans offered to consumers. Companies could bid for a reward on the quality aspects of their plans, as revealed through the Consumer Value Proposition. The reward was calculated based on the additional value the company's plan would generate for existing and future consumers, as well as consumers in vulnerable situations.

(c) Stage 3: GEMA reviewed the forecasts for costs assessed by GEMA to be lower-confidence baseline costs included in companies' plans. Any costs deemed to be poorly justified and removed by GEMA from the companies' forecasts through this cost assessment process were subject

[613] GEMA RIIO-2 Business Plan Guidance, paragraph 1.1.
[614] GEMA FD Core Document (revised), paragraph 10.15.
[615] GEMA Response B, paragraph 32.
[616] GEMA RIIO-2 Business Plan Guidance, paragraph 5.3.

to a penalty. The size of the penalty was 10% of the value of those poorly justified costs removed by GEMA from the companies' forecasts.

(d) Stage 4: GEMA reviewed the cost forecasts for costs assessed to be high-confidence baseline costs included in companies' plans. An upfront reward was available to companies that submitted forecasts lower than a benchmark that GEMA would otherwise have used in setting the allowance. The reward under this stage was calculated as the difference between the benchmark cost level and the (lower) revealed cost level, multiplied by the totex efficiency incentive rate.

11.10 GEMA's FD stated that NGN was awarded a £5.1 million BPI Stage 4 reward.[617]

11.11 NGN submitted that its appeal should be considered in light of its position as the frontier company in the sector since 2005. NGN said it was benchmarked as the most efficient company with respect to RIIO-GD1 cost benchmarking and, over the intervening eight years, had invested significantly to drive the efficiency frontier further forward.[618]

Ground 4A(ii) – BPI Stage 4

NGN's submissions

11.12 NGN submitted that GEMA's methodology for the calculation of NGN's BPI Stage 4 assessment was flawed. NGN said that GEMA had erroneously treated technically and non-technically assessed costs together as part of the same calculation,[619] and that this was inconsistent with the stated rationale in the FD. NGN said this approach had also resulted in a significant net reduction of £4.6 million in its reward, which was arbitrary and inconsistent with the intended effect of the BPI mechanism.[620] NGN further submitted that the significant reduction in incentives for the frontier company under the BPI Stage 4 would have a significant impact on customers.[621]

[617] GEMA FD NGN Annex (revised), Table 54, page 47. We note that NGN disputes this figure, stating that it was awarded a £5.9 million BPI Stage 4 reward; NGN NoA, paragraph 423.
[618] NGN NoA, paragraph 18.
[619] NGN NoA, section 3.2.2. See also paragraphs 436–452.
[620] NGN NoA, paragraph 63. See also paragraph 390.
[621] NGN NoA, section 3.2.3. See also paragraphs 453–460.

Statutory grounds of appeal

11.13 NGN submitted that the alleged errors (as outlined above) resulted in GEMA's Decision being wrong on the following statutory grounds:[622]

(a) GEMA's BPI Stage 4 had failed to deliver its stated objective of differentiating and rewarding the frontier company. As such, GEMA had failed under sections 23D(4)(a) and (b) of GA86 properly to have regard to and/or give appropriate weight to its principal objective under section 4AA(1) of GA86 to protect the interests of existing and future consumers by ensuring that licensees were granted appropriate incentives to increase efficiencies and gas networks are secure, reliable and efficient.

(b) By using a flawed methodology for assessing technically and non-technically assessed costs together as part of the BPI Stage 4 calculation, GEMA had erred, wholly or partly in fact (section 23D(4)(c) of GA86), and in law (section 23D(4)(e) of GA86) (by acting disproportionately, unfairly and/or in defiance of logic, failing properly to inquire, reaching conclusions without adequate supporting evidence, and/or making mathematical or formula specification errors). In failing to provide adequate explanation for its methodology, GEMA had failed under sections 23D(4)(a) and (b) of GA86 properly to have regard to and/or give appropriate weight to its duty under section 4AA(5A) of GA86 to have regard to the principles of best regulatory practice under which regulatory activities should be transparent, accountable and consistent.

(c) By adopting a BPI Stage 4 assessment which materially reduced the level of incentive for the frontier company compared to RIIO-GD1 and by failing to conduct an impact assessment with respect to this change, GEMA had departed from regulatory precedent in a way which made it fail under sections 23D(4)(a) and (b) of GA86 properly to have regard to and/or give appropriate weight to its duty under section 4AA(5A) of GA86 to have regard to the principles of best regulatory practice under which regulatory activities should be transparent, accountable and consistent.

GEMA's Response

Ground 4A(ii)

11.14 GEMA submitted that it had reviewed the licence modifications and the Price Control Financial Model (**PCFM**), and accepted that there was an inadvertent inconsistency between the intentions of GEMA's FD and the calculations

[622] NGN NoA, paragraph 67. We note that paragraph 67(iv) of NGN's NoA alleged that sub-ground 4B was wrong on a number of statutory grounds, however as that sub-ground was withdrawn we have not set those out here.

which were used to derive the BPI Stage 4 rewards in the PCFM. GEMA submitted that it therefore did not defend Ground 4A(ii), and instead invited the CMA to direct the required correction for NGN's incentive at BPI Stage 4.[623] GEMA stated that this would change the BPI Stage 4 reward for NGN by £3.38 million from £5.1 million to £8.5 million, and dispose of this sub-ground of appeal.[624]

BPI Stage 3 penalty

11.15 GEMA further submitted that it had identified a spreadsheet error relating to a small amount of NGN's costs, which (when corrected) slightly decreased NGN's Stage 3 penalty from £3.0 million to £2.8 million. GEMA invited the CMA to make the correction to NGN's Stage 3 penalty.[625]

NGN's Reply to GEMA's Response

Ground 4A(ii)

11.16 NGN stated that it welcomed GEMA's acknowledgment of the inconsistency between the stated intentions of GEMA's FD and the calculations which it had used to derive NGN's BPI Stage 4 reward in the PCFM. NGN agreed that a direction by the CMA to increase NGN's BPI Stage 4 reward to £8.5 million would dispose of sub-ground 4A(ii).[626]

BPI Stage 3 penalty

11.17 NGN submitted that it welcomed the acknowledgement of the error that GEMA made with respect to its Stage 3 penalty.[627]

NGN's response to our provisional determination

11.18 NGN welcomed our provisional determination to increase its BPI Stage 4 award to £8,525,771.[628] However, it submitted that it would be inappropriate for the CMA not to correct the manifest error that GEMA recognised, particularly where GEMA had invited the CMA to do so and where NGN withdrew the remainder of its Ground 4 in reliance on GEMA's invitation to the

[623] GEMA Response B, paragraphs 15(2) and 518.
[624] *Wagner 4 (GEMA)*, paragraph 55; GEMA Response B, paragraphs 15(2) and 518.
[625] GEMA Response B, paragraph 518. See also *Wagner 4 (GEMA)*, paragraphs 57–59.
[626] NGN Reply, paragraph 131.
[627] NGN Reply, paragraph 131.
[628] NGN Response to PD, paragraph 29.

CMA. NGN stated that for the CMA not to do so would be contrary to principles of law and fairness.[629]

GEMA's response to our provisional determination

11.19 GEMA supported our provisional determination to amend NGN's BPI Stage 4 reward to £8.5 million.[630]

Our assessment

Ground 4A(ii)

11.20 GEMA conceded that it made an error when calculating NGN's BPI Stage 4 reward at the time of its FD. This is not a matter of contention between either party.

11.21 NGN[631] and GEMA[632] each submitted that the precise amount (having corrected for the error) that NGN should have received under the BPI Stage 4 reward is £8,525,771.

11.22 On the basis of GEMA's acceptance of the alleged error, we conclude that GEMA was wrong in its calculation of NGN's BPI Stage 4 reward.

BPI Stage 3 penalty

11.23 Following GEMA's Response that it had identified an alleged error in the calculation of NGN's BPI Stage 3 penalty, NGN has included reference to this alleged error in its submissions.[633] However, NGN did not include any reference to an error in BPI Stage 3 in its NoA. In fact, NGN stated categorically that 'With respect to the BPI, the Appellant is only challenging Stage 4 of the BPI mechanism (both in terms of the absolute level of reward (subpart 4A(I)) that it provides and its flawed calculation methodology (subpart 4A(II))'.[634]

11.24 Furthermore, while NGN submitted that its request to withdraw the remainder of its Ground 4 relied on GEMA's invitation to the CMA to address the alleged error in BPI Stage 3,[635] this does not reflect its submission that requested the

[629] NGN Response to PD, paragraph 30.
[630] GEMA Response to PD, paragraphs 334–336.
[631] NGN, RFI NGN 001, page 1.
[632] GEMA, RFI GEMA 002, page 1.
[633] For example, NGN Reply, paragraph 131 and NGN Response to PD, paragraphs 4(ii), 13(ii), 15(ii), and 30–31.
[634] NGN NoA, paragraph 417.
[635] See paragraph 11.18 above.

withdrawal[636] or the CMA decision accepting this request,[637] both of which explicitly refer to correcting an error in NGN's Ground 4A(ii) that would increase NGN's BPI Stage 4 reward.

11.25 As NGN did not appeal the BPI Stage 3 penalty, it is not within the scope of this appeal. Accordingly, we make no determination on this issue.

11.26 In light of the various points made in paragraphs 11.23 to 11.25 above, including the fact that GEMA has acknowledged its own error, we do not find that the fact that the CMA is not correcting the BPI Stage 3 penalty error involves any violation of general principles of law and fairness.

Our determination

Ground 4A(ii)

11.27 For the reasons given above, we determine that GEMA was wrong in its calculation of NGN's BPI Stage 4 reward and we allow the appeal as regards sub-ground 4A(ii).

11.28 Accordingly, we conclude that, by incorrectly calculating NGN's BPI Stage 4 reward, GEMA's decision as to the amount of NGN's BPI Stage 4 reward was wrong on the statutory ground that it was based wholly or partly on an error of fact.[638]

Relief

GEMA's submissions

11.29 As noted in paragraph 11.14 above, GEMA submitted that the appropriate relief for the BPI Ground 4 error was to amend NGN's BPI Stage 4 reward to £8.5 million.

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[636] *'In light of GEMA's invitation to the CMA to correct the error identified in the Appellant's Ground 4A(ii), which increases the Appellant's BPI Stage 4 reward, the Appellant seeks permission from the CMA pursuant to paragraph 8.1 of the CMA's Energy Licence Modification Appeal Rules to withdraw the remainder of Ground 4 of its Notice of Appeal (namely sub-ground 4A(i) and sub-ground 4B).'*; NGN Response to PD, paragraph 132.
[637] '*By a submission to the CMA dated 10 May 2021, NGN sought permission pursuant to Rule 8.1 of the CMA's Energy Licence Modification Appeal Rules (the Rules) to withdraw part of its appeal, namely sub-grounds 4A(i) and 4B of Ground 4 of its appeal, in light of GEMA's invitation to the CMA to correct the error identified in NGN's Ground 4A(ii), which increases NGN's Business Plan Incentive Stage 4 reward; '*CMA Decision on NGN's application to withdraw sub-grounds of appeal, paragraph 3.
[638] GA86, section 23D(4)(c).

NGN's submissions

11.30 As noted in paragraph 11.18 above, NGN submitted that the appropriate relief for the BPI Ground 4 error was to increase NGN's BPI Stage 4 to £8,525,771.

Our assessment and determination

11.31 We agree with the parties that for the reasons set out above the correct figure for NGN's BPI Stage 4 is £8,525,771, and determine the appropriate relief is to amend NGN's BPI Stage 4 reward to this figure.

12. SGN Ground 4: Efficiency benchmark

Introduction

12.1 GEMA applied an efficiency benchmark to all the Gas Distribution Networks (**GDNs)**. This refers to the efficiency improvements that GEMA expects less efficient companies to make to catch up to the more efficient GDNs.

12.2 GEMA has an expectation that relatively less efficient GDNs can catch up to a notionally efficient company; this notionally efficient company is known as the efficiency benchmark. GEMA used this benchmark to set the majority[639] of the cost allowances that companies are expected to meet.

Background to the RIIO-2 Decision

12.3 In its Decision, GEMA set the efficiency benchmark at the 85th percentile for the last two years of RIIO-GD2, with a three year straight-line glide path from the 75th percentile over the first three years of RIIO-GD2.

12.4 GEMA applied the efficiency benchmark to costs subject to pre-modelling adjustments. Regional factors were one of the factors considered in GEMA's pre-modelling adjustments.

The ground of appeal

Overview of alleged errors

12.5 SGN submitted that GEMA had erred in its approach to setting and applying the efficiency benchmark at FD in two respects:[640]

(a) GEMA's decision to set the efficiency benchmark at a level higher than the upper quartile was not supported by the evidence (Ground 4A).

(b) GEMA had wrongly applied the efficiency benchmark to costs that had been removed from the regression model to account for regional differences (Ground 4B).

12.6 SGN submitted that GEMA's approach risked under-funding efficient GDNs' costs in RIIO-GD2 and potentially, if not corrected, future price controls. SGN

[639] In RIIO-2 the efficiency challenge was applied to the top down regression model (c. 86% of baseline totex) and non-regression analysis (c. 6% of baseline totex), however, not applied to technically assessed costs. Frontier Catch-up Efficiency Report, paragraph 3.1.10.
[640] SGN NoA, paragraph 523.

submitted that GEMA's approach was poorly justified regulation and was contrary to the interests of consumers.[641]

12.7 We have assessed Ground 4A and Ground 4B as sub-grounds of an overall ground on GEMA's approach to setting and applying the efficiency benchmark, and have provided our determination on Ground 4 overall.

Statutory grounds of appeal

12.8 With respect to these alleged errors, SGN submitted that GEMA's adoption of the 85th percentile benchmark in RIIO-2 was wrong within the meaning of section 23D(4) of GA86.

12.9 In particular, SGN submitted that:[642]

(a) GEMA had failed within the meaning of sections 23D(4)(a) and 23D(4)(b) of GA86, to have due regard/give appropriate weight to the performance of its duties under:

(i) section 4AA(1-1A) of GA86 (the consumer duty) – this was poorly justified regulation, contrary to the interests of consumers;

(ii) section 4AA(2)(b) of GA86 (securing that licence holders were able to finance their activities) – it risked underfunding RIIO-GD2 allowances;

(iii) section 4AA(5) of GA86 (promoting efficiency and economy) – GEMA had failed to apply a robust, evidence-based efficiency benchmark; and

(iv) the principles under which regulatory activities should be proportionate, consistent and targeted only at cases in which action was needed, as well as other principles of best regulatory practice (section 4AA(5A) of GA86);

(b) GEMA's decision was based on errors of fact within the meaning of section 23D(4)(c) of GA86, including a large number of model errors, data quality issues and an insufficient assurance process in GEMA's application of the RIIO-GD2 model; and,

(c) GEMA had erred as a matter of law within the meaning of section 23D(4)(e) of GA86 – with respect to (i) above and by acting

[641] SGN NoA, paragraph 524.
[642] SGN NoA, paragraph 531.

disproportionately, failing to have regard to material considerations, and reaching conclusions without adequate supporting evidence.

Materiality

12.10 SGN submitted that, if applying the CMA's approach to materiality,[643] the errors identified in its Ground 4 were sufficiently material to warrant the relief identified by SGN.[644]

12.11 SGN submitted that correcting the error identified in Ground 4A would result in an increase in its RIIO-GD2 allowances of at least approximately £2.8 million, accounting for 0.11% of SGN's totex allowance.[645] SGN submitted that correcting for the error identified in Ground 4B would result in a further increase in its RIIO-GD2 allowances of at least approximately £9.1 million.[646]

12.12 SGN noted for context that changes to the underlying data or model specification in GEMA's RIIO-GD2 modelling suite (eg through GEMA's error-correction process) had been shown to result in significant changes to the benchmark score (and therefore allowances). For example, using the upper quartile rather than the 85th percentile benchmark in GEMA's DD would have increased industry RIIO-GD2 allowances by £105 million and SGN's RIIO-GD2 allowances by around £30 million.[647]

12.13 SGN also submitted that the implications of GEMA's Decision extended beyond the immediate financial consequences for the companies concerned, and that this had a strong bearing on the materiality of GEMA's Decision. In support of this, SGN referred to *Northern Powergrid*[648] and *Firmus*[649], which it submitted highlighted the importance of taking into account (i) the potential impact on future price controls, and (ii) whether the matter related to a matter of economic or regulatory principle, which it submitted were directly relevant factors.[650]

[643] As set out in the CMA's letter to GEMA dated, 30 October 2019, paragraphs 3–11 (SGN1_030).
[644] SGN NoA, paragraph 529.
[645] SGN Response to GEMA Representations on Permission to Appeal, paragraph 5(i). See also SGN Reply, footnote 267.
[646] Frontier Economics (SGN), Reply to aspects of GEMA's response on the efficiency benchmark, page 16. SGN initially submitted that the value of the error was £4.3 million (SGN NoA, paragraph 525), however it subsequently updated this figure to £9.1 million.
[647] SGN NoA, paragraph 526.
[648] CMA's final determination of 25 September 2015 of Northern Powergrid's appeal of GEMA's ED1 price control.
[649] CMA's final determination of 26 June 2017 of Firmus's appeal of Northern Ireland Authority for Utility Regulation's price control.
[650] SGN NoA, paragraph 527.

SGN Sub-ground 4A

12.14 In this section we cover SGN sub-ground 4A, which concerns GEMA's decision to set the efficiency benchmark at the 85th percentile in RIIO-GD2, with a glide path from the 75th percentile to the 85th percentile over three years.[651]

12.15 The section is structured as follows:

(a) First, we provide background material including an overview of GEMA's approach to setting the efficiency benchmark at DD and FD.

(b) Second, we cover SGN's sub-ground of appeal 4A and the evidence submitted by SGN in relation to this sub-ground, as well as GEMA's response to SGN.

(c) Third, we provide our assessment.

(d) Finally, we provide our conclusion.

Background on the RIIO-2 draft and final determinations

GEMA's Draft Determination

12.16 At DD, GEMA proposed setting the efficiency benchmark at the 85th percentile, stating that it believed this was consistent with setting high but achievable expectations for GDNs' future efficiency gains, building on the improvements they were funded to deliver over RIIO-GD1.[652]

12.17 GEMA further explained the rationale for setting the efficiency benchmark at the 85th percentile in the Gas Distribution sector annex, and provided the following justifications:[653]

(a) The RIIO-GD2 process had led to improved comparability across GDNs, which in turn led to the development of robust models, better reflecting industry cost structures. These improvements resulted from (i) more detailed and extensive data collection via BPDT submissions, and (ii) significant work to normalise GDNs' data submissions through the use of adjustments and regional factors.

(b) In RIIO-GD1, cost allowances were around 8% lower than the GDNs' final submissions. GEMA went on to note that (i) all GDNs had consistently

[651] GEMA Response B, paragraph 255.
[652] GEMA DD Core Document, paragraph 5.10.
[653] GEMA FD GD Sector Annex, paragraphs 3.25–3.29.

outperformed their cost allowances to date while generally delivering a good quality of service, and (ii) the RIIO-GD1 annual reports highlighted continuous efficiency improvements.

(c) The results of GEMA's regression analysis confirmed an average yearly decrease in totex (everything else equal), as the estimated coefficient of the historical time trend was negative. Further, for the GDNs, actual totex over the period 2013/14 to 2018/19 was on average 14% lower than RIIO-GD1 allowed costs for RIIO-GD2, and 25% lower than the RIIO-GD1 final business plan submissions.

(d) GEMA also noted that all GDNs had stated in their business plans their ambition to be at or close to the frontier in RIIO-GD2.

GEMA's Final Determination

12.18 At FD, following consideration of the responses from stakeholders, GEMA revised its position and decided to set the efficiency benchmark at the 85th percentile for the last two years of RIIO-GD2, with a three year straight-line glide path from the upper quartile over the first three years of RIIO-GD2.[654]

12.19 GEMA stated that it continued to believe that the 85th percentile represented an appropriate target. It considered this efficiency benchmark was both reasonable and achievable, based on the level of GDNs' past outperformance under RIIO-GD1 and the ambitions all GDNs set out in their business plans to operate at the efficiency level of the frontier company.[655] GEMA stated that the inclusion of the glide path would provide a continuum from the level of efficient performance the GDNs committed to achieve by the end of RIIO-GD1, and the 85th percentile would thus apply only to the last two years of the price control.

12.20 GEMA noted that all respondents but one strongly disagreed with the DD position.[656]

12.21 GEMA stated that it did not accept that past regulatory decisions on the level of efficiency benchmark provided a restrictive precedent, nor a hard ceiling on the potential future levels of efficiency benchmark that a regulator could reasonably choose to apply.[657]

12.22 GEMA recognised that some of the RIIO-GD2 mechanisms aimed to mitigate outperformance. However, it did not agree with the respondents that further

[654] GEMA FD GD Sector Annex, paragraph 3.15.
[655] GEMA FD GD Sector Annex, paragraph 3.25.
[656] GEMA FD GD Sector Annex, paragraph 3.26.
[657] GEMA FD GD Sector Annex, paragraph 3.27.

cost efficiency gains could not be achieved in the future, given that observations from competitive markets highlighted that companies continually strive to match leading sector performance. GDNs had also consistently materially outperformed their historic price controls by improving efficiency.[658]

12.23 GEMA said that respondents to the DD had also noted the risk of over-relying on modelling results, which could be exposed to technical errors, and were derived from a single model. GEMA stated that two GDNs and one DNO questioned if the improved comparability across GDNs could be used as an argument for a tougher efficiency benchmark. GEMA said that they argued that it proposed the same range of pre-modelling adjustments as in RIIO-GD1.[659]

12.24 GEMA indicated that it considered the pre-modelling adjustments appropriate, given the increased sample size in RIIO-2 and the improved quality of the data collected via BPDTs and supplementary questions, as well as the assessment process since DD. GEMA was confident there was a substantial improvement in comparability between GDNs.[660] GEMA went on to note that, since DD, it had received further data and information which had allowed it to strengthen its pre-modelling normalisation of the GDNs and improve the representation of the GDNs in its totex model.[661]

12.25 GEMA noted that from an academic perspective, no specific percentile benchmark was recommended.[662]

12.26 GEMA recognised that regression analysis was subject to stochastic variation and that this was a key consideration when setting the efficiency frontier. Therefore it had carefully considered the stochastic variation observed in its totex modelling.[663] However, GEMA stated that the choice of the level of the efficiency benchmark also needed to consider the sector's history of efficiency benchmarks.[664]

12.27 GEMA stated that it had observed from other sectors such as water that setting a challenging efficiency benchmark remained in line with the regulatory goals of ensuring monopoly companies had the same incentives to deliver efficiency savings as they would have in a competitive market. GEMA noted that the CMA's provisional findings in the PR19 redetermination proposed to

[658] GEMA FD GD Sector Annex, paragraph 3.28.
[659] GEMA FD GD Sector Annex, paragraph 3.29.
[660] GEMA FD GD Sector Annex, paragraph 3.30.
[661] Additionally, GEMA stated that the increase in robustness of modelling is confirmed by the enhanced statistical performance of the regression model (adjusted R-square of 0.927 for FD modelling versus 0.865 for DD modelling), and narrower efficiency scores after error correction, each based on the additional analysis and modelling enhancements that has been undertaken since DD.
[662] GEMA FD GD Sector Annex, paragraph 3.31.
[663] GEMA FD GD Sector Annex, paragraph 3.31.
[664] GEMA FD GD Sector Annex, paragraph 3.32.

reduce only slightly the target set by Ofwat, and that the 75th percentile proposed by the CMA in the PR19 Redetermination still represented a very large increase from the 50th percentile adopted in PR14. GEMA stated that this reinforced the regulatory principle of continuing to raise the efficiency benchmark regulated companies should seek to achieve over time to operate ever closer to the frontier efficient company.[665]

12.28 Finally, two GDNs had commented in response to the DD that, unlike RIIO-GD1, the DD position did not account for the possibility of a glide path. In the FD, GEMA accepted that a glide path would foster a gradual rather than an immediate catch-up challenge for less efficient GDNs following the end of RIIO-GD1.[666]

SGN's Notice of appeal

12.29 SGN submitted that GEMA was wrong to suggest that its modelling was sufficiently robust to support setting the efficiency benchmark at a level higher than the upper quartile. SGN submitted that:[667]

(a) there were inherent factors that limited the level of confidence that could be attached to allowances derived from the model, including the limited sample size available to GEMA;

(b) statistical testing did not provide evidence of an improvement in model robustness capable of supporting a move beyond the upper quartile; and

(c) there were data input/model calculation errors, procedural shortcomings and data quality issues affecting GEMA's modelling which undermined the confidence that could be placed in its results.

12.30 SGN submitted that GEMA did not provide sufficient justification for setting the efficiency benchmark at a level higher than the upper quartile.[668]

12.31 Finally, SGN submitted that the glide path did not address any of its objections nor did it justify GEMA's move to an efficiency benchmark beyond the upper quartile.[669]

12.32 In this section we set out SGN's submissions under the following headings:

(a) Regulatory practice regarding model robustness.

[665] GEMA FD GD Sector Annex, paragraph 3.33.
[666] GEMA FD GD Sector Annex, paragraph 3.34.
[667] SGN NoA, paragraph 546.
[668] SGN NoA, paragraph 547.
[669] SGN NoA, paragraph 588.

(b) Inherent limitations with GEMA's modelling.

(c) Statistical testing does not provide evidence of an improvement in model robustness.

(d) Alleged data input/model calculation errors, procedural shortcomings, and data quality issues.

(e) GDNs' historic performance does not justify using the 85th percentile.

(f) GEMA's reliance upon GDNs' stated ambitions, the CMA's provisional decision in the PR19 Redetermination, academic literature and regulatory principles.

(g) GEMA's glide path does not address the issues outlined in SGN's submission.

Regulatory practice regarding modelling robustness

12.33 SGN submitted that there was no benchmarking exercise that could ever perfectly and unambiguously establish an objective 'frontier'. It said that whilst unexplained 'noise'/random variation between companies could be reduced, it was not possible to eliminate it entirely. Issues such as data comparability, missing variables, and other sources of bias/distortion would always exist.[670]

12.34 SGN submitted that it was against this background that GEMA and the CMA had opted to set the efficiency benchmark at the upper quartile in RIIO-GD1, RIIO-ED1 and in the CMA PR19 Redetermination.[671] SGN further noted that model robustness was a key consideration in determining the appropriate level of efficiency challenge and that had been emphasised by the CMA in *Bristol Water* (2015).[672] Challenges posed by a lack of model robustness were also considered more generally by the CC in *Northern Ireland Electricity* (2014).[673]

12.35 SGN concluded that the principle that could be drawn from previous regulatory practice was that the efficiency benchmark should recognise limitations in model robustness. It would therefore expect material advancements in model robustness to justify any movement in the efficiency benchmark higher than the upper quartile.[674]

[670] SGN NoA, paragraph 549.
[671] SGN NoA, paragraph 550.
[672] SGN NoA, paragraph 555.
[673] SGN NoA, paragraph 556.
[674] SGN NoA, paragraph 557. See also SGN Main Hearing Transcript, 5 July 2021, pages 10–11 and 25–26.

Inherent limitations with GEMA's modelling

12.36 SGN submitted there were two main factors that materially limited the level of confidence that could be attached to allowances derived from the RIIO-GD2 model, these being:

(a) the sample size; and

(b) the model specification.

Sample size

12.37 SGN submitted that cross-sectional variation was limited due to there being only eight GDNs and four management groups in the GD sector.[675] The available sample was much larger in other sectors.[676]

12.38 Regarding the number of years of data used by GEMA, SGN submitted the following:[677]

(a) Combining historical and forecast data did not overcome the issues associated with a limited cross-sectional sample. There was a limit on the amount of additional variation that additional years of data could add, compared to adding companies.

(b) The combination of historical and forecast data raised further issues of model robustness. In particular, almost half of the sample was made up of forecast data.

(c) While forecast data could provide helpful information about expected changes in future costs, there was also inherent uncertainty and risks surrounding cost forecasting.

12.39 SGN submitted a catch-up efficiency report by its advisers, Frontier Economics[678] (**the Frontier Catch-up Efficiency Report**), which it relied upon in its entirety in support of Ground 4.[679] In relation to paragraph 12.38(a) above, the report decomposed the variation in GEMA's totex into the variation between companies (ie cross-sectional) and the variation within companies (ie across time).[680] The report said that the results of this analysis showed that

[675] SGN NoA, paragraph 560. See also SGN Main Hearing Transcript, 5 July 2021, pages 11–12.
[676] In particular, SGN noted that in RIIO-ED1 the sample size was 14 licensees and six ownership groups, and in PR19, the sample size was 17 water companies and 10 waste-water companies.
[677] SGN NoA, paragraph 560.
[678] Frontier submissions referred to in this chapter were on behalf of SGN.
[679] SGN NoA, paragraph 522.
[680] Frontier Catch-up Efficiency Report, paragraph 4.3.19.

the variation in totex was driven far more by differences between companies, than by differences over time for a single company.[681]

12.40 The Frontier Catch-up Efficiency Report also considered how much of the variation in totex could be explained only by binary variables which took a value of one for a given GDN and zero for all other GDNs. Each of these binary variables captured, for the GDN, its average level of cost relative to one GDN which was held constant.[682] The report contended that, based on the model having an R-squared of 0.953, the results of this analysis showed that most of the variation within the model (and therefore the explanatory power) came from variation across the companies rather than variation over time.[683]

12.41 In relation to paragraph 12.38(b) above, the Frontier Catch-up Efficiency Report stated that forecast data could potentially enhance the regression by providing helpful information about expected changes in future costs. However, there were also risks to model robustness associated with the use of forecast data.[684] It quoted GEMA's sector specific methodology that explained two issues. First, forecasting could vary by GDN, which potentially undermined the comparability of costs between GDNs. Second, forecasts were inherently uncertain, so using them to inform cost allowances, when past costs are not a good indicator of the future, would undermine confidence in cost allowances. The report noted that GEMA's expressed rationale for not using eight years of forecast data in RIIO-GD1 was because it considered the underlying data was of poorer quality.

12.42 In relation to paragraph 12.38(c) above, the Frontier Catch-up Efficiency Report noted that issues arose from the combination of historical and forecast data in a single model. It said it was possible that there were structural differences in the relationships between costs and cost drivers between the historical data and the forecast data.[685]

12.43 SGN made a further point in relation to sample size which was that, given the sample of eight licensees, the 85th percentile efficiency score was overwhelmingly driven by the efficiency score of the second ranked company.[686]

[681] Frontier Catch-up Efficiency Report, paragraph 4.3.19.
[682] Frontier Catch-up Efficiency Report, paragraph 4.3.20.
[683] Frontier Catch-up Efficiency Report, paragraph 4.3.21.
[684] Frontier Catch-up Efficiency Report, paragraph 4.3.23.
[685] Frontier Catch-up Efficiency Report, paragraph 4.3.25.
[686] SGN NoA, paragraph 561.

Aspects of model specification

12.44 With regard to the model specification, SGN submitted that the small sample size placed a limit on the number of explanatory variables that could be included in the model.[687]

12.45 The Frontier Catch-up Efficiency Report explained that because of the limit on the number of explanatory variables that could be included, GEMA used a weighted average of a number of cost drivers in a single variable. This was called a Composite Scale Variable (**CSV**).[688] The report explained that ideally the model would capture multiple (independent and relevant) cost driver variables separately, and therefore directly estimate the individual relationships between those variables and cost. However, due to the use of a single cost driver (along with time trends) the model could not capture all of the factors driving cost, and therefore the reasons (other than inefficiency) for differences in costs across companies.[689]

Statistical testing does not provide evidence of an improvement in model robustness

12.46 SGN submitted that GEMA's comparison between its models at RIIO-GD2 DD and FD was not relevant, and that the relevant comparison would be between RIIO-GD1 and RIIO-GD2 because GEMA had moved from the upper quartile at RIIO-GD1 to a higher efficiency benchmark for RIIO-GD2. In relation to this, SGN submitted that the relevant comparison between RIIO-GD1 and RIIO-GD2 did not show evidence of an improvement in model robustness at RIIO-GD2, compared to RIIO-GD1.[690]

12.47 SGN submitted that the relevant comparison of the range of efficiency scores at RIIO-GD1 compared to RIIO-GD2 showed that the range was in fact more variable than the previous RIIO-GD1 results. This suggested there should be less confidence in increasing the efficiency challenge.[691] SGN submitted the following evidence in support of this:

(a) The adjusted R-squared values at RIIO-GD2 DD were lower than at RIIO-GD1, while the RIIO-GD2 FD values were broadly in line with those calculated at RIIO-GD1.[692]

[687] SGN NoA, paragraph 562.
[688] Frontier Catch-up Efficiency Report, paragraph 4.3.35.
[689] Frontier Catch-up Efficiency Report, paragraph 4.3.37.
[690] SGN NoA, paragraph 565.
[691] SGN NoA, paragraph 565.
[692] SGN NoA, paragraph 566.

(b) There had not been a reduction in the range of efficiency scores between the RIIO-GD1 and RIIO-GD2 models (rather, there had been an increase).[693]

12.48 SGN said that GEMA's advisers, CEPA, considered the upper quartile reasonable and recommended that GEMA should only move away from it if certain tests were met. One of these was that there should be a narrower distribution of efficiency scores.[694]

Alleged data input/model calculation errors, procedural shortcomings and data quality issues

Data input/model calculation errors

12.49 SGN submitted that the substantial volume and materiality of the errors at both DD and FD showed that the process which GEMA undertook to verify and assure the data, and the model assurance process, was not adequate. SGN said this called into question the robustness of GEMA's modelling and, accordingly, the confidence that could be placed in the results.[695]

12.50 The Frontier Catch-up Efficiency Report noted that GEMA had corrected 27 separate errors in its DD, resulting in an increase in RIIO-GD2 industry allowances of £238 million.[696] SGN noted the following errors in the DD:[697]

(a) basic spreadsheet errors;

(b) data input errors; and

(c) conceptual calculation errors.

12.51 The Frontier Catch-up Efficiency Report noted that GEMA had corrected a further 20 errors in its FD, resulting in an increase in RIIO-GD2 industry allowances of £140 million.[698] SGN noted the following errors in the FD:[699]

(a) basic spreadsheet errors; and

(b) incorrect lookup identifiers, resulting in regional adjustments not being applied for capex categories for some GDNs.

[693] SGN NoA, paragraph 566.
[694] SGN NoA, paragraph 567.
[695] SGN NoA, paragraph 571. Additionally, SGN submitted the full extent and materiality of these errors in *Bedford 1 (SGN)*, paragraphs 26–42.
[696] Frontier Catch-up Efficiency Report, paragraph 4.5.16.
[697] SGN NoA, paragraph 572.
[698] Frontier Catch-up Efficiency Report, paragraph 4.5.16.
[699] SGN NoA, paragraph 573.

12.52 The Frontier Catch-up Efficiency Report also noted that it was possible that further data errors remained in the models.[700] SGN submitted that allowances had been misallocated between expenditure 'pots'. This meant that the licences remained inaccurate, with errors in the allocation of allowances to different outputs.[701]

Procedural shortcomings

12.53 SGN submitted that there were a number of procedural shortcomings which suggested insufficient internal quality assurance in the preparation of GEMA's modelling suite. This further undermined the robustness of GEMA's modelling.[702] For example, SGN said that GEMA introduced changes in methodology between DD and FD without allowing sufficient time to assure these changes.[703]

Data quality issues

12.54 SGN submitted that GEMA had not provided any evidence to support its assertion that the data quality had improved. SGN provided two examples of data quality issues that it said became apparent over the course of the RIIO-GD2 price control process.[704, 705]

12.55 The Frontier Catch-up Efficiency Report considered the data quality used in GEMA's cost assessment. The report noted that while Frontier had not undertaken a detailed review of the data used by GEMA in its model, it had identified four specific issues that should have given GEMA cause to exercise caution when setting the benchmark.[706] These specific issues were the following:

(a) The use of the 85th percentile meant that industry allowances were sensitive to small changes in cost. This was because the underlying cost and cost drivers for the company setting the benchmark would affect allowances for the whole industry.

[700] Frontier Catch-up Efficiency Report, paragraph 4.5.17.
[701] SGN NoA, paragraph 574.
[702] SGN NoA, paragraph 576. SGN submitted further information regarding these and other procedural shortcomings associated with GEMA's costs assessment and modelling in *Bedford 1 (SGN)*, paragraphs 15–25 and 43–44.
[703] SGN NoA, paragraph 577. See also *Bedford 1 (SGN)*, paragraphs 18 and 24–31.
[704] SGN NoA, paragraph 579. SGN Main Hearing Transcript, 5 July 2021, pages 17 to 19. Additionally, *Bedford 1 (SGN)* sets out SGN's concerns regarding certain procedural aspects of RIIO-2 which SGN believe may have had an adverse impact on the robustness of the cost assessment model.
[705] The examples provided were: (i) WWU's inaccurate forecasting of one of the cost drivers used in the CSV, which directly affected the regression estimates and efficiency scores at FD (SGN notes that GEMA rectified this error in its final, corrected FD), and (ii) the evidence from GEMA's modelling outputs suggests that there are difficulties with identifying the extent to which costs (such as labour costs) are driven by regional differences.
[706] Frontier Catch-up Efficiency Report, paragraph 4.5.4.

(b) There were some important data adjustments in GEMA's modelling (eg regional adjustments) that were imprecise by nature. The evidence from GEMA's modelling outputs suggested that some outliers in the data may still exist.

(c) GEMA relied heavily on forecast data which was inherently uncertain and subject to differences in forecasting approaches across companies.

(d) At the time of the DD when GEMA made the decision to set the benchmark at the 85th percentile on the basis of improved data quality and comparability across GDNs, material errors still remained which were subsequently corrected.

GDNs' historical outperformance did not justify adopting the 85th percentile

12.56 SGN said that the efficiency challenge should be based on the assessment of model quality rather than seeking specific outcomes based on past outperformance. SGN submitted that this position was supported by the CMA's recent PR19 Redetermination.[707]

12.57 SGN also submitted that the past outperformance in RIIO-GD1 did not imply that the upper quartile benchmark was wrong for RIIO-GD1, or that the efficiency benchmark should be increased for RIIO-GD2. SGN stated that there were a number of drivers for outperformance at RIIO-GD1, which had been removed for RIIO-GD2, including the following:[708]

(a) Outperformance that arose from the allowances for RPEs. This accounted for 57% of all totex outperformance in RIIO-GD1.

(b) RIIO-GD1 saw significant innovation that reduced unit costs and could not be replicated again (for instance with respect to deployment of live insertion techniques). These unit costs were reflected in the RIIO-GD1 historical costs and in the RIIO-GD2 forecasts.

(c) The IQI interpolation mechanism had been removed for RIIO-GD2.

12.58 Finally, SGN submitted that the benefits of RIIO-GD1 outperformance would flow into the RIIO-GD2 cost-setting process through the 'natural ratchet' effect, even if the upper quartile were retained.[709]

[707] SGN NoA, paragraph 584.
[708] SGN NoA, paragraph 585. See also SGN Main Hearing Transcript, 5 July 2021, pages 20–22.
[709] SGN Closing Statement, paragraph 54.

GEMA's reliance upon GDNs' stated ambitions, the CMA's provisional decision in the PR19 Redetermination, academic literature and regulatory principles

12.59 SGN submitted that while there may be no specific benchmark recommended in academic literature (or in the CMA's provisional decision in the PR19 Redetermination), it was clear that setting the efficiency benchmark should take into account the level of confidence in the econometric modelling and data.[710]

12.60 SGN submitted that GEMA's modelling was not sufficiently robust, and therefore neither GEMA nor the GDNs could have any confidence that the models used were capable of accurately identifying the frontier.[711] Accordingly, any arguments regarding GEMA (or GDNs) wanting to be ambitious and encourage and/or achieve frontier-level performance fell away.[712]

GEMA's glide path does not address the issues outlined in SGN's submission

12.61 SGN submitted that a mean efficiency benchmark calculated over RIIO-GD2 remained well above the upper quartile at the 81st percentile. Furthermore, the overall effect remained: to move to a benchmark set at the 85th percentile in the last two years of RIIO-GD2.[713]

GEMA's Response to SGN's Notice of appeal

12.62 In this section we set out GEMA's submissions in response to the NoA under the following headings:

(a) Background information provided by GEMA.

(b) GEMA's Response to the ground of appeal

(c) GEMA's views on materiality.

12.63 GEMA submitted that setting a tough efficiency target was well within the reasonable scope of its regulatory discretion, and it was therefore not wrong to do so. GEMA submitted that, by setting a tough efficiency target, it had pursued its regulatory objectives, and this benefited consumers.[714] Further,

[710] SGN NoA, paragraph 587.
[711] SGN NoA, paragraph 587.
[712] SGN NoA, paragraph 587.
[713] SGN NoA, paragraph 588.
[714] GEMA Response B, paragraph 256.

GEMA noted that it had a choice about where to set the efficiency benchmark within the range of the results from the modelling process.[715]

12.64 GEMA stated that it had used its expert judgement and had had regard to a range of factors.[716]

12.65 GEMA stated that in reaching its final decision it wanted to:

(a) challenge all GDNs in the sector to continue to strive to match the performance as if they operated in a competitive market; and

(b) ensure that consumers were not paying for an excessive inefficiency relative to a notional efficient company.[717]

12.66 However, GEMA also recognised that it needed to set an achievable efficiency benchmark for the sector for the price control period. Given its modelling results, GEMA concluded that an appropriate and achievable challenge was to implement a glide path from the 75th to the 85th percentile. In making its decision, GEMA relied on:

(a) improvements in the data that increased its confidence in the cost modelling process and its results; and,

(b) the RIIO-2 efficiency benchmark in absolute, rather than percentile terms, was not materially more challenging than the benchmark set at RIIO-GD1.[718,719]

Background information provided by GEMA

12.67 GEMA explained that setting a suitably stretching efficiency benchmark played an important role in ensuring value for money for consumers. GEMA used this challenge to ensure that the companies had strong incentives to share best practice and learn from each other, thereby ensuring that the benefits of efficiency improvements were shared by consumers across GB.[720]

[715] GEMA Response B, paragraph 257. In particular GEMA stated 'It could for example be set at the median – i.e. at the halfway point between the least efficient GDN and the most efficient, or 'frontier', GDN – or it could be set at the frontier, in which case all GDNs would be required to meet the highest benchmark of efficiency. GDNs performing behind the benchmark have their totex allowances reduced to the benchmark and are expected to "catch up" to it.'
[716] GEMA Response B, paragraph 261.
[717] *Wagner 5 (GEMA)*, paragraph 54.
[718] *Wagner 5 (GEMA)*, paragraph 55.
[719] GEMA made a correction to *Wagner 5 (GEMA)* which is explained in *Wagner 8 (GEMA)*, paragraph 6. This corrected a previously incorrect statement in relation to the absolute level of the efficiency challenge that suggested that 'the RIIO-2 efficiency benchmark (in absolute, rather than percentile terms) sits firmly within the range of challenges applied in RIIO-GD1.'
[720] *Wagner 5 (GEMA)*, paragraph 16.

Evidence of past outperformance

12.68 GEMA explained that every GDN was forecast to outperform materially against RIIO-GD1 allowances and against its own forecast costs.[721] The lowest forecast level of outperformance against actual allowances was 1.6%, the highest was 19%. The industry average outperformance compared to actual spending was forecast at 10.3% (nearly £2 billion) and outperformance compared to the GDNs' RIIO-GD1 BPDT submissions was forecast at 22.6%, or £5 billion.

12.69 GEMA recognised that some of the RIIO-GD2 mechanisms aimed to mitigate outperformance but disagreed that further cost efficiency gains could not be achieved in the future.[722] It noted that the GDNs had asserted on numerous occasions that efficiency gains had played a significant role in achieving that outperformance.[723]

GDNs' expressed ambition to operate at the efficiency level

12.70 GEMA stated that all but one GDN had expressed an ambition in their business plans to operate at the efficiency level of the frontier network company, which GEMA considered to be reasonable and achievable. GEMA said that SGN had said it was committed to delivering a further £76 million productivity gains in RIIO-GD2, a rate three times the national average forecast by the BoE. SGN had said it believed that this would maintain its position among the most efficient networks in the sector.[724]

The RIIO-GD2 efficiency benchmark was not materially more challenging than the RIIO-GD1 benchmark

12.71 GEMA submitted that the strength of the efficiency benchmark in absolute terms would vary according to the distance between the benchmark and the industry average level of efficiency. It explained that it would depend on: (i) the dispersion of efficiency scores; (ii) the position of particular network companies within the dispersion; and (iii) the percentile chosen.[725]

12.72 GEMA contended that the strength of the challenge implied by the efficiency benchmark at RIIO-GD2 was materially similar to that which would be implied by use of the upper quartile. It was also similar to that used at RIIO-GD1.[726]

[721] GEMA Response B, paragraph 266.
[722] GEMA Response B, paragraph 267.
[723] Including SGN in its 2019 Regulatory Financial Performance Report.
[724] GEMA Response B, paragraph 268.
[725] GEMA Response B, paragraph 273.
[726] GEMA Response B, paragraph 273.

GEMA's RIIO-GD2 modelling

- *Data quality measures*

12.73 GEMA submitted that the quality, detail and comparability of the data which it had collected for the purposes of the RIIO-GD2 cost assessment process was a key material distinction from the situation which had pertained at RIIO-GD1. The following relevant measures were implemented to improve data quality:[727]

(a) GEMA introduced Regulatory Instructions and Guidance (**RIGs**) which provided a framework for the collection of data from the GDNs during the RIIO-GD1 period in a consistent format. GEMA submitted that the RIGs had improved the consistency of the reported data and so increased the accuracy of the benchmarking.

(b) At the RIIO-GD1 price control, GEMA introduced Standard Licence Condition A55, a licence condition concerning data quality. Standard Licence Condition A55 requires licensees to undertake data assurance activities such as internal expert reviews and external audits to reduce and manage the risk of incomplete or inaccurate reporting to GEMA. GEMA submitted that the increased assurance in relation to data collected during RIIO-GD1 had improved GEMA's confidence in the reliability of that data.

(c) GDNs were required to publish annual reports for the first time during RIIO-GD1, giving details of their performance against agreed outputs and incentives and their overall financial performance. These annual reports underwent internal and external quality assurances and were available to the public. GEMA submitted that they materially improved transparency between the GDNs and gave GEMA greater confidence in the data which it gathered from them.

(d) In relation to the data gathered for RIIO-GD2, GEMA undertook an extensive and iterative process of raising supplementary questions in relation to the information contained in GDNs' business plans. In total, GEMA asked over 1,000 questions on policy, engineering and costs aspects of the GDN submissions. GEMA submitted that through this it gathered significant further information and a better understanding of the GDNs' data, which fed into increased confidence in the pre-modelling normalisation of the GDNs' costs.

[727] GEMA Response B, paragraph 276.

12.74 GEMA submitted that these measures gave it a high degree of confidence in the data that was inputted into its regression analysis, and that the improved data was apt to lead to more robust results.[728]

- *Pre-modelling normalisation and adjustments*

12.75 In RIIO-GD2 GEMA undertook the following normalisations, which it considered to be appropriate and to ensure comparability between the GDNs' submitted costs:[729]

(a) It removed from each GDN's submitted costs the company's assumption of its OE.

(b) It excluded historical costs which were previously classified as controllable costs but were now classified as non-controllable costs.[730]

(c) It made volume related adjustments to specific cost activities that did not satisfy a needs case.

(d) It made reclassifications where it considered that a GDN reported certain cost activities incorrectly or differently to the majority of GDNs.

(e) It removed certain costs for separate assessment, in particular technical assessment or non-regression assessment.

(f) In order to ensure comparability between GDNs, it applied pre-modelling adjustments to submitted totex costs to reflect differences in regional labour, urbanity and sparsity.

- *Regression analysis*

12.76 GEMA submitted that using 13 years of cost data (seven years of historical data from RIIO-GD1 and six years of forecast data from RIIO-GD2) represented a material increase in the length of time series data from RIIO-GD1, where it had been able to use only four years of historical data and two years of forecast data.[731] Further, it also had a higher degree of confidence in the quality of the data it received from GDNs and the comparability of that data.

[728] GEMA Response B, paragraph 277.
[729] GEMA Response B, paragraph 278.
[730] In addition, it excluded capex relating to historical large projects (above £5 million), in order to align with its approach for forecast large projects, and maintain a consistent dataset over the 13-year period. It also excluded pass-through items and costs it proposed to be subject to an uncertainty mechanism.
[731] GEMA Response B, paragraph 281.

12.77 GEMA submitted that adopting a single top-down model with a composite scale driver represented a different approach from the approach it had adopted at RIIO-GD1, where it had used both top-down and bottom-up models which were then combined using equal weights.[732] In support of this, GEMA referred to its FD 'Step by Step Guide to Cost Assessment' which stated that 'using a single top-down model better accounts for cost complementarities, trade-offs and potential reporting inconsistencies between GDNs than alternative approaches'.[733]

12.78 GEMA submitted that its use of the CSV was a pragmatic means of incorporating relevant costs drivers, notwithstanding the limits to the sample size imposed by the fact that there were only eight GDNs.[734]

12.79 GEMA submitted that it carried out various tests of its modelled results in order to verify the robustness of the model.[735] These were:

(a) considering the range and distribution of efficiency scores which were generated by its regression analysis;

(b) an adjusted R-squared test which indicated how much variation of totex was explained by totex CSV in the regression model;

(c) statistical tests including normality, heteroskedasticity, pooling, and RESET;

(d) alternative specification testing;

(e) sensitivity tests, including removing individual years or GDNs; and

(f) ensuring that the final totex model was robust to different estimation techniques, namely a random effects estimator and a stochastic frontier analysis.

GEMA's Response

12.80 GEMA's response to the ground of appeal focused on two areas:

(a) that GEMA took into account a range of factors in determining the efficiency benchmark and was entitled to do so; and

(b) the robustness of GEMA's model.

[732] GEMA Response B, paragraph 282.
[733] GEMA Response B, paragraph 282.
[734] GEMA Response B, paragraph 282.
[735] GEMA Response B, paragraph 283.

The range of factors considered

12.81 GEMA submitted that it did not dispute the broad principle that the robustness of the model was one of the factors which should be considered in determining the efficiency benchmark. Differences in costs between GDNs may be driven by statistical noise (ie unexplained variability in the data) which did not relate to relative efficiency.[736] GEMA argued that it had properly had regard to this factor and correctly considered that the model was sufficiently robust to support its decision. However, the choice of the efficiency benchmark amounted to an exercise of regulatory judgement, which followed consideration of a wide range of factors beyond solely the robustness of the model.

12.82 GEMA submitted that it was lawfully entitled to take a wide range of factors into account.[737] None of the regulatory precedents to which SGN referred suggested that it was illegitimate for GEMA to have taken into account these further factors, or that the upper quartile was the only option lawfully open to it.[738]

12.83 GEMA made the following observations with respect to the CMA's provisional findings in the PR19 Redetermination:[739]

(a) The CMA had listed various factors which might be relevant to the setting of the efficiency benchmark.[740] Although the CMA had decided to place 'little or no weight' on these factors and instead to focus on 'whether there had been substantial improvements in the econometric modelling' it ultimately decided that '[t]aking these factors into account, we [the CMA] provisionally decide that the upper quartile is the appropriate level of the efficiency benchmark, as this balances our objective of setting a challenging benchmark while acknowledging the limitations of the econometric modelling (and the consequent risk that the company will have insufficient allowed revenue to ensure a base level of service).'[741] On this basis, GEMA submitted that, it was clear that the CMA took into account the need to set a challenging benchmark in addition to the limitations of its modelling.

(b) Although the CMA stated that the 'evidence of past performance' did not 'itself justify a tougher efficiency challenge', this was in the context of 'relatively modest underspend' of 1.4% 'the causes of which were not

[736] GEMA Response B, paragraph 287.
[737] GEMA Response B, paragraph 287.
[738] GEMA Response B, paragraph 288.
[739] GEMA Response B, paragraph 289.
[740] CMA PR19 Provisional Findings, paragraph 4.295.
[741] CMA PR19 Provisional Findings, paragraph 4.294–4.295.

clear'. GEMA submitted that the CMA's observations could not be readily transferred to a different price control using a different model in a different sector, in which previous outperformance had been at much higher levels.

12.84 GEMA submitted that SGN's contention that past outperformance of the GDNs during the RIIO-GD1 price control period did not justify adopting the 85th percentile benchmark was misplaced:[742]

(a) GEMA referred to a comment in the CMA's PR19 Provisional Findings cited by SGN in support of its case, that the CMA 'found that it was more appropriate to set the efficiency challenge based on our assessment of the quality of the econometric modelling, rather than to seek specific outcomes'.[743] GEMA submitted that SGN took the quote out of context, and that the CMA was not saying that it was illegitimate to have regard to previous outperformance; rather, it was referring to the fact that Ofwat had during PR19 sought to increase the efficiency benchmark because it had fallen throughout the various stages of PR19. The CMA considered that modelling robustness was a more important consideration than targeting a specific cost reduction. Ofwat's position at PR19 was different to GEMA's objective of raising the challenge compared to a previous price control. The CMA's reasoning on this point in its PR19 Redetermination Final Report is very similar.[744]

(b) GEMA submitted that the fact that it had taken steps to mitigate previous outperformance does not mean that efficiency improvements – including improvements enabling network companies to catch up to the efficiency benchmark – would be impossible in the future. GEMA further noted that (i) certain GDNs themselves had asserted that efficiency gains had played a part in achieving the outperformance at RIIO-GD1, and (ii) at the midpoint of RIIO-GD1, GEMA projected that RPEs would account for only 4% of an outperformance forecast to be 12%.

12.85 Finally, GEMA submitted that it was entitled to have regard to the fact that the GDNs themselves had indicated a desire to improve efficiency and operate at the level of the frontier. This consideration did not 'fall away' in circumstances where there might be doubts about which GDN represented the frontier.[745]

[742] GEMA Response B, paragraph 290.
[743] SGN NoA, paragraph 584.
[744] GEMA Response B, paragraph 290.
[745] GEMA Response B, paragraph 291.

The robustness of GEMA's model

- *Alleged limitations arising from the sample size*

12.86 GEMA submitted that it had relied on 13 years of data in RIIO-GD2 and this represented an increase in the length of time series data input into the model. This enabled it to better capture the relationship between costs and cost drivers over time, which it was entitled to consider made some contribution to its robustness.[746]

12.87 In response to SGN's contentions that (i) there was a limit on the amount of additional variation which additional years of data could add, (ii) the combination of historical and forecast data in a single model raised further issues of model robustness; and (iii) there was inherent uncertainty and risks surrounding cost forecasting, GEMA submitted the following:[747]

(a) It accepted that the cross-sectional sample of eight GDNs placed a limitation on its model, which further years of data could not entirely overcome. However, it was nevertheless correct to say that further years of data should increase the accuracy of the modelled results and were apt to improve confidence.

(b) It denied that using a mix of historical and forecasting data 'raises further issues of model robustness' and submitted the following:

(i) In response to SGN's argument that combining real world outcomes in the form of historical data with forecast data could create issues in the form of the inherent uncertainty surrounding forecast data, GEMA said that although it was correct to say that there was inevitable uncertainty surrounding forecast data, it did not follow that no reliance could be placed on it. GEMA stated that the Frontier Catch-Up Efficiency Report accepted that 'Forecast data can potentially enhance the regression by providing helpful information about expected changes in future costs'. Further, GEMA noted that SGN itself further agreed in its response to DD with the use of forecast data as follows: 'We broadly agree with Ofgem's regression approach in terms of selected aggregation level, estimation technique and time period. Ofgem should utilise the data it has available from across the RIIO-GD1 period to provide a sense-check on the viability of forecast

[746] GEMA Response B, paragraph 295.
[747] GEMA Response B, paragraph 296. Text updated in an email from GEMA to the CMA 'RE: GEMA submission queries - SGN4', 26 July 2021.

data'. GEMA stated that it also placed reliance on forecast data at RIIO-ED1.

(ii) GEMA's use of six years of forecast data was further counter-balanced by its use of seven years of historical data.

(iii) GEMA presented and discussed the estimation results using alternative time periods with GDNs in the Cost Assessment Working Groups.

(iv) Before FD, GEMA tested how the model would perform with only historical data (2013 to 2019) and only forecast data (2020 to 2026). In both cases, it performed acceptably well and similarly to the model when using both historical and forecast data, with a high R-squared score and similar CSV coefficients.

12.88 In response to SGN's argument at paragraph 12.43, GEMA submitted the following. While SGN was correct that the 85th percentile efficiency score was driven by the performance of the second-ranked network company, given that the cross-sectional sample is limited to eight GDNs, the efficiency benchmark would be strongly influenced by the closest-ranked network company wherever it was set. Accordingly, this could not itself amount to a reason why selecting the 85th percentile was inappropriate. In any event, GEMA mitigated this issue by implementing a glide path from the upper quartile in the first year of RIIO-GD2 to the 85th percentile in the last two years of RIIO-GD2.[748]

12.89 In response to SGN's argument at paragraph 12.44, GEMA submitted the following. The use of a CSV was a practical solution which allowed it to use a rich set of information notwithstanding the limited cross-sectional sample. The model also included several scale and workload variables and captured the relevant drivers of the different cost activities. GEMA further submitted that it did not follow from GEMA's use of a CSV that relevant costs drivers were omitted. SGN's argument amounted to little more than an argument that GEMA's model would be better if it had a materially larger cross-sectional sample, which would have allowed it to include more variables.[749]

- *Statistical testing*

12.90 In response to SGN's contentions at paragraphs 12.46 to 12.48, GEMA submitted the following:[750]

[748] GEMA Response B, paragraph 297.
[749] GEMA Response B, paragraph 298.
[750] GEMA Response B, paragraph 300.

(a) SGN was wrong to contend that a comparison between the performance of the model at FD and DD was not relevant. The improved performance of the model at FD compared with DD indicated that GEMA had refined the quality of the model and data on which it relied.[751]

(b) GEMA rejected the premise that it would only be permissible to raise the efficiency benchmark in circumstances where it was confident that the model had materially improved since RIIO-GD1.[752]

(i) The model was only one of a range of factors to which it correctly had regard in selecting the efficiency benchmark.

(ii) The efficiency benchmark was not significantly more challenging than that used at RIIO-GD1 and was well within the range of regulatory precedents.

(iii) GEMA legitimately had much greater confidence in the quality and detail of the data which it had gathered in the RIIO-GD2 process.

(iv) GEMA denied that the RIIO-GD2 model was less robust than that used at RIIO-GD1. When the confidence intervals of cost predictions of the RIIO-GD1 models were compared against those of the RIIO-GD2 model the RIIO-GD2 model looked on average more accurate.

(c) SGN's argument that the move to the 85th percentile was 'contrary to the criteria set by GEMA itself' was without merit. GEMA had confidence in the data and in the variability of the modelling results.[753]

- *Alleged data input / model calculation errors, procedural shortcomings, and data quality issues*

12.91 GEMA submitted that the fact that errors had been detected and subsequently corrected following DD was a normal part of any price control and instead demonstrated the efficacy of the quality assurance process which GEMA undertook. It therefore justified further confidence in the model. GEMA stated that while it could not rule out the possibility that further errors remained in such a complex modelling suite, it considered that the effectiveness of the error correction process hitherto should enhance its confidence rather than undermine it.[754]

[751] GEMA Response B, paragraph 301.
[752] GEMA Response B, paragraph 302.
[753] GEMA Response B, paragraph 303.
[754] GEMA Response B, paragraph 305.

12.92 In relation to SGN's contention at paragraph 12.52, GEMA submitted that the relative allocation of expenditure pots did change post-FD to accurately reflect Network Asset Risk Metric (**NARM**) outputs. These changes would be picked up in standard housekeeping licence modifications, which was standard practice in all price controls. In any event, GEMA considered that this did not affect the licensees' overall totex and so did not undermine confidence in the model for the present purposes.[755]

12.93 With respect to the procedural shortcomings alleged by SGN at paragraph 12.53, GEMA submitted the following:[756]

(a) There was not any material procedural deficiency in relation to its modelling suite, and the GDNs were given ample opportunity to scrutinise the model and did so.

(b) SGN's submissions principally concerned the identification of errors, and the fact that such errors were identified indicated that GDNs had sufficient opportunity to interrogate the model and bring errors to GEMA's attention.

(c) Any procedural shortcomings of the kind described by SGN would themselves be insufficient to impugn GEMA's confidence in the model.

12.94 In relation to the data quality issues alleged by SGN in paragraphs 12.54 to 12.55, GEMA submitted that it was entitled to consider that the data it had gathered during the RIIO-GD2 process was materially better than that which was available to it at the start of RIIO-GD1.[757] GEMA had corrected the issue relating to WWU's inaccurate forecasting (as noted by SGN), and GEMA's approach to regional factors best endeavoured to capture regional differences in labour costs.[758]

Glide path

12.95 With respect to its use of a glide path, GEMA submitted that the effective efficiency benchmark which it selected was materially lower than the 85th percentile, and the glide path in fact reduced the efficiency benchmark to 81% on average. Finally, GEMA submitted that, for the reasons set out in its Response as detailed above, it was lawfully entitled to set the efficiency benchmark at that level in the exercise of its regulatory discretion.[759]

[755] GEMA Response B, paragraph 305. Text updated in an email from GEMA to the CMA 'RE: GEMA submission queries - SGN4', 26 July 2021.
[756] GEMA Response B, paragraph 306.
[757] For the reasons given at paragraph 276 in GEMA Response B.
[758] GEMA Response B, paragraph 307.
[759] GEMA Response B, paragraph 308.

GEMA's views on materiality

12.96 GEMA submitted that the CMA should dismiss SGN's Ground 4 on the basis of low materiality for the following reasons:[760]

(a) The impact of GEMA's decision in relation to SGN Ground 4A was only £2.8 million, or 0.11% of SGN's FD totex allowance.[761]

(b) The impact of not using the upper quartile as the efficient cost benchmark across all GDNs was estimated to be around £7.5 million, which was only around 0.08% of all totex allowances.

(c) SGN had not identified any clear and obvious factual error which should be corrected notwithstanding the very low materiality. GEMA's selection of the efficiency benchmark amounted to the exercise of regulatory judgement and discretion. It could not be said to have materially erred by choosing one from a range of reasonable regulatory options.

SGN's Reply to GEMA's Response

12.97 In this section we summarise the arguments made by SGN in its reply to GEMA's Response.

Inherent limitations of the model

12.98 SGN submitted that GEMA was wrong to assert that it could, in fact, have set the efficient frontier benchmark using the costs of the first placed company.[762] SGN stated that doing so would guarantee that some of the 'catch-up' challenge imposed by GEMA was not a reasonable or legitimate estimate of managerial inefficiency but rather included a component of normal statistical error. This was precisely why regulators, including GEMA, had typically set the efficient frontier no higher than the level of the upper quartile company. It was why appropriately recognising model limitations was so critical in setting the level of catch-up challenge.

12.99 SGN submitted that GEMA was wrong to suggest that the availability of an additional year of data would now automatically enhance the robustness of

[760] GEMA Response B, paragraph 313.
[761] GEMA provided this corrected percentage figure in GEMA, RFI GEMA 023, paragraph 1.3.
[762] SGN Reply, paragraph 129. SGN was responding to GEMA's statement in paragraph 257 of GEMA Response B that 'It has a choice about where to set the efficiency benchmark within the range of the results from the modelling process. It could for example be set at the median – i.e. at the halfway point between the least efficient GDN and the most efficient, or "frontier", GDN – or it could be set at the frontier, in which case all GDNs would be required to meet the highest benchmark of efficiency.'

the model. In RIIO-GD1, GEMA concluded that using fewer years of forecast data than it had available actually enhanced its model robustness.[763]

12.100 SGN stated that GEMA ostensibly accepted the limitations of a small cross-sectional sample size on explanatory variables. This effectively reinforced SGN's argument: the cross-sectional sample was so small that significant compromises had to be made (such as using a CSV rather than more variables). These compromises naturally limited the confidence that could reasonably be placed in the model (in addition to the sample size itself being confidence-limiting).[764] Frontier (on behalf of SGN) stated that given the limitations of the dataset and sample size, there could not be sufficient confidence in the data to warrant moving beyond the upper quartile,[765] and it would be extraordinarily difficult for GEMA to come up with a model which enabled it to go beyond the upper quartile.[766]

GEMA's appeals to data quality could not overcome the model's limitations

12.101 SGN submitted that it agreed that there had been some improvements in the data over time, but it strongly disagreed that GEMA had sufficient basis on which to conclude that data quality was a 'key material distinction' in its cost modelling relative to RIIO-GD1. It added that GEMA's claims were largely assertions and were not supported by actual comparisons between RIIO-GD1 and RIIO-GD2 data. For the reasons set out in the Data Quality and Process Witness Statement, they were disputed by SGN, including GEMA's attempt to paint its RIIO-GD2 error correction process as a reason to have increased confidence in its models, rather than evidencing their lack of robustness.[767]

12.102 SGN submitted that GEMA had emphasised a significant number of judgements it had to make in determining how to interpret data, apply normalisations and adjustments to the data, or specify the regression model. These judgements were required because there was a degree of ambiguity and therefore necessarily a margin of error. SGN submitted that this was a further reason to view the model's output with caution and reflect the model's limitations when setting the efficiency benchmark.[768]

12.103 SGN submitted that 'improved data quality' was a general, vague and nebulous concept. It was hard to see how such improvements could be deemed 'material' as opposed to marginal or incremental. Further, SGN submitted that there was no evidence that data quality had so substantially

[763] SGN Reply, paragraph 130.
[764] SGN Reply, paragraph 132.
[765] SGN Main Hearing Transcript, 5 July 2021, page 16 lines 1–3.
[766] SGN Main Hearing Transcript, 5 July 2021, page 16 lines 18–20.
[767] SGN Reply, paragraph 133.
[768] SGN Reply, paragraph 134.

improved that GEMA was now able to have 'a high degree of confidence in the data which was inputted into its regression analysis', or which entitled GEMA to assert that this data 'was apt to lead to more robust results' relative to RIIO-GD1. Finally, SGN submitted that these data improvements alone could not overcome the inherent limitations in the model described above.[769]

GEMA's assessment of statistical testing and other aspects of model robustness was partial and flawed

12.104 SGN stated that GEMA's Response did not change any of the conclusions in the Frontier Catch-up Efficiency Report, namely that the model was not sufficiently robust to move beyond the upper quartile.[770]

GEMA's appeal to a range of other factors was flawed

GD1 Outperformance

12.105 SGN referred to GEMA's assertion that past outperformance by GDNs was of 'particular relevance' in setting the efficiency benchmark, and GEMA's updated analysis comparing actual vs allowed and RIIO-GD1 business plan submitted (forecast) spend.[771] SGN submitted that, as companies earned returns according to their performance against their allowances, not against their business plan forecasts/projections, the original RIIO-GD1 BPDT forecast costs had no bearing on the reasonableness of the RIIO-GD2 benchmark.[772]

12.106 SGN submitted GEMA's analysis accounted for just two of the changes elsewhere in the cost setting process for RIIO-GD2 that would directly affect the scope for totex outperformance in RIIO-GD2 relative to RIIO-GD1. However, in doing so, the consistent and material outperformance GEMA said was present in RIIO-1 disappeared. SGN said that this further undermined GEMA's reliance on RIIO-GD1 outperformance as a justification for the arbitrary reductions in allowances.[773]

12.107 SGN submitted that GEMA's own up-to-date figures showed RPEs represented around 50% of RIIO-GD1 outperformance rather than around 33% (ie 4% out of 12% total).[774]

[769] SGN Reply, paragraph 135.
[770] SGN Reply, paragraph 136.
[771] SGN Reply, paragraph 137.
[772] SGN Reply, paragraph 138.
[773] SGN Reply, paragraph 139.
[774] SGN Reply, paragraph 140.

12.108 SGN disputed the notion that RIIO-GD1 outperformance should have had a material bearing on GEMA's decision. Even if RIIO-GD1 performance were relevant, GEMA's analysis was partial and therefore did not justify a move beyond the upper quartile.[775]

12.109 In its hearing, SGN said that there were some significant one-off issues that caused the outperformance in RIIO-GD1, some of which were non-repeating and some of which had been solved by GEMA through indexing.[776]

12.110 Frontier Economics, in a report for SGN, said that GEMA's Decision was discretionary, arbitrary and an unjustified toughening of the price controls, and that GEMA used a vague appeal to past performance as a convenient catch-all basis for doing so which was likely to have a highly detrimental effect in the future. Frontier said that companies would anticipate that future outperformance could similarly be used to justify otherwise unevidenced decisions, and could be expected to limit their ambition and performance as a result. According to Frontier, the efficacy of incentives could be damaged in the long term, if companies perceived that outperformance was not necessarily in their best interests, and this was ultimately harmful to consumers.[777]

Companies' stated ambitions

12.111 SGN submitted that companies' efficiency ambitions in their business plans could have no material bearing on the specific benchmark that GEMA set at FD in circumstances where the statements were made prior to GEMA setting allowances that had made material reductions to business plans, and before companies had sight of GEMA's models (and therefore deemed relative efficiency).[778]

Proxy for a competitive market

12.112 SGN argued that i) GEMA did not demonstrate that the 85th percentile was a more accurate proxy for the competitive market than the upper quartile; ii) it was a meaningless comparison as there was no benchmarked cost allowance in a competitive market; and iii) the incentives to deliver efficiency savings in regulated sectors were entirely independent of the level at which cost allowances were set.[779]

[775] SGN Reply, paragraph 141.
[776] SGN Main Hearing Transcript, 5 July 2021, page 20 lines 1–11.
[777] Frontier Economics, Impact of GEMA's approach on future incentives, paragraphs 27–28.
[778] SGN Reply, paragraph 143.
[779] SGN Reply, paragraph 144.

Comparison with RIIO-GD1 benchmark in absolute terms

12.113 SGN referred to new evidence submitted by GEMA to support its argument that the RIIO-GD2 benchmark was not materially more challenging than the RIIO-GD1 benchmark when considered in absolute terms (and therefore within a reasonable range of previous benchmarks).[780] SGN submitted that GEMA was wrong to take comfort from its analysis as a matter of principle, and the appropriate absolute level of catch-up may differ between price controls.[781]

12.114 SGN submitted that GEMA's analysis contained a data error, and that once that error was corrected, all the RIIO-GD1 benchmark efficiency scores were above the RIIO-GD2 benchmark score.[782]

12.115 SGN submitted that GEMA's analysis used the February 2021 error-corrected FD models (after GEMA's decision to move to the 85th percentile). SGN said the equivalent RIIO-GD2 DD and FD values were substantially below any benchmark levels at RIIO-GD1. Contrary to GEMA's suggestion, this analysis could not have provided comfort to GEMA at the time it decided to move to the 85th percentile.[783]

12.116 SGN further submitted that GEMA's reasoning was internally inconsistent and did not support GEMA's choice of benchmark. Instead SGN said that the upper quartile already met GEMA's objective of setting a 'tough' challenge, without creating the additional risks of moving it higher in light of modelling limitations.[784]

12.117 SGN submitted that the glide path did not mitigate its point that any move beyond the upper quartile was not justified due to the modelling limitations.[785] GEMA's reliance on 'a wide range of factors' could not compensate for the limitations in the model, which SGN considered the critical factor for setting the efficiency benchmark.[786]

SGN's PR19 Redetermination submissions

12.118 SGN submitted that the CMA's substantive conclusion and supporting reasoning did not change between its provisional determination and final determination, and the CMA had confirmed that Ofwat's decision to move beyond the upper quartile was not justified. SGN said that the CMA PR19

[780] SGN Reply, paragraph 145. See also SGN Main Hearing Transcript, 5 July 2021, pages 26–29.
[781] SGN Reply, paragraph 146.
[782] SGN Reply, paragraph 147. See also SGN Main Hearing Transcript, 5 July 2021, page 23.
[783] SGN Reply, paragraph 148.
[784] SGN Reply, paragraph 149.
[785] SGN Reply, paragraph 150.
[786] SGN Reply, paragraph 151.

Redetermination did not affect the arguments that SGN had put forward in its NoA nor in the Frontier Catch-up Efficiency Report.[787]

12.119 In support of its ground of appeal, SGN pointed to the aspects of the CMA PR19 Redetermination that related to the link between model robustness and the level of the efficiency benchmark, and the link between sample size and model robustness.[788]

GEMA's PR19 Redetermination submissions

12.120 GEMA submitted that the CMA's decision to use the upper quartile as the efficiency benchmark in the CMA PR19 Redetermination did not establish that GEMA was wrong to set an efficiency challenge at the level it did in its Decision, for the following reasons:[789]

(a) GEMA's decision was justified for the reasons set out above, ie its confidence in the modelling results, and the outperformance of GDNs in RIIO-GD1.

(b) The fact that other regulators in other industries may set efficiency benchmarks at different levels did not impugn the decision of GEMA in this case. The CMA had recognised that there was limited read across between its decision in relation to the water sector and GEMA's decision in relation to energy. GEMA's efficiency benchmark was well within the range of regulatory precedents and not materially more challenging than the benchmark set at RIIO-GD1 when considered in absolute terms.

12.121 GEMA added that the fact that the CMA had little or no regard to other factors in the CMA PR19 Redetermination did not suggest that similar factors were irrelevant in other contexts. GEMA said that the question of what was or was not a relevant consideration was a matter for GEMA to determine in the exercise of its regulatory discretion.[790]

Responses to our provisional determination

SGN's response to our provisional determination

12.122 In its response to the provisional determination SGN submitted that we had failed to conduct a merits review of the evidence before us and that we had afforded GEMA too great a margin of appreciation.[791] SGN also

[787] SGN PR19 submission, paragraph 38.
[788] SGN PR19 submission, paragraph 39.
[789] GEMA PR19 Response on Totex, paragraph 15.
[790] GEMA PR19 Response on Totex, paragraph 16.
[791] SGN response to PD, paragraphs 230-232.

submitted additional evidence in support of its argument that GEMA had erred.

12.123 SGN submitted additional evidence in response to GEMA's argument that its increased sample size at GD2 gave it increased confidence in the robustness of the GD model. SGN tested the impact of excluding year(s) of data from the regression modelling on the precision of the coefficient estimates.[792] SGN submitted that the results of these tests show that, at least based on what can be gleaned from the statistical performance of the model, extra years of data do not unambiguously improve the precision of the coefficient estimates.[793]

12.124 SGN also submitted further evidence on possible structural differences in the relationship between costs and cost drivers between historical and forecast data. SGN submitted two graphs showing the 13-year sample used in GEMA's regression for repex costs and the repex synthetic cost driver. SGN submitted that the forecast years being relatively smoother than the historical years illustrates why adding extra years of forecast data does not necessarily add valuable new information to the sample, but rather, increases the weight placed on the same planning assumptions which underpin the previous forecast years.[794]

12.125 In relation to model robustness and statistical testing SGN submitted that GEMA's assertion that confidence intervals between RIIO-GD1 and RIIO-GD2 (see paragraph 12.90(b)(iv)) cannot be used to support GEMA's decision for the following reasons:[795]

(a) GEMA's analysis of confidence intervals will presumably suffer from the limitations of statistical testing which the CMA has recognised, including that the inferences that can be drawn from these tests are limited given the small sample size.

(b) Changes in the confidence intervals between GD1 and GD2 do not necessarily imply improvements in model robustness.[796]

(c) SGN had not been provided with GEMA's analysis of confidence intervals, so had not been able to assess its accuracy or relevance. To SGN's

[792] Specifically SGN did the following: (i) estimated 13 regression models, each one containing 12 years of data but excluding a different year of data from the sample; and, (ii) estimated a model which contains only the last four years of GEMA's historical data sample and the first two years of GEMA's forecast data sample.
[793] SGN response to PD, paragraphs 258 and 259.
[794] SGN response to PD, paragraph 261.
[795] SGN response to PD, paragraph 264.
[796] SGN noted that the CMA recognised this in its PR19 Redetermination, saying that "[we] are wary of placing too much reliance on comparisons of standard errors and confidence intervals. Over-fitting a model could lead to a smaller range of standard errors and confidence intervals, but would not necessarily imply that the model was better at predicting cost allowances".

understanding, neither had the CMA. SGN submitted that the evidence lacked transparency and that it was not clear how the CMA could have relied on it to support its decision.

GEMA's response to our provisional determination

12.126 GEMA stated that the choice of the efficiency benchmark is, in principle and in practice, an area of regulatory judgement.[797] GEMA highlighted that it considered a range of factors such as model robustness, data quality improvements and past outperformance.[798] Finally GEMA submitted that it supported the CMA's provisional determination that GEMA is neither constrained by decisions reached in the past nor that GEMA's decision in RIIO-GD2 precludes different decisions for future price controls.[799]

Further requests for information

12.127 In response to SGN's submission that it, or the CMA, had not seen the analysis underlying GEMA's assertion that confidence intervals looked on average more accurate in RIIO-GD2 than RIIO-GD1 we requested the underlying analysis that led GEMA to this conclusion.

12.128 The evidence submitted by GEMA in support of this assertion showed that GEMA had conducted a comparison of the average percentage intervals between the RIIO-GD1 and RIIO-GD2 models from which it noted the following results:[800]

(a) A slightly smaller average percentage interval than the RIIO-GD1 4-year historical model (which had 25% weighting in the RIIO-GD1 determination)

(b) A slightly higher average percentage interval than the RIIO-GD1 2-year forecast model (which had 25% of the weighting in the RIIO-GD1 determination); and,

[797] GEMA response to PD, paragraph 339. GEMA further stated that, it had fulfilled its duties to encourage economic efficiency by setting a stretching and achievable catch-up efficiency challenge for less efficient firms, and that, it agreed with the CMA's PD that the choice of efficiency benchmark is a matter of specialist regulatory expertise and, although alternative benchmarks may have been possible, its FD decision falls within the regulator's margin of appreciation and cannot be said to be wrong on any of the specified statutory grounds.
[798] GEMA response to PD, paragraph 340. GEMA further noted that, it accepted that there are inherent limitations in the model due to the small sample size, improvements in the data increased confidence in our cost modelling process and the model performance supported our decision on the appropriate benchmark. Stating that, these factors were specific to the RIIO-GD2 price control.
[799] GEMA response to PD, paragraph 341.
[800] GEMA response to RFI 026, question 1.

(c) For 6 out of 7 bottom-up models, a considerably smaller average percentage interval than the RIIO-GD1 bottom-up models (both historical and forecast models, accounting for 50% of the RIIO-GD1 determination).

Our assessment

12.129 We now consider the evidence as to whether SGN has shown that GEMA was wrong in its choice of efficiency benchmark, specifically whether it was wrong to set a benchmark which is more challenging than the upper quartile.

12.130 As a starting point, we observe that the choice of efficiency benchmark is an area where the regulator has to use judgement, based on an overall assessment of what level of efficiency improvements should be achievable by those firms which appear to be less efficient within the efficiency benchmarking and taking into account its various duties. There is no direct way to measure the choice of benchmark.

12.131 When setting an efficiency benchmark there is a range of options available to regulators. The closer the regulator sets the efficiency benchmark to the modelled efficiency level of the frontier firm the greater the challenge. However, given the limitations of the models, the true level of the frontier is unknown and so the regulator needs to exercise its judgement when selecting the level of efficiency benchmark included in the price control.

12.132 Recent regulatory decisions have used a range of efficiency benchmarks but the most recent precedent has included use of the upper quartile, or 75th percentile. For example the CMA set the efficiency benchmark at the upper quartile in the CMA PR19 Redetermination.[801] GEMA set the efficiency benchmark at the upper quartile in RIIO-GD1 and RIIO-ED1.[802] This suggests that the upper quartile provides a useful reference point when setting the efficiency benchmark. However, as discussed in paragraphs 3.87 to 3.88 of the Legal Framework chapter, these precedents are not binding on GEMA, and do not automatically (or even presumptively) mean that GEMA is wrong to set a more challenging efficiency benchmark level taking into account the specific circumstances in which the benchmark is being set.

12.133 In that context, it is important to note that it was not disputed that the effect of the choice of efficiency benchmark was small for the GDNs in RIIO-2. Focusing specifically on the impact on SGN, GEMA's decision to set the efficiency benchmark at a glide path from the 75th percentile to the 85th

[801] CMA PR19 Redetermination, paragraph 4.494.
[802] SGN NoA, paragraphs 538–539.

percentile in RIIO-GD2 had only a limited effect in absolute terms on the level of totex allowed for SGN: around £2.8 million or 0.11% of its baseline totex.

12.134 In its FD, GEMA set the efficiency benchmark at the 85th percentile on the basis of several factors. These included:

(a) Substantial past outperformance of GDNs under RIIO-GD1 (see paragraph 12.19);

(b) GDNs' expressed ambition to operate at the efficiency level of the frontier company (see paragraph 12.19);

(c) Improved quality of the data collected in RIIO-GD2 (see paragraph 12.24);

(d) A consideration of stochastic variation[803] in the modelling (see paragraph 12.26), although it did not state that material improvement in the modelling between RIIO-GD1 and RIIO-GD2 was a necessary condition for setting a higher benchmark; and

(e) the inclusion of the glide path would provide a continuum from the level of efficient performance the GDNs committed to achieve by the end of RIIO-GD1 (see paragraph 12.19)

12.135 SGN's evidence that GEMA was wrong included: inherent limitations with GEMA's modelling, including, in particular, because of sample size and the limited benefits of using additional years of data; statistical testing, which did not show an improvement in model robustness; alleged data input/model calculation errors and procedural shortcomings, and data quality issues. SGN said that GEMA's glide path did not address these issues. We cover each of these points in turn below:

(a) **Sample size:** SGN particularly highlighted that there were limitations to the model due to sample size, a point also made by the CMA in the CMA PR19 Redetermination. It is common ground between SGN and GEMA that as with all econometric models, there are limitations to the model which GEMA used. As described above, this is relevant to why an efficiency target closer to the frontier is not typically used. However, these limitations do not automatically imply that the efficiency benchmark should be set at a level no higher than the 75th percentile.

(b) **Additional years of data:** SGN addressed whether the current model was an improvement compared to RIIO-GD1. It submitted that the additional years of included data were likely to add a limited amount of additional variation, so could not substantially improve model robustness.

[803] Stochastic variation is the degree of random variation in the modelling.

In particular, SGN submitted that additional years of forecast data do not necessarily add valuable new information to the sample, but rather, increase the weight placed on the same planning assumptions which underpin the previous forecast years (see paragraph 12.124). We do not fully agree with this argument. It is true that, if the data related to new periods does not contain more variation in explanatory variables, it will not materially improve GEMA's ability to use more complex, less restricted models of totex. However, for a given model, adding data is likely to improve the precision of the coefficient estimates, and, all else equal, the reliability of modelled expenditure derived from modelling results to some extent.[804] With respect to forecast data, it is not unreasonable for GEMA to assume that the forecast data incorporates the companies' information about their activity and cost drivers, rather than just mechanical predictions based on historical data, so we consider that GEMA has a basis for putting some weight on additional years of forecast data.

(c) **Statistical tests:** SGN said that the statistical tests on model robustness did not suggest improvements. With respect to statistical testing we note that, due to the small sample sizes and changes in the modelling, in this specific case there will be limitations to what the statistical tests can tell us regarding any improvements in the models. These limitations make it more difficult to identify whether there have been improvements in the econometric modelling. In line with this, and given the points highlighted below, we do not consider the comparisons between statistical performance of the GD1 and GD2 models that have been submitted to provide a clear basis upon which to form conclusions on model robustness. We note that GEMA's views on the robustness of its GD2 modelling were informed by a number of other factors, including – as discussed below – its assessment of data quality. In terms of SGN's specific points, we note:

(i) A reduced R-squared could reflect a genuine increase in the range of GDN efficiencies rather than an increase in the effect of exogenous factors not captured by the model – this is a matter of interpretation and as such changes in the R-squared or the range in efficiency scores cannot be interpreted directly as indicators of the model's performance or robustness.

[804] SGN's sensitivity analysis shows that, when certain years are dropped from the data set used in RIIO-GD2, the precision of coefficient estimates increases. We recognise that adding data does not necessarily increase the precision of coefficient estimates. If the additional data contains outliers, the net effect may go in the other direction. Nevertheless, it is not unreasonable to expect that, in general, additional data will increase rather than decrease precision. Moreover, SGN's analysis show that standard errors may increase or decrease in RIIO-GD2 depending on which observations are used. But GEMA's claim is that the precision increased between RIIO GD1 and RIIO GD2.

(ii) The reliability of totex forecasts constructed from modelling results depends not just on the extent of variation in unobservable variables (which is captured by the R-squared), but also on the precision of coefficient estimates. As discussed in para 12.90(b)(iv), GEMA claimed that it had verified that prediction intervals had narrowed between GD1 and GD2. Having reviewed GEMA's analysis, we do not think that it supports its claim. In GD1, the cost prediction for each network was derived as a weighted average of the cost prediction generated by several models (one top-down model and seven bottom-up models, each assessed both on historical and forecast data). As such, the prediction interval around each cost prediction would have depended not just on the prediction interval of each component model, but also on the relationships between these models (in terms of how the observed and unobserved factors of these models varied together). For this reason, it is not meaningful to compare the size of prediction intervals for GD2 with the size of prediction intervals for individual GD1 models, as GEMA did. In summary, it is possible that in GD1 GDNs faced less uncertainty on their overall cost predictions than on their component parts, and GEMA's analysis does not incorporate that possibility.

(d) **Other arguments related to model development:** We also reviewed SGN's arguments in relation to data input/model calculation errors, data quality and procedural shortcomings. We note that some calculation errors are to be expected as part of the price control development process and in our view, this factor does not raise additional issues that affect our decision. In addition, while we note SGN's submissions related to inherent limitations with respect to data quality,[805] we consider that the changes GEMA made to its approach to data collection as set out in paragraph 12.73 will have led to some improvement in data quality.[806] SGN submitted that there were a number of procedural shortcomings which suggested insufficient internal quality assurance in the preparation of GEMA's modelling suite. While SGN raised a number of broad issues concerning GEMA's process, we do not consider SGN to have demonstrated that these alleged procedural shortcomings should be viewed as raising additional substantive issues related to our decision. First, we note that SGN has not identified any specific errors in relation to procedural shortcomings. Second, it has not persuaded us that any such

[805] As explained in paragraph 12.55.
[806] We also note that SGN agreed that there had been some improvements in the data over time, although it disagrees that GEMA had sufficient basis on which to conclude that data quality was a 'key material distinction' in its cost modelling relative to RIIO-GD1 (see paragraph 12.101 above).

procedural shortcomings are so serious that we cannot be assured that GEMA's decision on the stringency of the benchmark was not wrong.[807]

(e) SGN submitted that, GEMA's glide path did not address these issues. We disagree as we think that the use of the glide path is relevant to considering the overall impact of the efficiency benchmark that GEMA introduced (such that GEMA's approach can be viewed as applying a benchmark at around the 81st rather than the 85th percentile). For the reasons set out below in paragraph 12.137 we consider that GEMA was not wrong to choose a benchmark above the 75th percentile.

12.136 SGN also submitted that GDNs' historical performance did not justify GEMA's efficiency benchmark, nor did GEMA's reliance upon GDNs' stated ambitions in their business plans. GEMA stated its efficiency benchmark was both reasonable and achievable based on the level of GDNs' past outperformance under RIIO-GD1, and the ambitions all GDNs set out in their business plans to operate at the efficiency level of the frontier company.

12.137 As we set out in Chapter 6, we do not consider the historical evidence in itself to provide a basis for drawing any firm conclusions with respect to the likely extent of operational outperformance in RIIO-2.[808] In line with this, we are not persuaded that the historical outperformance of GDNs in RIIO-GD1 is supportive of setting a more stretching efficiency benchmark; however, we note that this was only one of a number of factors considered by GEMA when it decided to set the benchmark at the 85th percentile.

12.138 With respect to stated ambitions, SGN submitted that business plan ambitions could have no material bearing on the specific benchmark where the statements were made prior to GEMA setting allowances that had made material reductions to business plans, and before companies had sight of GEMA's models. GEMA submitted that all but one GDN expressing an ambition to operate at the frontier supported its view that the benchmark it set was both reasonable and achievable. In our view, the fact that such statements were made prior to the setting of allowances or before they had sight of GEMA's models does not demonstrate why placing some weight on stated ambitions is not appropriate when setting the efficiency benchmark. We find that GEMA's approach in taking stated ambitions into account involved an exercise of regulatory judgement and, in such matters, GEMA will have a margin of appreciation such that we should not interfere unless we are satisfied that GEMA's decision was wrong.[809] In this case, SGN has simply asserted that such statements should have no material bearing on the specific

[807] See further the Legal Framework at paragraph 3.54.
[808] As noted in paragraph 6.121.
[809] See at paragraph 3.76.

benchmark and has failed to produce evidence that persuades us that GEMA was wrong to place some weight on stated ambitions when determining where to set the efficiency benchmark in RIIO-GD2.

12.139 In conclusion, GEMA made a number of arguments why it applied a more stretching efficiency benchmark, including in relation to the improvements in the quality, detail and comparability of the data. Firstly, we note that the sample size of GDNs does impose limitations on the accuracy of the modelling; however, such limitations do not automatically imply that the efficiency benchmark should be set at a level no higher than the 75th percentile. With respect to improvements in model robustness, for the reasons explained at paragraph 12.135(c) above, the limitations of the statistical testing mean it is difficult for us to identify - on the basis of that testing - whether there have been improvements in the robustness of the modelling that are sufficient to support any particular level of efficiency benchmark. However, we do consider GEMA to have identified ways in which data quality has improved to some extent. These improvements in data quality might be expected to improve the robustness of the modelling. Further, the additional years of data are likely to improve the reliability of the modelling to some extent. These factors, alongside GEMA's assessment of the stated ambitions of GDNs, provide some support for GEMA setting a slightly more stretching target than the 75th percentile.

12.140 SGN's submissions have not persuaded us that GEMA was wrong to adopt the more challenging approach that it did in setting the efficiency benchmark at the 85th percentile, rather than the 75th percentile (the approach SGN advocated before us). At most, SGN has shown that it was open to GEMA to adopt an efficiency benchmark at the 75th percentile. However, this is not enough to demonstrate an error in GEMA's approach. In our view:

(a) the choice of benchmark involves an element of regulatory judgement, and therefore there is a margin of appreciation for GEMA (particularly in the context where there is no specific benchmark recommended in academic literature). Accordingly, we will apply appropriate restraint and, in principle, not question issues of judgement except if we are persuaded by the arguments that GEMA's decision is wrong;[810]

(b) on the one hand, SGN has shown that the upper quartile is a target which has frequently been used by regulators for efficiency benchmarking; it has also shown that GEMA had only limited evidence for setting a target which was more onerous than that approach (ie moving from the 75th

[810] See further paragraph 3.77 of the Legal Framework.

percentile to the 85th percentile with a glide path, rather than at the 75th percentile);

(c) on the other hand, previous regulatory practice represents an indication of what has been found appropriate in the specific circumstances of those earlier cases; it does not provide a hard and fast forward-looking rule from which regulators must not depart; and GEMA's preferred approach, of using a glide path to the 85th percentile, is in practice in this case only marginally tougher than the upper quartile;

(d) weighing these matters up, we consider that GEMA's decision to use the data it had to support a marginally tougher target in the circumstances of this case was justifiable. SGN has not persuaded us that its preferred approach was clearly superior to that of GEMA in the circumstances of this case and so it cannot be said that GEMA stepped outside its margin of appreciation. Accordingly, we conclude that GEMA's decision on this point was not wrong.

12.141 In its response to the provisional determination SGN submitted that we had failed to conduct a merits review of the evidence before us and that we had afforded GEMA too great a margin of appreciation.[811] We reject these criticisms. For reasons set out in the Legal Framework,[812] it is appropriate for us to accord GEMA a margin of appreciation, as a specialist regulator, but we recognise that we must not uncritically accept GEMA's assessment and weighting of the considerations before it simply because GEMA is an expert body. Accordingly, we have carefully scrutinised the submissions and evidence put to us, including SGN's additional evidence submitted after our provisional determination. However, we are not persuaded by the evidence adduced by SGN that GEMA has been shown to have erred. As we have explained above, in our view the reliance GEMA placed on the (limited) evidence before it in setting the efficiency benchmark was justifiable in the circumstances.

12.142 We also note that, SGN submitted that this decision was important as it could set a precedent for GEMA to move to using an 85th percentile as the efficiency benchmark. We do not agree with this view. Our decision should not be seen as indicating any preferred starting point for efficiency benchmarks. Regulators must always consider the case-specific circumstances and set the benchmark at a level appropriate for the case.

[811] SGN response to PD, paragraphs 230-232.
[812] See in particular paragraphs 3.55-3.79.

Our conclusion

12.143 For the reasons set out above, we reject SGN's submission that GEMA's adoption of the 85th percentile benchmark in RIIO-2 was wrong within the meaning of Section 23D(4) of GA86. Accordingly, we dismiss this sub-ground of appeal.

SGN Sub-ground 4B

12.144 In this section we cover SGN's sub-ground 4B, in which SGN submitted that GEMA had wrongly applied the efficiency benchmark to costs that had been removed from the regression model to account for regional differences.[813]

SGN's Notice of appeal

12.145 SGN submitted that GEMA had erred in applying the efficiency benchmark to pre-modelling adjustments for regional factors. SGN said that the entire purpose of removing the regional differences in labour costs (and other regional adjustments) from the regression model was because GEMA recognised that such costs were outside the control of the companies.[814]

12.146 SGN said that GEMA had acknowledged this in its FD, where it stated the following:

> We adjusted submitted costs to ensure that we can benchmark GDNs on a comparable basis. This includes costs that are driven by factors outside of a company's control and are unique to the location in which that company operates. These regional factors can lead to higher or lower costs that are not the result of efficient or inefficient behaviour. As in RIIO-GD1, we make pre-modelling adjustments to account for regional labour, urbanity and sparsity.[815]

12.147 SGN submitted that the efficiency benchmark was applied at a different stage in RIIO-GD1, namely only to any modelled costs that had been determined through the benchmarking models themselves.[816] SGN argued that this change resulted in an increased level of stretch compared to RIIO-GD1, and that GEMA had not provided any justification or evidence for this change.[817]

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[813] SGN NoA, paragraph 523.
[814] SGN NoA, paragraph 590. See also SGN Main Hearing Transcript, 5 July 2021, pages 31 to 34.
[815] GEMA FD GD Sector Annex, paragraph 3.47.
[816] SGN NoA, paragraph 593.
[817] SGN NoA, paragraph 592.

GEMA's Response

12.148 GEMA submitted that the ground was without merit for the following reasons:[818]

(a) Although some aspects of the environment in which a network company operates were not fully within its control (such as geography), GEMA was still entitled to expect the network company to make efforts to mitigate any additional costs due to the operating environment.

(b) Regional adjustments represented a proportional uplift on network companies' costs related to operating in a higher cost region. They did not reflect a cost which was entirely outside a network company's control and which was incapable of mitigation.

(c) It would be inappropriate in principle to apply a narrower efficiency challenge. The GDNs should take steps to mitigate costs even where they were not fully within their control.

(d) The purpose of regional factor adjustments was to adjust modelled industry average costs by an estimate of the additional costs that the averagely efficient network company would face when operating under particular conditions.

12.149 GEMA stated that:

> Applying the efficiency challenge to the regional factor uplifts, reflects that each GDN, while recognised within the efficiency analysis as subject to different regional factors (e.g. labour prices), may still reduce its total expenditure by becoming more efficient in the combination of factors that will overall contribute to its relative efficiency within the sector – ie finding ways to deliver the same output using less input.[819]

12.150 GEMA stated that, while it had taken a different approach to this issue to calculate allowed totex compared to RIIO-GD1, its approach was consistent in principle with the RIIO-ED1 cost assessment.[820] According to GEMA, its policy at RIIO-GD2 reflected a natural evolution of its cost assessment methodology across regulated sectors, and it believed the approach was now more rigorous.[821]

[818] GEMA Response B, paragraph 310.
[819] *Wagner 5 (GEMA)*, paragraph 102.
[820] *Wagner 5 (GEMA)*, paragraph 104. Specifically noting that for RIIO-ED1, GEMA calculated the upper quartile efficiency challenge before the reversal of regional factor adjustments, but the efficiency challenge was applied to modelled costs after the reversal of pre-modelling (including regional factor) adjustments.
[821] *Wagner 5 (GEMA)*, paragraph 105.

GEMA's view on materiality

12.151 GEMA submitted that the CMA should dismiss SGN sub-ground 4B on the basis of low materiality, as SGN's allegation of an impact of £4.3 million was only 0.16% of its FD totex allowance.[822]

Follow up submissions by SGN and GEMA

SGN's Reply to GEMA's Response

12.152 In this section we summarise the arguments made by SGN in its Reply to GEMA's Response.

12.153 SGN disagreed with GEMA's statement that the purpose of regional factor adjustments was to 'adjust modelled industry average costs'. Rather, SGN submitted that the adjustments removed costs from the data for specific companies prior to undertaking the comparative analysis, where they were non-controllable and therefore unsuitable for comparison.[823]

12.154 SGN submitted that GEMA had accepted that these additional, atypical costs were non-controllable yet now speculated (but did not provide evidence) that companies may nevertheless be able to achieve efficiencies with respect to these costs by doing work using less labour, or adopting certain working practices.[824]

12.155 SGN said that GEMA had asserted that the efficiency estimate related to total submitted costs, despite the fact that the regression analysis (by necessity) calculated efficiency scores using normalised costs. Therefore, the efficiency estimate did not directly reveal anything about whether or not the normalised-out regional costs were efficient or otherwise.[825]

12.156 SGN summarised GEMA's response to Ground 4B as incoherent and unsupported. It said that GEMA's Response amounted to no more than assertions that GEMA did indeed apply an efficiency cut to non-controllable regional factors. No specific justification was provided for why that was reasonable or achievable in practice, beyond the highly speculative statement that the GDNs 'may' be able to reduce non-controllable costs.[826]

[822] GEMA Response B, paragraph 313. We note that SGN initially submitted that the value of the error was £4.3 million, however it subsequently updated this figure to £9.1 million (see paragraph 12.11).
[823] SGN Reply, paragraph 153.
[824] SGN Reply, paragraph 154.
[825] SGN Reply, paragraph 155.
[826] SGN Reply, paragraph 156.

- *Materiality*

12.157 In responding to GEMA's arguments on materiality, SGN reiterated its point that the issue was one of economic or regulatory principle which could have an even more significant impact on future price controls.[827]

SGN's Closing Statement

12.158 SGN stated that GEMA had provided no evidence that the catch-up efficiency challenge applied to the core costs of SGN's London operations was an appropriate challenge to be applied to the non-controllable cost.[828] SGN said that the application of a blanket efficiency assumption without any scrutiny would result in a discriminatory outcome. It said that if SGN could not in fact control these incremental costs of working in London, then SGN was effectively being asked to make up the challenge applied to those costs by reducing controllable costs, in addition to the challenge already applied to controllable core totex via the benchmarking model. It submitted that this was despite the fact that London companies were clear outliers under GEMA's modelling approach.[829]

Responses to our provisional determination

12.159 This section covers additional arguments and evidence submitted after our provisional determination which relate to GEMA's original decision. It does not repeat arguments already made by SGN prior to the provisional determination which is covered in the submissions sections above. Arguments on how the CMA interpreted evidence when it reached its provisional determination are covered in the assessment section below.

SGN's response to our provisional determination

12.160 SGN submitted additional evidence and reasoning in relation to its ability to control regional factors. SGN's submission considered its ability to control regional factors relating to urbanity and waqes separately.[830]

12.161 In relation to urbanity SGN submitted that, these additional costs are outside SGN's control. As an example SGN submitted that the cost associated with travel time in London due to traffic congestion is extremely challenging to mitigate. SGN submitted that GEMA had claimed that SGN may be able to adopt working practices that counteract the effect of working in

[827] SGN Reply, paragraph 158.
[828] SGN Closing Statement, paragraph 57.
[829] SGN Closing Statement, paragraph 58.
[830] SGN response to PD paragraph 276.

an urban operating environment; however, it is not clear what practices GEMA considers SGN could adopt.[831] SGN further submitted that SGN cannot simply choose not to do work in London, and that while there may be ways SGN can partially counteract any specific issue, typically doing so would entail increased costs elsewhere, resulting in an overall less efficient outcome.[832]

12.162 With respect to wages SGN submitted that, to the extent SGN can reduce the amount of labour it utilises, this would result in SGN avoiding the incremental wage associated with working in London. However, GEMA has not made any assessment as to whether a c.8% cut in SGN's labour utilisation is appropriate.[833] SGN submitted that there are many factors which make working in London challenging meaning that SGN cannot easily reduce the amount of labour utilised on London work.[834]

12.163 SGN submitted that, to the extent that any of the regional adjustments are outside SGN's control, applying a blanket efficiency assumption to those costs results in a discriminatory outcome.

GEMA's submissions after our provisional determination

12.164 In response to our provisional determination GEMA submitted that it was reasonable and correct to apply the challenge to the entire cost base of a regulated business, and that it believed companies have the opportunity to seek efficiency improvements in regional components of their costs as much as they do in the non-regional components of their costs.[835]

12.165 We specifically asked GEMA to respond to two points made by SGN in its response to our provisional determination:

(a) the extent to which it is possible for SGN to achieve efficiencies in relation to costs uplifted by each of: (i) the urbanity adjustments and (ii) the wages adjustments;[836] and

(b) whether or not it is appropriate for GEMA to consider the extent to which efficiency gains can be achieved separately in each of the cost categories to which pre-modelling adjustments are applied.[837]

[831] SGN response to PD paragraph 277.
[832] SGN response to PD paragraphs 277 and 278.
[833] SGN also noted that should the CMA now reason that an efficiency cut should only be applied to a proportion of the regional adjustment (eg only the labour uplift), SGN would be happy to provide quantifications of appropriate relief and suggested directions for its implementation (SGN response to PD paragraph 285).
[834] SGN response to PD paragraph 280.
[835] GEMA response to PD, paragraph 343.
[836] GEMA response to RFI 026 question 2.
[837] GEMA response to RFI 026 question 3.

The extent to which it is possible for SGN to achieve efficiencies in relation to costs uplifted by each of: (i) the urbanity adjustments and (ii) the wages adjustments

12.166 GEMA accepted that a GDN may face higher costs than predicted by GEMA's benchmarking as a result of its operating environment, such as lower productivity due to congested street space in a dense urban environment, or the fact that wages are on average higher in London (and the South East) than in the rest of the country. It stated that it is precisely for this reason that GEMA made pre-modelling adjustments to costs that may be affected by these regional differences, and that this allowed GEMA to compare the GDNs on a like-for-like basis when assessing their efficiency relative to a notionally efficient GDN.[838]

12.167 GEMA submitted that regional factor adjustments are proportional cost adjustments that are applied to GEMA's modelled costs to cover the general operation, enhancement and maintenance of the network, and that, for the results of the cost assessment to translate into efficient allowances for these activities, the same efficiency challenge must apply to both modelled costs and any regional adjustments added back in. GEMA explained that the logic is that less efficient GDNs can 'close the gap' across their entire cost base for their activities by improving the combination of factors that contribute to their overall relative efficiency – ie finding ways to deliver the same output using less input, and that such actions will increase productivity in activities that GDNs both in London and other parts of the country need to undertake and drive savings – even if the work, once undertaken, remains relatively more expensive or takes longer compared to elsewhere.[839]

12.168 GEMA submitted that, whilst the operating environment is broadly outside of SGN's control, how they operate within it – the efficiency of their operations – is clearly within their control, and therefore GEMA considers that it is possible for SGN to achieve efficiencies in relation to costs uplifted by regional factors, both for labour and urbanity, to the same extent that they can achieve efficiencies in relation to their other modelled costs.[840]

12.169 Finally, GEMA submitted that its role is to set challenging efficiency targets for companies based on a robust benchmarking model that compares costs across all GDNs. GEMA considers that it is up to the companies to manage their activities in a manner that is best designed to deliver their outputs at the lowest cost to consumers, and that, it is not appropriate for

[838] GEMA response to RFI 026 question 2.
[839] GEMA response to RFI 026 question 2.
[840] GEMA response to RFI 026 question 2.

GEMA to effectively micromanage company activities to try and identify changes to business or operational practices to deliver efficiencies.[841]

Whether or not it is appropriate for GEMA to consider the extent to which efficiency gains can be achieved separately in each of the cost categories to which pre-modelling adjustments are applied

12.170 GEMA submitted that its approach to regional adjustments is not only appropriate but also consistent with its broader approach to cost assessment. GEMA stated that the rationale of a top-down totex model approach is to assess (and incentivise) the GDNs' efficiency on the basis of their overall expenditure, with one of the advantages of this approach being that it implicitly accounts for any interactions and trade-offs between different activities and costs, without discriminating between different business models and practices. GEMA further submitted that its approach was in keeping with its overall approach of relying on one totex benchmark and resorting to separate assessments only in limited circumstances.[842]

12.171 GEMA stated that it applied the same level of efficiency challenge to the various regional factor adjustments as to other costs given that these adjustments are still inherently costs associated with the overall operations of the business, which can be influenced by choices that are under management control. GEMA further noted that the adjustments are made to reflect higher costs across the general operations of a gas network in certain areas rather than to specific projects.[843]

12.172 GEMA said that there may be additional costs of general operations due to higher regional labour costs or lower productivity in urban environments, but it is reasonable to assume that similar efficiencies are possible. Noting that, productivity improvements in general operations would tend to drive proportional savings across the cost base, including any regional uplifts.[844]

12.173 Finally, GEMA submitted that, after accounting for regional factors in the benchmarking, it is right and consistent that GEMA applies the same catch-up efficiency challenge to the adjusted modelled cost, and that, GEMA should be able to expect that a GDN will drive efficiency in expenditure across its entire operations and cost base, regardless of the cost category.[845]

[841] GEMA response to RFI 026 question 2.
[842] GEMA response to RFI 026 question 3.
[843] GEMA response to RFI 026 question 3.
[844] GEMA response to RFI 026 question 3.
[845] GEMA response to RFI 026 question 3.

Our assessment

12.174 SGN has not shown that applying an efficiency benchmark to pre-modelling adjustments for regional factors is wrong in principle or in practice. While regional factors are outside the GDNs' control, SGN has not shown that the costs related to these factors are wholly outside its control. We would expect that GDNs mitigate costs unless these are wholly outside their control. SGN has not provided evidence that shows that efficiency gains could not be achieved on costs impacted by regional factors in a similar way to that of costs not subject to any regional factors.

12.175 SGN said that the additional costs relating to urbanity adjustments are outside SGN's control. With respect to wages, SGN said that to the extent SGN can reduce the amount of labour it utilises, this would result in SGN avoiding the incremental wage associated with working in London. We do not agree that GEMA must or should conduct individual assessments on the extent to which efficiencies are possible in relation to costs that have been uplifted by regional factor adjustments. It may be the case that there is more or less scope for GDNs to achieve efficiencies with respect to different cost categories. However, we agree with GEMA that it is reasonable to assume that similar efficiencies are possible on costs uplifted by regional factor adjustments and other modelled costs because these costs are inherently costs associated with the overall operations of the business, which can be influenced by choices that are under management control. Further we agree that GEMA's approach is consistent with its broader approach to cost assessment of using a top-down totex model, and that it is reasonable to expect that a GDN will drive efficiency in expenditure across its entire operations and cost base, regardless of the cost category.

12.176 In our view, it was appropriate for GEMA to assess the efficiency benchmark based on comparable costs, and then to apply the same efficiency benchmark to the modelled costs and to the pre-modelling adjustments for regional factors. GEMA is entitled to adopt a different approach from RIIO-GD1 where that different approach is sufficiently supported by the evidence before it and in line with its legal duties. Therefore, SGN has failed to convince us that GEMA did not adopt a coherent and consistent approach when applying the efficiency benchmark to these costs. Our view is that GEMA was not wrong to apply the efficiency benchmark to these costs, and there was no error for this sub-ground.

Our conclusion

12.177 For the reasons set out above, we reject SGN's submission that GEMA had wrongly applied the efficiency benchmark to costs that had been removed

from the regression model to account for regional differences. Accordingly, we dismiss this sub-ground of appeal.

Our determination

12.178 SGN submitted that GEMA's adoption of the 85th percentile benchmark in RIIO-2 was wrong and that GEMA had wrongly applied the efficiency benchmark to costs that had been removed from the regression model to account for regional differences. For the reasons explained in paragraphs 12.129 to 12.142 and 12.174 to 12.176 our determination is that GEMA was not wrong. Accordingly, we dismiss this ground of appeal.

13. SSEN-T Ground 4: TNUoS

Introduction

13.1 The responsibility for setting charges for electricity transmission sits with the Electricity Systems Operator (**ESO**). Prior to RIIO-2, the ESO bore the risk of it billing too little or too much for electricity transmission in any one year, incurring the financial shortfall (or excess) after it had paid transmission network firms what they were due. This risk is called the cash flow risk. GEMA's Decision in RIIO-2 had the effect of transferring this cash flow risk away from the ESO to the onshore transmission network firms.

13.2 SSEN-T appealed GEMA's Decision and submitted that GEMA was wrong to transfer the cash flow risk to it as that created a disconnect between the party responsible for setting charges (the ESO, as previously) and the parties bearing the risk of any shortfall (the onshore transmission network firms).

13.3 In this chapter we:

(a) give the background to transmission charges;

(b) explain GEMA's RIIO-2 Decision to transfer the cash flow risk;

(c) set out the grounds of appeal raised by SSEN-T;

(d) present the evidence put forward by SSEN-T and GEMA along with our assessment of the arguments on key points raised; and

(e) provide our determination on whether GEMA was wrong to transfer the cash flow risk to the onshore transmission network firms.

Background

Transmission charges

13.4 Transmission Network Use of System (**TNUoS**) charges recover the cost of installing and maintaining the transmission system in England, Wales, Scotland and offshore. Under the current arrangements for setting and recovering TNUoS charges, the ESO (National Grid Electricity System Operator Limited (**NGESO**)) is responsible for setting TNUoS tariffs for the whole of GB on behalf of all TOs. The ESO sets TNUoS charges using an agreed charging methodology (as approved by GEMA) set out in Section 14 of the Connection and Use of System Code (**CUSC**). Changes to the

methodology can be proposed by industry and the changes are approved or rejected by GEMA.[846]

13.5 The ESO recovers the revenue from TNUoS charges on behalf of: NGET; SPT; SSEN-T; OFTOs; and other network schemes. TOs notify their allowed revenue[847] to the ESO annually and may provide information such as generation capacity on the transmission network which feeds into the ESO forecasts. The ESO then sets TNUoS charges for each year to recover the notified amounts in aggregate for that year, adjusted for any under/over-recovery from the previous year's charges, and these charges are paid to the ESO by suppliers and generators.[848]

13.6 All users of the GB electricity network pay to use it in some way. In the first instance generators and suppliers pay TNUoS charges. The basis of charging to generators and suppliers is influenced by a number of policy objectives and, as a result, is quite complicated. In summary, charges to generators are levied on their capacity but charges are capped at €2.50/MWh (ie a volume-based charge) by an EU price cap that post Brexit has been transposed into UK law. Charges to suppliers are levied on the basis of peak demand (ie a capacity-based charge for commercial customers) or consumption (ie a volume-based charge for domestic customers).[849]

Differences between amounts collected versus planned

13.7 There are various reasons why a difference may arise between the revenue that the ESO seeks to recover in a given period and the revenue that it actually collects. For example, the ESO's forecast of volumes may exceed outturn volumes (under-recovery), or vice versa (over-recovery). This concept of under/over-recovery is generally known as the 'correction term', and any under-recovery (over-recovery) is recovered with interest via higher (lower) allowed revenue in later years.[850] This correction term within the price control licence is sometimes referred to as the 'Kt' term. This exposure to under/over-recovery is also known as the cash flow timing risk.

Chronology of developments in the way in which transmission charges are recovered

13.8 In 2005, the government decided to bring about a more efficient and functioning single GB transmission market.[851] Before that the transmission

[846] *Wilde 2 (GEMA),* paragraph 6.
[847] These are fixed amounts.
[848] *Wilde 2 (GEMA),* paragraph 7.
[849] Further detail on the basis of charging can be found in National Grid ESO, 2018, *TNUoS in 10 Minutes*.
[850] *Wilde 2 (GEMA),* paragraphs 8 and 9.
[851] GEMA Main Hearing Transcript, 8 July 2021, page 68, lines 10–12.

network for England and Wales was managed separately from that in Scotland. The initiative that gave effect to this new GB-wide transmission market was called British Electricity Trading and Transmission Arrangements (**BETTA**).

13.9 Under BETTA, the ESO arm of NGET became responsible for setting and collecting tariffs across GB, rather than the three TOs being responsible for this activity in their own area.[852]

13.10 Prior to the introduction of BETTA in 2005, each TO was exposed to its own correction term related to the under/over-recovery of charges.[853] Post BETTA go-live on 1 April 2005, but prior to the separation of NGET and NGESO on 1 April 2019, NGET, as the ESO, set TNUoS tariffs across the whole of GB and NGET carried the cash flow risk for the whole TO sector.[854]

13.11 More recently GEMA decided that the ESO should be legally separated from NGET and this change was made in April 2019.[855] This was because the ESO has a central role in planning and operating the electricity system, and the role and the form of the ESO needed to adapt to keep pace with a system that is going through a process of change.[856] At the time of ESO separation, GEMA transferred the cash flow timing risk to the ESO for the final two years of RIIO-1.[857]

13.12 On 21 November 2019, when concluding its Targeted Charging Review[858] (**TCR**), GEMA decided to make changes to the way in which some of the costs of the electricity networks are recovered. The aim was to ensure that they could be recovered more fairly.[859] GEMA decided that the largest element of TNUoS charges, the so called 'residual charges',[860] should be recovered wholly from consumers and on the basis of fixed charges.[861] The timing of implementation for this change was originally planned to be in April 2021[862] but is now scheduled for April 2023.[863]

[852] *Wilde 2 (GEMA)*, paragraph 11, footnote 3.
[853] *Wilde 2 (GEMA)*, paragraph 11.
[854] *Wilde 2 (GEMA)*, paragraph 12.
[855] *Wilde 2 (GEMA)*, paragraph 15.
[856] *Ofgem confirms plans for greater separation of National Grid's electricity system operator role*, Press Release, 3 August 2017.
[857] *Wilde 2 (GEMA)*, paragraph 15.
[858] The TCR was a review conducted by GEMA to address harmful distortions in the then charging framework for network charges. See GEMA, 2019, *Targeted charging review: decision and impact assessment*, 21 November 2019, paragraph 1.1.
[859] *Targeted charging review: decision and impact assessment*, page 1.
[860] £2.7 billion out of total £3.4 billion forecast TNUoS charges for 2020/21 were residual charges. See Table 4.1 within the CMA's *SSE Code Modifications Appeal 2021 Decision*, 30 March 2021.
[861] Targeted charging review: decision and impact assessment, paragraph 7.1.
[862] Targeted charging review: decision and impact assessment, paragraph 7.1.
[863] *Wilde 2 (GEMA)*, paragraph 44.

Chronology of consultation/decisions on the transfer of the cash flow timing risk

*RIIO-2 Sector Specific Methodology Decision (**SSMD**) and further consultation - ESO*

13.13 On 24 May 2019, as part of its work on the funding model for the ESO, GEMA set out its then current thinking that external costs should be passed through, with a margin if necessary. It would require the ESO to procure a working capital facility (**WCF**)[864] to mitigate the risks involved with the ESO's revenue collection role, the costs of which would be passed through.[865]

RIIO-2 methodology for the ESO

13.14 On 28 August 2019 GEMA made a decision on the future funding model for the ESO (**August 2019 Decision and Further Consultation)**. In the August 2019 Decision and Further Consultation, GEMA noted that one respondent (Centrica) to the May consultation had said that it might not be efficient for the ESO to bear all of the risk, given its relatively small size. Furthermore, the ESO, in its July 2019 response to the *RIIO-2 SSMD and further consultation – ESO*, had argued that a WCF would not mitigate all of its exposure and that there were other risks associated with revenue collection such as profit volatility and credit risk.[866]

13.15 GEMA recognised in its August 2019 Decision and Further Consultation the issue raised by Centrica over who is best placed to bear the TNUoS revenue collection risk associated with the onshore transmission networks, and its questioning of whether that is the ESO or TOs.[867] GEMA therefore proposed to explore the issue further and asked two 'revenue collection' consultation questions, namely:

(a) Do you agree that it could be more efficient if transmission network owners bear TNUoS revenue collection risk, to reflect respective variances between allowed and actual revenue?

(b) Do you agree that, to the extent not funded through other mechanisms, WCF costs could be passed through [to consumers]? Could this

[864] A WCF normally takes the form of a revolving credit facility from a bank or other lender. The role of a WCF is to provide financing for everyday business operations and help businesses to avoid the need to keep large cash deposits on hand at all times. This is distinct from debt financing related to longer-term or investment projects, which tends to be for set amounts and with longer terms until maturity.
[865] GEMA, 2019, *RIIO-2 SSMD and further consultation – Electricity System Operator*, 24 May 2019, paragraph 7.20.
[866] GEMA, 2019, *RIIO-2 methodology for the Electricity System Operator, Decision and further consultation (*August 2019 Decision and Further Consultation*)*, paragraph 3.46.
[867] August 2019 Decision and Further Consultation, paragraph 3.49.

arrangement be limited to arrangement fees, extension fees and commitment fees?[868]

RIIO-2 financial methodology and roles framework for the ESO

13.16 On 25 October 2019, in a section headed 'Revenue collection, financial resources and the working capital facility' with a subheading 'Update' GEMA noted that it would investigate in further detail the allocation of revenue collection risks. It stated that it aimed to publish a consultation before the end of the year which would consider where the cash flow risk associated with the collection of TNUoS charges was best placed, and how any changes to this would be implemented.[869]

TNUoS revenue collection risk consultation

13.17 On 18 December 2019, GEMA consulted on the revenue collection risk associated with TNUoS charges, with regard to how it could be moved from the ESO to the onshore TOs (**December 2019 Consultation**).[870]

Decision on re-allocation of TNUoS revenue collection risk

13.18 On 9 July 2020, GEMA published in an open letter its decision to reallocate the TNUoS collection cash flow timing risk from the ESO to the onshore TOs (**Policy Decision**).[871] GEMA stated that the decision would be effective from 1 April 2021 and that it would include the licence modifications associated with this decision alongside the wider RIIO-2 statutory consultation towards the end of 2020.[872]

13.19 With this Policy Decision, GEMA included a 1-page *Assessment of impacts of moving TNUoS Revenue Collection Risk from the ESO to the onshore TOs* as Annex 1.[873]

The RIIO-2 Decision

13.20 GEMA modified the ESO and onshore TO licences to give effect to its Policy Decision. GEMA's Decision modifies Standard Condition B12 of the TOs' and ESO's respective licences to include a requirement that the 'System Operator

[868] August 2019 Decision and Further Consultation, page 31.
[869] GEMA, 2019, *RIIO-2 financial methodology & roles framework for ESO*, 25 October 2019, paragraph 2.81.
[870] GEMA, 2019, *TNUoS Revenue Collection Risk Consultation,* 18 December 2019 (December 2019 Consultation).
[871] GEMA, 2020, *Decision on re reallocation of TNUoS risk (*Policy Decision*)*, 9 July 2020, page 3.
[872] Policy Decision, page 4.
[873] Policy Decision, page 5.

– Transmission Owner Code' which governs the relationship between the ESO and the TOs:

> sets out terms by which the system operator allocates transmission network revenue, consistent with the principles that the system operator will only allocate invoiced transmission network revenue [net of certain deductions] to transmission owners. Any difference between invoiced transmission network revenue and maximum revenue will be fully shared between transmission owners. Each transmission owner's share will be proportionate to their share of maximum revenue as notified to the system operator by the transmission owners. The licensee shall use reasonable endeavours to ensure terms are in place that facilitate its compliance with the requirements of this condition no later than 1 July 2021, or such other date as directed by the Authority.[874]

The grounds of appeal

13.21 SSEN-T submitted that GEMA's decision to proceed with the licence modification under section 11A of EA89 in a way which transferred TNUoS revenue collection cash flow risk from the ESO to the TOs was wrong on the following statutory grounds:[875]

(a) By creating a serious risk that SSEN-T would be routinely and enduringly underfunded, GEMA had failed properly to have regard to and/or to give the appropriate weight, in accordance with section 11E(4)(a) and (b) of EA89, to:

(i) the interests of existing and future consumers in the delivery of a secure electricity supply and in reducing electricity-supply emissions of targeted greenhouse gases (sections 3A(1)-(1A) of EA89);

(ii) the need to secure that all licence holders are able to finance their activities (section 3A(2)(b) of EA89); and/or

(iii) the Social and Environmental Guidance issued by the Secretary of State and the related Net Zero Duty (section 3B(2) of EA89).

(b) GEMA's decision was based on errors of fact and/or law (in particular the public law duty to reach reasonable decisions) (section 11E(4)(c) and (e) of EA89).

[874] Transmission Licence Standard Conditions (SSEN-T NoA Exhibit, Tab 14).
[875] SSEN-T NoA, paragraph 7.36.

13.22 In its appeal, SSEN-T challenged GEMA's decision to transfer the cash flow risk to it. The errors that SSEN-T alleged in its NoA are:[876]

(a) Alleged fundamental disconnect between risk and responsibility;

(b) Alleged lack of compensation for additional costs arising from cash flow timing risk;

(c) Alleged putting SSEN-T at risk of failing to meet obligations under its licence;

(d) Alleged lack of evidence or analysis to demonstrate costs to the industry would be more efficient were onshore TOs, rather than the ESO, to bear the risk;

(e) Alleged failure to conduct an impact assessment; and

(f) Alleged failure to consult on the risk transfer.

13.23 We address the alleged errors (as set out in paragraph 13.22) in the following way below. Errors (a) and (b) relate to the policy issues that SSEN-T alleged were wrong. Our assessment therefore focuses on these two errors. Error (c) follows on from errors (a) and (b). Errors (d) to (f) relate to the process followed by GEMA in coming to the decision subject to appeal, which we address together, see paragraphs 13.100 to 13.131 below.

Alleged fundamental disconnect between risk and responsibility (error (a))

SSEN-T's submissions

Alleged disconnect between risk and responsibility

13.24 SSEN-T submitted that under GEMA's Decision the party responsible for forecasting demand and generation and setting TNUoS charges accordingly (the ESO) was disconnected from the parties who bore the financing and administrative costs arising if such forecasts were inaccurate. SSEN-T said that this would, as a result, lead to a mismatch between (i) the amounts that the ESO invoiced the generators and suppliers of electricity and (ii) the amounts ultimately due from the ESO to the (onshore) TOs.[877]

13.25 That disconnect, SSEN-T submitted, disincentivised the ESO from making accurate demand and generator forecasts. According to SSEN-T, that disincentive could perpetuate the existing average TNUoS shortfall of £63

[876] SSEN-T NoA, paragraphs 7.21–7.35.
[877] SSEN-T NoA, paragraph 7.22.

million per annum, if not cause the shortfall to increase over time.[878] SSEN-T disagreed with GEMA's view that the ESO could be incentivised to be accurate in its forecasting role even if it did not bear the TNUoS cash flow risk. SSEN-T argued that GEMA had in fact weakened the accuracy incentives for the ESO through removing the previous penalty interest rate for inaccurate forecasts and had failed to define the level of penalties or rewards for any alternative mechanism to incentivise accuracy.[879]

13.26 SSEN-T submitted that GEMA had allocated the risk of cash flow volatility to the parties that it considered were best placed to withstand it (the TOs) rather than the party best able to manage it (the ESO). According to SSEN-T, the correct solution to the problem would be to ensure that the ESO was sufficiently incentivised to perform through risk mechanisms and allowances in its price control, not by inappropriately moving the risk elsewhere.[880]

13.27 The result, SSEN-T submitted, left it exposed to a perpetual and potentially increasing cash flow risk as an annual under-recovery by the ESO would effectively result in an enduring reduction in its allowed revenue. SSEN-T expected the exposure to be between £15 million and £60 million per annum on the assumption that the ESO's forecasting accuracy did not deteriorate and that any under-recovery was recovered in the subsequent year. If the ESO's forecasting accuracy were to deteriorate, as SSEN-T submitted was likely, then the exposure could be significantly higher.[881] SSEN-T submitted that it would be left underfunded to deliver its contribution to the investment needed to deliver Net Zero.[882]

13.28 SSEN-T submitted that GEMA was wrong to suggest that its decision aligns the transmission and distribution sectors. In the distribution sector each network was responsible for setting its own tariffs.[883]

13.29 SSEN-T submitted that GEMA's comparison of the current position with that before the introduction of BETTA in 2005 – see paragraph 13.39 – was invalid. Pre-BETTA, SSEN-T submitted, there had been no disconnect between risk and responsibility for TNUoS charging because, at that time, the TOs forecasted demand/generation and collected TNUoS revenue directly from users of the network. SSEN-T noted that, in any case, the industry was fundamentally different in the pre-BETTA period at a time when the ESO did not exist, including in terms of structure, number of market participants, regulatory context, size and complexity. SSEN-T stated that no reliance could

[878] SSEN-T NoA, paragraph 7.23.
[879] SSEN-T NoA, paragraph 7.24.
[880] SSEN-T NoA, paragraph 7.25.
[881] SSEN-T NoA, paragraph 7.26.
[882] SSEN-T NoA, paragraph 7.27.
[883] SSEN-T Reply, paragraph 6.3 e).

be placed on the position in the pre-BETTA period to support GEMA's decision.[884]

13.30 In response to our provisional determination, SSEN-T reiterated its view that the risk of bearing the consequences of under-recovery was the strongest forecasting accuracy incentive that could be placed on the ESO.[885] The incentive framework for the ESO in place for RIIO-2 could not, it argued, provide an adequate substitute for the direct incentive to forecasting accuracy that came from the ESO bearing the TNUoS cash flow risk. In its view the evidence clearly pointed to a future deterioration of the ESO's forecasting accuracy, and therefore a corresponding increase in the size of the annual TNUoS under-recovery.[886] The real question, SSEN-T argued, was whether we had compelling evidence before us that the ESO had been sufficiently incentivised to forecast accurately in the absence of it bearing the TNUoS cash flow risk.[887]

Alleged exposure to underfunding

13.31 SSEN-T submitted that the historical data showed a clear bias in favour of under-recovery. It argued that GEMA's claim that there was no evidence to suggest that the ESO would systematically err in the direction of under-recovery is plainly incorrect. According to SSEN-T, the data concerning the years 2013/14 to 2019/20 that the ESO provided to SSEN-T shows that the ESO:[888]

(a) under-recovered in five out of seven years by a minimum of £60 million;

(b) under-recovered in consecutive years three times during this period;

(c) under-recovered by £183 million in 2014/15; and

(d) under-recovered by an average of £63 million over the period.

13.32 SSEN-T submitted that, since the ESO bore the cash flow risk during this period, it is fully justified in expecting the ESO's forecasting performance to be at least as bad in the future. It argued that there was no basis on which GEMA could have concluded that the ESO's performance in this respect would materially improve as a consequence of the decision.[889]

[884] SSEN-T Reply, paragraph 6.2 a).
[885] SSEN-T response to the PD, paragraph 5.18.
[886] SSEN-T response to the PD, paragraph 5.31.
[887] SSEN-T response to the PD, paragraph 5.13.
[888] SSEN-T Reply, paragraph 6.2 b).
[889] SSEN-T Reply, paragraph 6.2 b). We understand the SSEN-T Reply to be referring to the decision on the ESO's regulatory framework.

13.33 SSEN-T submitted that continual annual under-recovery each year created a situation of perpetual under-recovery. SSEN-T stated that GEMA was being 'wilfully obtuse' in its position that SSEN-T was only exposed to delayed recovery. If the ESO under-recovered by a material amount on an annual basis, then any reconciliation of previous under-recovery would be offset by the further under-recovery in the year in question. In other words, continual annual under-recovery amounted to de facto perpetual under-recovery for SSEN-T. Its concern in this regard was fully justified by the ESO's historical performance.[890]

13.34 SSEN-T submitted that GEMA had materially weakened the ESO's accuracy incentives. The evidence clearly contradicted its suggestion in its Response (see paragraphs 13.40 to 13.43) that it had introduced a sufficient incentive framework to mitigate the risk of inaccurate forecasting by the ESO (a risk acknowledged by GEMA). SSEN-T said that the strongest incentive to accuracy is bearing the risk of under-recovery itself. Not only had GEMA removed this but it had also removed the penalty term in the ESO's licence for under-recovery. Moreover, the incentive framework that GEMA had introduced for the ESO during RIIO-2 was so weak, indirect and ill-defined that it was possible for the ESO to materially under-perform in its TNUoS forecasting role and yet earn a reward of at least £2 million, if it performed well in other areas. SSEN-T argued that it was therefore fully justified in its concern that the ESO's performance would likely deteriorate during RIIO-2 as a result of GEMA's decision, a risk that GEMA clearly acknowledged.[891]

13.35 In response to the provisional determination, SSEN-T argued that the ESO would plainly not have 'more to lose than gain'[892] in failing to improve its TNUoS performance. SSEN-T argued there might be circumstances where the costs that the ESO would have to outlay to improve its performance on those performance measures relating to forecasting TNUoS charges accurately would exceed the benefit that the ESO would obtain from doing so.[893]

13.36 SSEN-T submitted that GEMA's enforcement record also did not create sufficient incentives for the ESO. GEMA sought to position its recent £1.5 million fine that it had imposed on the ESO for inaccurate forecasting as evidence of the incentives on the ESO to improve its performance in RIIO-2.[894] However, this fine related to inaccuracies in seven-day ahead demand forecasts, not the ESO's annual forecasts relating to TNUoS. In fact, GEMA

[890] SSEN-T Reply, paragraph 6.2 c).
[891] SSEN-T Reply, paragraph 6.2 d).
[892] See paragraph 13.63 for a fuller reference to what GEMA told us.
[893] SSEN-T's response to the PD, paragraph 5.30.
[894] See paragraph 13.42.

had not fined the ESO at all in respect of the forecasting errors which led to the 'massive' TNUoS under-recovery between 2013/14 and 2019/20. There was, SSEN-T contended, no basis for believing that a fine would do anything to encourage the ESO to improve its performance during RIIO-2. Such forecasting errors in the charging regime, SSEN-T submitted, were a material issue for licensees.[895]

13.37 SSEN-T submitted that GEMA was wrong to suggest that the changes that it may implement as part of its TCR would do anything to improve the ESO's performance.[896]

13.38 In response to the provisional determination, SSEN-T noted that the TCR addressed changes to 'residual charges' but those charges were only one of two types of charges that made up the TOs allowed revenue, the other being 'forward looking charges'. The CMA, SSEN-T observed, had not considered the relative size of these two sets of charges and thus the absolute impact of the move to fixed rather than consumption based 'residual charges'.

GEMA's submissions

Alleged disconnect between risk and responsibility

13.39 GEMA submitted that under the RIIO-2 price control, the ESO would continue to set and collect TNUoS charges but would only be required to account to the TOs for the (variable) charges collected, rather than accounting on the basis of forecast recovery. Thus, TOs would once again be exposed to the cash flow risk of delayed recovery of allowed revenues, as they were prior to the introduction of BETTA.[897]

13.40 GEMA submitted that SSEN-T's claims should be rejected because it had recognised the need for appropriate incentivisation for the ESO to provide accurate forecast and tariff calculations, and had introduced changes to the ESO regulatory framework for RIIO-2 to mitigate forecasting risk.[898] For RIIO-2, the ESO's performance in relation to TNUoS formed part of the evaluation of the ESO and would be explicitly considered in the following ways:

(a) specific performance expectations to forecast accurately and manage an efficient charging process through the ESO Roles Guidance;

[895] SSEN-T Reply, paragraph 6.2 e).
[896] SSEN-T Reply, paragraph 6.2 f). SSEN-T referred to *Wilde 2 (GEMA)*, paragraph 44.
[897] GEMA Reply, paragraph 500.
[898] GEMA Reply, paragraph 517.

(b) an explicit requirement to provide evidence after the end of the accounting period to GEMA on the accuracy of its TNUoS forecasts in its published incentives performance reports; and

(c) a defined, multi-layered, process of collation, publication and overview of evidence from stakeholders, which gives several routes to SSEN-T to influence the ESO's incentives outcome where it believes the ESO's performance on TNUoS charging to be insufficient.[899]

13.41 GEMA submitted that it had removed the ESO's totex incentive mechanism and that created a material shift in incentives from cost efficiency towards quality of service compared to RIIO-1.[900]

13.42 As a result of these and other ESO RIIO-2 framework changes, GEMA submitted that there would be an increased incentive on the ESO to deliver a good service in relation to TNUoS charging rather than to seek cost reductions in that area.[901] Furthermore, the ESO is under a licence obligation to produce and publish accurate and unbiased forecasts. GEMA explained that it actively enforces that condition, recently notifying the ESO of a penalty of £1.5 million for a suspected breach of that obligation.[902]

13.43 There is therefore, GEMA submitted, no material risk that forecasting performance would deteriorate. Indeed, SSEN-T had provided no evidence for this development. The 'disconnect' would not therefore lead to the detrimental impact which SSEN-T claimed.[903]

Alleged exposure to underfunding

13.44 GEMA submitted that SSEN-T's claims[904] should be rejected. In deciding to transfer the cash flow risk, GEMA had recognised the need for appropriate incentivisation for the ESO to provide accurate forecast and tariff calculations and GEMA had introduced changes to the ESO framework for RIIO-2 to mitigate forecasting risk.

13.45 The figures SSEN-T had quoted, did not, GEMA submitted, represent any permanent under-recovery for it, but rather delayed recovery relative to an assumed profile. GEMA was unclear how SSEN-T had arrived at its figure for the average shortfall value of £63 million but noted that under RIIO-2 SSEN-T would only be exposed to approximately 22% of any TNUoS shortfall. That

[899] GEMA Reply, paragraph 518.
[900] GEMA Clarification Hearing Opening Statement, Session 2B, 21 May 2021, slide 5.
[901] GEMA Reply, paragraph 519.
[902] GEMA Reply, paragraph 520.
[903] GEMA Reply, paragraph 522.
[904] As set out in paragraphs 13.31–13.37 above.

22% represented SSEN-T's share of the annual TNUoS revenues collected by the ESO.[905]

13.46 GEMA submitted that there was no evidence of a systematic bias in favour of under-recovery, and there was no basis to the claim that the shortfall would be perpetuated or increase over time. While the direction of any forecasting error (ie whether it led to an under- or over-recovery) by the ESO was unpredictable, there was no evidence or reasonable hypothesis to suggest that the ESO would systematically err in the direction of under-recovery – a necessary condition for the scenario identified by SSEN-T to materialise. Furthermore, any under/over-recovery could be reconciled or settled with a 1-year lag, and therefore would not result in a perpetual shortfall of revenue.[906]

13.47 GEMA submitted that the cash flow risk was already reflected in SSEN-T's price control package in the following ways:

(a) SSEN-T's assumed equity beta was informed by National Grid's observed beta for the period 2005-2020, during which NGET had carried the cash flow risk of under-recovery of TNUoS charges for all of the GB TOs. As a result, the cash flow risk was captured in SSEN-T's equity beta and therefore in the allowed return on equity.[907]

(b) Any under-recovery would be captured and remunerated through a time value of money adjustment, (the 'K' correction term adjustment).[908]

(c) GEMA had provided SSEN-T with an annual funding of £0.9 million for liquidity/Revolving Credit Facility (**RCF**)[909] of around £240 million when setting the allowed return on debt.[910]

13.48 GEMA submitted that, if the TOs were now taking a material risk, it had in the past arguably over-rewarded the Scottish TOs (SSEN-T and SPT) because they had been awarded the same beta as National Grid, and it had previously been National Grid which had been taking the risk.[911]

13.49 GEMA submitted that interest costs associated with the under/over-recovery would be funded via a Sterling Overnight Index Average (**SONIA**)+115 bps allowance, rather than WACC. It had consulted on applying a different

[905] GEMA Reply, paragraph 507.
[906] GEMA Reply, paragraph 508.
[907] GEMA further submitted that, were indeed the cash flow risk to be material, the use of NG plc's beta might over-estimate the risk for SSEN-T. SSEN-T would only be taking a proportion of that risk, whereas NG plc held it on behalf of all of the GB TOs.
[908] See RIIO-2 Final Determinations – Finance Annex, 3 February 2021, page 126.
[909] A RCF is a flexible lending arrangement that allows business to draw down and repay funds as required – akin to an overdraft facility in personal banking.
[910] GEMA Reply, paragraph 509.
[911] GEMA Clarification Hearing Transcript, 21 May 2021, page 127, lines 8 -12.

approach but the industry, including SSEN-T, had preferred to continue to apply the historical approach of applying an allowance related to short-term cost of debt for the pre-agreed compensation mechanism for moving money around.[912]

13.50 GEMA submitted that in reality it was highly unlikely that SSEN-T would need a £65 million RCF because it already had a very large RCF to manage a portfolio of cash flow risks. So, unless this new risk was perfectly correlated with their existing risks, the need for a bigger facility would be significantly less.[913]

13.51 GEMA stated that the magnitude of cash flow volatility (ie absolute value of differences between allowed and actual revenues) for SSEN-T and other TOs was approximately 0.3% of their respective Regulatory Asset Values (**RAVs**). That was directly comparable to the cash flow volatility borne by other licensees in the gas distribution, electricity distribution and gas transmission sectors that were being funded on a similar basis to SSEN-T. GEMA estimated that the range for that ratio across these firms over RIIO-1 had been between 0.2% and 0.4%.[914]

13.52 GEMA submitted that SSEN-T needed to demonstrate a funding shortfall before the CMA could find in its favour. It submitted that SSEN-T's NoA had not quantified the extent of any alleged funding shortfall or estimated the impact of GEMA's alleged errors in relation to TNUoS risk.[915] GEMA, however, had sought to illustrate this for SSEN-T on a standalone basis, estimating the value to be £0.3 million per year (equivalent to 0.05% of its revenue). That estimate was based on the cost of arranging a RCF for £65 million, being 22% of the ESO's estimate of the reduction in its required working capital attributable to the transfer of cash flow risk to the TOs.[916] However, from that £0.3 million per year, one would need to deduct a reasonable estimate of the funding for TNUoS risk implicit in the overall cost of equity and cost of debt funding provided in RIIO-2, something that would not be a straightforward calculation.[917]

13.53 It was clear, GEMA submitted, from that analysis that any additional cost associated with the transfer of cash flow risk from the ESO to SSEN-T not already captured in its existing cost of funding allowance was likely to be zero

[912] GEMA Clarification Hearing Opening Statement, Session 2B, 21 May 2021, slide 4.
[913] GEMA Clarification Hearing Transcript, 21 May 2021, page 127, lines 18-25.
[914] GEMA Reply, paragraph 510.
[915] GEMA Reply, paragraph 511.
[916] GEMA Reply, paragraph 512.
[917] GEMA Reply, paragraph 513.

or small. None of the TOs, including SSEN-T, had provided any evidence to show a material impact on them.[918]

Our assessment

13.54 In this section, we first review some of the background assumptions put to us by SSEN-T, before coming to a conclusion regarding error (a).

Whether GEMA's approach to TNUoS policy results in a disconnect between risk and responsibility.

13.55 SSEN-T's first complaint relates to the collection of TO revenues. As a starting point, it is evident that TO revenues (both onshore and offshore) have to be collected somehow. In addition, it seems logical to us that the approach to recovery of the revenues across generators and suppliers reflects their respective demands on the GB-wide system as a whole. This implies that the responsibility for billing and collection of these revenues sits naturally with the body responsible for the GB-wide system, namely the ESO. We agree with GEMA that when acting in this capacity the ESO is acting as a revenue collection agent for the onshore TOs.

13.56 The GB-systems-wide methodology for recovery of costs through charges is determined by GEMA and, to a certain extent, by industry participants collectively. The ESO is responsible for implementing that recovery methodology on the basis of, amongst other things, forecast volumes of supply by generators and volumes of demand by suppliers across the whole of GB.

13.57 Under these arrangements, where the ESO acts on behalf of other market participants, there is a disconnect between risk and responsibility in that the ESO is responsible for setting tariffs for the following year and predicting the amounts that would be raised based on those tariffs, but does not bear the financial consequences. These predictions rely on assumptions which may be wrong, meaning that tariffs are higher or lower than required to recover the revenues due to the TOs. The costs that arise from the existence of this forecasting risk have to be allocated across one or more firms. The cash flow timing risk previously sat with the ESO but now sits with the onshore TOs in respect of their proportionate share of total TO revenues.

13.58 We therefore find that what SSEN-T describes as the 'fundamental disconnect' is a feature of the system in that whoever is responsible for GB-systems-wide volume forecasting is inevitably doing so in order to recover the

[918] GEMA Reply, paragraph 514.

revenues of others. Previously the ESO was responsible for forecasting the volumes so that revenue could be billed and collected on behalf of other parties. It held the cash flow timing risk even though the risk did not relate to its revenues. Following the Decision, the ESO is still responsible for forecasting the volumes but the cash flow timing risk sits with the parties to whom the revenues relate.

Forecasting error is also a feature of the system

13.59 As explained in paragraph 13.55 above the recovery methodology is determined by GEMA and, to a certain extent, by industry participants collectively. It is not the ESO which determines this. As explained in paragraph 13.5 the revenues due to the TOs are fixed amounts determined for the year for the following billing year via the Price Control Financial Model (**PCFM**), whereas the sums raised are volume dependent. Inevitably there will be some discrepancy resulting from such an approach. The body that is responsible for forecasting will experience forecasting errors even if it has economic incentives to get its forecasting right.

13.60 GEMA acknowledged that its decision to transfer the cash flow timing risk would not reduce the risk; rather the new approach was designed to incentivise the ESO to undertake the exercise with the same care and diligence as before.[919] In other words, under the RIIO-2 settlement, the ESO should be incentivised to maintain its existing forecasting performance even if it is no longer facing the same risks in respect of the financing consequences of any errors in forecasting.

13.61 We also note that GEMA told us in its main hearing that upcoming changes to recovery methodology resulting from the TCR would most likely improve accuracy as residual charges would be based on the number of sites that consume electricity rather than volumes produced or consumed.[920] We agree that such an approach should, all other things remaining the same, improve forecasting accuracy. That is because the number of sites does not vary significantly from year to year, whereas volumes might. This is notwithstanding the fact that generator revenues are still based on volumes and are subject to a price cap.

13.62 These ‘generator revenues’, ie the TNUoS charges levied on generators, vary in the first instance according to the characteristics of the individual generators concerned, most notably their location. These charges, unlike residual charges, are designed to incentivise, amongst other things, where

[919] GEMA Main Hearing Transcript, 8 July 2021, page 56, lines 16–19.
[920] GEMA Main Hearing Transcript, 8 July 2021, page 58, lines 16–21.

generators choose to locate themselves in GB. Charges intended to incentivise particular types of behaviour are sometimes referred to as 'forward-looking' charges as the level and the structure of the charge is intended to reflect the opportunity cost to the transmission network system of individual generators' choices. These 'forward looking' transmission charges in aggregate are worth around £0.7 billion out of a total £3.4 billion per year (see paragraph 13.12). As explained in paragraph 13.6, generator charges are subject to a volume-based price cap, which means that, whilst individual generators incur 'forward looking' charges specific to them, their charges in aggregate are capped.

13.63 We acknowledge SSEN-T's concern that the ESO could be disincentivised from improving the accuracy of its estimates of demand for a given period, because any financing charges arising from its inaccuracies would be borne by the onshore TOs. SSEN-T also told us that, in its view, current reporting by the ESO is 'relatively basic'.[921] We also note SSEN-T's contentions that insufficient incentive properties have been incorporated within the ESO price control settlement (see paragraph 13.30). We heard from GEMA that the ESO would not be disconnected from the risk of poor forecasting. The ESO's RIIO-2 framework which is reflected in the separate ESO price control settlement, GEMA explained, provided it with more than sufficient incentive to forecast TNUoS accurately.[922] The ESO had, GEMA continued, considerably more to lose than gain from underfunding, under-managing or inadequately engaging in relation to its TNUoS activities. In GEMA's view there was no logical reason for the ESO to adopt that strategy.[923] We have taken GEMA's views into account in reaching our conclusion.

13.64 In response to the provisional determination, SSEN-T submitted that: (i) we had not carried out any critical analysis of GEMA assertions as set out in the previous paragraph; (ii) nor had we engaged with its submissions on the incentive mechanisms under the ESO Reporting and Incentives Arrangements guidance document;[924] (iii) nor had we investigated the operation of that mechanism for ourselves.[925]

13.65 However, the ESO price control settlement was the subject of a separate decision by GEMA and is not under appeal before us. Accordingly, we take the ESO price control settlement as a given. Therefore, the question of whether the incentive regime for the ESO has been appropriately calibrated, including the incentives relating to the setting of TNUoS tariffs, so that they

[921] SSEN-T Main Hearing Transcript, 29 June 2021, page 33, lines 15–17.
[922] GEMA Main Hearing, TNUoS Slides, 8 July 2021, page 5.
[923] GEMA Main Hearing, TNUoS Slides, 8 July 2021, page 6.
[924] The Electricity System Operator Reporting and Incentives Arrangements: Guidance Document, 17 March 2021.
[925] SSEN-T response to PD, paragraph 5.26.

are likely to recover the amounts intended, is part of the ESO price control settlement, not this price control settlement. We therefore reject SSEN-T's criticisms in the preceding paragraph.

13.66 GEMA, however, does recognise that it has an important role to play in actively monitoring the provisions of the ESO settlement in this area.[926] We note that it has in the past taken action in this area and we expect GEMA to further step up its scrutiny of ESO performance in tariff setting, following up as necessary, to ensure outcomes are as intended.

13.67 We in any case do not accept SSEN-T's contentions that there is no substitute for incentivising the ESO to forecast accurately by means of it bearing this risk (see paragraph 13.30). As explained in paragraphs 13.4 to 13.6, the ESO is required to use the charging methodology approved by GEMA. The amounts currently collected are to a significant extent based on outturn volumes rather than the expected volumes it would use when forecasting. This inevitably means that there can be a significant difference between the amounts billed to suppliers and generators and the amounts that are due to be paid to the TOs for reasons that will be to a significant extent outside the direct control or influence of the ESO. We observe that significant differences arose over RIIO-1 throughout which the cash flow timing risk sat with the ESO (see Table 13-1).

Our conclusion regarding error (a)

13.68 For the above reasons explained in paragraphs 13.55 to 13.58, our view is that GEMA was not wrong to implement a decision which results in a disconnect between the party responsible for forecasting volumes, the ESO, and the parties who now bear the cashflow timing risk, in this case the onshore TOs (but for whose benefit that forecasting was undertaken in order to raise the TOs' revenues). In reaching this view we note that previously there had been a disconnect but it was between the party bearing the risk (the ESO) and the parties for whose benefit the revenues were being raised (the TOs). Either way there is a disconnect.

13.69 As explained in paragraphs 13.59 to 13.63 the fact that there is forecasting error, which is central to the disconnect, is inherent within the system. Given that, GEMA's decision is one of a number of ways to allocate the risks associated with that disconnect, risks that GEMA, as explained in paragraph 13.63, has sought to mitigate.

[926] See paragraph 13.42.

13.70 GEMA made a choice between a) the cash flow risk staying with the standalone ESO, b) the risk being distributed across onshore TOs and c) the risk being distributed across onshore and offshore TOs. In our view, GEMA had good reason to implement an approach that would transfer the risk away from the standalone ESO, as it would be less well placed to manage the effects of bearing the risk. Accordingly, SSEN-T has failed to persuade us that GEMA's decision to implement option b) was not an appropriate exercise of regulatory judgement that fell within its margin of appreciation.

13.71 As a result, we conclude that GEMA was not wrong to implement a decision which results in a disconnect between the party responsible for forecasting volumes, the ESO, and the parties which bear the associated cashflow timing risk (but on whose behalf that forecasting was undertaken), in this case the onshore TOs.

Alleged lack of compensation for additional costs arising from cash flow timing risk (error (b))

SSEN-T's submissions

13.72 SSEN-T submitted that, contrary to its claims, GEMA had provided onshore TOs with no compensation for the costs associated with the TNUoS cash flow timing risk, either through additional totex allowances or through an uplift to the WACC. The ESO, however, had been given an allowance of between £5 million and £6 million per annum during RIIO-2 to cover risk and cash flow management costs, despite the ESO no longer bearing the TNUoS cash flow risk. The Decision therefore amounted to an unfair and inappropriate cross-subsidy of the ESO by the TOs.[927] In fact there had been no difference in the funding allowance afforded to the ESO in the price control as a result of the transfer of this risk.[928]

13.73 In response to GEMA's explanation of how it had been remunerated (see paragraph 13.76), SSEN-T submitted that the remuneration package was not adequate:

(a) GEMA had made errors in estimating the beta, meaning it did not reflect an appropriate level of risk for the TOs and it therefore could not capture the TNUoS cash flow risk.

(b) While it was correct that the Kt correction term in SSEN-T's licence contained a term for the time value of money, that amounted to only 1.2% whereas its assumed cost of borrowing during RIIO-2 was 3.6%. SSEN-T

[927] SSEN-T NoA, paragraph 7.28.
[928] SSEN-T Clarification Hearing Transcript, 14 May 2021, page 28, lines 15–17.

could not, therefore, fully recover the funding costs of the cash flow risk in the way that GEMA suggested.

(c) The RCF for which SSEN-T had been funded was not intended to cover TNUoS under-recovery. SSEN-T's RCF allowance of £0.9 million per year was to fund 10% of its notional 55% gearing of its RAV during RIIO-2 (which was due to grow during the period as a result of the capital investment envisaged by its business plan). Any borrowing to cover TNUoS under-recovery would be in addition to this 55% gearing, meaning that it would either have to borrow more than GEMA assumed in the price control (raising financeability concerns) or scale back its investment programme during RIIO-2.

(d) GEMA was treating the ESO and onshore TOs inconsistently. GEMA was continuing to fund the ESO in its revenue collection role despite the ESO no longer carrying the TNUoS cash flow risk. The determining factor of the costs to the party bearing the risk was its credit rating, not the relative size of its RAV, and the respective credit ratings of the ESO and the onshore TOs were not materially dissimilar.[929]

13.74 SSEN-T submitted that GEMA's £0.3 million estimate of the annual cost to it of bearing the cash flow risk was a significant under-estimate of the materiality of the cost to SSEN-T. It said that assuming the best-case scenario in which the ESO's performance was no worse than it was between 2013/2014 and 2019/20 and where SSEN-T did not seek any further sums via re-opener mechanisms, these costs could be in the region of £8 million to £10 million (not including arrangement fees). [930]

13.75 SSEN-T also submitted that the costs of it bearing the risk were likely to be significantly higher due to the increasing revenue over the period as a result of additional investment, including for Net Zero.[931]

GEMA's submissions

13.76 GEMA submitted that the cash flow risk to TOs was already reflected in the price control package in a number of ways (see paragraphs 13.44 to 13.47).[932] GEMA also submitted that it did not consider it necessary to give any additional funding to TOs, as GEMA believed they could manage cash flow risk without additional funding. This was consistent with the approach

[929] SSEN-T Reply, paragraph 6.3 a) to d). See also *Alkirwi-2 (SSEN-T),* paragraphs 14.3–14.5 on the credit rating point.
[930] SSEN-T Reply, paragraph 6.3 f).
[931] SSEN-T Reply, paragraph 6.3 f).
[932] GEMA Reply, paragraph 526.

taken to other sectors and prior to the NGET/ESO separation in April 2019.[933] The additional funding that GEMA had given to the ESO reflected asymmetric risk and contingent capital, a sum which could have been higher had the ESO continued to hold the TNUoS cash flow risk.[934]

13.77 GEMA told us in its hearing that the reasons why it had not proposed to increase SSEN-T's £240 million WCF were:

(a) it understood there was currently low utilisation of the WCF;

(b) there was no reason for it to think the risk is correlated with all of the other risks that SSEN-T managed using the WCF. In such circumstances a regulator would not typically just add on the full amount, because it is highly unlikely they would occur at the same time; and

(c) the same uplift in funding costs to support a notional working-capital facility is applied to other sectors[935] who already bear the cash flow timing risk. To its knowledge, no other network operator, for example gas transmission or gas distribution, had asked GEMA for a bigger WCF on account of that risk.[936]

13.78 GEMA also told us that revenue under-recoveries had always been compensated at something like Libor or SONIA plus a small premium but delays in allowances (ie 'revenue adjustments' as modelled in the PCFM) were remunerated at the WACC. It had consulted with the industry whether to merge these and have one unified time value of money rate, but the feedback, including that from SSEN-T, was to continue with existing practice into RIIO-2.[937]

Our assessment

Our analysis of the potential amounts involved

13.79 Central to the issue of whether the funding was adequate was whether there was in fact any systematic shortfall. The only evidence directly relevant to this point within the submissions was SSEN-T's analysis of the historical situation.

13.80 Table 13-1 below replicates the average shortfall figures provided by SSEN-T.

[933] GEMA Reply, paragraph 527.
[934] GEMA Reply, paragraph 528.
[935] We understand GEMA to be referring to the gas distribution, gas transmission and electricity distribution sectors. See Table 1 in *Wilde 2 (GEMA)*.
[936] GEMA Main Hearing Transcript, 8 July 2021, page 63, lines 4–13.
[937] GEMA Main Hearing Transcript, 8 July 2021, page 64, lines 13–14 and page 64, line 25 to page 65, line 3.

Table 13-1: Historical TNUoS revenue under-/over-recovery for the whole of GB

Year	*2013/14*	*2014/15*	*2015/16*	*2016/17*	*2017/18*	*2018/19*	*2019/20*	***Average***
Collected vs target (£m)	(60)	(183)	(120)	41	30	(87)	(60)	**(63)**
% under-/over recovery	-2.80%	-7.40%	-4.50%	1.50%	1.10%	-3.30%	-2.10%	**-2.41%**
Implied TNUoS revenues (£bn)	2.1	2.5	2.7	2.7	2.7	2.6	2.9	**2.6**
Under or over recovery year	Under	Under	Under	Over	Over	Under	Under	**Under**

Source: *Alkirwi 2 (SSEN-T)*, paragraph 3.1, Table 1, based on information SSEN-T received from the ESO in February 2021.

13.81 In considering SSEN-T's estimates of the costs that it would likely incur, we took SSEN-T's estimate of its share (22%) of the average shortfall (ie the £63 million) and multiplied it by the various candidate remuneration measures. These remuneration measures were as follows:

(a) Time Value of Money ie SONIA + 115 bps (= 1.2% per annum[938])

(b) Cost of debt ie long-term bond costs (= 3.6% per annum[939])

(c) Cost of capital ie WACC (= 4.7% per annum[940])

13.82 We multiplied the result by 5, the length of RIIO-2 price control in years, to provide an estimate of the total direct financing cost to SSEN-T for RIIO-2 based on the experience in RIIO-1. On this basis our estimate of SSEN-T shortfall is around £1 million if funded at the time value of money, around £2.5 million if funded at cost of debt and just over £3 million if funded at WACC.

13.83 We also note SSEN-T's observation that the size of its transmission business might grow substantially over RIIO-2, which might increase these numbers.

13.84 GEMA did not present any year-by-year analysis. It instead produced a table showing absolute under/over-recovery error, expressed as a proportion of RAV. The absolute error had been computed over the 8-year period of RIIO-1. This showed that the average error was 0.33%, in line with other types of network operator.[941] GEMA's analysis was presented for the purpose of illustrating the relative forecasting accuracy in different sectors, but is also relevant to the question of the size and financing cost of any shortfall in revenues for SSEN-T.

13.85 SSEN-T disagreed with our view in the provisional determination that the amounts at stake were 'very modest'. Whilst we had acknowledged that the size of the financing costs depended on the total amount of its allowed revenue after the operation of the RIIO-2 uncertainty mechanisms, we had not reflected that in our estimates. We had instead relied on the absolute

[938] *Alkirwi 2 (SSEN-T),* paragraph 10.5. These remuneration measures are all nominal rates of return.
[939] *Alkirwi 2 (SSEN-T),* paragraph 10.5.
[940] *Alkirwi 2 (SSEN-T),* paragraph 13.3.
[941] *Wilde 2 (GEMA)*, paragraphs 42–43, in particular Table 1, page 14.

historical average. That, SSEN-T explained, had the effect of underestimating the potential materiality of the financing costs. We disagree with SSEN-T's analysis here. If its business were to double in size, all other things remaining the same, so would the amount of any shortfall or excess. This does not make the issue any more or less material for SSEN-T than were it to, for example, remain the same size as it is now.

13.86 Our view is that the amounts at stake are modest both taken absolutely – see Table 13-1 (SSEN-T's preferred approach) – and taken relative to the size of network operators' RAVs (GEMA's preferred approach). Using the approach described above, and regardless of the financing cost measure taken, the largest figure we could arrive at was just over £3 million for a 5-year period based on the size of the average shortfall under RIIO-1. SSEN-T's estimate of the required additional remuneration for financing any shortfall of £8 million to £10 million in contrast relies on multiplying its WACC, rather than SONIA plus 115 bps, by the expected size of its business over RIIO-2 after the growth assumed in its business plan. To the extent that SSEN-T's asset base does grow significantly, the RIIO-2 settlement will provide additional returns to offset any increase in the cost of managing the cash flow timing risk.

13.87 In addition, we consider that the cash flow timing risk, ie the risk associated with the delayed receipt of revenues already due, is not in practice subject to any business risk at all, because:

(a) First, bad debt risk associated with non-payment by generators or suppliers is picked up by the ESO in the first instance and then recovered in future years across the remaining base of generators and suppliers;[942] and

(b) Second, the cash flow is known with certainty and therefore clearly distinct from the potentially uncertain returns arising from investing in fixed assets. The financial risk associated with TNUoS revenues is more comparable to the risk associated with a payment receivable at a future date where there is little or no credit risk. For this reason, the financing cost would be expected to be lower than the long-term cost of debt, and we agree with GEMA that a financing cost that is the commercial equivalent of the risk-free rate is appropriate.

13.88 We recognise that there are other aspects to the remuneration package for SSEN-T which are relevant to the transfer of risk to the onshore TOs. Both the WCF/liquidity allowance and the level of beta awarded to SSEN-T are set at a level which covers all the risks that SSEN-T faces, not only the cash flow

[942] GEMA Clarification Hearing Transcript, 21 May 2021, page 125, line 120.

timing risk it is bearing. In respect of the former, our view is that the shortfalls are unlikely to be correlated with the other risks that the WCF is designed to address (see paragraph 13.76).

13.89 In response to our provisional determination, SSEN-T contended that its WCF was intended to cover the WCF cost of the capital investment programme envisaged by its business plan, not the TNUoS cash flow risk.[943] Our understanding, however, is that the WCF allowance is not activity specific[944] and therefore would be calibrated at a level to cover the needs of all of SSEN-T's regulated activities.

13.90 GEMA's estimate of £0.3 million per year of the cost of arranging the facility needed was assessed based on the ESO's estimate of the reduction in the ESO's required working capital attributable to the transfer of cash flow risk to the TOs.[945] Even if there are other ways to arrive at this estimate, in our view the monetary impact on SSEN-T is likely to be small.

13.91 We also agree with GEMA that the beta figure (see paragraph 13.47(a)) used for setting SSEN-T's beta within the cost of capital calculation for the RIIO-2 price control, which is based on National Grid's observed beta, was measured during a period when National Grid had responsibility for this role over the relevant period, and so would take into account any associated risks.

13.92 In summary, our analysis of the financial consequences suggests the amounts are modest, and we do not accept SSEN-T's figures of £8 million to £10 million (see paragraph 13.74) as reasonable estimates of the likely actual cost. We also considered the choice of interest rate to be applied and concluded that, as a matter of economic theory, GEMA's choice of remuneration level (SONIA +115 bps) is appropriate, given the low risk associated with the timing of payments. We also accept GEMA's reasoning that there may also be some additional remuneration arising from the beta value chosen. Finally, we note that GEMA's approach of remunerating any shortfall at SONIA +115 bps will adjust automatically for growth in SSEN-T's RAV, so the absolute amount that it receives will adjust automatically for that factor.

[943] SSEN-T's response to the PD, paragraph 5.36 c).
[944] See paragraph 13.77.
[945] *Wilde 2 (GEMA)*, paragraph 47.

Our conclusion regarding error (b)

13.93 For the reasons explained above in paragraphs 13.79 to 13.92, we conclude that GEMA was not wrong to provide the compensation package it did to SSEN-T for bearing the TNUoS cash flow timing risk.

Alleged putting SSEN-T at risk of failing to meet obligations under its licence (error (c))

SSEN-T's submissions

13.94 SSEN-T submitted that by failing adequately to compensate SSEN-T for the TNUoS cash flow timing risk, GEMA put at risk SSEN-T's ability to meet Standard Condition B7 of its licence,[946] under which it was required to secure that it had available to it such resources that it would at all times be able:

(a) to properly and efficiently carry on the transmission business; and

(b) to comply in all respects with its obligations under its licence.[947]

13.95 GEMA, however, had essentially dismissed SSEN-T's concern by stating in the Policy Decision that:

> TOs have a role in tariff setting, and under our RIIO-2 proposals have a greater ability to forecast revenues. The risk is therefore not uncontrollable, in our view.[948] [949]

13.96 SSEN-T submitted that the ESO was not obliged to (and did not) provide the TOs with any access to data or information on its internal tariff-setting processes. The TOs had no authority over the level at which the ESO set TNUoS tariffs and were not consulted in any way to approve or endorse them.[950] The suggestion that the onshore TOs had the ability to influence the ESO's TNUoS tariff setting process was therefore wholly incorrect.[951]

GEMA's submissions

13.97 This claim (error (c)), GEMA submitted, should be rejected for the reasons outlined in its response to error (a) (see paragraphs 13.39 and 13.53 above). Any additional cost associated with the transfer of cash flow risk from the ESO

[946] GEMA, 'Electricity Transmission Standard Licence Conditions', NOA-1 / Tab 14.
[947] SSEN-T NoA, paragraph 7.29.
[948] Policy Decision, SSEN-T NOA-1 / Tab 41 / Response to Q1.
[949] SSEN-T NoA, paragraph 7.30.
[950] SSEN-T NoA, paragraph 7.31.
[951] SSEN-T NoA, paragraph 7.32.

to SSEN-T not already captured in its existing cost of funding allowance was likely to be zero or small (see paragraph 13.76 above).

Our assessment and conclusion regarding error (c)

13.98 We agree with GEMA that this aspect of SSEN-T's appeal is effectively covering the same issues as error (a) and error (b) above. Had we found that GEMA had wrongly transferred risk to SSEN-T that it was unable to manage, or failed to provide appropriate compensation, then this would potentially require SSEN-T to incur unfunded costs to achieve its licence obligations.

13.99 As explained above in paragraphs 13.54 to 13.71 and 13.79 to 13.93, our view is that GEMA was neither wrong to transfer the cash flow timing risk in relation to TO revenues from the ESO to the respective onshore TOs nor to provide the remuneration package it did. As a result, we conclude that GEMA did not put SSEN-T at risk of failing to meet its obligations under its licence.

Alleged procedural deficiencies (errors (d) to (f))

13.100 Below we handle together additional errors alleged by SSEN-T in respect of the process followed by GEMA. See also paragraph 13.22. We set out the submissions error by error before concluding with an overall assessment. The three alleged errors are:

(a) Alleged lack of evidence or analysis to demonstrate costs to the industry would be more efficient (error (d));

(b) Alleged failure to conduct an impact assessment (error (e)); and

(c) Alleged failure to consult on the risk transfer (error (f)).

Alleged lack of evidence or analysis to demonstrate costs to the industry would be more efficient were onshore TOs, rather than the ESO, to bear the risk (error (d))

SSEN-T's submissions

13.101 SSEN-T submitted that GEMA had asserted that costs would be (collectively) lower for the onshore TOs because they had larger RAVs than the ESO. GEMA, however, had failed to recognise that the determining factor of the borrowing costs of a regulated company was its credit rating, not its RAV. Given that the ESO's and the onshore TOs' respective credit ratings were not materially dissimilar, in the absence of any analysis to demonstrate

otherwise the presumption must be that the costs to the industry would broadly be the same for the onshore TOs as they were for the ESO.[952]

13.102 In fact, SSEN-T submitted that the costs to the industry might be higher as a result of the Decision, owing to the inefficiency of spreading the necessary working capital facilities to manage the cash flow risk and administrative costs across four companies rather than one company. GEMA had presented no evidence to show that it would not be, and had wrongly placed the burden of proof on SSEN-T.[953]

13.103 Furthermore, GEMA had assumed without any supporting evidence or analysis that the ESO's forecasting inaccuracy would not deteriorate as a result of the Decision.[954] In addition, SSEN-T submitted, GEMA had failed to consider the cost of any reward-based financial incentive necessary to ensure that the ESO remained accurate in its forecasts.[955]

13.104 SSEN-T submitted that GEMA's submissions indicated that the cost to the industry may have risen as a result of its decision. The potential costs to it of funding the TNUoS shortfall during RIIO-2 were higher than the equivalent costs to the ESO even in the unlikely best-case scenario. This was consistent with the fact that GEMA's notional cost of debt for the ESO is lower than that for the TOs and indicates that the costs to the industry may have risen as a result of GEMA's decision.[956]

13.105 SSEN-T submitted that GEMA had wrongly attempted to put the burden of proof on it. However, the fact that (in GEMA's view) SSEN-T had not presented evidence that disproved the basis for GEMA's conclusion that the costs to industry would be lower obviously did not, in itself, mean that the decision was justified.[957]

13.106 SSEN-T referred to GEMA's claims in its Response that the ESO's credit rating had increased as a result of its decision. However, GEMA's cost of debt allowance for the ESO and TOs was based on a Baa1 credit rating (ie the rating of the ESO prior to the increase) meaning that there has been no cost reduction to the industry as a result of GEMA's TNUoS decision.[958]

[952] SSEN-T NoA, paragraph 7.33 a).
[953] SSEN-T NoA, paragraph 7.33 b).
[954] SSEN-T NoA, paragraph 7.33 c).
[955] SSEN-T NoA, paragraph 7.33 d).
[956] SSEN-T Reply, paragraph 6.5 b). As above, we interpret 'decision' to mean the decision on the regulatory framework for the ESO.
[957] SSEN-T Reply, paragraph 6.5 c).
[958] SSEN-T Reply, paragraph 6.5 a).

GEMA's submissions

13.107 GEMA disagreed with SSEN-T's claim, citing specific passages from its deliberations as follows:

(a) From its December 2019 Consultation:

> Prior to legal separation, the magnitude of the variance [the absolute difference per year between allowed and collected revenues] was modest compared to the size of NGET's Regulatory Asset Value (RAV) (over £13bn) and borrowings. In contrast, the size of the variance is less modest relative to the ESO's RAV (£211m in nominal terms at the end of 2019/2020) and borrowings. In March 2019, a credit rating performed by Moody's noted that the ESO's rating was constrained by exposure to such revenue collection activities. The rating provided by Moody's (which was "investment grade") was reliant on Moody's assigning a high likelihood of parental support should it become necessary to maintain ESO credit quality. We understand that prior to legal separation, NGET managed TNUoS cash flow variances using the wider working capital needs of NGET's business. Further, the ESO currently has – and would likely continue to need – a Working Capital Facility (WCF) to manage the TNUoS cash flows. Ofgem will need to take into consideration the ability of a relatively small standalone company to procure and support a WCF of equivalent size.[959]
>
> […] this means that the finance cost would, in our view, if allocated to the ESO, be less efficient because financiers (both debt and equity) in the ESO would require a larger allowance than financiers (both debt and equity) in the onshore TOs.[960,961]

(b) From its Policy Decision:

> […] this change would have a number of benefits, including overall efficiency of the industry arrangements and for incentives. We explained that the onshore TOs' larger RAVs, and direct interest in their allowed and collected revenues, make them, in our view, a more natural, and more economical, owner of this cash flow timing risk exposure. The difference between allowed and collected revenues can be material in relation to the size of

[959] December 2019 Consultation, paragraph 2.7.
[960] December 2019 Consultation, paragraph 2.11.
[961] GEMA Reply, paragraph 535.

the ESO – this means that the finance cost, if allocated to the ESO, would, in our view, be less efficient because financiers (both debt and equity) in the ESO would require a larger allowance than financiers (both debt and equity) in the onshore TOs. Our view on these benefits has not changed.[962,963]

13.108 GEMA submitted that it was not the case that the only basis for GEMA's conclusion to transfer the risk was the size of the RAV of the ESO compared to the TOs. The ESO's credit rating had been influenced by it holding the cash flow risk and, in its view, the ESO's small RAV was an issue influencing the ESO's credit rating.[964] Other reasons in support of transferring the risk included that the TOs had an interest in the collection and that the approach would be in line with the treatment in other industries.[965]

13.109 Spreading working capital facilities and administrative costs across four companies, GEMA submitted, would not lead to additional administrative costs to the TOs or the ESO. GEMA submitted that, as SSEN-T did not substantiate its view on costs, GEMA had no firm basis upon which to agree with SSEN-T's view. GEMA's assessment of impacts in Annex 1 to Policy Decision had not indicated issues that would change its view of the overall benefits for electricity consumers.[966]

13.110 GEMA submitted that, contrary to SSEN-T's contention that GEMA had assumed forecasting accuracy would not deteriorate, it had, when deciding to transfer the cash flow risk, recognised the need for appropriate incentivisation for the ESO to provide accurate forecast and tariff calculations. It had introduced ESO framework changes for RIIO-2 to mitigate forecasting risk.[967]

13.111 In answer to a hearing question regarding how it assessed costs, GEMA told us that the companies that it regulates are the licensed entities, in this case NGESO. It had no regard to the ownership of those licensed entities. It regulated the notional company. It would be unfair, GEMA explained, for it to assume that there were benefits from National Grid ownership that would then inform its decision making. It had requested that National Grid create this separate subsidiary for the ESO, which it did, taking effect in 2019.[968] Since that point the ESO had needed to be regulated on a standalone notional basis.[969]

[962] Policy Decision, page 4.
[963] GEMA Reply, paragraph 536.
[964] GEMA Reply, paragraph 540.
[965] GEMA Reply, paragraph 541.
[966] GEMA Reply, paragraph 543.
[967] GEMA Reply, paragraph 544.
[968] See also paragraph 13.11.
[969] GEMA Main Hearing Transcript, 8 July 2021, page 65, lines 12–19/20.

Alleged failure to conduct an impact assessment (error (e))

SSEN-T's submissions

13.112 SSEN-T submitted that, contrary to GEMA's obligations under section 5A of the Utilities Act 2000, and its own internal guidance documents, GEMA had failed to carry out an impact assessment, or any other form of cost-benefit analysis in relation to the proposal. That, SSEN-T submitted, was plainly required in view of the significant impact that the transfer of the risk could have on the TOs. GEMA was incorrect to suggest that that had not been necessary because the impacts were valued at less than £5 million. SSEN-T's own analysis indicated otherwise (see paragraph 13.27).[970]

GEMA's submissions

13.113 GEMA submitted that it had reached the view that it did not consider that the decision to transfer the risk involved a major change to its activities, nor did it consider that it would have significant impacts on industry participants, the general public or the environment. It was clear that any additional cost associated with the transfer of cash flow risk from the ESO to SSEN-T not already captured in its existing cost of funding allowance was likely to be zero or small.[971] The change had no material impact on SSEN-T's interests[972] and, in consequence, its decision here was 'not significant' for the purposes of triggering the requirement to conduct an impact assessment.[973]

13.114 GEMA submitted that it had, however, assessed the impact in a separate Annex to the Policy Decision and it had engaged in an impact assessment in relation to the RIIO-2 package.[974] Regarding SSEN-T's claim that GEMA had found the impact to be less than £5 million, GEMA submitted that its decision was based on its view that the impacts overall were not significant (within the meaning of section 5A of the Utilities Act 2000), not on a definitive finding that there was an impact of less than £5 million; rather the magnitude, in terms of additional funding cost, was zero or immaterial.[975]

[970] SSEN-T NoA, paragraph 7.34.
[971] GEMA Reply, paragraph 551.
[972] GEMA Reply, paragraph 553.
[973] GEMA Reply, paragraph 552.
[974] GEMA Reply, paragraph 554.
[975] GEMA Reply, paragraph 558.

Alleged failure to consult on the risk transfer (error (f))

SSEN-T's submissions

13.115 SSEN-T submitted that GEMA's consultation on, and assessment of, the TNUoS risk transfer was in any case flawed and incomplete. As a result, GEMA had failed to gather and take into account all relevant facts and information relevant to this Decision. In particular:

(a) GEMA's December 2019 Consultation had not concerned whether the cash flow timing risk **should** be transferred to the TOs, as GEMA had claimed, but **how** that should be achieved.[976] (Emphasis added by SSEN-T.) As a result, GEMA had already made the decision to transfer the cash flow risk prior to issuing the consultation.

(b) GEMA concluded that TNUoS did not involve any significant impact on industry participants, the general public or on the environment, without providing any detailed reasoning or the evidence upon which it had reached this conclusion. That was wrong as the impact was significant as set out under alleged error a) (see paragraphs 13.24 to 13.27).

(c) GEMA had miscalculated the annual under-recovery of TNUoS tariffs, and significantly underestimated the year-to-year variability. Whereas it had stated that during the period between 2004/05 and 2018/19, the average under-recovery had been £33 million per year with a peak of £99 million in 2014/15, information subsequently provided by the ESO to SSEN-T had shown that the average under-recovery per year over the 2014/15 to 2019/20 period had been £63 million with a peak of £183 million in 2014/15.

(d) GEMA had wrongly relied on a simplistic and flawed analysis of RAV for the TOs and ESO, which underestimated the ESO's RAV by around £140 million.

(e) GEMA had failed to consider alternative protections for the TOs, such as caps and collars on the risk exposure or consider alternatives to the reallocation of the TNUoS cash flow timing risk to the TOs, for example the option of placing this instead on suppliers of electricity.

[976] December 2019 Consultation.

(f) GEMA had failed to assess the ESO's historical performance in setting accurate TNUoS tariffs, its forecasting processes and its internal data governance and controls.[977]

13.116 GEMA had also taken the view that its decision:

> [w]ould bring onshore TOs into line with other network companies, including those in electricity and gas distribution, electricity transmission prior to NGET separation, as well as the water industry, who have the equivalent of a K correction term such that in the short term, each company is exposed to some small uncertainty on the exact quantum of collected revenues.[978]

13.117 However, the DNOs, who ran the energy distribution network, had the responsibility for setting network usage charges **and** bore the risk of their usage forecasts being inaccurate. (Emphasis added by SSEN-T.) Thus, SSEN-T submitted, in that case risk and responsibility were rightly aligned.[979]

GEMA's submissions

13.118 GEMA submitted that it had conducted a full consultation in advance of reaching the Policy Decision[980] and SSEN-T had had a full opportunity to comment on and provide evidence in relation to the decision of whether cash flow risk should be allocated, how that should be achieved and what impact if any that should have on the TOs' RIIO-2 price control settlement.[981] In particular:

(a) It had consulted – it had specifically asked a question as to whether there should be a transfer of the risk to TOs in the August 2019 Decision and Further Consultation.[982] Further, GEMA had not reached a decision on that issue prior to the December 2019 Consultation, which had been a further opportunity to comment on it;[983]

(b) It had provided detailed reasoning and evidence in support of the decision. See its response to error (d) above (paragraphs 13.107 to 13.110);

[977] SSEN-T NoA, paragraphs 7.35 (a)–(g).
[978] Policy Decision, page 5.
[979] SSEN-T NoA, paragraph 7.35 h).
[980] GEMA Reply, paragraph 560.
[981] GEMA Reply, paragraph 561.
[982] See also paragraph 13.15.
[983] See also paragraph 13.17.

(c) It had not made errors of fact in calculating the under-recovery and the variability. According to its own analysis the average correction term under-recovery for the recent years of under-recovery was £68 million;

(d) Whilst it agreed that the ESO's RAV was projected to grow to around £350 million (using 2018/19 prices) by the end of RIIO-2 (31 March 2026), over that period SSEN-T's RAV was also projected to grow, from £3,063 million to £4,646 million. Over RIIO-2, the aggregate RAV of all three TOs remained over 60 times higher than that of the ESO;

(e) It had considered fully the appropriate settlement for TOs as part of the broader price control package;

(f) It had considered alternatives to the reallocation to the TOs. That was apparent from the history of the consultation (see also paragraphs 13.13 to 13.19 within the Background section above) in which the proposal to re-allocate in fact stemmed from a response to a broader consultation in relation to the ESO's settlement;[984]

(g) It had given detailed consideration to issues of forecasting accuracy (see paragraphs 13.40 to 13.45); and

(h) It was aware that the approach in electricity transmission, whereby the ESO collected TNUoS tariffs for the whole of GB on behalf of all TOs, differed from the approach in the distribution sectors, where each network has a direct responsibility to collect its own tariffs. It did not accept SSEN-T's assertion that there was a disconnect between the ESO's risk and responsibility on TNUoS setting because of the penalties which could be imposed on the ESO.[985]

Our assessment of procedural deficiencies

Evidence / analysis

13.119 We note the lack of quantitative analysis during the consultation process, including the impact on SSEN-T. Despite requests during the consultation process, GEMA did not carry out analysis or share information, for example, on the extent of the under-recoveries (relevant to error (b)).

13.120 We accept that GEMA could have provided additional analysis of the costs and benefits of its proposed policy. For example, in the December 2019 Consultation and in the Policy Decision, GEMA did not make it clear that it

[984] See paragraph 13.13.
[985] GEMA Reply, paragraph 562.

was assuming the ESO would be regulated on a standalone notional basis when it assessed the impact of transferring the cash flow risk to the TOs.[986] This appears to have led SSEN-T to seek to make comparisons against the status quo. It appears that Moody, the credit rating agency, was also uncertain about whether to view the ESO as a fully independent firm or not.[987]

13.121 In response to our provisional determination, SSEN-T argued that the new arrangements were likely to lead to greater inefficiency in the system for collecting and distributing TNUoS charges than before.[988] There was, SSEN-T contended, simply no data before us that addressed the relative costs and benefits of GEMA's decision in a comprehensive and holistic manner.[989] It therefore followed, SSEN-T continued, that neither GEMA nor we had sufficiently robust evidence to conclude that the costs to the industry would be more efficient.[990] The only logical conclusion, SSEN-T submitted, was that GEMA's decision was unevidenced, therefore essentially arbitrary, and thus an error of law.[991]

13.122 However, despite all the points made about the quality of analysis provided as part of the consultation process, the explanations provided to this appeal by GEMA do illustrate that it had made a suitable assessment of the relative cost for bearing the cash flow risk relating to TNUoS charges between that which would be incurred a) by the ESO measured on a standalone basis and b) by the onshore TOs in aggregate based on the additional costs that they would need to incur if they bore this risk instead. In any case, we consider that the additional financing costs that will be incurred by the TOs should be relatively low. Further, we agree with GEMA that SSEN-T has provided estimates of the costs that are likely to be too high (see paragraph 13.92). Accordingly, we consider that all of SSEN-T's submissions have been adequately addressed.

13.123 As a result, whether or not GEMA provided as much evidence during the consultation process as it might have done, we do not agree with SSEN-T that GEMA's decision was so unevidenced that it was essentially arbitrary, and therefore an error of law. As set out in the Legal Framework,[992] we should only take into account procedural deficiencies (including a flawed consultation process) in our analysis if they are so serious that we cannot be assured that

[986] See paragraph 13.111.
[987] We also note that the OFTOs are included in the analysis we requested of the year-by-year RIIO-1 under-/over-recoveries that support Table 1 of *Wilde 2 (GEMA)*. That suggests that the risk – in recent years over-recoveries – are being transferred to the onshore TOs, something that appears to have not been made explicit within the consultation process.
[988] SSEN-T's response to the PD, paragraph 5.18.
[989] SSEN-T's response to the PD, paragraph 5.9.
[990] SSEN-T's response to the PD, paragraph 5.4.
[991] SSEN-T's response to the PD, paragraph 5.10.
[992] See paragraph 3.56.

the Decision was not wrong. In this case and as noted above, we consider that GEMA did provide some evidence. SSEN-T has failed to persuade us that the fact that GEMA maybe could have provided more evidence is so serious that we cannot judge whether its decision was not wrong.

13.124 We therefore find that there is no error for the reasons of procedural deficiencies stated by SSEN-T in GEMA's decision to implement its proposed approach.[993]

Failure to conduct an impact assessment

13.125 GEMA told us in its hearing that it has guidelines under the statute setting out under what circumstances it should conduct impact assessments, and that these circumstances include the materiality on the affected company. GEMA had explained that it had made decisions in RIIO-2 that were more financially significant for which it had not performed an individual impact assessment, instead including them all in the overall impact assessment at FD. It said that 'with the calculation of just one or two figures' it could come to the view whether an issue was not material enough for an individual impact assessment, as in this case.[994]

13.126 In our view, this decision involves the reallocation of an existing risk among existing market participants, ones in principle well able to manage this timing risk. Due to the uncertainty about the size of the risk, and the multi-layered approach to remuneration, including beta, WCF, and time value of money there is a difficulty in doing a quantitatively robust assessment of the impact. In practice, however, GEMA was seeking to establish whether one set of arrangements would be more beneficial to consumers than another, not establish the absolute level of costs associated with the candidate set of arrangements so that they could be compared with each other.

13.127 We also acknowledge the desire on the part of GEMA to keep impact assessments in proportion to the significance of the proposed change, ie to have regard to materiality of the impacts of the decision which would be subject to the assessment.

13.128 On that basis, we do not find that GEMA was wrong not to have performed an impact assessment.

[993] See paragraphs 3.46–3.53.
[994] GEMA Main Hearing Transcript, 8 July 2021, page 66, lines 1 to 9.

Consultation

13.129 SSEN-T has raised a number of concerns about the consultation process, including the observation that an alternative option was not considered, namely the option to revert to the pre-BETTA arrangements where the TOs were responsible for billing and maintaining direct relationships with suppliers and generators. GEMA told us that going back to the pre-BETTA arrangements would have been a very significant change. The move to BETTA was a significant change in 2005, designed to bring about a much more efficient and functioning single GB market. A result of that change was the need for NGET[995] to undertake the forecasting and the collection of behalf of the Scottish TOs.[996]

13.130 We agree with GEMA that SSEN-T has not shown that this would have been a practicable solution and it would have required extensive rewriting of the rules and the way that GEMA organised the energy market across GB,[997] for the purpose of addressing a concern of SSEN-T which should be manageable, albeit at a cost.[998] The rules in this case would be those needed to effect a different, less efficient, operation of transmission market(s), necessitating changes to a number of industry codes as well as more extensive changes to affected parties' licence conditions.

13.131 Overall, SSEN-T's alleged error in respect of consultation falls well short of being sufficient to demonstrate that GEMA was wrong. Even if we accepted in full SSEN-T's arguments that there may have been procedural deficiencies, including a flawed consultation, this would not make GEMA's decision itself wrong unless the deficiencies were so serious that we cannot be sure that assured that the Decision was not wrong.[999] GEMA has provided extensive evidence in support of its position, and whether its reasoning could have been more clearly expressed previously does not affect whether we should find GEMA's decision wrong.

Our determination

13.132 For the reasons given above we determine that GEMA was not wrong to transfer the TNUoS cash flow timing risk to the onshore TOs, and dismiss this ground of appeal.

[995] At the time NGET was both a TO (for England and Wales) and the ESO (for the whole of GB). Separation of these roles from a regulatory perspective began in April 2019.
[996] GEMA Main Hearing Transcript, 8 July 2021, page 68, lines 8 to 14.
[997] GEMA Main Hearing Transcript, 8 July 2021, page 68, lines 15 to 17.
[998] The costs for the new status quo (the 3 onshore TOs bearing the risk) are likely to be higher than the old status quo (NGET as combined TO and ESO bearing and managing the risk). These costs would be part of the assessment of the overall net benefits of having an independent ESO.
[999] See paragraph 3.56 in the Legal Framework chapter.

14. WWU Head A: Cost of debt

Introduction

14.1 This ground covers errors alleged by WWU relating to GEMA's cost of debt allowance within the RIIO-2 price control.

Background

14.2 The cost of debt component of the WACC estimate reflects the return required to compensate debt investors for lending to a business. Unlike the forward-looking cost of equity, the majority of debt costs are accounted for by interest costs on historic (embedded) debt already held by businesses.

14.3 Elements of WWU's appeal involve GEMA's treatment of derivative debt instruments when measuring the cost of debt. For further background on such instruments, please see paragraphs 16.6 to 16.8 below.

The RIIO-2 Decision

14.4 GEMA based its cost of debt allowance on an average of the yield on the iBoxx GBP 10yr+ Utilities index. Under this approach, companies receive an allowance based on the 10-year average of this index at the start of the control, with the average used increasing by a year throughout each year of the control, so that in the final year companies receive a 14-year average of the index.[1000]

14.5 In changing from the mix of A and BBB indices used in previous controls, GEMA stated that it considered that broadly matching the average borrowing costs of networks, by using an investment grade index that was expected to be more representative of network borrowing costs, was more important than precisely matching a theoretical notional company rating.[1001]

14.6 GEMA noted evidence that indicated that the average rating of the constituents of the Utilities index had fallen over time and suggested that would be prudent to monitor the average rating over time before reassessing the approach for RIIO-3.[1002]

[1000] GEMA FD Finance Annex, Final Determination Table, pages 9 – 10.
[1001] GEMA FD Finance Annex, paragraph 2.17.
[1002] GEMA FD Finance Annex, paragraph 2.18.

14.7 GEMA tested its chosen approach against a range of rate and inflation scenarios and was comfortable that its 10 to 14 year trailing average approach was an appropriate calibration.[1003]

14.8 GEMA allowed 0.25% for additional costs of borrowing (outside of explicit interest costs).[1004] This allowance comprised:

(a) Transaction costs of 6 Basis Points (**bps**);

(b) Liquidity/Revolving Credit Facility costs of 4 bps;

(c) Cost of carry of 10 bps; and

(d) Additional CPIH-linked debt costs of 5 bps.

14.9 GEMA noted that it remained of the view that it was appropriate to exclude intercompany loans and derivatives from its calibration exercises. However, it also noted that its modelling suggested that if both these products were included in modelled expected costs for the Gas Distribution and Transmission (**GD&T**) companies, the 10 to 14-year trailing average plus 25 bps of additional allowance (GEMA's RIIO-2 cost of debt approach) would be expected to be sufficient to cover the combined expected GD&T company debt and derivative costs.[1005]

14.10 GEMA also noted that it was not concerned that a shorter trailing average than the average tenor of debt would encourage shorter dated issuance. GEMA noted that the index it had used had a longer average tenor (approximately 20 years) that broadly matched the average tenor of GD&T company debt so it could be expected to reflect the costs of networks continuing to issue approximately 20-year debt. GEMA stated that it did not consider it to be its role to seek to influence treasury strategy or to judge whether 10-, 15- or 20-year debt was more efficient. GEMA stated that its allowance reflected what networks had done on average and an assumption about future issuance based on current evidence. GEMA noted that the credit rating licence condition could be expected to protect customers from imprudent or risky financing choices. GEMA did not consider 10- to 15-year debt to be particularly more risky than 15- to 30-year debt for regulated networks, and noted that it was up to the networks to determine their own capital structure and treasury strategy.[1006]

[1003] GEMA FD Finance Annex, paragraph 2.34.
[1004] GEMA FD Finance Annex, Table 4.
[1005] GEMA FD Finance Annex, paragraph 2.40.
[1006] GEMA FD Finance Annex, paragraphs 2.42–2.43.

Additional allowance for exceptional company circumstances

14.11 GEMA assessed SSEN-T's Regulatory Asset value (**RAV**) growth profile over the RIIO-1 and RIIO-2 period as materially different from other networks, justifying a RAV-weighted approach to its debt allowance.

14.12 GEMA noted that SGN Scotland and NGN had provided estimates of the additional costs faced by smaller networks as being 6 bps. GEMA considered this estimate to be reasonable and decided to 'err on the conservative side' in allowing this additional provision for notional licensees expected to issue debt at smaller size or less frequently than other networks due to their lower RAV size and RAV growth for RIIO-2. GEMA defined less frequently issuing notional networks as those that are expected to issue less than £150 million per annum on average, namely SGN Scotland, NGN and WWU.[1007]

14.13 GEMA considered these adjustments for RAV profile differences to be appropriate for notional company allowances because RAV was not solely determined by management decisions and was heavily influenced by regulatory decisions and regulatory requirements for investment. GEMA distinguished these notional company adjustments from other requests for actual company-specific adjustments (for example, from WWU for actual company debt costs), which were to a much greater extent driven by management or shareholder decisions on capital structure, M&A activity, dividend policies, and type and timing of debt.[1008]

The ground of appeal

14.14 WWU submitted that GEMA had erred in both law and policy in that it had failed to provide an adequate cost of debt allowance for WWU. WWU submitted that GEMA had misdirected itself in law and failed to give effect to its financing duty, and, as a result, had determined an allowance for all GDNs based on an average of the actual cost of debt of a group of companies in circumstances where the effect of that approach was to over-remunerate some companies while penalising others. WWU submitted that GEMA's approach discriminated against WWU. WWU submitted that, in addition, GEMA had adopted an irrational and inconsistent policy of not taking account of derivatives in assessing the cost of debt.[1009]

14.15 WWU divided its appeal on this ground into three main sections, relating to alleged errors stemming from:[1010]

[1007] GEMA FD Finance Annex, paragraphs 2.60–2.62.
[1008] GEMA FD Finance Annex, paragraph 2.64.
[1009] WWU NoA, paragraph 3.2(a).
[1010] WWU NoA, paragraph A3.11.

(a) GEMA's misinterpretation of its statutory duties;

(b) GEMA's irrational design of a cost of debt index; and

(c) GEMA's irrational failure to take account of derivatives.

14.16 In the paragraphs below we briefly describe GEMA's approach in RIIO-2, summarise the evidence that has been presented to us and present our assessment of whether GEMA's cost of debt allowance for WWU was wrong.

GEMA's alleged misinterpretation of statutory duties-WWU submissions on GEMA's alleged misinterpretation of statutory duties

WWU's NoA

14.17 In its NoA WWU submitted evidence relating to two sub-arguments:

(a) GEMA's misunderstanding of the finance duty; and

(b) GEMA's failure to have regard to all relevant circumstances.

14.18 In this section we will summarise each set of WWU's arguments in turn.

GEMA's misunderstanding of the financing duty

14.19 WWU submitted that the wording in section 4AA(2)(b) of GA86 applies to 'licence holders' and that 'plainly this means actual licence holders, those to whom Ofgem [GEMA] has granted a licence'. WWU submitted that it was not a sufficient discharge of the duty to ensure that a 'mere' notional licence holder is financeable. WWU submitted that basic public law principles required GEMA to have regard to all relevant circumstances of each company.[1011]

14.20 In support of this position, WWU submitted the following arguments and evidence:

(a) Companies are obliged to make reasonable endeavours to maintain an investment grade credit rating. The legal effect of the financing duty is that this becomes an obligation that the company must be funded to meet.[1012]

(b) The requirement to fulfil the financing duty is a sub-set of fulfilling the overarching consumer objective – it is to be achieved 'in performing' the

[1011] WWU NoA, paragraph A4.9.
[1012] WWU NoA, paragraph A4.10.

duty to further that objective and must therefore be consistent with it. In addition, GEMA must look to the long-term financeability of each licensee, as well as its ability to finance its operations in the immediate future.[1013]

(c) By focusing almost exclusively on the words 'have regard to' in the financing duty, GEMA sought to downplay the status of the duty, rendering it just one among many factors to which regard must be had. What GEMA must have regard to in the case of the financing duty is the 'need to secure' that licence holders are able to finance their activities.[1014]

(d) In the Gas Act as originally enacted in 1986, the financing duty was one of two primary duties to which all other duties were subject. WWU submitted that, following later amendments to the Act which established the principal objective of protecting consumers, these duties became embedded in the duty to further that overall objective – but that this was not an attempt to reduce them to a lesser status. WWU submitted that the use of the phrase 'need to secure' clearly indicated that the non-primary objectives were still regarded as both fundamental and necessary.[1015]

(e) When other statutes wished to indicate a downgraded form of the financing duty falling short of an obligation to ensure that regulated entities are able to finance their activities, they did so in clear terms. WWU submitted that, for example, the financing duty on the Office of Rail and Road was expressed as a duty 'to act in a manner which [it] considers will not render it unduly difficult for persons who are holders of network licences to finance any activities or proposed activities of theirs...'.[1016,1017]

14.21 WWU submitted that by focusing ‘almost exclusively’ on the words 'have regard to', and taking them in isolation from the wider context of the statutory drafting in which they sit, GEMA had misdirected itself as to the meaning of its financing duty and regarded that duty as being considerably weaker than it actually was. WWU submitted that this was an error of law.[1018]

Failure to have regard to all relevant circumstances

14.22 WWU submitted that a significant error in GEMA’s approach lay in its failure to apply the financing duty in the correct manner. WWU submitted that the duty was expressed as a 'need to secure that licence holders are able to finance

[1013] WWU NoA, paragraph A4.11.
[1014] WWU NoA, paragraphs A4.15–A4.18.
[1015] WWU NoA, paragraphs A4.19–A4.20.
[1016] Railways Act 1993, section 4(5)(b).
[1017] WWU NoA, paragraphs A4.21–A4.22.
[1018] WWU NoA, paragraph A4.23.

the activities which are the subject of obligations...', and that the plural included the singular. WWU submitted that 'licence holders' therefore meant all licence holders together and each licence holder individually.

14.23 WWU submitted that since the financing duty applies to each licence holder, and since its effect in respect of any decision by GEMA to set a price control must be that the licence holder should be allowed to earn revenues sufficient to enable it to finance its activities, two public law duties also had effect:[1019]

(a) GEMA is required to have regard to all relevant circumstances; and

(b) For the purpose of having regard to all relevant circumstances, GEMA has a duty of 'sufficient enquiry' – it must take reasonable steps to acquaint itself with all relevant information.

14.24 In support of this position, WWU submitted the following arguments:

(a) GEMA's approach sought to set up a 'straw man', and stated that WWU's interpretation would mean that GEMA would be required to keep afloat companies that had made bad financing decisions. WWU submitted that it had never been suggested by WWU that this was a consequence of the financing duty, and that the nature of the duty was to put companies in a position in which they 'are able' to finance their activities.[1020]

(b) GEMA operated on the basis of an underlying assumption that any deviation from the position of the notional company is a deviation from the 'correct' or 'efficient' position. However, it did not follow, whether as a matter of logic or real-world practice, that a sector average represented 'efficiency', or that a departure from it represented either inefficiency or 'super-efficiency'.[1021]

(c) There was no recognition of the situation in which allowing all companies the cost of debt attributable to the notional company meant that some companies receive a windfall at the expense of customers.

14.25 WWU submitted that, by applying the notional cost of debt to all licence holders, GEMA had failed to have due regard to the individual circumstances of each company, and that was an error of law.[1022]

[1019] WWU NoA, paragraphs A4.25–A4.26.
[1020] WWU NoA, paragraphs A4.28–A4.32.
[1021] WWU NoA, paragraphs A4.33–A4.34.
[1022] WWU NoA, paragraphs A4.35–A4.37.

WWU's Reply to GEMA's Response

14.26 WWU submitted that GEMA had made errors (or submitted erroneous views) in relation to:

(a) the duty to 'have regard to';

(b) the subsidiary nature of the finance duty;

(c) the interpretation of the Utilities Act 2000;

(d) read across from the water sector;

(e) the notional company; and

(f) the actual company.

14.27 We summarise WWU's submissions on these areas in the paragraphs below.

The duty 'to have regard to'

14.28 WWU submitted that GEMA's response had focused on the wording 'have regard to' within the relevant legislation, and conversely had 'nothing to say' about the words 'need to secure' or about the weight of the obligation that they impose, and offered no alternative interpretation of them.[1023]

The subsidiary nature of the finance duty

14.29 WWU submitted that GEMA had argued in its Response that the finance duty was instead 'subsidiary' to the primary duty, one of a suite of subsidiary duties, all of which existed at the same level as a range of considerations 'to which GEMA's attention is directed in the course of furthering that objective'. WWU submitted that when GA86 wanted to make certain duties subsidiary to other duties, it used express language to achieve that effect – 'subject to...'. WWU submitted that the financing duty was a duty to which other duties are made secondary, and that the financing duty was subsidiary to nothing.[1024]

The interpretation of the Utilities Act 2000

14.30 WWU submitted that GEMA's references to the Explanatory Notes of the Utilities Act 2000 had been selective, and had failed to draw the CMA's attention to the paragraph which addressed the financing duty itself:

[1023] WWU Reply, paragraph A2.7.
[1024] WWU Reply, paragraphs A2.8–A2.10.

> This duty to further the principal objective incorporates the matters which form the regulators' existing primary duties. The Authority must have regard to the need to secure that all reasonable demands for the relevant utility are met. In the case of gas, this duty applies to the extent that it is economically feasible for demand to be met. Likewise, the Authority must recognise that, to the extent that the utilities legislation places obligations on utility companies (whether directly, through licence conditions or otherwise), such companies must be able to finance those obligations.[1025]

14.31 WWU submitted that the financing duty was intrinsic to, and a sub-set of, the principal objective and that the words 'need to secure' indicated a result that must be achieved. WWU submitted that the Explanatory Notes to the Utilities Act 2000 were 'plainly consistent with this interpretation, just as they are wholly inconsistent with Ofgem [GEMA]'s argument'.[1026]

14.32 WWU submitted that GEMA's evidence drew attention to the Civil Aviation Act 2012, to the explanatory notes to that Act, and to things said in Parliament while it was being debated. WWU submitted that there were strictly limited circumstances in which Parliamentary materials might be used to interpret legislation (the rule in *Pepper v Hart*[1027]), and they did not extend to the interpretation of one statute (Act A) by reference to the record of what was said in relation to a different statute (Act B) applying to a different sector by a later and differently constituted Parliament. WWU submitted that as the material cited by GEMA was inadmissible as an aid to interpretation, it did not address it in substance.[1028]

14.33 WWU submitted that, to the extent that there was any residual ambiguity surrounding that duty, the relevant passages in Hansard were those relating to the passage of the Utilities Act 2000 through Parliament. WWU submitted that at the House of Lords Committee stage in relation to the Utilities Bill, the question of interpretation which is the subject of this appeal was raised. WWU submitted that Lord Kingsland had expressed the concern that the amendment to the financing duty would render it 'subordinate' to the principal objective. WWU submitted that the Minister, Lord McIntosh of Haringey, had provided a comprehensive rebuttal of that concern, including that:

[1025] Utilities Act 2000, Explanatory Notes, paragraph 22.
[1026] WWU Reply, paragraphs A2.11–A2.15.
[1027] [1993] A.C. 593
[1028] WWU Reply, paragraphs A2.16–A2.18.

(a) the financing duty was part of GEMA's primary duty and must be viewed as an 'aspect' of the principal objective because the interests of consumers 'necessarily incorporate it';

(b) by using the phase 'have regard to the need to secure', Parliament was encoding within statute the 'weight' to be given to the ability of companies to finance their activities, in the conscious expectation that it would then be 'difficult to see' how GEMA could fulfil its duties without securing the financeability of licence holders; and

(c) the suggestion that this financing duty was 'subject to' the principal objective was explicitly rejected.[1029]

Read across from the water sector

14.34 WWU submitted that the financing duty in GA86, as an integral part of the primary duty to further the principal objective, must (if anything) be stronger than its equivalent in the water sector – where it was one of five main duties, all with equal status – and not weaker as GEMA asserts. WWU submitted that it had made it clear that it was seeking to recover only its efficiently-incurred cost of debt, and not to pass through inefficiency, and that any arguments about the irrecoverability of inefficient costs were therefore irrelevant to the case.[1030]

The notional company

14.35 WWU submitted that GEMA introduced the 'notional' or 'reasonably efficient' or 'notional efficient' company when discussing the financing duty. WWU submitted that GEMA made a significant claim about its financing duty: 'It will be sufficient to discharge the duty in s.4AA(2)(b) if GEMA's approach allows a reasonably efficient operator in the sector to finance its activities'. WWU submitted that these were constructs of GEMA's own devising, imported into the argument without any grounding in the statute.[1031]

The actual company

14.36 WWU submitted that based on the equivalent statutory duty in the EA89, GEMA had recently used the actual cost of debt in licence conditions for project financed interconnectors. WWU submitted that GEMA had also allowed the actual cost of debt, including derivatives, for Offshore Transmission Owners (**OFTO**s). WWU submitted that GEMA's evidence

[1029] WWU Reply, paragraphs A2.19–A 2.20.
[1030] WWU Reply, paragraphs A2.26–A2.27.
[1031] WWU Reply, paragraphs A2.28–2.31.

sought to distinguish OFTOs on the basis that they involved 'contracted' revenues, but that this attempted distinction was invalid.[1032]

14.37 WWU submitted that in RIIO-2, GEMA had made company specific adjustments to the index-led approach for SSEN-T (a RAV adjustment) and for NGN, SGN and WWU to reflect less frequent issuance. WWU submitted that this 'impliedly acknowledged' that a solely notional efficient company approach would not discharge GEMA's statutory financing duty.[1033]

WWU's PR19 submission

14.38 WWU submitted that it was not aware that any of the water companies in the PR19 redeterminations had sought to develop its case before the CMA on the basis that the manner in which Ofwat had chosen to calculate the cost of debt was discriminatory. In that process, arguments relating to the nature and effect of the regulator's statutory duties had not been predominantly reliant on legal (as opposed to policy) argument. WWU submitted that the CMA had therefore not been required to provide a ruling on these questions and, consequently, any decision reached on PR19 could not provide a template for this appeal.[1034]

WWU Closing Statement

14.39 In response to GEMA's main hearing, WWU submitted that in GEMA's view, it was not the regulator which must have regard to the need to secure that licensees can finance their activities, but companies who had to accommodate themselves to the regulator's allowance, regardless of their actual circumstances. WWU submitted that GEMA believed that they should fail if they could not make such an accommodation. WWU submitted that no explanation was offered as to why this would discharge GEMA's statutory duties or how it could be in the interests of current and future customers if a high-performing company, which raised debt and derivatives at efficient rates at issuance, should be pushed into administration (with inevitable disruption to consumers and cost to the taxpayer of doing so) by the policy decisions of a regulator that had misdirected itself as to its duties.[1035]

14.40 WWU further noted that special administration had been introduced for gas transporters under Part 3 of the Energy Act 2004 and that it post-dated GEMA's statutory duties, which sat in a separate piece of legislation that

[1032] WWU Reply, paragraphs A2.32–2.35, referring to *Friend 1 (GEMA),* paragraph 123.
[1033] WWU Reply, paragraphs A2.32–A 2.36.
[1034] WWU PR19 submission, paragraph 3.15.
[1035] WWU Closing Statement, paragraph 3.4.

adopted its current form under the Utilities Act 2000. WWU submitted that it thus offered no guide to the correct interpretation of the duties.[1036]

14.41 WWU also submitted that GEMA had tried to retrofit its notional efficient operator approach into its statutory duties, even though its own counsel had accepted that the concept of the notional efficient company was not set out in the statutory framework. WWU submitted that the only reference to efficiency in statute was a secondary duty to 'promote' efficiency as opposed to a primary duty to 'secure' financeability. WWU submitted that GEMA's counsel 'inexplicably' argued that, even without the secondary duty on efficiency, GEMA could still use the concept of a notionally efficient operator to discharge its financing duty. WWU submitted that in doing so, GEMA's counsel had made clear that GEMA was attempting to impose its preferred policy on the duties, rather than (as it is required to do in law) allowing the duties to shape its policy.[1037]

GEMA's submissions on alleged misinterpretation of statutory duties

14.42 GEMA addressed WWU's arguments by presenting evidence in relation to:

(a) GEMA's statutory duties;

(b) the origin of the statutory duty in section 4AA of GA86;

(c) other statutory formulations; and

(d) GEMA's application of the duty to have regard to financeability

GEMA's statutory duties

14.43 GEMA submitted that WWU's interpretation of section 4AA(2)(b) of GA86 was contrary to the express terms of the statute and contrary to relevant authority. GEMA submitted that section 4AA(2)(b) of GA86 obliged GEMA, in performing the duties under subsections (1B) and (1C), to 'have regard to… the need to secure that licence holders are able to finance the activities which are the subject of obligations imposed by or under this Part…'. This is the duty to have regard to financeability. There is an equivalent statutory duty in section 3A(2)(b) of EA89.[1038]

14.44 GEMA submitted that there were three points to be noted at the outset:

[1036] WWU Closing Statement, footnote 4.
[1037] WWU Closing Statement, paragraph 3.5.
[1038] GEMA Response A, paragraphs 382–383.

(a) First, that statutory duties to 'have regard' were 'familiar creatures' in public law, that past cases had demonstrated that this obligation referred to something that a decision maker must properly take into account and that past cases had supported the need to afford the decision-maker a substantial degree of flexibility as to how to go about the task.[1039] In support of this position, GEMA referenced a range of legal precedent.[1040] GEMA submitted that in the context of section 4AA(2)(b) of GA86, these factors meant that GEMA must:

(i) take into account the need to secure that licence holders are able to finance their activities; and

(ii) if GEMA decided to adopt an approach which does or may have the result that one or more licensees is not able to finance their activities, it must give clear reasons. GEMA submitted that a duty to 'have regard' was not a duty slavishly to follow, and that statutory words did not impose an obligation of result.

(b) Second, the duty to have regard to financeability applied in performing the duties under subsections (1B) and (1C) and that the duties in subsections (1B) and (1C) are broad and general discretionary requirements. GEMA submitted that it must have regard to financeability in the course of carrying out its functions so as to further the principal objective, wherever possible by promoting effective competition. GEMA submitted that it was the principal objective which is paramount, and that the duty to have regard to financeability was one of several considerations to which GEMA's attention was directed in the course of furthering that objective. GEMA submitted that the statutory language was not consistent with an interpretation which required GEMA to secure financeability in all circumstances and regardless of the other competing considerations to which GEMA was directed by statute.[1041]

(c) Third, GEMA submitted that there could be a tension between its duty to have regard to financeability on the one hand, and its duty to carry out its functions in the manner which it considered was best calculated to promote efficiency and economy on the part of licensees. This tension could manifest in the event that GEMA adopted an approach to the

[1039] GEMA Response A, paragraphs 384–389.
[1040] GEMA referenced *R (Khatun) v Newham London Borough Council* [2005] QB 37 at §47, *Nzolameso v City of Westminster* [2015] UKSC 22 §31, *R (Hurley and Moore) v Secretary of State for Business, Innovation and Skills* [2012] EWHC 201 (Admin), §78, *R (Governing Body of the London Oratory School) v the Schools Adjudicator* [2015] EWHC 1012 (Admin), §§58-59, and *R (Pharmaceutical Services) v Secretary of State for Health* [2018] EWCA Civ 1925, §81.
[1041] GEMA Response A, paragraphs 384–391.

allowed return on debt which offered no or minimal incentive to licensees to manage their debt portfolios efficiently.[1042]

14.45 GEMA stated that it followed that the statutory duty to have regard to financeability was not necessarily breached merely because GEMA's allowance for return on debt was below a licensee's actual debt (or debt and derivative) costs. GEMA submitted that it would be sufficient to discharge the duty in section 4AA(2)(b) if GEMA's approach allowed a reasonably efficient operator in the relevant sector to finance its activities.[1043]

14.46 GEMA submitted that a focus on a notional efficient operator reflected GEMA's consistent practice as well as the approach taken by other regulators. GEMA submitted that this approach had been accepted and applied by the CMA and its predecessors in other contexts, such as *Bristol Water* in 2010, despite the water sector being subject to a more onerous finance duty than was applicable in the energy sector.[1044] GEMA also noted that the standard of the notional efficient operator was also upheld by the CC in *Northern Ireland Electricity Ltd* (2014) and by the CMA in *Bristol Water plc* (2015).[1045]

14.47 GEMA pointed out that in the CMA's most recent case, the redetermination of Ofwat's PR19 price control, the CMA had set an allowance for the cost of debt by reference to the structure of the notional company and market indices, and had rejected Yorkshire Water's request for a company-specific approach to the cost of debt allowance.[1046]

14.48 In addition, GEMA stated that it disagreed with WWU's view that a check that market instruments were contracted at market rates at the pricing date of those instruments equated to 'efficiency' in terms of overall funding for 'the corporate'. GEMA stated that this was because efficient corporate funding also involved seeking to balance overall debt costs with revenues over time. This typically involved spreading both rate fixing and refinancing risk over time (unless revenues are contracted at a particular point in time for an extended period, such as in project financing contracts).[1047]

The origins of the statutory duty in section 4AA

14.49 GEMA submitted that the original formulation of section 4 of GA86 imposed a duty on the relevant authority to exercise its functions 'in the manner which [it]

[1042] GEMA Response A, paragraph 392.
[1043] GEMA Response A, paragraph 393.
[1044] GEMA Response A, paragraphs 395–400.
[1045] GEMA Response A, paragraphs 401–402.
[1046] GEMA PR19 Response on Finance, paragraph 39.
[1047] *Friend 1 (GEMA),* paragraph 109.

considers is best calculated' to secure that (a) licensees could satisfy all reasonable demands for gas in Great Britain and (b) to secure that such persons were able to finance the provision of gas supply services.[1048]

14.50 GEMA stated that the provision was amended by section 9 of the Utilities Act 2000, which substituted a new section 4AA for the original section 4 of GA86. GEMA submitted that the new section 4AA of GA86 provided in subsection (1) that the 'principal objective' of GEMA and the Secretary of State was 'to protect the interests of consumers in relation to gas conveyed through pipes, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the shipping, transportation or supply of gas so conveyed.' GEMA submitted that by subsection (2), the GA86 provided that, in carrying out those functions in such a way that he or she considered was best calculated to further the principal objective, the Authority should have regard to '(a) the need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met; and (b) 'the need to secure that licence holders are able to finance the activities which are the subject of obligations imposed by or under this Part of the Utilities Act 2000.'[1049]

14.51 GEMA submitted that in enacting section 9 of the Utilities Act 2000, Parliament made a deliberate choice to elevate the duty to protect the interests of consumers to the status of 'principal objective'. GEMA stated that under the amended section 4AA of GA86, the two duties (to secure that reasonable demands for gas are met, and that licence holders are able to finance their activities) were important matters to which GEMA should 'have regard', but they were subsidiary to the principal objective in section 4AA(1).[1050] GEMA submitted that this interpretation was also confirmed by the Explanatory Notes,[1051] which explain that these provisions 'replace the existing general duties' and 'give the Authority a principal objective, in carrying out its functions in either sector (ie gas or electricity), to protect the interests of consumers, wherever appropriate by promoting effective competition'. GEMA submitted that paragraph 21 of the Explanatory notes stated that the matters which were previously phrased as primary duties were now encompassed within the duty to further the principal objective.[1052]

14.52 GEMA submitted that WWU's submission that it can never be in the consumer interest for licensees to be underfunded such that they may not be able to fulfil their obligations is 'obviously wrong'. GEMA submitted that the absolute

[1048] GEMA Response A, paragraphs 407–408.
[1049] GEMA Response A, paragraph 409.
[1050] GEMA Response A, paragraph 410.
[1051] Utilities Act 2000, Explanatory Notes, paragraph 2021.
[1052] GEMA Response A, paragraph 411.

duty for which WWU contended would not fit within a regime where licence holders have the freedom to distribute to shareholders as they choose and to set their own capital structures. Nor was it consistent with a regime which expressly contemplates that licence holder may fail in extremis (hence the special administration regime in the Energy Acts).

14.53 GEMA submitted that WWU was wrong to suggest that GEMA had failed to set out its approach to its statutory duties and how the price control gives effect to them. GEMA stated that this submission was disingenuous in circumstances where GEMA had adopted the same approach with respect to notional company financeability since privatisation; and where GEMA had set out its proposed approach to financeability for RIIO-2 in detail on several occasions.[1053]

Other statutory formulations

14.54 GEMA submitted that the closest analogy to the duty to have regard to financeability in section 4AA(2)(b) was found in the Civil Aviation Act 2012, section1(3)(a) which provides:[1054]

> in performing its duties under subsections (1) and (2) the Civil Aviation Authority (**CAA**) must have regard to—(a) the need to secure that each holder of a licence under this Chapter is able to finance its provision of airport operation services in the area for which the licence is granted.

14.55 GEMA submitted that the Minister in the Public Bill Committee on the Bill for this Act in the House of Commons had explained that this provision 'does not require the CAA to ensure the financing of regulated airports in all circumstances' and that the CAA was 'likely to base its approach on the needs of a reasonable and efficient airport operator'.[1055] GEMA submitted that the Minister had expressly noted that 'increasing the price cap to enable an inefficient licence holder to obtain sufficient return to finance the airport' was unlikely to be consistent with the regulator's duty to consumers.[1056]

14.56 GEMA submitted that there were other statutes which used the formulation 'have regard to the need to secure' (as found in section 4AA(2)(b) of GA86) where it was evident from the context that no strict obligation of result is imposed.[1057] GEMA stated that, were it otherwise, the statutory formulation

[1053] GEMA Response A, paragraphs 416–417.
[1054] GEMA Response A, paragraph 418.
[1055] Public Bill Committee, Civil Aviation Bill, Session 2010-12, 28 February 2012, col.141.
[1056] GEMA Response A, paragraphs 418–420.
[1057] GEMA reference Local Government and Public Involvement in Health Act 2007, section 93(4); Counter Terrorism Act 2008, section 66(2); Communications Act 2003, section 3(4)(g); Family Law Act 1996, section 63A(2).

would say, 'shall secure' in place of 'shall have regard to the need to secure'.[1058]

GEMA's application of the duty to have regard to financeability

14.57 GEMA submitted that WWU's interpretation of the statutory duty was contrary to the statutory text. GEMA submitted that the duty to 'have regard' in section 4AA(2)(b) is subsidiary to the 'principal objective' which is 'to protect the interests of existing and future consumers in relation to gas conveyed through pipes' (section 4AA(1)). GEMA stated that it does have a discretion, in that it can carry out its functions in the manner which it considers is best calculated to further that objective; and wherever appropriate, it must do so in a way which promotes competition. GEMA submitted that the structure of (1B) and (1C) makes clear that protecting the interests of consumers is a more important consideration than promoting competition. And it is in performing the duties under subsections (1B) and (1C) that the duty to have regard to financeability comes into play, along with the duty to have regard to the interests of particular categories of vulnerable consumers (subsections (2) and (3)).[1059]

14.58 GEMA submitted that WWU sought to reinterpret the duty 'to have regard to' financeability as an obligation of result (ie 'to ensure'). GEMA submitted that this approach, if accepted, would elevate the financeability duty over GEMA's other duties, contrary to the express words of the statute and contrary to relevant authority.[1060]

14.59 GEMA submitted that WWU had stated that the use of the phrase 'licence holders' in section 4AA(2)(b) meant 'all licence holders together and each licence holder individually', and from this it reasoned that GEMA must have an obligation to consider 'company-specific positions'. GEMA submitted that WWU had stated that the legal effect of the licence condition to 'use reasonable endeavours to maintain an Investment Grade Issuer Credit Rating at all times', was that the obligation to maintain an investment grade credit rating became an obligation that the company must be funded to meet. GEMA submitted that WWU's interpretation was contrary to principle and impossible in practice. GEMA stated that the licence condition did not place an obligation on GEMA to ensure licensees had an investment grade rating irrespective of the circumstances and irrespective of their actual financing decisions. GEMA submitted that this would be tantamount to an indemnity, and that in any event it was impossible in practice in circumstances where GEMA had no control over licensees' decisions on capital structure, financial policies, dividend

[1058] GEMA Response A, paragraph 421.
[1059] GEMA Response A, paragraphs 404–405.
[1060] GEMA Response A, paragraph 406.

payments or risk management (all of which affected licensee credit ratings).[1061]

14.60 GEMA stated that it had considered the financeability results of each notional network company, taking into account different fundamental characteristics of network companies, but applied the same notional financial capital structure to companies in the same sector. GEMA told us that it had also considered the longer term notional financeability impacts of its cost of capital proposals. GEMA stated that it had also acquainted itself with the circumstances of WWU's financing decisions by reviewing the Oxera reports commissioned by WWU and by reviewing WWU's actual company financeability assessment submitted with its business plan. GEMA stated that it had also discussed WWU's actual cost of debt and financial resilience with WWU in various bilateral meetings.[1062]

14.61 GEMA told us that it viewed WWU as being able to finance its activities and could maintain an investment grade rating if it took certain actions. GEMA stated that this would depend on decisions taken by WWU and its shareholders including decisions relating to financial structure and financial policy in the past that impacted the form of financing that could be used in the future.[1063]

14.62 With respect to the assessment of efficiency of debt, GEMA submitted that the assessment of whether a corporate financing strategy was efficient, appropriate and prudent was based on an assessment of the risks to which the strategy exposed the company as well as the rates at which the funding was contracted. GEMA provided examples of both long (30 years) and short (3 months) debt strategies that it said demonstrated the potential for inefficiency or imprudence relative to revenues that could vary over time, regardless of whether those approaches were achieved at or below relevant market rates.[1064]

The notional v actual company

14.63 At its main hearing, GEMA described the notional company approach as incentivising companies to efficiently and prudently manage their debt cost.[1065] GEMA went on to describe the alternative saying '…an actual company approach, without any kind of scrutiny or control over capital structures or over decisions made, would be, in our view, the worst of both

[1061] GEMA Response A, paragraph 422
[1062] *Friend 1 (GEMA),* paragraphs 110–111.
[1063] *Friend 1 (GEMA),* paragraph 114.
[1064] *Friend 1 (GEMA),* paragraph 126.
[1065] GEMA Main Hearing Transcript, 9 July 2021, page 95, lines 20–21.

worlds. You have no oversight or control over what companies can do but consumers will just pay for it, regardless.'[1066]

Intervener Submissions

Citizens Advice

14.64 In its Notice of Intervention Citizens Advice said that WWU's interpretation, '…would give the aforementioned licence condition complete primacy over "the interests of existing and future consumers".' It continued that '…any price control commitment to fund activity, such as the Cost of Debt, without a requirement for clearly defined and efficiently delivered outcome provides undue protection to the licence holder. It also risks weakening companies' pursuit of other outcome-based incentives that benefit consumers.'[1067]

BGT

14.65 BGT told us that the consumer duty 'basically trumps all others, although of course it is a duty to current and future consumers, which slightly broadens it from pure matters of price in the short to medium term'. BGT told us that the other duties, such as the obligation to look at things like regulatory best practice and proportionality, were on the whole subsidiary things to which the regulator must have regard. In BGT's view, provided that a regulator had regard to such duties, and did it properly, then those duties were discharged. BGT told us that such issues could not be ignored and had to be looked at properly, but that they were subsidiary.[1068]

14.66 BGT told us that there 'absolutely can be tension' between statutory duties, and that if there are tensions the first port of call in deciding that tension is what the statute tells you. The second port of call is the regulator's judgement in balancing the different duties and resolving any tension between them and this is where you get to questions of regulatory judgement and discretion. BGT told us that it thought that GEMA had acted within its discretion.[1069]

14.67 BGT told us that in markets with multiple players it made absolute sense to have a notional structure. BGT told us that in this context it would have been very odd indeed if the regulator had taken a different approach. In BGT's view, every company that had a higher cost of capital for whatever reason would want to have company specific rather than market wide allowances,

[1066] GEMA Main Hearing Transcript, 9 July 2021, page 96, lines 10–14.
[1067] Citizens Advice Intervention Notice, paragraph 51.
[1068] BGT Intervener Hearing Transcript, 7 July 2021, page 14, lines 11–20.
[1069] BGT Intervener Hearing Transcript, 7 July 2021, page 15, line 23–page 16, line 7.

and that the use of market wide allowances was a very good way to preserve incentives in minimising the cost of capital.[1070]

Third Party Submissions

14.68 The CMA invited two third parties, not party to the appeal or interveners, to make representations to assist the CMA.[1071]

*Electricity North West Limited (**ENWL**)*

14.69 ENWL agreed with WWU that the interpretation and application of the statutory duties was not a matter for regulatory discretion; it was a question of law.[1072] ENWL's arguments and evidence on the nature of the statutory duty are summarised below:

(a) ENWL submitted that WWU's case and understanding on the interpretation and application of GEMA's financing duty as set out in its Notice of Appeal was consistent with legal advice ENWL had received[1073] on the interpretation and application of GEMA's financing duty. ENWL submitted that GEMA is under an obligation to secure that each individual licensee can meet all reasonable demands for electricity/gas and that, if efficient, it is able to finance the activities which are subject to its obligations imposed by statute. A failure to have sufficient regard to the actual financial position of the individual licence holder is, therefore, an error of law.[1074]

(b) ENWL submitted that GEMA must have regard to what funds (debt and equity, rather than just debt) each individual licensee needed to secure its ability to finance its activities, if operated efficiently. ENWL submitted that this meant that due consideration must be given to the various circumstances that might influence a licensee's actual and efficient cost of debt, but that this should not be misinterpreted (and as a result dismissed) on the premise that it would oblige GEMA to effectively underwrite inefficiency.[1075]

(c) The objective under the financing duty of securing that efficient licence holders can finance their functions is aligned with the protection of consumer interests in the short and long term. If an individual licence holder cannot finance its activities and therefore cannot meet the specific

[1070] BGT Intervener Hearing Transcript, 7 July 2021, page 19, lines 4 – 13.
[1071] CMA70, paragraph 14.4e, allows that the CMA may at any time invite representations on any matter relating to the appeal from any person whom it appears to the CMA may be affected by the outcome of the appeal.
[1072] ENWL response to the CMA request under Rule 14.4(e), paragraph 84.
[1073] ENWL response to the CMA request under Rule 14.4(e), Thomas Sharpe QC Opinion.
[1074] ENWL response to the CMA request under Rule 14.4(e), paragraphs 89–97.
[1075] ENWL response to the CMA request under Rule 14.4(e), paragraphs 98–100.

obligations placed on it under its licence, this would be contrary to the interests of future and existing consumers. ENWL submitted that even if there were safeguards in place in the event of a licensee failing completely:

(i) That did not mean it was an acceptable outcome, or one which GEMA should knowingly contribute to through its decisions.

(ii) The failure of an individual licensee would likely have adverse ramifications for consumers across the whole sector.

(iii) If the underfunding of an individual licensee's actual efficient debt costs resulted in equity investors subsidising debt allowances, this might result in a repricing of equity risk to the longer-term detriment of consumers through increased charges with insufficient countervailing benefits. It would also provide a major disincentive to invest in these companies and/or the sector relative to investment returns in other sectors, regions or internationally.

(iv) When considering the point estimate for the cost of capital overall, it was accepted that the risks to consumers of underinvestment resulting from the cost of capital being set too low could be more damaging than any welfare that might be lost from bills being too high.[1076]

(d) The impact of the 'need to secure' means that the legal burden falls on GEMA to demonstrate that it has discharged its duties having regard to those obligations. In practice this means that the burden is on GEMA to show sufficient proof, based on the balance of probabilities and having regard to all the evidence, that the individual licensee, operating efficiently, is able to finance its functions.[1077]

Ofwat

14.70 Ofwat submitted that in each of its price reviews since the privatisation of regional water authorities in 1989 it had adopted a consistent methodology of setting determinations on the basis of a notional capital structure and a sector wide approach to the cost of capital. These determinations had been underpinned by a consistent interpretation and application of its statutory duties under the Water Industry Act 1991 (**WIA91**). Ofwat submitted that it interpreted its financing functions duty in section 2(3)(c) of the WIA91 as a duty to secure that an efficient company with the notional capital structure can

[1076] ENWL response to the CMA request under Rule 14.4(e), paragraphs 101–106.
[1077] ENWL response to the CMA request under Rule 14.4(e), paragraphs 107–108.

finance its functions, in particular by securing reasonable returns on its capital.[1078]

14.71 Ofwat submitted that setting a determination by reference to a notional capital structure and notional financing costs was wholly consistent with the application of regulatory duties and the application of an incentive based regulatory regime. Ofwat submitted that the notional approach incentivised companies to secure efficient costs of finance and protects customers from the risks of companies' financing decisions.[1079]

14.72 Ofwat submitted that it viewed an efficiently financed company as one that had a balanced portfolio of borrowing which diversified risk effectively such that it ensured it had sufficient flexibility to respond to changing market conditions. The notional approach maintained the principle that companies and their investors were best placed to bear the risks associated with those choices and the responsibility to maintain the financial resilience of the actual structure.[1080]

Our assessment and conclusions

14.73 WWU's case is that GEMA has a statutory duty to secure the actual financeability of any particular licence-holder. It contends that this duty is embedded in GEMA's principal objective.

14.74 For the reasons given below, we do not accept WWU's submission that the duty to have regard to financeability requires GEMA to secure the actual financeability of particular licence-holders.

14.75 In our assessment, we consider first the structure of section 4AA GA86 before analysing the nature of the financeability duty itself.

14.76 When looking at the wording of section 4AA:

(a) The Principal Objective is clearly set out in subsection (1) as being '… to protect the interests of existing and future consumers in relation to gas conveyed through pipes'.

(b) Subsection (1A) sets out certain specific interests to be included in the definition of 'interests of existing and future consumers'.

(c) Subsection (1B) introduces an element of discretion on GEMA's part in exercising its functions, in that it shall do so '… in the manner which the

[1078] Ofwat response to the CMA request under Rule 14.4(e), paragraph 5.
[1079] Ofwat response to the CMA request under Rule 14.4(e), paragraph 6.
[1080] Ofwat response to the CMA request under Rule 14.4(e), paragraph 7.

Secretary of State or the Authority (as the case may be) considers is best calculated to further the principal objective …', factoring in the need to promote effective competition 'wherever appropriate'.

(d) Subsection (1C) directs GEMA to consider certain factors when deciding how to carry out its functions under Part 1 GA86 (also with a view to promoting competition).

(e) Subsection (2) refers to the duties under (1B) and (1C) and directs GEMA, in performing those duties, to have regard to the need to secure that reasonable demands for gas are met and the need to secure that licence holders are able to finance the activities which are the subject of obligations imposed by or under (inter alia) the GA86 itself.

(f) Subsection (3) refers to the duties under subsections (1B), (1C) and (2), and directs GEMA, in performing those duties, to have regard to the interests of a range of consumers.

(g) Subsection (4) confers on GEMA the discretion, in carrying out its functions, to have regard to the interests of other utility consumers.

(h) Subsection (5), which is explicitly subject to subsections (1B) and (2), directs GEMA to perform its functions in the manner best calculated to promote efficiency on the part of (inter alia) licence-holders and protect the public from danger.

14.77 It seems clear that the financeability duty does not have the same status as the Principal Objective in subsection (1). In our view, this is not so much because of the positioning of subsection (2) following the amendments made to the GA86 by the Utilities Act 2000, but rather because of its wording.

14.78 Subsection (2) contains matters to which GEMA must have regard in carrying out its functions in furtherance of the Principal Objective. Unlike the Principal Objective, however, the duty is to 'have regard'.

14.79 We note that WWU focused on the words 'need to secure' in subsection (2)(b) and sought to minimise the effect of the words 'have regard to'. We do not agree that that is the correct focus. The words 'have regard to' are contained in the main body of subsection (2) and describe the nature of the obligation on GEMA to consider the needs described in (2)(a) and (2)(b). Subsection (2)(b) does not say, either expressly or by necessary implication, that GEMA has a duty to secure the actual financeability of any particular licence-holder.

14.80 We therefore accept GEMA's submission (see paragraph 14.44(a) above) that a duty to 'have regard' is not a duty slavishly to follow and that the statutory

wording does not impose an obligation of result. We do not accept WWU's argument that the words 'need to secure' in section 4AA(2)(b) lead to a different conclusion.

14.81 Contrary to WWU's submissions, we consider that the use of a notional company approach does properly have regard to the need to secure that licensees are able to finance their activities, bearing always in mind GEMA's principal objective of protecting the consumer interest. In short, we agree with GEMA that it creates strong incentives on the part of licensees to manage company debt prudently and efficiently. GEMA explained its thinking on the placement of risk as being:[1081]

> '…allowing for a pass through for each individual network's debt costs subject to an efficiency check would expose each network's customers to that network's decisions on debt type, tenor, timing and risk management. We consider it more appropriate that a network company's shareholders are instead exposed to these risks, in common with corporates in the broader market.'

14.82 As Ofwat explained (see 14.72 above), a notional company approach incentivises companies to secure efficient costs of finance and protects customers from the risks of companies' financing decisions; the notional approach reflects the principle that companies and their investors are best placed to bear the risks associated with their borrowing choices. It is therefore unsurprising that the notional company approach has been used in a variety of regulatory contexts.

14.83 We asked WWU in its hearing to reconcile the elements of its case set out at paragraphs 14.20(a) and 14.24(a) above[1082] (that GEMA is not required to indemnify licence holders but that its financeability obligations are mandatory). WWU initially said that GEMA had enforcement sanctions available to it and would be expected to take action under the relevant condition.[1083] We did not find that a convincing explanation because adopting WWU's proposed interpretation of the financing requirement would mean that GEMA would in fact be in breach of its duty if a situation were to arise in which enforcement sanctions became necessary.

14.84 WWU later appeared to accept that GEMA could be said to have discharged its financeability duty even in a situation where a licence holder ultimately could not finance its activities:

[1081] *Friend 1 (*GEMA), paragraph 71
[1082] In the hearing WWU was referred to paragraphs A4.10 and A4.30–31 of their NoA.
[1083] WWU Main Hearing Transcript, 1 July 2021, page 14 lines 16-24.

> It may be that there are circumstances in which Ofgem has fulfilled that duty by putting a company in [a] position in which it is able to finance its activities, but nonetheless through some default – corporate fraud, for instance, or some other serious failing – the company does not finance its activities. Not because of an Ofgem failure of duty but because of the company's failure itself. [1084]

14.85 In its response to the provisional determination, WWU said that the two positions could be reconciled on the basis that GEMA was only required to put licence holders in a position whereby they were able to finance their activities. WWU then described the position of 'being able' as meaning '… by allowing them to recover all reasonable costs'.[1085] In paragraphs 14.182 to 14.183 we assess WWU's notion of reasonably incurred costs and do not repeat that here.

14.86 We do not agree that the financeability duty requires GEMA to ensure that each licensee can recover all of the costs which it has reasonably incurred. Furthermore, as we have explained, there is in our view a sound reason for avoiding an approach which focuses on market rates, in that such an approach would not provide sufficient incentives to licensees to manage their debt costs efficiently (see 14.81 above).

14.87 We are not persuaded by WWU's argument that GEMA must have regard to the individual circumstances of each company regulated by the RIIO regime. WWU contended that the reference to 'licence holders' in section 4AA of GA86 must be read to mean individual companies when setting the parameters of the price controls. Section 4AA sets GEMA's Principal Objective and duties '…in carrying out [its] respective functions under this Part…', and Part 1 of GA86 covers many aspects of GEMA's functions in regulating the entire gas transmission and distribution system across England, Scotland and Wales. When section 4AA is read in the wider context of Part 1, it does not lend itself to the interpretation that section 4AA focuses on individual companies. On the contrary, we consider section 4AA to be a provision that sets the priorities and considerations for GEMA when governing the whole regulatory system.

14.88 WWU contended that if GEMA did not investigate licence holders' individual circumstances it must be in breach of its public law duty. We do not agree with that characterisation. WWU's argument is premised on its anterior argument that GEMA is required to have regard to the individual

[1084] WWU Main Hearing Transcript, 1 July 2021, page 15 lines 11-16
[1085] WWU response to the PD, paragraph 4.10(d).

circumstances of each licence holder; but we have rejected that argument immediately above.

14.89 WWU pointed to the fact that GEMA used the actual circumstances of a company in setting the cost of debt when dealing with OFTOs. When asked about that point in GEMA's hearing, GEMA described OFTOs as being '…single asset, fixed term contracts that are subject to competition'.[1086] GEMA had previously described OFTOs as being for a fixed period of 20 or 25 years.[1087] We agree with GEMA that the competitive nature of the OFTO auction process means that bids based on inefficient debt costs would be likely to be uncompetitive and so would likely fail. As a result, the efficiency of debt costs within the OFTO sector is ensured by a market process, and so does not require regulatory judgement from GEMA in order to protect consumer interests and ensure efficiency. That is very different to the regulation of monopoly energy networks with an ongoing licence to operate.

14.90 It is therefore clear that OFTOs are in a different position, where because of the competitive nature of the tender process, GEMA can legitimately take the view that the tendering companies' costs of debt are set at efficient levels. That same logic does not apply in the case of the licensees subject to RIIO-2.

14.91 As regards the third parties, whilst we noted ENWL's Rule 14.4(e) submissions on the question of statutory interpretation, in our view they largely mirrored WWU's reasoning and did not materially advance the case.

14.92 We noted ENWL's arguments summarised at paragraph 14.69(c) regarding the consequences of underfunding (or of a licence holder failing). However, the fact that a particular consequence (which is merely one of many future possibilities) is undesirable for a licence holder cannot displace Parliament's intention in enacting the Special Administration Regime.

14.93 We note that section 4AA(1B) confers on GEMA a wide scope in decision making, '…the Authority shall carry out their respective functions under this Part in the manner which the Secretary of State or the Authority (as the case may be) considers is best calculated to further the principal objective, wherever appropriate by promoting effective competition…'.

14.94 In our view, to displace that scope and impose specific and mandatory outcomes in terms of licensees' financeability would require clear and unambiguous wording. We do not think subsection (2) is worded in such a fashion as either to restrict GEMA's decision making scope by compelling it to assess the individual circumstances of companies or, specifically, to compel

[1086] GEMA Main Hearing Transcript, 9 July 2021, page 101 lines 12-13.
[1087] *Friend 1 (GEMA),* paragraph 94 and footnote 82.

GEMA to design a system that automatically passes through licence holders' debt costs to customers and consumers.

14.95 Finally, we agree with WWU's general point (paragraph 14.32 above) that, when interpreting any given statute, material relating to other statutes governing other sectors is not binding. In any event, we do not consider the references to other statutes are necessary for reaching a conclusion on this point.

14.96 For the reasons set out above, we conclude that WWU has not demonstrated that GEMA's interpretation of its statutory duties was wrong.

GEMA's alleged irrational reliance on a cost of debt index

14.97 In the assessment of GEMA's alleged irrational reliance on a cost of debt index we:

(a) summarise the evidence from the parties;

(b) state our provisional determination;

(c) summarise the responses to the provisional determination;

(d) state our final determination of the appeal.

WWU submissions on GEMA's alleged irrational reliance of a debt index

WWU's NoA

14.98 WWU submitted that it was no part of WWU's case that regulators could never use indexation for the purpose of setting a cost of debt, but that the approach taken by GEMA in the gas distribution sector at the present time was wrong as a matter of law and policy.[1088]

14.99 WWU proposed that the correct approach to the cost of debt should be to:

(a) set the allowed cost of embedded debt to be set equal to the actual cost of debt (and derivatives) in situations where debt and derivatives were undertaken at rates below the benchmark (ie the iBoxx index); and in situations where embedded debt and derivatives were undertaken at rates above the benchmark, the allowance to be capped at the benchmark rates level; and

[1088] WWU NoA, paragraph A5.1.

(b) set the allowed cost of new debt via an indexed benchmark allowance.[1089]

14.100 WWU divided its arguments against GEMA's average actual/index-centric approach into a number of sub-issues. WWU submitted that while each of these errors could be viewed as a discrete failure, and WWU's case was that any one of them, taken alone, would be sufficient to invalidate the decision on the cost of debt and merit remedial action, many of them were overlapping, and all were cumulative in terms of their contribution to what is ultimately wrong with the use of the index. [1090] The sub factors were:

(a) inherent irrationality;

(b) no basis in economic theory;

(c) skewed results;

(d) unlawful discrimination; and

(e) retrospective imposition of an interest rate policy.

14.101 We summarise these sub-arguments in the paragraphs below.

Inherent irrationality

14.102 WWU submitted that there was no reason why an average of industry actual costs should correspond to a position of efficiency. WWU submitted that GEMA's method of indexation could only work as the basis for setting the cost of debt if it made appropriate adjustments to the outturn allowance to ensure that actual licence holders could finance their debt, and that without such an adjustment the policy was irrational in the strict sense, and in accordance with the meaning which that term bears in public law.[1091]

No basis in economic theory

14.103 WWU submitted that GEMA's approach to the design and calibration of an index was not supported by any underpinning in economic theory. WWU referenced Oxera as arguing that '[GEMA's] approach is not underpinned by sound economic principles or reasoning about the total costs that an efficient network is likely to incur in financing its functions'. WWU submitted that GEMA would not determine price control allowances for any other category of cost on the same basis.[1092]

[1089] WWU NoA, Part IV, paragraph 1.2.
[1090] WWU NoA, paragraphs A5.1–A5.4.
[1091] WWU NoA, paragraphs A5.5–A5.9.
[1092] WWU NoA, paragraphs A5.10–A5.12. See *Hope 1 (WWU),* paragraph 3.13.

Skewed results

14.104 WWU submitted that even if an average of the sector actual cost of debt could in principle serve as a proxy for the cost of debt of an efficient company, it was impossible in practice for any such proxy to be derived from GEMA's index. WWU submitted that the companies whose costs of debt were included in the index had varying characteristics which made them unsuitable for direct comparison with each other. For example:

(a) NGET was included, although its corporate characteristics, and the activity of electricity transmission which it undertakes, are quite distinct from those of GDNs;

(b) GDNs which were hived-down from National Grid in 2005 (such as WWU) are included together with those hived-down in 2016 (Cadent);

(c) the allowed cost of debt was driven primarily by the actual costs of debt of the two largest companies with characteristics most dissimilar to WWU, and referenced Oxera's analysis that 47% of the estimate was driven by the actual cost of debt of National Grid (NGET and NGGT) and 23% was driven by the cost of debt of Cadent Gas.

14.105 WWU submitted that GEMA 'nodded in the direction' of the need to recognise differences in circumstances between companies when it allowed a 6 bps uplift in the cost of debt for those companies likely to engage in infrequent issuance.[1093]

Unlawful discrimination

14.106 WWU submitted that, in law, GEMA was subject to a series of related legal obligations not to adopt policies that have discriminatory effect. WWU submitted that discrimination could still be lawful if it had an objective justification, but that no such justification was available and that, as a result, GEMA's approach to indexation rewarded some companies and penalised others without justification.[1094]

Retrospective imposition of an interest rate profile policy

14.107 WWU submitted that the effect of GEMA's approach to the indexation of the cost of debt was to impose on the GDNs a retrospective interest rate profile policy. WWU submitted that:

[1093] WWU NoA, paragraphs A5.13–A5.23.
[1094] WWU NoA, paragraphs A5.28–A5.35.

(a) four GDNs (including WWU) were 'hived-down' by National Grid in 2005 and the remaining four in 2016, and that to finance the hive-downs and ongoing operations, each of the GDNs issued equity and debt, some of which was then re-financed post-acquisition;

(b) the GDNs benefited from stable regulatory asset values and a predictable long-term programme of mains replacement capital expenditure, allowing the companies flexibility to adopt a wide range of financing strategies;

(c) each GDN owner took a different approach to its issuance profile and the way in which it managed its interest rate and inflation risk. WWU submitted that each of the strategies was appropriate in principle at the time it was adopted, and that there was no regulatory policy in relation to the notional interest rate risk profile, against which the licensees could benchmark themselves.

14.108 WWU submitted that its financing strategy involved a decision to fix the long-term interest rate with effect from 2007 - an 'entirely reasonable' approach in line both with the legitimate expectations of investors and current regulatory practice. WWU submitted that if GEMA had set a policy in relation to interest rate risk profiles, as it did in relation to notional gearing, then it would be reasonable to expect that WWU must either have followed it or taken any risks associated with not doing so. WWU submitted that it was not possible to define such risks when no justified regulatory policy in relation to interest rate risk profiles was defined ex-ante, and that as a result there could be no valid basis for regarding WWU's approach as inefficient or inappropriate.[1095]

WWU's Reply to GEMA's Response

14.109 In its reply to GEMA's Response, WWU focused on 'certain key themes which emerge from the GEMA materials', namely:

(a) the use of a sector average;

(b) incentives;

(c) consistency of policy; and

(d) the alleged 'bet'.

14.110 We summarise each of these in turn in the paragraphs below.

[1095] WWU NoA, paragraphs A5.36–A5.45.

The use of a sector average

14.111 WWU submitted that GEMA mischaracterised its own policy when it said that it set the allowed return by reference to an external index cross-checked against the sector average cost of debt. WWU submitted that GEMA, in its own language, 'decided to apply a bottom-up approach first and then to use a properly adjusted conceptual approach as a cross-check'.

14.112 WWU submitted that it was not credible that any analysis (of the type implied by GEMA) would lead to the conclusion that the average of the approaches taken by very different companies raising debt at different times and in accordance with different strategies would generate a single benchmark figure which happened to correspond to the 'appropriate' cost of debt for all companies.

14.113 WWU also submitted that GEMA's approach had:

(a) brought down the allowed return on debt and removed a significant source of risk for consumers 'only as a matter of pure luck' in relation to the subsequent path of interest rates;

(b) exposed customers in the aggregate to those decisions made by the companies as a whole; and

(c) provided no explanation of why debt costs should be treated differently by GEMA from all other categories of cost – such as totex and pension costs – for which allowances were set on an individual company basis, with the inevitable consequence of geographically differential charges.[1096]

Incentives

14.114 WWU submitted that since the sector average did not have the qualities of a valid benchmark for any actual licensee, its supposed incentivisation properties also lacked any validity and that, if GEMA's purpose is to design a valid incentive structure, it had failed.

14.115 WWU submitted that GEMA had conflated two concepts: efficiency and prudence.

(a) WWU submitted that the efficiency of debt costs could be meaningfully assessed on an ex-ante basis by reference to market benchmarks at the time of debt issuance.

[1096] WWU Reply, paragraphs A3.11–A3.22.

(b) With regard to prudence, WWU submitted that there was no basis at all for the implication that there was one benchmark strategy from which any deviation amounted to either an insufficiency or excess of prudence to be penalised or rewarded via an incentive mechanism. WWU submitted that GEMA's own documents state that the obligation relating to [credit] rating should protect consumers against imprudent or risky choices, and that GEMA 'do not necessarily consider 10 to 15yr debt to be particularly more risky than 15 to 30yr debt for regulated networks and it is up to networks to determine their own capital structure and treasury strategy'.[1097]

Consistency of policy

14.116 WWU submitted that a repeated theme in GEMA's Response was that its policy had been consistent over time. WWU submitted that this argument should be rejected on the basis that the persistence of a mistake does not validate it, and continuity over time does not amount to an objective justification.

14.117 WWU submitted that, regardless, GEMA had substantially overstated the historic consistency of its policy over time, and the extent to which its policy at any given point in time could be assumed likely to continue beyond the next control period.[1098]

The alleged 'bet'

14.118 WWU submitted that GEMA sought to justify its approach by alleging that WWU's debt financing involved a 'bet' which had previously worked in their favour. In response, WWU submitted that:

(a) WWU's financing arrangements were not a 'bet' any more than GEMA's implicit financing strategy in its trailing average index amounted to a 'bet' on customer bill levels for GD2, or the financing strategies of other investment grade rated GDNs constituted a 'bet'. WWU submitted that both debt and derivative elements of WWU's debt portfolio had been assessed by Oxera as ex-ante efficient and undertaken in an investment grade context.

(b) There was no 'six year' benefit from the arrangements. WWU's regulatory allowed cost of debt had been insufficient to cover its financing cost from the beginning of GDPCR1 (ie in 2008) and continuing throughout the period to date.

[1097] WWU Reply, paragraphs A3.23–A3.35.
[1098] WWU Reply, paragraphs A3.36–A3.45.

(c) WWU did not have 'freedom to distribute to shareholders' as it chose, as its secured capital structure placed a range of restrictions on its ability to distribute which went beyond, and in effect enhanced, the regulatory ring fence. WWU's dividend levels were not excessive – they reflected its outperformance, and average levels since 2005 were below both the allowed cost of equity and achieved Return on Regulatory Equity (**RoRE**).

(d) In 2007, WWU's gearing was within the sector range as noted by GEMA in the Initial Proposals for GDPCR1. WWU had reduced its gearing to the GD1 notional level by March 2021.[1099]

GEMA's submissions on its alleged irrational reliance on a cost of debt index

14.119 GEMA responded to WWU's appeal against the irrational design of a cost of debt index with reference to sector average debt allowances, broken down into the following sub-topics:

(a) inherent irrationality;

(b) basis in economic theory;

(c) skewed results;

(d) unlawful discrimination; and

(e) retrospective imposition of an interest rate policy.

14.120 We summarise GEMA's responses to these issues in turn in the paragraphs below.

Inherent irrationality

14.121 GEMA submitted that it had been its consistent practice over more than 20 years to set allowed return on debt based on medium term estimates of market rates, as distinct from individual company costs, and that this approach was robust, rooted in the data and strongly grounded in regulatory practice. GEMA submitted that this well-established regulatory practice had been subject to extensive consultation in this and previous price controls and had also been accepted by the CMA during the PR19 redetermination process. GEMA provided a selection of examples from price controls documents ranging from 1999 to 2012 (RIIO-1), demonstrating this approach through time.[1100]

[1099] WWU Reply, paragraphs A3.46–A3.47.
[1100] *Friend 1 (GEMA),* paragraphs 13–13.12.

14.122 GEMA stated that it was clear from early price controls that:

(a) the allowed return on debt would reset at each price control;

(b) it would be based on market factors rather than actual individual company cost of debt; and

(c) the same cost of debt allowance was provided for each network company in a given sector despite there being potential differences in the actual cost of debt raised by different network companies.[1101]

14.123 GEMA submitted that rather than following the previous practice of including 'headroom' in a fixed rate cost of debt allowance to cover forecasting error, the RIIO-2 cost of debt would be indexed annually according to a 10-year trailing average of market indices. GEMA stated that, as a result, the principle of setting the cost of debt allowance based on overall market rates over a long-term average period was retained, but the cost of debt allowance was updated annually according to an ex-ante calibration of external indices of bond yields.[1102]

14.124 GEMA submitted that WWU's debt costs were expected to be covered by GEMA's allowed return on debt (as noted by its advisers, Oxera, who estimated WWU's cost of debt (excluding derivatives) as [✂] over RIIO-2 compared to an allowed return on debt of 1.88%).[1103] [✂].

14.125 GEMA submitted that allowing a pass-through for each individual network's debt and derivative costs subject to an efficiency check would remove or radically reduce the incentive for companies to ensure their debt costs were as low as possible, and that such an approach would expose each network's customers to that network's decisions on debt type, tenor, timing and risk management. GEMA submitted that, as acknowledged by the CMA in its PR19 Provisional Findings, a company's actual financial structure is for the company to determine at its own risk.[1104]

Basis in economic theory

14.126 GEMA submitted that the contention that an external index calibrated by reference to sector average costs lacks a basis in economic theory was 'absurd'. GEMA submitted that WWU had itself accepted the appropriateness of using external debt indices in this context. GEMA submitted that its calibration of that index against a sector average, with adjustments on a

[1101] *Friend 1 (GEMA),* paragraph 15.
[1102] *Friend 1 (GEMA),* paragraph 20.
[1103] *Friend 1 (GEMA)* paragraph 128.
[1104] GEMA Response A, paragraphs 428–440.

notional basis to reflect circumstances which are outside company control, is strongly grounded in regulatory precedent and accords with GEMA's previous practice: GEMA applied indexation to the allowed return on debt for RIIO-1 (using a ten-year trailing average of iBoxx indices) for GD&T companies.[1105]

14.127 GEMA stated that the rationale for its approach was that in determining a reasonable structure and allowances for the notional efficient operator, it looked at evidence from across the sectors and more broadly to consider whether, on balance, the strategies that network companies had employed, in aggregate, represented a reasonable balance of risk and return for businesses that have long life assets but revenues that periodically reset. In GEMA's view, a medium-term trailing average of an external relevant benchmark index represented reasonable assumptions that a notional efficient operator would raise and refinance funding regularly, and thus would spread rate fixing risk and refinancing risk over time.[1106]

14.128 GEMA submitted that it had long been clear to network companies and their shareholders that, since debt allowances were set by reference to medium term market trends, there were risks associated with raising a large proportion of debt in a short period and/or fixing the rate on that debt for a long period. GEMA submitted that this was a risk which WWU chose to run when it opted in [✂] to fix the rates on more than [✂] of its debt for a [✂]. GEMA submitted that it was for WWU's shareholders and managers to balance the risks and rewards involved in taking this approach. GEMA submitted that WWU had benefited from that arrangement for the first six years when interest rates were high and its combined debt and derivative costs were lower than the allowed return on debt, but that the risk which WWU bet against—ie the risk of a significant sustained fall in rates—had now materialised. GEMA submitted that these costs were not for WWU's consumers to absorb.[1107]

Skewed results

14.129 GEMA submitted that skewed results because of the different characteristics of the companies was inevitable in any sector, and that the only way to avoid this would be 'pass-through' that would eliminate any incentive to manage debt efficiently. GEMA submitted that the important point was not that companies within the sector should be identical in every respect, but rather that GEMA should control for differences between the companies

[1105] GEMA Response A, paragraph 441.
[1106] *Friend 1 (GEMA),* paragraph 119.
[1107] GEMA Response A, paragraph 442.

which were outside their control, as it does by reference to RAV and the small company premium.[1108]

14.130 GEMA submitted that its approach was rigorous and balanced, and that it had performed cross-checks to exclude unusual, atypical or off-market debt, including:

(a) excluding intercompany loans;

(b) flagging debt instruments that were significantly higher than the relevant benchmark; and

(c) excluding SSEN-T's lower debt costs from the pool.

14.131 GEMA submitted that it had also considered the index calibrations proposed by the networks and tested a range of different interest rate and inflation scenarios.[1109]

Unlawful discrimination

14.132 GEMA submitted that it recognised that a 'one size fits all' strategy to setting the cost of debt may not be appropriate for all notional companies and had tested three different notional companies with different RAV and RAV growth profiles. GEMA submitted that it considered that one company in RIIO-GD&T1, SSEN-T, faced exceptional circumstances – where RAV profile and RAV growth were considered an exceptional circumstance that was exogenous to the company's own financing decisions, and which was relevant to the notional company analysis.

14.133 GEMA noted that at Initial Proposal stage in RIIO-GD1, WWU had argued that the then low interest rates (and the prospect that they would remain low) could result in efficiently incurred past debt not being fully funded as the value of the cost of debt index would decline faster than their average cost of debt would fall. WWU (and NGN) separately proposed caps and collars around the index to address this. GEMA submitted that it had rejected this request, noting at the time that the potential for embedded and new debt costs to diverge was an issue that crops up in every price control review. In that regard, any risk that the network companies may be exposed to was not a function of the proposal to update the cost of debt assumption annually based on an index.[1110]

[1108] GEMA Response A, paragraph 443.
[1109] GEMA Response A, paragraphs 444–445.
[1110] *Friend 1 (GEMA),* paragraphs 21–33.

14.134 GEMA submitted that the timing of WWU's debt issuance was not the reason it faced higher costs in respect of its debt and derivative portfolio, and that decisions taken by WWU's management and shareholders as to its capital structure and risk management were not an appropriate ground on which to base differential treatment. GEMA stated that:[1111]

(a) WWU's underlying debt costs of circa [✂] (CPIH[1112] real) were well below the RIIO-2 debt allowance of 1.88% CPIH real, and that it was WWU's decision to fix rates on a very substantial part of its debt using derivatives which accounted for the higher costs it now faced;

(b) in taking that decision, WWU had bet that interest rates would not fall well below the prevailing rate and/or that they would not stay low for a prolonged period. GEMA submitted that WWU's shareholders benefited from the swap for the first six years when GEMA's allowed return on debt was above that fix, and that it was not for WWU's consumers to absorb the costs now that interest rates (and therefore GEMA's allowed return on debt) had fallen below it;

(c) WWU had also chosen to continue to distribute to shareholders rather than to significantly reduce its exposure, or to break the derivatives over time;

(d) it recognised that smaller companies, which may tend to raise debt less frequently, may bear a greater risk that rates may be higher than average when debt is needed and/or may face higher relative costs for transacting at smaller sizes, and so made an adjustment in favour of smaller companies (including WWU);

(e) if WWU were provided with a higher allowance than SGN Scotland or NGN, despite the similarity of the objective circumstances outside their control, this may well found an argument of discrimination on the latter companies' behalf.

14.135 GEMA submitted that the effect of a [comprehensive] company-specific adjustment in WWU's favour would be to do away with the strong incentives to manage company debt prudently and efficiently that setting a sector-wide cost of debt benchmarked to market trailing averages provided, as set out in Sector Specific Methodology Decision (**SSMD**), and that such an approach might also require GEMA to undertake much greater scrutiny and control over company financing decisions and actions and greater standardisation of

[1111] GEMA Response A, paragraphs 446–452.
[1112] CPIH refers to the Consumer Price Index including owner occupiers' housing costs.

company capital structures contrary to the rationale underpinning GEMA's decision-making (also as set out in the SSMD).[1113]

14.136 GEMA stated that a 6 bps additional allowance was provided to WWU, which represented a cautious and conservative approach (in favour of smaller companies) to adjusting allowances for differences in factors outside of the individual network company's control (ie size and therefore expected frequency of issuance). GEMA submitted that this was very different to funding decisions which are within an individual network company's control (eg timing of rate fixing, spreading of rate fixing risk, tenor of debt, spreading of refinancing risk, type of debt, use of derivatives).[1114]

Retrospective imposition of an interest rate profile policy

14.137 GEMA submitted that whether a transaction was done at market rates was merely one factor which was relevant to an assessment of a corporate entity's financing efficiency; others include timing, type, tenor, profile, and spread. GEMA submitted that it had never given WWU to understand that its actual debt costs would be met, and that it had been clear to licensees since privatisation that an allowed return on debt would be set by reference to medium-term market trends, and that the allowance would be sector-wide rather than specific to actual company costs.

Third Party Submissions

ENWL

14.138 ENWL submitted that it agreed with WWU that GEMA's cost of debt methodology did not ensure, for all individual licence holders, that the financing duty was satisfied. ENWL submitted that under the current settlement customers were, in aggregate, paying the industry's actual cost of debt, but the averaging approach meant that some companies were receiving windfall gains and others were suffering losses that created serious financeability concerns.[1115]

14.139 ENWL submitted that:

(a) While GEMA's industry-average approach may be convenient and practical as a starting point in the cost of debt assessment, 'this approach

[1113] GEMA Response A, paragraphs 446–452.
[1114] *Friend 1 (GEMA),* paragraph 112.
[1115] ENWL response to the CMA request under Rule 14.4(e), paragraph 112.

does directly not answer the question' of whether or not an individual license holder can properly finance its functions'.[1116]

(b) The burden is on GEMA, in line with its statutory duties, to show that the circumstances of the licensee claiming a higher cost of debt are, in fact, consistent with the average in the sector, or that its higher costs can be attributed to inefficiency. If GEMA has no reason to think that the debt was not properly incurred, GEMA should make a greater allowance for a higher debt rate for that licensee.[1117]

(c) Licensees are price takers in the global corporate bond market with only limited opportunity to outperform. They can and should be made to try and access the most competitive markets at the time financing is required, but individual licensees may have only limited control over the timing of those requirements. It is only those with larger, more regular, debt issuance programs that have some potential to control these risk (ie the larger network groups).[1118]

(d) Embedded debt is a sunk cost. There is clearly a benefit for consumers for incentivisation with respect to new debt to be taken out, and some benefit to consumers to ensure that debt management does not just focus on the current regulatory period. To the extent that embedded debt goes beyond one or two regulatory periods, however, there are very few, if any, benefits to consumers from continued incentivisation, particularly where there are significant regulatory or economic market changes.[1119]

(e) GEMA's current practice requires customers to pay for a sector's total interest costs. GEMA does not currently undertake a detailed review of efficiency, nor has it typically made any disallowances for inefficient costs. ENWL submitted that it was not arguing for an overall increase in the amount that customers pay, rather WWU and ENWL were asking for a reallocation of revenues so that the 'right' customers pay the 'right' companies their actual costs of debt.[1120]

Ofwat

14.140 Ofwat submitted that the application of indexation approaches is not unusual in regulated sectors, including in water, and is consistent with the application of a notional approach to setting the allowed return. GEMA's

[1116] ENWL response to the CMA request under Rule 14.4(e), paragraph 116.
[1117] ENWL response to the CMA request under Rule 14.4(e), paragraphs 115–123.
[1118] ENWL response to the CMA request under Rule 14.4(e), paragraphs 132–134.
[1119] ENWL response to the CMA request under Rule 14.4(e), paragraphs 135–137. ENWL submission, paragraphs 135–137.
[1120] ENWL response to the CMA request under Rule 14.4(e), paragraph 138. ENWL submission, paragraph 138.

approach, which adopts a trailing average of a benchmark index calibrated to benchmark data for the companies it regulates, provides protection to companies by allowing companies to meet efficient embedded debt costs.[1121]

GEMA's alleged irrational reliance on a cost of debt index - Our provisional assessment

14.141 In assessing WWU's claims, we considered the impact of GEMA's use of an index as well as the underlying analysis of actual costs that underpin GEMA's choice of index used. We presented our analysis of this error with reference to the issues raised by WWU in its NoA, namely:

(a) inherent irrationality;

(b) no basis in economic theory;

(c) skewed results;

(d) unlawful discrimination; and

(e) retrospective imposition of an interest rate policy.

Inherent irrationality and basis in economic theory

14.142 With regard to inherent irrationality, and the associated issue of basis in economic theory, we disagreed with WWU's assessment. It appeared clear to us that GEMA had taken a rational and economically sound approach when considering how to construct its cost of debt allowance. GEMA had presented evidence that it has followed an approach that allowed it to meet its sometimes competing duties to consumers, financeability and efficiency.

14.143 WWU has claimed that there is no reason why an average of industry actual costs (or an index average that corresponds to this figure) should correspond to a position of efficiency and that such an approach is not underpinned by sound economic principles or reasoning. Conversely, GEMA has stated that the assessment of whether a corporate financing strategy is efficient, appropriate and prudent is based on an assessment of the risks the strategy exposes the company to as well as the rates at which the funding is contracted. In addition, GEMA has noted that it looked at evidence from across the sectors and more broadly to consider whether, on balance, the strategies that network companies had employed, in aggregate, represented a

[1121] Ofwat response to the CMA request under Rule 14.4(e), paragraph 8.

reasonable balance of risk and return for businesses that have long life assets but revenues that periodically reset.

14.144 Absent a definition of efficiency within the statute, we took the view both that GEMA is able to define efficiency in this context, and that the approach to assessing the efficient and appropriate cost of debt allowance adopted by GEMA was not wrong. We considered it inherently rational for the regulator to consider a number of factors when deciding an efficient and appropriate cost of debt allowance, and that average cost faced by companies within a sector was an acceptable way of achieving this.

14.145 WWU's definition of efficiency amounts to 'at or below market price at issue'. In the context of debt efficiency, almost all market participants are price takers with no direct efficiencies possible as a result of greater effort. This is inherently different to opportunities for efficiency evident in operational elements of business plans and the price control, where the application of best practice can lead to greater efficiency (lower costs) over time. Under WWU's proposal, almost all financing approaches, however esoteric, would be very likely to be allowed and thus funded by customers. This transfer of risk to customers would seem to be a direct threat to GEMA's duty to consumers if it came without commensurate control on the financing strategies that companies are permitted to follow. We agreed with GEMA that financing choices, and the risk and rewards that come from those choses, sit most appropriately with companies and their owners.

14.146 It is worth noting that GEMA's approach broadly matches the approaches taken by other multi-company sector regulators, and the CMA has previously found its basic tenets to be not wrong.[1122] The CMA specifically turned down a similar request for company specific allowances from Yorkshire Water in the CMA PR19 Redetermination – noting that the water sector was broad enough to ensure that aggregate industry debt costs provided a good indication of the efficient costs associated with securing that water companies can finance the proper carrying out of their statutory functions.[1123] We considered that such a rationale also applies to the calculation of the cost of debt for the energy networks, despite a somewhat higher level of company concentration in the energy networks sector relative to the water sector.

14.147 GEMA highlighted that there could be a tension between its duty to have regard to financeability and its duty to promote efficiency and economy on the part of licensees – and that this tension would be apparent if GEMA

[1122] For previous discussion of the CMA's assessment of GEMA's approach to efficiency, see CMA (2015*), British Gas Trading Limited vs The Gas and Electricity Market Authority - Final Report*, paragraphs 8.25–8.43.
[1123] CMA PR19 Redetermination, paragraph 9.633.

adopted an approach to the allowed return on debt which offered no or minimal incentive to licensees to manage their debt portfolios efficiently. We agreed with this assessment. In the CMA PR19 Redetermination, the CMA noted that a cost pass-through approach would reduce incentives to ensure that companies drive best practice, ensure efficiency and do not take inappropriate risks in their treasury management practices.[1124]

14.148 As discussed further in relation to 'skewed results' below, we would have been more concerned about inherent rationality if GEMA had disregarded all individual circumstances and relied solely on the size weighted average actual cost. However, GEMA provided sufficient evidence that this has not been the case. In addition, GEMA's approach has been sufficiently consistent that all companies in the sector, including WWU, should have been able to 'know the rules' under which the cost of debt allowance would be set.

14.149 With regard to the potential irrationality of customers paying an average sector cost rather than a company-specific cost, in our view we have been provided with no evidence from WWU that GEMA's approach is wrong. Other types of cost, such as totex, are allowed on an individual company basis as they are likely to relate to company-specific and unavoidable factors. The appropriate costs of equity and debt are easier to define at a sector or market level, and thus we found no evidence that GEMA's approach was wrong. An average approach does mean that in each price control there could be 'winner' and 'loser' consumers relative to the actual costs at their specific energy network. However, WWU's alternative approach, where company-specific debt costs were paid by the region's consumers, would leave consumers directly exposed to the financing decisions of each company without material[1125] protection from the regulator. On balance, we concluded that the 'average' approach is consistent with GEMA's duties.

Skewed results and unlawful discrimination

14.150 With regard to the potential for skewed results, and the associated issue of unlawful discrimination, we disagreed with WWU's assessment. It appeared clear to us that GEMA's allowance has been suitably calibrated and considered to allow it to be applied in accordance with GEMA's duty to have regard to ensuring that energy companies are able to finance their obligations. We did not find evidence of skewed results or unlawful discrimination.

14.151 WWU submitted that the companies whose costs of debt are included in the index have varying characteristics which make them unsuitable for

[1124] CMA PR19 Redetermination, paragraph 9.633.
[1125] By material, we mean assessment other than efficiency as measured by the price at issue versus prevailing market rates.

direct comparison with each other and that, as a result, GEMA's approach to indexation rewards some companies and penalises others without justification. WWU also argued that GEMA 'nodded in the direction' of the need to recognise differences in circumstances between companies when it allowed a 6 bps uplift in the cost of debt for those companies likely to engage in infrequent issuance.

14.152 Conversely, GEMA submitted that skewed results because of the different characteristics of the companies was inevitable in any sector, but that the important point is not that companies within the sector should be identical in every respect, but rather that GEMA should control for differences between the companies which are outside their control. GEMA submitted that the timing of WWU's debt issuance is not the reason it faces higher costs in respect of its debt and derivative portfolio, and that decisions taken by WWU's management and shareholders as to its capital structure and risk management are not an appropriate ground on which to base differential treatment.

14.153 It was our view that suitably similar companies can be used in aggregate to make an 'actual' cost of debt assessment, and the companies within the same regulated sector are likely to be suitably similar in terms of their potential (rather than actual) costs of debt. While this may lead to companies sitting above or below the average during any one price control, this is only a concern if companies are subject to structurally higher or lower costs.

14.154 We agreed with GEMA that to avoid unfair skew in the data and/or the potential for unlawful discrimination, it is important to consider factors that are outside of the management's control and adjust allowances accordingly. We considered that GEMA has provided sufficient evidence that it considered and made adjustments for structural factors outside of the control of management, such as RAV profile in the case of SSEN-T[1126] and size in the case of WWU, SGN Scotland and NGN.[1127] Rather than WWU's assessment that suggests this approach shows that the average is not appropriate, we viewed adopting an 'average with suitable adjustments' to be clearly within GEMA's discretion as regulator.

14.155 We specifically questioned whether WWU's higher costs were the result of structural or unavoidable factors. WWU confirmed that its treasury approach was the choice of WWU's management and owners and was not subject to factors outside of the company's control. As a result, we agreed with GEMA's assessment that WWU's higher costs are the result of its

[1126] GEMA FD Finance Annex, paragraph 260.
[1127] GEMA FD Finance Annex, paragraph 262.

decisions and not the result of skew in GEMA's analysis or unlawful discrimination. We agreed with GEMA that financing strategy, and the associated risks and rewards, should continue to sit with companies and not be transferred to regulators and consumers.

14.156 We also considered whether GEMA's actual cost calculation methodologies (which underpin the index-based allowance), specifically decisions to size-weight its analysis and exclude most derivatives, could lead to skewed results. GEMA provided evidence which we provisionally concluded demonstrates that it sufficiently cross-checked its actual cost of debt estimate against methodologies with and without the use of derivatives[1128] and using unweighted rather than weighted averages[1129] - and that the results were similar to, or lower than, their original estimate. This evidence supports the assessment that regardless of the merits of the approach taken, the value chosen in this price control was not subject to unfair skew or unlawful discrimination.

Retrospective imposition of an interest rate policy

14.157 With regard to the potential for the retrospective imposition of an interest rate policy, on balance we disagreed with WWU's assessment.

14.158 WWU has argued that each GDN took a different approach to its issuance profile and the way in which it managed its interest rate and inflation risk. WWU submitted that each of the strategies was appropriate in principle at the time it was adopted, and that there was no regulatory policy in relation to the notional interest rate risk profile against which the licensees could benchmark themselves. In addition, WWU submitted that its specific financing strategy involved a decision to fix the long-term interest rate with effect from 2007 - an 'entirely reasonable' approach in line both with the legitimate expectations of investors and current regulatory practice.

14.159 GEMA has argued, as noted above, that whether a transaction was done at market rates was merely one factor which is relevant to an assessment of a corporate entity's financing efficiency; others include timing, type, tenor, profile, and spread. GEMA submitted that it has never given WWU to understand that its actual debt costs would be met, and that it has been clear to licensees since privatisation that an allowed return on debt would be set by reference to medium-term market trends, and that the allowance would be sector-wide rather than specific to actual company costs.

[1128] GEMA Main Hearing Transcript, 9 July 2021, page 100, line 25–page 101, line 8.
[1129] GEMA Main Hearing Transcript, 9 July 2021, page 105, lines 2–14.

14.160 In our view, there is no single way to set the cost of debt allowance. The broadly 'average actual' at the notional structure approach that has underpinned recent decisions by GEMA, Ofwat and the CMA has the benefit of ensuring that customers do not pay more than is strictly necessary to fund the debt costs of the sector. However, it is reasonable to conclude that under this approach companies do not have an explicit ex-ante benchmark to frame their decisions or accurately define the risks that they are taking. While this poses some difficulties for companies, a prudent treasury approach that issues debt incrementally and at appropriate tenors offers significant mitigation against these difficulties. In addition, such difficult policy trade-offs exist throughout regulatory price controls, and regulators often have to take the approach that they consider best matches the requirements of their statutory duties.

14.161 In this specific case, WWU could not have predicted the path of future interest rates or the exact future cost of debt allowance that would be presented by GEMA. However, given the evidence presented by GEMA of a broad consistency of approach going back to 1999, well before the hive-down of WWU from National Grid, we saw no evidence that WWU could have rationally expected a multi-decade fixing of interest costs to be specifically remunerated by GEMA through a cost of debt allowance.

14.162 It was our view that we did not have to decide whether WWU's financing decisions were efficient (as measured versus contemporary benchmark rates) or even whether they were appropriate or reasonable. Rather, we view such decisions for WWU alone to take, and that the risks and rewards of those decisions should also sit with WWU alone. WWU was, or should have been, sufficiently aware of GEMA's historical approach to the cost of debt allowance and there was no indication that this was likely to change in the future. In deciding to lock-in costs for multiple decades, despite operating in a regulatory regime that updates the revenue allowances designed to cover those costs at regular intervals, WWU was taking a clear and obvious risk. WWU could have, and could still, benefit in aggregate from taking this risk.[1130]

14.163 Although it would be an option for GEMA to follow an approach which shares costs between customers and companies, this would be a different approach which would represent a divergence from a precedent which, in our assessment, is consistent with GEMA's duties and the interests of customers. We therefore considered that WWU has failed to demonstrate that GEMA was wrong not to implement such an option.

[1130] If market rates for debt were to rise considerably over the coming years, WWU's largely fixed real costs of debt could once again move to below average versus peers and/or historical averages of benchmark yields.

Our provisional conclusion

14.164 For the reasons set out above, in our provisional determination we provisionally concluded that WWU had not demonstrated that GEMA placed irrational reliance on a cost of debt index.

GEMA's alleged irrational reliance on a cost of debt index - Responses to the provisional determination

14.165 WWU disagreed with the CMA's provisional conclusion, stating that the CMA's errors of statutory interpretation had 'logically and inexorably' led the CMA into further errors in its assessment of the remaining components of the cost of debt. WWU also made substantial submissions on other specific errors in the CMA's analysis and reasoning.[1131]

14.166 GEMA submitted that it supported the CMA's provisional determination on this matter.[1132]

14.167 In the following paragraphs we consider WWU and GEMA's submissions, wherever possible, by reference to the subcategories used in the provisional determination.

WWU Response to the provisional determination

Inherent irrationality and basis in economic theory

14.168 WWU disagreed with our assessment of inherent irrationality and basis in economic theory issues. WWU submitted that:

(a) WWU stated that the financeability duty is an inherent part of the principal objective and not in competition with it, that the duty to promote efficiency cannot trump the duty to secure financeability, and that the duty to promote efficiency is expressly subject to the principal objective and financing duty.[1133]

(b) GEMA had not presented the underlying evidence that would prove that it had looked at evidence from across the sectors and more broadly to consider whether, on balance, the strategies that network companies had employed, in aggregate, represented a reasonable balance of risk and

[1131] WWU Response to PD, paragraphs A1.1–A1.3.
[1132] GEMA Response to PD, paragraph 357.
[1133] WWU Response to PD, pages 20–21.

return for businesses that have long life assets but revenues that periodically reset.[1134]

(c) GEMA had not defined efficiency, and that it was wrong for GEMA to refer to factors such as tenor, type, spread and timing of debt, but not explain what efficiency is by reference to those matters individually or taken as whole. WWU pointed out that GEMA had conducted the type of efficiency analysis suggested by WWU, and not the broader test applied here, when it undertook an assessment of the sector's £23 billon debt pool.[1135]

(d) GEMA had conflated efficiency and prudence in giving evidence to the CMA and that the CMA was wrong to conclude that an average cost is an acceptable way to 'consider a number of factors when deciding and efficient and appropriate cost of debt allowance' (see paragraph 14.144) in the absence of evidence provided by GEMA.[1136]

(e) WWU disputed the CMA's assessment that there were 'no direct efficiencies [in debt cost terms] possible as a result of greater effort' (see paragraph 14.145) – stating both that this was 'factually incorrect', and that the CMA had failed to take account of evidence provided by WWU on this point. WWU submitted that while market participants are, to a material extent, price takers, they can influence to some extent a rate better than the index via its credit rating, capital structure (such as whole business securitisation (**WBS**) schemes) and effort, and that WWU had demonstrated this in the last three bond transactions, where the yield achieved on each transaction was better than the market index used by Ofgem.[1137]

(f) the CMA was wrong to state that under WWU's approach almost all financing approaches, however esoteric, would be very likely allowed and funded by customers, because the licence requirement for investment grade status undermines, if not precludes, such extreme financing approaches.[1138] [1139]

(g) WWU disagreed with the CMA's comparison between GEMA's approach and that used by other multi-company sector regulators. WWU submitted that company concentration in the energy sector is higher than in the water sector. WWU submitted the three largest water companies represented 46% of the market (in RCV terms) while the three largest

[1134] WWU Response to PD, paragraph 21.
[1135] WWU Response to PD, pages 21–22.
[1136] WWU Response to PD, pages 22–23.
[1137] WWU Response to PD, page 22.
[1138] WWU Response to PD, page 23.
[1139] Reference to *Friend 1 (GEMA),* paragraph 121.

energy companies (GD&T excluding SSEN-T) represented 70%. WWU submitted that these estimates go to 47% and 83% respectively if individual operators were considered as one company due to their common ownerships. WWU stated that the CMA had not reflected on the significant difference in the number of companies between the two sectors (energy 7 companies, water 13 companies in the considered sample) nor the fact that Cadent has a structurally low cost of debt in the gas distribution sector in which just four companies make the financing decisions. WWU also submitted that, as far as it was aware, Yorkshire Water did not submit the same arguments and evidence to the CMA, and so was not an appropriate comparison.[1140]

(h) the CMA's characterisation of a 'cost pass through approach' (see paragraph 14.147 mischaracterised WWU's suggested assessment methodology, which is more rigorous than GEMA's. WWU submitted that it was wrong to state that WWU's approach offered no or minimal incentives, and that the CMA's reasoning here also conflicted with its general view that no direct efficiencies were possible.[1141]

(i) WWU asked the CMA to explain GEMA's alleged 'rules' (see paragraph 14.148) and where they can be found as no clear regulatory rules exist, or existed when financing decisions were made. WWU reiterated that GEMA's approach to the cost of debt allowance had not been sufficiently consistent to enable companies guess the 'rules' with confidence – and did not agree that GEMA's resetting of the allowance for each control period was a 'rule'.[1142]

(j) the CMA's rationale, presented as an 'on balance' decision, to prefer GEMA's approach to 'winner' and 'loser' customers (see paragraph 14.149) was wrong for the following four reasons:[1143]

(i) WWU provided the CMA with the impact on RoRE relative to Cadent in WWU's individual hearing and caused by GEMA's discriminatory approach. GEMA has not provided any justification why customers in Cadent's regions pay much more than they should, and exposing those customers to paying excessive charges for many years to come, instead of benefiting from Cadent's structurally lower cost of debt;

[1140] WWU Response to PD, pages 23–24.
[1141] WWU Response to PD, pages 24–5.
[1142] WWU Response to PD, pages 25–26.
[1143] WWU Response to PD, pages 26–27.

(ii) the CMA was wrong to say that the appropriate cost of debt is 'easier to define' at a sector level (ie across three sectors) than at company level; and;

(iii) contrary to the CMA's statement that consumers do not have material protection under WWU's approach, the protection is represented by ex-ante efficiency testing, the investment grade rating requirement, ring fenced protective measures more generally and financial adequacy and resilience reporting.

Skewed results and unlawful discrimination

14.169 WWU disagreed with our assessment of skewed results and unlawful discrimination issues. WWU submitted that:

(a) no explanation has been provided by the CMA for its position that it did not find evidence of skewed results or unlawful discrimination. WWU's discrimination arguments remain unchallenged. The CMA has to engage with the evidence provided.

(b) WWU also submitted that it did not understand what the CMA meant by 'suitably similar' companies, in its assessment that these could be used in aggregate to make an 'actual' cost of debt assessment (see paragraph 14.153). WWU stated that, using the CMA's reasoning, companies in the GT and ET sectors should be excluded as they are clearly not 'suitably similar', while Cadent should be excluded as its costs are structurally lower following a hive down from National Grid in 2016.[1144]

(c) WWU reiterated that GEMA had discriminated against WWU without sufficient justification in its creation of a uniform allowance across three different energy sectors with very high concentration levels and a small number of companies in each. In addition, WWU stated that the 6bps adjustment for WWU was an inadequate allowance for WWU's efficiently incurred cost of debt (including derivatives) at notional leverage.[1145]

(d) all costs of debt stem from decisions taken by companies and that WWU cannot be distinguished on that basis for the purposes of justifying discrimination. WWU stated that discrimination arose because GEMA declined to treat different companies differently, and that the CMA was therefore wrong to conclude that the allowance set by GEMA did not result in unlawful discrimination. WWU stated that this was an error of law,

[1144] WWU Response to PD, pages 27 – 28.
[1145] WWU Response to PD, page 28.

and consequently it was inappropriate to permit GEMA any regulatory discretion in this matter.[1146]

(e) WWU reiterated that a significant number of customers in the gas distribution sector (served by Cadent's four networks) are paying much more than they need for the cost of debt, and that this difference will continue through GD2. WWU stated that this 'perverse outcome' was a direct result of Ofgem's approach. The CMA was therefore wrong to conclude that the 'average actual' approach had the benefit of ensuring that consumers do not pay more than is strictly necessary.[1147]

(f) WWU submitted that the CMA was correct to conclude that there is no explicit ex-ante benchmark to frame companies' decisions or accurately define the risks and that this creates difficulties for networks. However, WWU also stated that the CMA was wrong to suggest that 'a prudent treasury approach' would provide sufficient mitigation of those difficulties. WWU stated that no network company issues debt with a frequency and tenor that matches the profile of GEMA's allowance, and that it is clearly impossible to predict methodologies by GEMA from one control period to the next. WWU stated that there is no evidence that issuing debt incrementally is the prudent treasury approach, as the CMA suggests. WWU submitted that even if a company issues debt incrementally but not exactly the same as would be implied by GEMA's index, the allowance may appear above or below the actual cost of debt, depending on the rates movements and GEMA's approach to the allowance. WWU stated that, as a result, even a hypothetical company with a financing strategy that is prudent in GEMA's and CMA's view would be penalised or rewarded.[1148]

Retrospective imposition of an interest rate policy

14.170 WWU disagreed with our assessment of retrospective imposition of an interest rate policy issues. WWU submitted that:

(a) GEMA's approach to the cost of debt allowance had not been as consistent as GEMA portrays it. WWU stated that GEMA's approach to setting the cost of debt allowance changed in every price control, and that the financing networks consultation in 2006 was a clear indication that there would be further significant changes to the approach. As further evidence of such variation, WWU submitted that GEMA told the CMA that the longstanding position is to set allowances by reference to 'long term

[1146] WWU Response to PD, page 29.
[1147] WWU Response to PD, page 30.
[1148] WWU Response to PD, pages 30–31.

market rates' (see *Friend* witness statement paragraph 120), but that, inconsistently, GEMA then told the CMA that that since privatisation the allowance has been set by 'medium term trends' (GEMA Response paragraph 453). WWU submitted that, contrary to the CMA's statement, it is not WWU's case that at (or after) the hive-down, WWU expected that its actual efficiently incurred cost of debt would be remunerated by GEMA; rather it is WWU's case that remunerating the actual efficiently incurred cost of debt in an investment grade environment at notional leverage is the only way for GEMA to avoid unlawful discrimination and to comply with its duties.[1149] WWU also stated that consistency with precedent, even if correct, does nothing to preclude the approach from being wrong.[1150]

(b) the CMA was correct that financing decisions are for WWU, as networks are best placed to manage risks, and that the CMA was therefore wrong to exercise judgement on WWU's 2007 decision with the benefit of hindsight. WWU submitted that the approach taken by WWU in 2007 had both benefits and risks and was entirely reasonable in the circumstances. WWU also stated that the CMA had noted that WWU could still 'benefit', but had not recognised that WWU could have a still greater shortfall if real interest rates went further negative.[1151]

GEMA's response to the provisional determination

Inherent irrationality and basis in economic theory

14.171 GEMA supported the CMA's provisional conclusion that it was inherently rational for the regulator to consider a number of factors when deciding an efficient and appropriate cost of debt allowance, and that the average cost faced by companies within a sector was an acceptable way of achieving this and is consistent with GEMA's duties.

Skewed results and unlawful discrimination

14.172 GEMA submitted that the CMA's assessment that GEMA did not slavishly rely solely on one measure of the average actual cost of debt for setting the allowed return on debt mechanism is correct, and reiterated that GEMA had supplied evidence demonstrating that although GEMA had some reasoned views regarding which measures were most appropriate, it also considered other measures when reaching its decision.

[1149] WWU Response to PD, pages 31 – 32.
[1150] WWU Response to PD, page 33.
[1151] WWU Response to PD, pages 32 – 33

14.173 GEMA welcomed the CMA's acknowledgement that suitably similar companies can be used in aggregate to make an 'actual' cost of debt assessment, and that companies within the same sector are likely to be suitably similar in terms of their potential debt costs. GEMA submitted that it supported the CMA's provisional conclusion that GEMA's approach of using an average with suitable adjustments for factors outside company control was well within GEMA's discretion as regulator and that it was not subject to unfair skew or unlawful discrimination.

Retrospective imposition of an interest rate policy

14.174 GEMA submitted that it also supported the CMA's provisional conclusion that financing strategy and the associated risks and rewards should continue to sit with companies and should not be transferred to regulators and consumers. GEMA stated that it considered this to be a particularly important principle that maintains regulatory stability and predictability but also protects consumers from negative consequences of not incentivising companies to manage financing risk appropriately.

GEMA's alleged irrational reliance on a cost of debt index – Our final assessment

14.175 WWU provided an extensive response to the provisional determination, noting that WWU strongly disagreed with both the assessment and the conclusions of the provisional determination on this matter. We note that WWU's disagreement, in the main, focused on our interpretation and our weighing up of the evidence, as well as our interpretation of GEMA's duties, rather than a failure to take material evidence into account.

14.176 As at the provisional determination stage of assessment, we have collated our assessment of the alleged irrational reliance on a cost of debt index into three main sub-categories:

(a) Inherent irrationality and basis in economic theory;

(b) Skewed results and unlawful discrimination; and

(c) Retrospective imposition of an interest rate policy.

Inherent irrationality and basis in economic theory;

14.177 WWU raised a series of complaints in relation to the provisional determination assessment of this sub-section, which we address in the paragraphs below.

14.178 On the issue of the finance duty and the potential for competition with other duties, our assessment of the statutory duties under GA86/EA89 is set out above (see paragraphs 14.76 to 14.80).

14.179 On the issue of conflating efficiency and prudence, we continue to agree with GEMA that, in the absence of a statutory definition of efficiency, regulators can use their judgement to take a broader assessment of efficiency than simply 'cost versus benchmark at the time of issue'. We maintain the view expressed in the provisional determination (see paragraph 14.144) that an average cost of debt within the sector (including when matched to an equivalent external benchmark) is an acceptable way to consider a number of factors when deciding an efficient and appropriate cost of debt allowance.

14.180 We disagree with WWU's assessment that there is more scope for efficiency than acknowledged in the provisional determination. WWU highlights factors such as credit rating, capital structure and effort as ways to create debt efficiencies. It is our view that efficiency must be measured on a like-for-like basis. To claim that companies can achieve lower costs by, for example, having a higher credit rating, would seem to be 'comparing apples and oranges'. If this was evidence of like-for-like efficiency, we would expect all energy network companies to have extremely high credit ratings to capture such efficiency benefits – this is clearly not the case. It appears evident that such decisions involve trade-offs rather than obvious net efficiencies.

14.181 Similarly, capital structures approaches, such as WBS schemes, may increase the level of debt burden that is sustainable at a given credit rating, but this appears to trade-off equity holders' control of cashflows for higher financial returns – rather than increase the 'efficiency' of debt. In the case of WWU, the use of a WBS scheme does not appear to have led to more 'efficient' or lower debt costs – [✂].

14.182 We continue to view WWU's interpretation of the 'correct' approach[1152] to setting debt allowances as being one where almost all financing approaches, however esoteric, would very likely be allowed and required to be funded by customers.

14.183 In its response to the provisional determination, WWU countered this view by stating that the requirement for companies to maintain a strong investment grade rating negates this risk. It is our view that WWU's argument inappropriately conflates two issues – costs and financial resilience. Under WWU's preferred approach, the investment grade requirement would largely constrain excess leverage rather than esoteric (or high cost) treasury

[1152] WWU NoA, Part IV, paragraph 1.2

approaches. It is a circular argument to suggest that all company debt approaches must be funded (at the notional level of gearing) as long as they are executed at or below a benchmark price, and then claim that credit ratings will constrain choice. In a scenario where (effectively) all approaches must be funded by customers, there is likely to be little or no impact from treasury strategy on a company's credit rating. The more likely impact on credit ratios would be if debt costs were funded at the notional level, but total debt costs were significantly higher due to much higher levels of gearing.

14.184 Looked at a different way, a regulated company taking out 100-year fixed rate debt denominated in Yen (at or below benchmark prices) may not cause an immediate credit rating issue, especially if a regulator is required to allow the recovery of these costs. However, funding such an approach for 100 years, regardless of prevailing costs of debt over that period, may still be far from in the best interest of customers. This range of arguments is similar to WWU's statements refuting the CMA's view that an (effectively) cost pass-through approach would reduce incentives to appropriately manage debt costs. It is precisely in taking a broader assessment of efficiency and prudence (relative to the average cost) where such incentives are likely to feature.

14.185 WWU has also disputed our comparison to the approach taken in the water sector, primarily on the basis of a higher level of company and ownership concentration in the energy network sector. While we agree with WWU that company and ownership concentration is higher in the energy network sector, this higher concentration does not appear to be a contributing factor to WWU's higher than average costs. As WWU acknowledges,[1153] its costs are exclusively a feature of its choices in relation to debt issuance strategy. WWU's size (either in absolute terms or relative to other companies in the sector) is not a material factor in WWU's actual costs of debt being higher than GEMA's allowance. GEMA told us that size and other non-controllable factors did not skew its actual cost calculation or cost of debt allowance.[1154] As a higher level of concentration versus another sector does not appear to cause material issues in GEMA's assessment, or be the cause of WWU's actual cost differences, we do not find it to be an error in GEMA's approach.

14.186 WWU has questioned the consistency of GEMA's historical approach, and what we meant by companies being in a position to 'know the rules'. Our view is that, on the basis of the evidence submitted,[1155] GEMA's historical approach is sufficiently stable for companies to have an appropriate and

[1153] WWU Main Hearing Transcript, 1 July 2021, page 33, lines 10–17.
[1154] GEMA Main Hearing Transcript, 9 July 2021, page 100, line 25–page 101, lines 1–4.
[1155] *Friend 1 (GEMA),* paragraphs 13–13.12.

broad sense of future debt cost remuneration approaches without GEMA constraining future decisions. Perhaps more importantly, WWU has failed to persuade us that GEMA's pre-2007 approaches to calculating its cost of debt allowance would have given any reasonable expectation that future licence modification exercises would result in company-specific cost recovery.

14.187 WWU disagreed with our assessment that, in a system where customers can 'win' or 'lose' due to non-identical debt costs at different companies, the fairest system is for everyone to be exposed to the same cost of debt allowance (as they are with the cost of equity allowance). At provisional determination, we noted that there are pros and cons to different approaches in this area, but on balance we considered that the 'average' approach is consistent with GEMA's duties (see paragraph 14.149). It remains our view that this approach has the benefit of ensuring no customer is faced with extreme outcomes resulting from decisions taken by a single local monopoly that they cannot substitute away from.

14.188 In its response to the provisional determination, WWU has made several mentions[1156] of the fact that Cadent enjoys lower costs of debt which WWU argues is the result of more recent funding, and WWU specifically focuses on the fact that this means that Cadent's customers are currently paying 'much more than they need [to]'.[1157] WWU has noted that the total cost is the same in both the 'aggregate cost' and 'company-specific' approaches,[1158] and has argued that it would be more rational for Cadent's customers to pay less in RIIO-2. The logical implication of WWU's argument is that customers in other regions should pay less, funded by WWU's customers paying more. While this is a plausible approach, on balance we continue to view it as fairer to all customers that they are not generally exposed to the specific financing choices of their regional monopoly energy network. [1159]

14.189 We take this view on the basis of financing approaches being fully in the control of management and owners of the networks. This is not the same as regulators making adjustments for facts that were largely outside of the control of management, for example due to the relative size of the company. We note that in RIIO-2 there are already differences in the allowance that companies receive, such as the lower allowance for SSEN-T and the 6 bps

[1156] See WWU PD Response, pp24, 26, 28 and 30.
[1157] See WWU PD Response, p30.
[1158] See earlier submission
[1159] We are aware that Cadent does not agree with WWU's description of Cadent's costs of debt. In any event, WWU's statements with regard to Cadent's actual cost of debt do not impact our assessment that it is fairer to all customers that no one is exposed to the financing decisions of only one company. Our assessment of GEMA's consideration of structural differences in company-specific costs of debt are addressed in paragraph 14.189 and 14.195, while the broader comparability of the companies used in GEMA's analysis is considered at paragraph 14.193.

higher allowance received by WWU (see paragraphs 14.11 and 14.12), based on circumstances outside of the control of management.

14.190 Our conclusion here is based on a general principle and does not preclude a regulator matching allowances to specific circumstances such as these. Customers may also face different bills as the result of localised operating costs, as these again are most often the result of structural differences between regions that are outwith the control of management teams.

14.191 In practical terms, if GEMA were to follow WWU's request for (efficiency tested ex-ante) actual costs at the notional structure, then WWU's customers would be faced with higher bills for no other reason than their energy network company historically took a differentiated debt issuance approach that has subsequently become unprofitable. We consider that the outcome that WWU appears to be promoting would result in the imposition of higher costs for its own customers to fund lower costs for customers elsewhere in the UK, and we do not view this approach as superior to the approach taken by GEMA in RIIO-2.

Skewed results and unlawful discrimination

14.192 WWU raised a series of complaints in relation to the provisional determination assessment of this sub-section, which we address in the paragraphs below.

14.193 WWU has complained that it does not understand what the CMA meant by 'suitably similar companies' within our provisional determination assessment. At paragraph 14.153 above, we state that:

> It was our view that suitably similar companies can be used in aggregate to make an 'actual' cost of debt assessment, and the companies within the same regulated sector are likely to be suitably similar in terms of their potential (rather than actual) costs of debt.'

We are unclear as to WWU's confusion with regard to this point. For clarity, it remains our view that regulated monopolies in the same sector and subject to the same price control regime are suitably similar for the purposes of assessing appropriate costs of debt within that sector. For the purpose of this exercise, we disagree with WWU that a regulator must consider GD, GT and ET companies separately.

14.194 WWU has also argued that all costs of debt approaches involve management decisions and should only be assessed on an ex-ante basis.

WWU noted that the CMA should not judge WWU's approach with the benefit of hindsight. As discussed extensively above, it is our view that the regulator can take a number of factors into account when assessing debt, and it is far from clear that sole reliance an ex-ante assessment of price is sufficient. In addition, the CMA is not judging WWU's decision with hindsight – that is not the function of this appeal process. WWU has appealed against a licence modification and, having considered the evidence and arguments, we are of the view that in introducing that modification GEMA was not in error.

14.195 WWU has reiterated its argument that GEMA's acceptance of a single debt allowance and the failure to treat WWU differently amounts to unlawful discrimination. As described above, we disagree with this assessment. GEMA has taken steps to address what might otherwise have been potentially discriminatory factors when calibrating its cost of debt allowance, as evidenced by the exclusion of SSEN-T's lower costs as a result of its recent growth and the additional allowance awarded to WWU, SGN Scotland and NGN as a function of size.[1160] As WWU has clearly stated, its debt approach and subsequent costs are exclusively the result of its own decisions, not structural factors.[1161] As a result, we find no reason why WWU should require further company-specific adjustments to its cost of debt allowance, and conclude that GEMA has committed no error in this regard.

14.196 WWU has also stated that it is impossible for any company to issue debt in line with the GEMA allowance or the 'prudent treasury approach that issues debt incrementally and at appropriate tenors' as described in the provisional determination. We disagree with WWU's assessment on three grounds.

(a) First, GEMA's use of an index is calibrated to more than cover the average actual cost of debts in the industry.[1162] It is then, by definition, completely illogical to state that companies cannot meet such a cost.

(b) Second, while we do not dispute WWU's proposition that no one company is likely to issue perfectly equal amounts of debt in each year and that there are several factors a company must take into consideration, we think it is more realistic that aggregate debt issuance for the sector will follow a smoother pattern over time as a number of companies invest and refinance. This is a benefit of taking an aggregated approach. The fact that companies may temporarily be in a better or worse position than the average is an acceptable feature of such an approach, as long as those

[1160] GEMA FD Finance Annex (revised), paragraphs 2.58–2.65
[1161] WWU Main Hearing Transcript, 1 July 2021, page 33, lines 10–17.
[1162] GEMA FD Finance Annex (revised), paragraphs 2.39

relative positions are not permanent and due to factors outside of management control.

(c) Third, it is clear that it would have been possible for WWU to match the average of their peers more closely if it had taken a different strategy. WWU chose to, effectively, fix the interest costs on the vast majority of its debt at a single point in time, and to apply this fix over several decades and multiple price controls (see paragraph 14.128). Again, we offer no judgement on this – we merely agree with GEMA that the risk and the reward of WWU's decisions must remain with WWU and should not be passed to its customers.

Retrospective imposition of an interest rate policy.

14.197 Many of WWU's points on retrospective imposition of an interest rate policy are adequately covered by the assessments above. Here, we specifically note that WWU reiterated that GEMA's approach to the cost of debt allowance had not been as consistent as suggested and that neither the approach to the cost of debt nor the future path of interest rates could have been predicted ex-ante. We disagree, and consider that the evidence presented by GEMA showed sufficient consistency around debt allowance calculation. It may not be in customers' best interests to have one fixed cost of debt calculation policy, as market conditions may change over time. Conversely, and as discussed above, there has been no evidence presented that would suggest that WWU could have reasonably expected the outcome of RIIO-2 to be their actually incurred and company specific costs being covered in full (at the notional level of gearing or otherwise).

14.198 We agree with WWU that the future path of interest rates was unknowable at the time. Despite this truism, WWU chose to, effectively, lock in its costs for several decades despite it being highly likely that the absolute level of debt allowances would change in each price control. Once again, we pass no judgement on this decision – it is inescapable however that WWU must take responsibility for it, as we expect that it would have if such a decision had proven to be financially advantageous.

14.199 WWU flagged that the CMA had noted that, due to the long nature of the interest rate 'fix' within WWU's debt strategy, WWU may still benefit relative to future allowances. WWU has argued that the CMA has failed to acknowledge that the opposite scenario is also possible, [✂][1163] [✂].[1164] [✂]. We are very clear in our view that these issues and decisions sit entirely with

[1163] [✂].
[1164] [✂].

WWU, and that individual company financing decisions are not the concern of GEMA when calculating the RIIO-2 price controls.

GEMA's alleged irrational reliance on a cost of debt index - Overall conclusion

14.200 In the paragraphs above we have again considered WWU's arguments and evidence relating to GEMA's alleged irrational reliance on a cost of debt index. As at the provisional determination stage of this appeal, we do not consider that WWU has provided sufficient evidence that GEMA's use of average actual costs or an equivalent debt index was wrong in theory or in practice. As a result, we conclude that GEMA's reliance on a cost of debt index was not irrational and did not lead to GEMA's cost of debt allowance being wrong.

GEMA's alleged irrational failure to take account of derivatives

14.201 In the assessment of GEMA's alleged irrational failure to take account of derivatives we:

(a) summarise the evidence from the parties;

(b) state our provisional determinations;

(c) summarise the responses to the provisional determination;

(d) state our final determination of the appeal.

WWU submissions on GEMA's alleged irrational failure to take account of derivatives

WWU's NoA

14.202 WWU submitted that GEMA's approach to derivatives was essentially to treat them as company-specific management decisions which were entirely at the risk of equity investors and so could safely be disregarded by regulators. WWU submitted that derivatives should not be regarded separately from the underlying debt to which they relate, but must be viewed as intrinsic to a company's debt financing. WWU submitted that GEMA had disregarded derivatives when they were a relevant factor which it was required in law to take into account when determining the cost of debt.

14.203 WWU's submission on the reasons for this error are summarised as:

(a) Derivatives are commonly used and well understood financial instruments which form a normal, appropriate and desirable part of operational financing for network companies. Accordingly, all the main credit rating agencies take into account derivatives when considering companies' debt portfolios. Derivatives are therefore a relevant consideration that should have been taken into account by GEMA for the purposes of its price control determination, in accordance with its legal duty to have due regard to all relevant circumstances of the companies that it regulates.[1165]

(b) All companies have to address the issue of interest rate risk when they raise debt. One way of doing so is by means of index-linked debt, another is through the issue of nominal-rated debt coupled with derivatives, to create synthetic forms of index-linked debt. Synthetic index-linked debt may, in certain market conditions, be either more readily available or more economically advantageous than index-linked bonds. The CMA has recognised in a recent working paper[1166] that index-linked debt and synthetic index-linked debt are able to be treated as equivalent options while GEMA erroneously distinguishes functionally equivalent approaches.[1167]

(c) GEMA engages in internal inconsistencies of reasoning - for example. while it generally excludes derivatives, it does make allowance for cross-currency swaps which are relatively complex financial instruments and not used by all companies (including WWU). GEMA has also indicated that it will take into account derivatives for the purpose of calculating tax clawback, which is entirety inconsistent with its disregard for them when considering the cost of debt.[1168]

14.204 WWU also submitted arguments and evidence that GEMA's objections to including derivatives were invalid. These are summarised as:

(a) A precedent of not including derivatives is not sufficient to justify its continuance - there is no 'precedent' effect of past practice in any legal or other meaningful sense. GEMA's prior policies can be changed, frequently are changed, and indeed must be changed if they are irrational and therefore wrong.[1169]

(b) With regard to the ability to carry out an efficiency assessment against benchmark data, it is an error of fact to treat this as if it posed undue difficulties. GEMA has collected significant detail on companies' derivative

[1165] WWU NoA, paragraphs A6.3–A6.5.
[1166] CMA (2021), *Water Redeterminations 2020 – Cost of Debt – Working Paper*, paragraph 176.
[1167] WWU NoA, paragraphs A6.6–A6.11.
[1168] WWU NoA, paragraphs A6.12–A6.15.
[1169] WWU NoA, paragraphs A6.19–A6.21.

positions through annual reporting with effect from the 2018/19 regulatory year. It has therefore been able to assess, and has assessed, those positions against market benchmark data. WWU submitted that Oxera was able to assess the efficiency of WWU's debt and derivatives positions against well-established benchmarks for the purpose of conducting their assessment, and there is nothing inherently difficult about this task when compared to other analyses that GEMA has carried out for the purposes of its GD2 FD.[1170]

(c) With regard to future derivative use, and the question of long-term costs or benefits, these are quite capable of being re-assessed in each five-yearly price control. Moreover, GEMA did not rule out cross-currency swaps on this basis, which are relatively complex derivatives – if cross-currency swaps can quite properly be taken into account in GD2, there is no reason of principle why other derivatives cannot.[1171]

(d) The existence of company-specific positions in relation to derivatives does not provide any basis for excluding them. There is no single optimal position in relation to the management of inflation or interest rate risk, just as there is no single ex-ante valid strategy for debt financing in general.[1172]

WWU's Reply to GEMA's Response

14.205 WWU submitted that it rejected GEMA's implication that derivatives were too difficult or complex or variable to be subject to appropriate regulatory assessment, or that differences in the way they are used across different companies makes them unsuitable for regulatory consideration. WWU submitted that the first point was a simple error of fact, and that the second point was impossible to understand in a context in which networks adopted widely different approaches to financing strategies as a whole and that GEMA has said that these were matters it was best placed to manage.[1173]

WWU's RFI Response

14.206 In response to questions from the CMA regarding the impact of WWU's decision to use derivatives instead of index-linked bonds in [✂], WWU noted that one of the factors affecting WWU's cost of debt was the [✂] decision to

[1170] WWU NoA, paragraphs A6.22–A6.24.
[1171] WWU NoA, paragraph A6.25.
[1172] WWU NoA, paragraph A6.26.
[1173] WWU Reply, paragraphs 4.1 – 4.5.

fix a base rate in RPI-real terms with RPI swaps with maturity dates in [✂] and [✂].

14.207 WWU submitted that it had estimated the (CPIH-real) cost for the RIIO-GD2 cost of debt that WWU might have been able to achieve if it had issued an index-linked bond instead of entering swaps contracts in [✂] to be 2.5% to 3.4%. WWU submitted that its expected RIIO-GD2 cost of debt and derivatives (including transaction costs) of [✂] fell within the range, highlighting that the decision to use derivatives with nominal debt instead of natural index-linked debt was not a key driver of WWU's GD2 efficient cost of debt at notional leverage.[1174]

GEMA submissions on its alleged irrational failure to take into account derivatives

14.208 GEMA's response to WWU's appeal against the irrational failure to take account of derivatives is summarised as:

(a) WWU's debt costs (absent derivatives) are well within GEMA's allowed return on debt for RIIO-2. It is only once the long-dated inflation swaps from 2007 are factored in that WWU is likely to exceed the allowance.[1175]

(b) The frequency of derivative use is 'no answer' to the fact that derivatives can be manipulated so as to shift financing costs from one period to another, and their future use is difficult to predict, making their costs and benefits difficult for the regulator to assess. For example, GEMA's cross checks identified 190 derivative pay or receive legs as being more than 25 bps from market benchmarks, demonstrating to GEMA that it is difficult to draw comparisons across derivatives given the bespoke nature of these instruments.[1176]

(c) The features of derivatives mean that a snapshot of their use by a company at one point in time cannot necessarily give an accurate picture of their costs and benefits in the medium and longer term. It is not the case that derivatives are simply another means of securing a functional equivalent to index-linked bonds.[1177]

(d) GEMA does not accept that Oxera's work is a rigorous assessment of the efficiency of WWU's derivative portfolio.[1178]

[1174] WWU, RFI WWU 006, paragraphs 1.1–1.6.
[1175] GEMA Response A, paragraph 456.
[1176] GEMA Response A, paragraph 457.
[1177] GEMA Response A, paragraph 458.
[1178] GEMA Response A, paragraph 459.

(e) The different approaches which different network companies take to derivatives indicates that their use reflects company-specific management decisions, the costs and benefits of which it is appropriate for equity investors to hold. [✂] was a strategy decision by its management and reflected company choices as to the balance of risk and reward. In addition, the decision as to which measures to take to remediate those risks, once they had materialised, were matters for WWU's management and shareholders, not for GEMA. It is not appropriate in these circumstances for consumers to meet these costs.[1179]

(f) Ratings agencies do tend to take derivatives into account. However, they only consider the current cost of derivatives and their impact on particular credit ratios, they do not assess whether derivatives were undertaken 'efficiently' many years ago (which would be the task facing GEMA in the event that derivatives were included in the analysis).[1180]

14.209 GEMA submitted that although approaches to derivative use vary across licensees, the use of cross currency swaps to return foreign currency liabilities to GBP is the one area of commonality. It is for this reason that GEMA had taken into account the post-swap GBP equivalent costs of foreign currency issuance in its calibration.[1181] GEMA stated that the derivatives that have caused WWU's costs to deviate most substantially from allowances are largely bespoke 'bond style' inflation derivatives, which are the least common and least well understood. GEMA submitted that they are also typically the most credit intensive for the bank counterparty because they involve an expectation of the bank being a net payer in the swap in the early years and a net receiver in the latter years. This can be viewed as 'lending through the swap' and is the reason these swaps typically attract much higher credit charges from banks than the other forms of swaps.[1182]

14.210 GEMA submitted that it disagreed with the efficiency assessment of WWU's debt and derivatives conducted by Oxera. GEMA submitted that, contrary to the simplified approach taken by Oxera to assessing whether WWU's derivatives were undertaken at market rates, it was GEMA's view that valuing derivatives properly would require the entire trade history and all related flows (including all historical cash movements on both pay and receive legs) to be discounted at the rate indicated by the appropriate yield curve at the precise time of the derivative trade. GEMA also stated that such an exercise would also require an assessment of any subsequent restructurings, and that it was not simply a case of looking at the rate on the derivative at

[1179] GEMA Response A, paragraph 460.
[1180] GEMA Response A, paragraph 461.
[1181] GEMA Response A, paragraph 462.
[1182] *Friend 1 (GEMA),* paragraphs 140–141.

each five-yearly interval as suggested by WWU. In GEMA's view, such an exercise should not be necessary if it is accepted that a trailing average of an external benchmark calibrated to average actual debt costs provides a reasonable allowance. GEMA further stated that even taking a simplified approach, its checks had highlighted that, given the bespoke nature of derivatives, it was difficult to make comparisons and assess if they had been incurred at market rates. [1183] GEMA stated that it does not consider its decision not to include most derivatives in its calculations to have removed the ability of companies to make choices. Rather, GEMA is of the view that derivatives are not intrinsic to the need to finance a company's activities, they represent choices, the consequences of which should be borne by shareholders.[1184] In addition, GEMA stated that WWU's argument that GEMA was informed in 2005 of its plan to use derivates is 'not relevant'. GEMA submitted that network companies do sometimes update GEMA about financing or structural decisions they are taking but that it is not GEMA's role to advise companies on their treasury strategies, pass judgement or approve or reject financing plans. GEMA stated that financing decisions are for companies and their boards and GEMA awareness does not convey implicit approval or otherwise.[1185]

14.211 GEMA submitted that although it stands by its position that derivatives should not be included in the calibration, it did collect detailed data on these instruments, and presented the results of the calibration testing both including and excluding derivatives (and intercompany loans). According to GEMA's modelling, on an aggregate basis across GD&T, these costs are expected to be covered by the allowed return on debt.[1186]

14.212 [✂]:[1187]

(a) [✂].

(b) [✂].

(c) [✂].

14.213 GEMA stated that these payments to shareholders had been made despite the company facing increasing pressure from a derivative position that was building in terms of negative mark to market (and principal accretion payments) as real rates continued to fall. GEMA submitted that breaking derivatives over time would have involved a cost (as they had a negative mark

[1183] *Friend 1 (GEMA),* paragraphs 153–154.
[1184] *Friend 1 (GEMA),* paragraph 152.
[1185] *Friend 1 (GEMA),* paragraph 152.
[1186] GEMA Response A, paragraph 463.
[1187] [✂].

to market given rate movements since fixing date) and may have meant less would have been available to distribute to shareholders to date. In GEMA's view, these choices had been made by WWU and had contributed to the current situation which was that the cost of these derivatives was having a negative impact on their credit quality, financial resilience and potential to distribute to shareholders in future years. GEMA stated that not providing WWU with a specific allowance to cover these costs was not only in line with its duties, but was a fair and reasonable decision of a stable and predictable regulator.[1188]

Third Party Submissions

ENWL

14.214 ENWL submitted that it agreed with WWU that treating index linked derivatives as a special distinct category of financial instruments was fundamentally wrong as a matter of fact, and that their exclusion from the assessment of the cost of debt allowance was inconsistent and irrational as a matter of law.[1189]

14.215 ENWL submitted that:

(a) If it was accepted as a matter of principle that the financing duty required GEMA to have regard to actual costs of debt, then it followed that this should include all relevant forms of debt financing.[1190]

(b) Derivatives constituted a commonly used and well understood form of financing, used in particular for debt cost minimisation. Derivatives and similar instruments were designed to mitigate the risks associated with debt and, usually, were taken out at the same time as the debt and might well condition the terms and tenor of any debt.[1191]

(c) GEMA's approach was inconsistent. For example, in its instructions for actual company modelling for assurance of actual company financeability GEMA directed that account is taken of the 'actual cost of debt for each year (which would incorporate actual debt issuance forecast for each year). This should include the impact of derivatives'.[1192]

(d) In the PR19 Redetermination the CMA used the information reported in Ofwat's Annual Performance Reports about companies' actual costs of

[1188] *Friend 1 (GEMA),* paragraphs 132–137.
[1189] ENWL response to the CMA request under Rule 14.4(e), paragraph 124.
[1190] ENWL response to the CMA request under Rule 14.4(e), paragraph 125.
[1191] ENWL response to the CMA request under Rule 14.4(e), paragraph 126.
[1192] ENWL response to the CMA request under Rule 14.4(e), paragraphs 127–130.

debt, which did not distinguish between the different types of instruments used, and concluded that this allowed it to reach a sufficiently accurate estimate of the actual costs of embedded debt across the industry.[1193]

(e) Whilst it was true that derivatives, and the way in which they are used, can be complicated as the recent decision of the CMA in the water sector demonstrates, it is practically feasible for a regulator to undertake a review of all debt instruments, including derivatives, within a reasonable timeframe. In that redetermination, the detail on the debt portfolios was gathered during the course of the redetermination, notably in the period between the CMA's provisional findings and its final decision. Regulators should clearly be capable of factoring this into price control methodologies given that the cycle from drafting of the methodology to reaching the final determination is typically 2 to 3 years or longer.[1194]

Ofwat

14.216 Ofwat submitted that it acknowledged that the use of derivatives can form part of a prudent treasury function. However, it did not consider it necessary to take account of post-swap financing costs when assessing the cost of debt using sector benchmarks. Ofwat submitted that this was because swaps were essentially NPV neutral at the time of inception and so it was the underlying cost of direct debt issuance that was most informative for the purposes of setting the cost of debt.

14.217 Ofwat submitted that there was evidence in the water sector of companies making use of derivatives to manage cashflow risks between regulatory periods and to manage cash flow effects associated with financial structures that carried greater risk than the notional structure in order to manage company-specific risks.[1195]

GEMA's alleged irrational failure to take into account derivatives - Our provisional assessment

14.218 We conducted our provisional assessment of this issue in relation to two main sub-arguments – the first an assessment in principle, the second an assessment in practice. We considered the following questions:

(a) Is it irrational to exclude derivatives in principle?

[1193] ENWL response to the CMA request under Rule 14.4(e), paragraph 131.
[1194] ENWL response to the CMA request under Rule 14.4(e), paragraphs 139–144.
[1195] Ofwat response to the CMA request under Rule 14.4(e), paragraph 9.

(b) Does the exclusion of derivatives lead to GEMA's cost of debt allowance being too low?

Is it irrational to exclude derivatives in principle?

14.219 We agreed with the view expressed by WWU that derivatives are a generally accepted and widely used tool within corporate treasury departments. This is especially true if derivatives are used to replicate instruments such as index-linked debt, which are useful debt instruments in a regulatory framework. Such debt may not always be available from the markets in the quantities or calibrations required – leading companies to synthetically create them using derivatives. We also noted WWU's evidence that GEMA does count some derivatives in its assessment of actual costs, such as those relating to currency swaps and in the pricing of OFTO cost of debt allowances. As a result, we would agree that in order to achieve the most comprehensive view of the actual cost of debt incurred in the energy sector, it would be beneficial to also count incurred derivative costs.

14.220 Conversely, GEMA contends that it has set (both in RIIO-2 and previously) an appropriate debt allowance that can reasonably be achieved using standard debt instruments. As such, if companies choose to use derivatives it must be to their advantage and should not require additional compensation. This stance is rational and defensible. WWU has not provided any evidence that this is not the case, and as discussed above, WWU's debt (excluding derivatives) has a cost which is below GEMA's allowance.

14.221 GEMA has also noted that companies, including WWU, have used derivatives that are specifically designed to move cashflows between periods rather than to be economically equivalent to standard debt (in terms of interest rate profile). We agreed with GEMA that the use of such instruments would potentially increase the obligation on a regulator to assess the merits and appropriateness of a large number of derivative contracts in order to count only the appropriate derivatives in the context of calculating the cost of debt. In particular, we noted that this raises legitimate concerns that companies might be in a position to report derivative costs which differ from the true underlying financing costs.

14.222 GEMA indicated that it counted derivatives related to currency swaps as these were commonly used by companies, and did not have some of the esoteric or high-cost characteristics of other types of derivatives. GEMA also argued that derivatives that fixed interest costs were acceptable in OFTO auctions as these were priced on a competitive basis (helping to ensure the 'efficiency' of the instruments used) and fixing costs via derivatives was appropriate in relation to contracted levels of revenues. We agreed with

GEMA that there is sufficient difference between the specific scenarios highlighted by GEMA and the general assessment of the cost of debt, and that it is open to GEMA to include these derivatives in the relevant areas of its analysis, whilst focusing on the cost of bond debt when designing an index for the cost of debt.

14.223 We consider whether GEMA was wrong to include derivatives within the measure of interest for tax clawback purposes at paragraph 16.97 to paragraph 16.106

14.224 In making our assessment, we noted that all 'standard' derivatives should have an NPV zero at the point of deployment (ie are deployed as a 'fair bet') and that GEMA has provided evidence that companies could, at least on average, work within its cost allowances or capital structure without derivatives. As a result, we provisionally concluded that GEMA was not wrong to apply an approach to indexation that excludes derivatives.

Does the exclusion of derivatives lead to GEMA's cost of debt allowance being too low?

14.225 Turning to the question of whether the exclusion of derivatives leads to GEMA's cost of debt allowance being too low, we considered the evidence provided as to what the impact of this decision has been.

14.226 As noted in paragraph 14.207, WWU has presented evidence that its actual costs of debt in this price control ([✂]) is broadly similar to the cost that would have been the case if it had instead taken out long-term index-linked debt in [✂] (an estimated range from 2.5% to 3.4%).

14.227 GEMA has presented evidence that suggests that the type of derivatives used by WWU are expensive relative to the derivatives used elsewhere in the sector, but also that WWU's costs are higher as the result of WWU's [✂] decision to lock-in long-term interest rates (and view that matches WWU's evidence at paragraph 14.206). In addition, GEMA has provided evidence which demonstrates that, when measured at an aggregate level, the sector's actual cost of debt including derivatives is not significantly different to the measure excluding derivatives – and that both 'actual' measures sit below the index-based allowance used by GEMA.

14.228 As a result, we provisionally concluded that the practical impact of GEMA's decision to exclude derivatives from its calculation is immaterial. [✂]. As above, we concluded that WWU is not being discriminated against through GEMA's decision not to include derivatives when setting the cost of debt in this price control. [✂]. As in relation to the use of an index, there is no

evidence that GEMA was historically willing to count derivatives in its assessment of actual costs, and thus WWU was aware of GEMA's approach when it decided to follow its strategy.

14.229 We provisionally concluded that WWU should not be entitled to relief on appeal simply because its chosen strategy has not proven to be profitable. GEMA has presented evidence that the inclusion of all derivative costs would not have had a material impact on its estimate of the sectors actual debt costs, and both approaches (including and excluding derivatives) give a result that is lower than the cost of debt allowed by GEMA. As a result, we disagree with WWU's assessment that GEMA's decision not to include derivatives led to a cost of debt allowance that was too low.

GEMA's alleged irrational failure to take into account derivatives - Our provisional conclusion

14.230 In our provisional determination we provisionally concluded, for the reasons set out above, that WWU had not demonstrated that GEMA had irrationally failed to take account of derivatives.

GEMA's alleged irrational failure to take into account derivatives - Response to the provisional determination

14.231 WWU disagreed with the CMA's provisional conclusion, stating that the CMA's errors of statutory interpretation had 'logically and inexorably' led the CMA into further errors in its assessment of the remaining components of the cost of debt. WWU also made substantial submissions on other specific errors in the CMA's analysis and reasoning.[1196]

14.232 GEMA submitted that it supported the CMA's provisional conclusion that GEMA was not wrong to apply an approach to indexation that excludes derivatives, and that the practical impact of GEMA's decision to exclude derivatives from its calculation is immaterial, but noted that it disagreed with the CMA's suggestions on the application of derivative cost data[1197]

14.233 In the following paragraphs we segment WWU and GEMA's submissions, wherever possible, into the subcategories used in the provisional determination.

[1196] WWU Response to PD, paragraphs A1.1–A1.3.
[1197] GEMA Response to PD, paragraphs 361–364.

WWU Response to the provisional determination

Is it irrational to exclude derivatives in principle?

14.234 WWU disagreed with the CMA's assessment of WWU's derivatives portfolio, stating that the CMA had mischaracterised WWU's position in relation to the movement of cashflows. WWU stated that if the CMA is agreeing with GEMA's point that 'an RPI swap with a deferred inflation payment profile is 'lending through the swap' compared to an Index-Linked (**IL**) bond', then this was correct but incomplete analysis. WWU submitted that it was 'equally true' that the choice of an IL bond instead of a nominal bond is a choice to defer expected inflation payments and have lending provided on the inflation element through that choice'. WWU stated that this is why credit charges for an IL bond are typically higher than for a nominal bond. WWU submitted that if the CMA was instead referring to the decision by WWU to defer income from GD1 to GD2 and accelerate costs from GD2 to GD1 by altering certain payment and receipt legs on a relatively small number of RPI swaps, that this was the exact opposite of lending through the swap.

14.235 WWU stated that those actions were taken to improve financeability for GD2, and that such actions were 'wholly legitimate'. WWU submitted that on three occasions during GD1, WWU had decided to buy back bond debt before its due date, which has had the effect of accelerating interest costs, but improving financeability for GD2. WWU stated that it was irrational of the CMA to treat changes in debt in this regard differently to derivatives. WWU submitted that all debt and derivative contracts can be changed with counterparty consent after inception, and where companies act to make changes to debt or derivative contracts to support financeability for a forthcoming control period, it is 'not rational or defensive' for the CMA to focus on one type of instrument (derivatives) to the exclusion of others (debt).[1198]

14.236 WWU also submitted that currency swaps were much more costly than plain interest rate swaps, and that, regardless, whether any one type of derivative is more or less costly, or more or less commonly used, than any other was not a rational or defensible basis for their exclusion from assessment. WWU submitted that the same reasoning applies to debt instruments — index-linked debt should not be excluded because credit spreads may be higher than for nominal fixed-rate debt, for which better pricing tension can be achieved given relative demand differences.

14.237 In assessing derivatives, WWU asked the CMA to explain what it meant by 'true underlying financing costs' (see paragraph 14.221) in the

[1198] WWU Response to PD, pages 35–36.

context of legally based statutory accounting regimes. WWU also noted that it did not understand the CMA's use of 'esoteric' (see paragraph 14.222) or whether the CMA considered any of WWU's swaps to fall into this category, nor did it understand what the CMA meant by 'standard' (see paragraph 14.224) in the assessment of swaps. On the latter point, WWU asked the CMA to explain how much weight it is placing on this NPV neutrality point because (in WWU's view) (i) GEMA placed no weight on it and (ii) if the CMA finally determines that derivatives should be excluded from the cost of debt allowance, and relies at least materially on this point, then it will have a direct implication for the consistency of CMA's provisional decision on the inclusion of derivatives for tax clawback.[1199]

14.238 WWU submitted that Networks must make decisions relating to interest rate (real and/or nominal) risk because these risks are intrinsic to debt in an inflation indexed utility environment. WWU stated that derivatives, although not being debt instruments and playing no role in leverage policy, are used to manage risk emerging from debt financing decisions. WWU submitted that GEMA reflects some decisions (ie use of debt) in its averaging calculations but excludes others (ie use of derivatives to achieve interest rate and inflation targets). WWU submitted that GEMA's exclusion of derivatives in general leads to one uniform interest rate and inflation profile of the notional efficient operator which is not followed in practice by any network. WWU submitted that the 'pretence on Ofgem's [GEMA's] part' that a notional efficient operator would be immune from having to make interest and inflation rate decisions in debt management is 'mere convenience on its part', without any rational or evidence based justification.[1200]

14.239 WWU disagreed with the CMA's assessment that the consideration of derivatives could increase the obligation on regulators, noting that there are a comparatively small number of companies to assess in the energy sector overall and just four in the gas distribution sector,[1201]

Does the exclusion of derivatives lead to GEMA's cost of debt allowance being too low?

14.240 WWU submitted that, contrary to the CMA's view, WWU had demonstrated that GEMA's allowance cannot be achieved (in terms of following the financing strategy implied by the index) without derivatives, and that there is no evidence to support GEMA's view that it can. WWU submitted

[1199] WWU Response to PD, pages 36–37.
[1200] WWU Response to PD, pages 34–35.
[1201] WWU Response to PD, page 36.

that derivatives are required to mimic the allowance, as evidenced by NGN's financing policy.[1202]

14.241 WWU also disagreed with the CMA's characterisation of WWU's case as being one of discrimination. WWU submitted that it had not argued discrimination on GEMA's exclusion of derivatives. Similarly, WWU submitted that it had not appealed because its cost of debt strategy 'has not proven to be profitable' (see paragraph 14.229) and it was not WWU's case that GEMA's decision not to include derivatives led a cost of debt allowance that was too low. WWU stated that this was a fundamental mischaracterisation of WWU's case and asked the CMA to correct this in its final determination.[1203]

GEMA Response to the provisional determination

Is it irrational to exclude derivatives in principle?

14.242 GEMA noted the CMA's suggestion that it would be 'beneficial to also count incurred derivative costs', but stated that it disagreed that including incurred derivative costs at a single point in time would assist in achieving the most comprehensive view of the actual cost of debt incurred in the energy sector. GEMA stated that whilst it would provide another view of the costs incurred by the sector, it disagreed that such an approach is necessary to achieve the most comprehensive or 'best' view of debt costs. GEMA retained the view that explicitly including derivatives in each price control debt allowance calibration would overly complicate the calibration and could lead to unnecessary adjustments over time when the expectation is likely to be that benefits and costs should even out over the long term.[1204]

14.243 GEMA welcomed the CMA's recognition of GEMA's legitimate concerns that explicitly including derivatives could put companies in a position to report derivative costs which differ from the true underlying financing costs and that GEMA's stance is rational and defensible since companies' decisions to use derivatives (if any) must be to their advantage and should not require additional compensation.[1205]

Does the exclusion of derivatives lead to GEMA's cost of debt allowance being too low?

14.244 GEMA submitted that it supported the CMA's provisional conclusion that GEMA was not wrong to apply an approach to indexation that excludes

[1202] WWU Response to PD, pages 34–35.
[1203] WWU Response to PD, paragraphs 38–39.
[1204] GEMA Response to PD, paragraphs 361–362
[1205] GEMA Response to PD, paragraphs 362.

derivatives, and with the CMA's provisional conclusion that the practical impact of GEMA's decision to exclude derivatives from its calculation is immaterial (if by immaterial the CMA meant that it would not have changed the allowed return on debt calibration and did not result in an allowed return on debt that is too low).[1206]

14.245 GEMA reiterated that, even if it had been the case that inclusion of modelled derivative costs would have changed the calibration, it did not believe that the benefits of inclusion outweighed the challenges associated with accurately assessing derivatives over the long term, which may also require an assessment of the different risks that some types of derivatives can expose companies to compared to debt. GEMA submitted that this would also require a full review of the terms and conditions of these over-the-counter bilateral instruments.[1207]

GEMA's alleged irrational failure to take into account derivatives – Our final assessment

14.246 In making our final assessment of this cost of debt sub-issue, we note that GEMA has broadly agreed with the assessment conducted for the provisional determination and supported its conclusions, other than the recommendation that it may be useful to count derivative costs in the future. WWU provided an extensive response to the provisional determination, noting that WWU strongly disagreed with both the assessment and the conclusions of the provisional determination on this matter. We note that WWU's disagreement, in the main, focused on our interpretation and balance of the evidence, in particular the CMA's view of WWU's derivative portfolio, rather than a failure to take material evidence into account.

14.247 As at the provisional determination stage of assessment, we have collated our assessment of the alleged irrational reliance on a cost of debt index into two main sub-categories:

(a) Is it irrational to exclude derivatives in principle?

(b) Does the exclusion of derivatives lead to GEMA's cost of debt allowance being too low?

Is it irrational to exclude derivatives in principle?

14.248 WWU has disagreed with the assessment of its derivative portfolios implied in the provisional determination, and has variously asked the CMA to

[1206] GEMA Response to PD, paragraphs 364
[1207] GEMA Response to PD, paragraphs 364

clarify what it means by ‘standard’ swaps, ‘esoteric’ instruments and ‘underlying financial costs’. We view much of this semantic debate as irrelevant to the basis of WWU’s appeal. As in the previous sub-section, our role in this appeal is not to judge or opine on the nature of WWU’s particular financing strategy. Rather, it is to assess whether GEMA’s cost of debt allowance was wrong when considering the issues raised in WWU’s appeal.

14.249 Conversely, GEMA has reiterated its view that it should not be required to include derivative costs in any future assessment, as it believes that a ‘snapshot’ of derivative costs does not provide the same clarity on overall funding costs as would be expected from debt instruments held on balance sheets.

14.250 It remains our view that, in theory, it may be useful to count some derivative instruments when calculating an average actual cost of debt for a regulated sector. The most useful derivative instruments to count would seem to be those that are used to synthetically replicate debt instruments, such as index-linked debt – particularly when such approaches are used when useful debt instruments such as index-linked debt are not readily available in the size or tenor required. However, this approach may not be practical or desirable if companies use either more complex derivatives or use derivatives for other purposes – and assessment of each derivative may place an inappropriate burden on regulators.

14.251 WWU’s own description of using derivatives to ‘defer income from GD1 to GD2 and accelerate costs from GD2 to GD1 by altering certain payment and receipt legs on a relatively small number of RPI swaps’ is clearly not an example of synthetically replicating a debt instrument that was not otherwise available. As WWU stated, these actions were ‘taken to improve financeability for GD2’, and as a result the cost of these instruments cannot readily be seen as a proxy for debt costs. We disagree with WWU’s view that such actions are equivalent to WWU deciding to ‘buy back bond debt before its due date’ as both ‘had the effect of accelerating interest costs’.

14.252 In our view, buying back debt uses shareholder funds to reduce the future cost of debt, while WWU’s description of ‘altering certain payment and receipt legs’ is more likely to result in the movement elements of the debt costs between periods for the benefit of cashflow management, with no overall reduction in debt burden and no reduction in leverage.

14.253 WWU also argued that GEMA’s exclusion of derivatives in general leads to one uniform interest rate and inflation profile of the notional efficient operator which is not followed in practice by any network. We disagree with

WWU that this is either strictly the case or, looked at more broadly, is an irrational approach.

(a) Firstly, an index calibrated to cover the average actual cost in the sector does not reflect 'one uniform interest rate and inflation profile', rather it reflects the average of all the debt strategies used by the companies in the sector;

(b) Secondly, we note that WWU singles out this issue in the cost of debt but ignores the application of this principle elsewhere in the control. There are many areas across the price control where it is efficient and effective for a regulator to allow broadly appropriate rather than specifically tailored allowances. Even within the cost of capital, the regulator estimates what it considers to be an appropriate single notional level of gearing and single cost of equity allowance, neither of which perfectly represents the actual metrics or costs of any one company in the sector.

14.254 On the basis of this assessment, we agree with GEMA that there are complications to consider when choosing whether and how to count derivatives within an actual cost of debt calculation – particularly if such instruments are used for reasons other than to synthetically replicate standard debt instruments such as index-linked debt. The challenges in interpreting this data mean that regulators must use judgement when choosing whether and how to apply this information within the estimation of an appropriate cost of debt allowance. In this case, there is evidence that derivative costs within the energy network sector may not be representative of the costs of debt we are looking to assess (as opposed to other costs, such as risk management) and so we do not consider their exclusion from GEMA's calculations to be irrational. In the paragraphs below we consider whether their exclusion led to a cost of debt that was too low in practice.

Does the exclusion of derivatives lead to GEMA's cost of debt allowance being too low?

14.255 While in the section immediately above we conclude that exclusion of derivatives is not wrong in principle, we must also make a final assessment of the more practical question of whether such exclusion led to GEMA's cost of debt allowance being too low in this price control.

14.256 In response to the provisional determination, WWU have argued that derivatives are vital risk management tools and that GEMA's allowance cannot be achieved (in terms of following the financing strategy implied by the index) without derivatives. This argument appears flawed.

(a) Firstly, GEMA's cost of debt allowance is fundamentally based on the actual costs incurred by the sector, excluding derivatives. It appears fundamentally illogical for WWU to claim that such a cost cannot be met without the use of derivatives.

(b) Secondly, WWU suggested that all companies need derivatives in order to meet GEMA's cost of debt allowance, and referenced the approach taken by NGN as evidence. While NGN may have chosen to follow this strategy, it is not clear that this is sufficient evidence that all companies are compelled to use derivatives in this way. As clearly established during this appeal, needing to meet the current cost of debt allowance was not the driver of WWU's decision to use derivatives within its treasury strategy.

14.257 WWU has also stated that the CMA has mischaracterised the nature of its appeal in this area by assessing that 'WWU is not being discriminated against through GEMA's decision not to include derivatives'. While we consider our provisional determination assessment of whether excluding derivatives was discriminatory to be a valid consideration in determining whether GEMA's decision was wrong, we concur with WWU that 'it is not WWU's case that Ofgem's [GEMA] decision not to include derivatives led to a cost of debt allowance that was too low'.[1208]

14.258 As noted in the provisional determination assessment, GEMA has provided evidence which demonstrates that, when measured at an aggregate level, the sector's actual cost of debt including derivatives is not significantly different to the measure excluding derivatives – and that both 'actual' measures sit below the index-based allowance used by GEMA. WWU has not disputed this fact with new evidence (subject to the procedural comments below). As a result, we continue to conclude that the exclusion of derivatives did not lead to GEMA's cost of debt allowance being too low.

The alleged irrational failure to take into account derivatives – Overall conclusion

14.259 In the paragraphs above we have again considered WWU's arguments and evidence relating to GEMA's alleged irrational failure to take into account derivatives. As at the provisional determination stage of this appeal, we do not consider that WWU has demonstrated that GEMA's exclusion of derivatives was wrong in theory or in practice. As a result, GEMA's exclusion of derivative costs was not irrational and did not lead to GEMA's cost of debt allowance being wrong.

[1208] WWU Response to PD, page 39.

WWU Head A: Cost of Debt - Our final determination

14.260 As a result of the assessments described in the paragraphs above, we determine that GEMA was not wrong in its approach to, or estimate of, its cost of debt allowance. We have received insufficient evidence to demonstrate, and are not persuaded, that GEMA has failed correctly to interpret or to give effect to its financing duty, that GEMA was irrationally reliant on a cost of debt index nor that GEMA irrationally failed to take account of derivatives in its cost of debt allowance.

15. WWU Head C: Repex

Introduction

15.1 WWU Head C relates to the allowance made in GEMA's Decision for repex, which is expenditure to replace existing iron and steel pipes with new polyethylene (**PE**) pipes.

15.2 The Gas Distribution Networks (**GDNs**) have long-term programmes of work to replace old and deteriorating iron and steel pipes with new PE pipes. The primary reason for this activity is to improve safety by reducing the risk of gas escapes. There are also customer benefits in the form of improved supply reliability, and environmental benefits in terms of allowing the network to use hydrogen and hybrid gases (with low/no carbon content). The programme helps reduce leakage of methane and reduces the likelihood of emergency repairs as plastic pipes are less prone to leaking. A substantial part of the repex activity to replace metal pipes is a health and safety requirement under section 3(1) of the Health and Safety at Work Act 1974. Regulation 13A of the Pipelines Safety Regulations 1996 places a legal obligation on GDNs to decommission iron gas mains within 30 metres of an occupied building. These are referred to as 'at risk' pipes. Each GDN is under a duty to comply with the approved Health and Safety Executive (**HSE**) programme, which spans multiple price control periods. The HSE categorises the iron mains covered by the risk reduction programme into three tiers based on risk level.[1209]

15.3 The repex work is predominantly the replacement or decommissioning of cast iron and ductile iron pipes with the installation of PE pipes. These present the highest safety risk. In addition, over time it will also be necessary to replace steel and metallic service pipes with PE pipes.

15.4 WWU's appeal relates to its position that GEMA's Decision for repex resulted in a £76 million (15%) shortfall over its required level of expenditure in the GD2 period, which WWU says leaves it unable to meet its legal obligations to ensure the safety and reliability of its network.[1210]

15.5 We first provide some background to give context to this ground of appeal, before outlining the ground of appeal, providing a brief summary of our provisional decision and of some high-level, 'structural', submissions received from WWU on our approach to assessing this ground. We then consider the

[1209] Risk categorisation: Tier 1: pipes up to 8 inch diameter comprising 93.2% of RIIO-GD2 workloads; Tier 2: pipes 8-18 inch diameter that account for 2.3% of workloads amongst the 8 GDNs; Tier 3: pipes > 18 inch, 0.6% of workload; other pipes that are less risky as more than 30 metres away from a building: 3.9%. Source: *Wagner 3* (*GEMA*), page 3.
[1210] WWU estimates its repex costs will be £495.5 million. The GEMA FD included £419.5 million. The gap is £76 million, which is 15% of £495.5 million; WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.

parties' submissions and provide our assessment and conclusions on the questions raised.

Background

15.6 The structure of the background section is as follows:

(a) We review WWU's repex performance in RIIO-GD1;

(b) We look at the process undertaken by WWU to select which pipes are replaced, taking into consideration its HSE requirements;

(c) We review GEMA's overall approach to setting repex allowances in RIIO-2; and

(d) Finally, we look at the RIIO-2 repex decision made by GEMA, including the timeline of information provided by GDNs and the decisions that GEMA made.

WWU's repex performance in RIIO-GD1

15.7 In its NoA WWU stated that it expected to complete its GD1 repex programme at a cost of £556 million, which represented £214.8 million less than the GD1 allowance.[1211] This equates to 28% outperformance. This outperformance was partly shared with customers, who benefited from 37% of these cost savings, with the company retaining 63%.[1212]

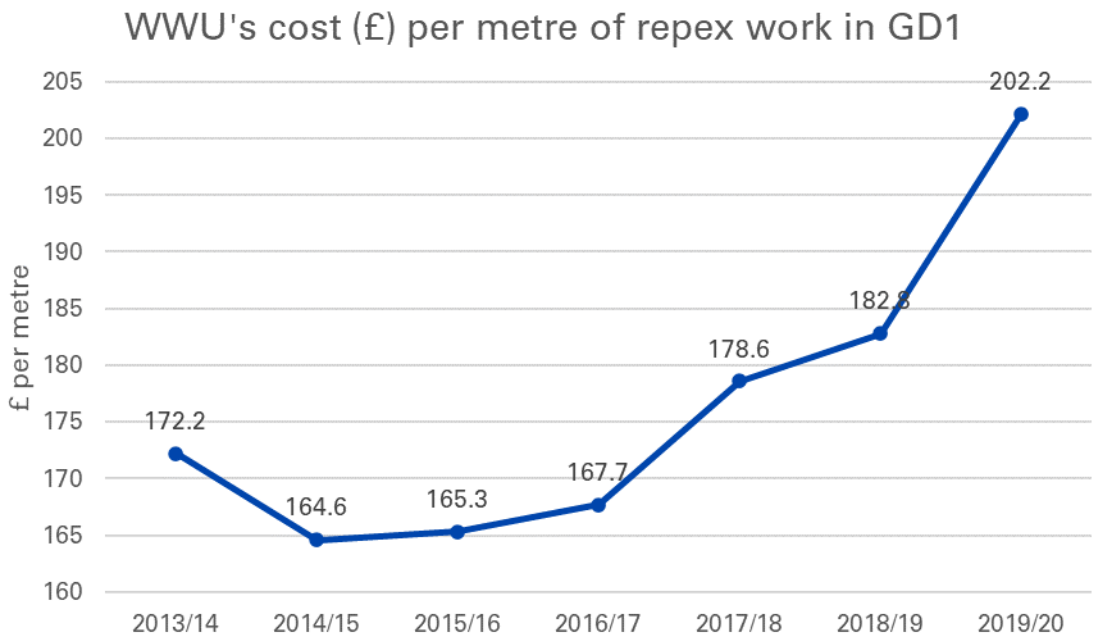
15.8 WWU attributed this repex outperformance at GD1 primarily to a very favourable contract that it had entered into with the external contractors it had used to deliver the programme (the Alliance Contract). In particular it noted that the pain/gain[1213] arrangements in the contract had protected WWU and its customers from rising cost pressures. WWU noted that while these arrangements had been favourable to WWU and its customers, they had been problematic for the two contractors which bore these higher costs. The main reason for the rising costs and increased tendency for schemes to overspend was rising labour costs.[1214]

15.9 Figure 15-1 shows the outturn average unit cost per metre for mains replacement for the seven completed years of the GD1 period. For context,

[1211] WWU NoA, paragraph C3.1.
[1212] WWU Clarification Hearing Transcript, 15 June 2021, page 45, lines 3-12.
[1213] Pain/gain arrangements refer to contract terms that specify a target price and are such that the contractor(s) will share or fully benefit from any cost savings that may be achieved ('gain'), but also bear some or all of the higher costs when there are cost overruns ('pain').
[1214] WWU NoA, paragraphs C3.9 and C3.11.

GEMA's repex allowance in the GD2 period is equivalent to £175 per metre.[1215]

Figure 15-1: WWU's cost per metre (£) of repex work in GD1



Source: WWU NoA, Figure C1.

15.10 WWU stated that, as well as the favourable arrangements in the Alliance Contract, there were other cost saving factors that had contributed to its GD1 outperformance that included:[1216]

(a) Negotiation with HSE of greater short-term flexibility to design larger replacement schemes which led to operational efficiencies from using larger teams in smaller geographical areas more easily serviced by support functions;

(b) A high decommission rate ('abandon:lay' ratio), with cost savings arising when the abandoned metallic mains are longer than the new PE pipes installed;

(c) High levels of high-risk pipes replaced in the early part of GD1 that were small diameter (hence it was relatively low cost to meet relevant safety obligations); and

(d) Examples of innovation, including the introduction of 500 metre extended pipe coil trailers and ductile iron cutters, which served to reduce the time taken and hence labour costs for repex activities.

[1215] WWU NoA, paragraph C7.2.
[1216] WWU NoA, paragraph C3.19.

Repex activity programme – pipe selection

15.11 WWU stated that as part of the Regulation 13A Programme each GDN sets a length of Tier 1 pipe to be decommissioned over a set period which, in turn, is geared to meet the aim of complete decommissioning by 2032.[1217] The HSE specifies that 20% of the Tier 1 set length of pipes to be decommissioned during each price control period should be drawn from the highest risk pipes identified by the risk model. The remaining 80% of the pipes to be decommissioned are then drawn from any part of the remaining Tier 1 population which must be decommissioned by 2032 using a cost benefit analysis to select the actual pipes and projects.[1218]

15.12 At the clarification hearing we asked WWU what proportion of its repex work was mandated by the HSE programme[1219] to be undertaken in the GD2 price control period as it falls within the top 20% of risky pipes; how much is part of the long term HSE programme to 2032 resulting in some discretion of when it proceeds; and how much of the repex work is identified by WWU's own cost benefit analysis and thus is subject to some discretion. WWU submitted data for the GD2 period as shown in Table 15-1.

Table 15-1: Planned WWU repex spend in GD2

	Average annual spend planned by WWU during GD2 (2021-2026)	Equivalent % of total GD2 spend
Mandatory within the current price control (top 20% risky pipes)	£14.2m	16%
Mandatory by 2032, long term programme with some discretion over timing	£56.8m	64%
Discretionary, selected using cost benefit analysis	£17.3m	20%
Total	£88.2m	100%

Source: WWU, RFI WWU 002, response to question 2.

GEMA's approach to setting repex in RIIO-2

15.13 Repex costs are one component of the costs that are benchmarked within the totex regression model. The totex model uses a single Composite Scale Variable (**CSV**) cost driver, which combines a mix of workload and scale drivers. For the repex component, GEMA used a workload driver (either in km of mains being commissioned or number of service jobs) that was used to model the total efficient level of costs associated with undertaking a specified amount of work.[1220] GEMA calculated a disaggregated repex component of totex in order to allow it to make subsequent adjustments to allowances if the

[1217] WWU NoA, paragraphs C2.2–C2.6. Regulation 13A of the Pipeline Safety Regulations 1996 requires that a GDN must have in place a programme of work, approved by the HSE, for the decommissioning of iron pipes used in its network. Each GDN must ensure that the pipes comprising its network are maintained in an efficient state, in efficient working order and in good repair.
[1218] WWU NoA, paragraph C2.9.
[1219] WWU NoA, paragraph C2.9.
[1220] *Wagner 3* (*GEMA*), Appendix 1, paragraphs 3–7.

level of activity (ie km of main replaced) differed from the level expected at the time of the FD.[1221]

15.14 GEMA highlighted three points of particular significance for how it determined repex allowances for the GDNs in RIIO-2:

(a) GEMA's assessment was at the totex level

15.15 GEMA produced models to determine its view of efficient totex levels. This approach was referred to as a 'top-down methodology' as the opex, capex and repex allowances were all derived from the overall totex figure. GEMA emphasised that repex allowances should not be considered in isolation; rather 'repex allowances were derived as a subset of the overall totex allowance'.[1222]

15.16 GEMA also explained that if companies considered they had unusually high relative costs due to factors outside of their control, they had the opportunity to submit regional factor cost adjustment claims. If these claims were accepted, the relevant costs were not subject to relative efficiency assessments in GEMA's modelling, but the regional factor costs were allowed for in a GDN's totex allowance.[1223] GEMA accepted adjustments for sparsity, urbanity and labour costs in certain areas of cost, but assessed that a sparsity adjustment for repex was not required.[1224]

(b) Data used

15.17 The model was based on a mixture of historical actual cost data in GD1 and forecast submitted cost data for the GD2 period from the GDNs.[1225] Since the model used data submitted by GDNs as part of the regression, factors such as the physical characteristics of the mains population to be repaired were captured in the averages that informed the cost drivers. These factors were therefore implicitly incorporated, along with other drivers of costs, in GEMA's top down benchmarking approach.[1226]

15.18 The forecast data was taken from the company business plans in December 2019 and from any subsequent updates from the GDNs in their BPDTs submitted in October 2020. This allowed GDNs to update GEMA with any revised cost projections ahead of the FD.[1227] Following the DD, two

[1221] *Wagner 3* (*GEMA*), Appendix 1, paragraphs 18–20.
[1222] GEMA Response B, paragraphs 467 and 474.
[1223] GEMA Response B, paragraphs 472 and 474.
[1224] GEMA Response B, paragraph 492.
[1225] Historic data used was the first seven years of RIIO-GD1. Forecast data was the final year of RIIO-GD1 and the five years of RIIO-GD2; GEMA Response B, paragraph 472.
[1226] GEMA Response B, paragraph 510.
[1227] GEMA Response B, paragraph 474.

companies (WWU and SGN) undertook tender exercises for their repex activities and submitted that information to GEMA but did not subsequently reflect the results in their respective BPDT submissions. At FD, GEMA decided that such tender information should not take precedence over and/or replace the other relevant information arrived at through its 'detailed cost assessment process' and therefore it did not use this information to set unit costs. GEMA stated that simply using the tender figures would be inconsistent with its overall totex approach to modelling efficient costs and it did not have confidence that the information provided was on a directly comparable basis to that contained in the BPDTs, which went through a formal assurance process.[1228]

(c) Notional licensee

15.19 GEMA's approach was to set efficient totex and hence repex allowances for each GDN relative to GEMA's assessment of what a notionally efficient company that shared the characteristics of each network company would require. GEMA set allowances for a notionally efficient company to avoid setting allowances for company specific business delivery approaches or strategies in order to retain incentives for further efficiencies to be identified.[1229]

15.20 GEMA was concerned that taking into account aspects such as the specific contract terms of a GDN would directly conflict with its approach of setting allowances for the notionally efficient company. It stated that the purpose of setting cost allowances on this basis was so that it remained agnostic as to how GDNs chose to deliver their outputs and, importantly, to incentivise them to explore cost-efficient delivery options, rather than entrenching operating models which might not be cost-efficient and, therefore, not most beneficial to customers.[1230]

Implications of GEMA's approach

15.21 We understand the implications of this modelling approach by GEMA are that:

(a) Each GDN had a different repex allowance set by GEMA for the GD2 period based on factors such as their comparative efficiency and different relative mixes of repex, opex and capex within overall totex incurred historically and submitted as forecasts. The blended unit rate (ie £ per metre) allowed for repex activity in GD2 differed for each GDN;

[1228] *Wagner 3* (*GEMA*), paragraphs 91–95.
[1229] GEMA Response B, paragraph 474.
[1230] *Wagner 3* (*GEMA*), paragraph 132.

(b) A GDN's efficiency rank was dependent on its submitted costs relative to comparators and those GDNs requesting high GD2 costs risked being subject to a higher catch-up efficiency target;

(c) Cost adjustment claims could have been submitted by GDNs if regional factors influenced the relative levels of costs, with GEMA deciding if these were well justified and hence appropriate. This process allowed a GDN to put forward evidence to demonstrate if it had specific characteristics that differed from other GDNs, and the sector in general, that required an adjustment in GEMA's modelling. If accepted, these cost adjustments were removed from the data used in the regression models so that efficiency assessments accounted for relevant regional factor differences. This meant that GDNs would not be disadvantaged in the efficiency assessments for cost pressures arising from regional differences outside of management control. GEMA favoured this approach rather than adjusting the models for the relative differences in network company-specific factors, ie it did not apply widespread modelling adjustments for each GDN for every relative difference amongst the eight GDNs, to take into account factors such as material type of pipes, replacement techniques, and labour rates;

(d) Key factors impacting on cost levels such as the different pipe materials to be replaced, the different mix of techniques that would be used and regional labour costs would be 'taken into account in the GDNs' business plans and thus GEMA's modelling'.[1231]

(e) Cost differences between the GD1 and GD2 periods would be captured as GEMA models used both historical actual costs and the GDNs' projected costs. A GDN therefore needed to provide GEMA with accurate cost projections and explain clearly if its circumstances were sufficiently different from other GDNs in order to support a cost adjustment claim.

The RIIO-2 Decision

Summary of GEMA's approach to the RIIO-2 Decision on repex

15.22 GEMA undertook a staged process in coming to its repex allowances for GD2, as set out below:

[1231] GEMA Response B, paragraph 467(2).

(a) In December 2019, WWU and other GDNs submitted their projections of repex needs for GD2 within their business plans. These plans also included:[1232]

(i) explanations of why repex levels would differ from historical levels in GD1;

(ii) in some instances, claims for regional factor and company-specific differences, explaining any factors that led to materially different cost levels from other GDNs for characteristics that were outside management control, such as regional differences in sparsity and labour costs;

(b) GEMA reviewed these plans and ran regression models to determine efficient totex levels, which were then disaggregated to identify repex levels. The repex regression models were based on costs and workload (length and type of pipe to be replaced).[1233]

(c) GEMA made decisions on whether regional factor claims were acceptable or which industry wide pre-modelling adjustments were required to normalise the data from GDNs. This approach was taken in order to ensure that GEMA benchmarked the data from the GDNs on a like-for-like basis. The regional factor claims were scrutinised by GEMA as they had the potential to influence the outcome of benchmark efficiency modelling and overall totex allowances for all GDNs.[1234]

(d) In July 2020, GEMA issued its DD that included provisional repex allowances within overall totex allowances for each GDN, and draft decisions on appropriate modelling adjustments, regional factors and outputs.[1235]

(e) In September/October 2020, GEMA invited representations on its DD and allowed GDNs to update their repex cost projections for GD2, alongside other components of totex.[1236]

(f) In December 2020, GEMA issued its FD. This included updated cost allowances for the GDNs for repex, alongside other components of totex and final decisions on any modelling adjustments for major differences in relevant company characteristics (ie regional factors). The FD also confirmed the outputs based on length of pipe to replace, which allows

[1232] *Wagner 3* (*GEMA*), paragraph 43.
[1233] GEMA report that 98.1% of WWU's repex costs were assessed through regression. The remainder relates to multi-occupancy buildings (MOB) that are not subject to this appeal. See *Wagner 3 (GEMA),* paragraph 14.
[1234] *Wagner 3* (*GEMA*), paragraph 18.
[1235] *Wagner 3* (*GEMA*), paragraphs 60–66.
[1236] *Wagner 3* (*GEMA*), paragraphs 86–89.

adjustments to be considered at the next price review if there is outperformance of costs arising, but a different workload is delivered.[1237]

GEMA Decision on WWU repex allowance in RIIO-GD2

15.23 We now turn to the specific decisions for WWU's repex allowance made by GEMA. In this section we generally use the unit rate for repex activity (ie £ per metre of pipe replaced) for comparison since the output in terms of length of pipes to replace and mix of work changed between DD and FD.[1238] WWU also changed its projected need after its business plan had been submitted, once market evidence was available.

GEMA DD

15.24 At DD stage, GEMA provisionally decided that WWU would need to replace 1,898 kilometres of pipes for an allowance in the GD2 period of £348.3 million. This compared to WWU's business plan projection of repex costs of £441.8 million. Hence the difference was 21%. GEMA rejected a specific sparsity adjustment for WWU. WWU calculated the unit rate in the DD set by GEMA as £159.8 per metre for WWU, compared to its business plan projection of £183.7 per metre.[1239]

GEMA FD

15.25 The total allowance in GEMA's FD for WWU's repex work was £419.5 million.[1240] This was 5% lower than WWU's original business plan repex cost projection, although following the return of its market tenders and its decision to insource this work, WWU now expects its repex work to be more costly in GD2 than envisaged at the time of its business plan.[1241] WWU told us that GEMA's FD for repex effectively set WWU a blended unit cost for repex work of £175 per metre.[1242]

15.26 In relation to sparsity, GEMA continued to reject a specific sparsity adjustment for WWU. The FD applied a pre-modelling sparsity adjustment to emergency and repair work only, not to overall repex.[1243]

[1237] *Wagner 3* (*GEMA*), paragraphs 90–103.
[1238] We note that these figures were not published by GEMA so the references to the blended unit rate are provided by WWU.
[1239] WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.
[1240] GEMA FD WWU Annex, table 18.
[1241] WWU business plan estimated repex costs in GD2 of £441.8 million. It now projects costs of £495.5 million. WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.
[1242] WWU NoA, paragraph C7.2 and WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.
[1243] GEMA FD GD Sector Annex, paragraph 3.71.

15.27 In addition to financial allowances for repex work, the FD also specified a number of outputs in terms of kilometres of mains to be replaced or decommissioned and for the numbers of services to be replaced. These outputs are not the subject of WWU's appeal. WWU will replace 2,087 kilometres of mains in GD2.[1244]

Summary of WWU repex cost estimates

15.28 Table 15-2 summarises the DD and FD compared to WWU's figures.

Table 15-2: Comparison of DD and FD with WWU Business Plan for repex

	WWU Business Plan	WWU Latest Figures (in NoA)	DD	FD
Total Repex	£441.8m	£495.5m	£348.3m	£419.5m
Repex – appealed components only	£392.5m	£441.3m	£303.3m	£365.3m
Length of pipes	2,136km	2,087km	1,898km	2,087km
Equivalent unit rate	£183.7 / metre	£211.4 / metre	£159.8 / metre	£175.0 / metre

Source: WWU NoA, Table C4; WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.

The ground of appeal

15.29 WWU submitted that GEMA had made an error by failing to provide it with sufficient remuneration over the course of GD2 to undertake Tier 1 mains replacement work (which it is legally required to do in line with its Regulation 13A Programme) and Tier 2B and Tier 3 work.[1245,1246]

Statutory grounds

15.30 WWU submitted that GEMA's decision was wrong in law because GEMA had not acted in accordance with the principles of public law by:[1247]

(a) acting inconsistently and irrationally in its treatment of sparsity, and

(b) failing to have regard, or give appropriate weight, to the range of relevant considerations outlined by WWU, explaining why –

(i) its situation differs from that faced by other networks, and

(ii) its outperformance in GD1 cannot be replicated in GD2.

[1244] WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.
[1245] Tier 2 are iron pipes with a diameter of above 8 inches and below 18 inches, which run within 30 metres of a building. Tier 3 are iron pipes which have a diameter of 18 inches and above.
[1246] WWU NoA, paragraph C9.1.
[1247] WWU NoA, paragraph C9.39.

15.31 WWU also stated that GEMA had failed to have regard or give appropriate weight to its principal objective and general duties:

(a) GEMA's principal objective as set out in section 4AA(1) of GA86 is to protect the interests of existing and future consumers in relation to gas conveyed through pipes. WWU stated that those interests must include the safety of consumers and the efficiency of the gas network, both of which were negatively impacted where WWU was rendered unable to undertake its mains replacement decommissioning programme and, in particular, its Tier 1 work;[1248]

(b) to the extent that GEMA's PCD imposed an obligation on WWU to undertake a certain amount of Tier 1 mains replacement during GD2, GEMA had to have regard to the need to ensure that WWU could finance those activities, under section 4AA(2)(b) of GA86. WWU submitted that under the unit costs set, it could not do so.[1249]

Appeal scope

15.32 WWU did not appeal the entire repex allowance set by GEMA. WWU's NoA covered £365.3 million out of the total £419.5 million FD allowance. WWU did not appeal the repex components of the Decision relating to multi-occupancy buildings (MOBs) and the majority of 'other services' although it did appeal against the tier 2 component of 'other services'.[1250] Table 15-3 reconciles these figures.

Table 15-3: Scope of WWU appeal on repex

	Component	FD Allowances
Appealed by WWU	Mains replacement	£360.3m
	Tier 2b services	£5.0m
Not appealed by WWU	Multi occupancy buildings (MOBs)	£8.7m
	Other Services (excluding Tier 2b services)	£45.5m
GEMA FD total	Total	£419.5m

Source: WWU, RFI WWU 001, response to question A1.

[1248] WWU NoA, paragraphs C9.41–C9.45.
[1249] WWU also referred to section 4AA(5) of the GA86, under which Ofgem is required to carry out its functions in the manner which it considers best calculated to protect customers from dangers arising from the supply or use of gas conveyed through pipes, and section 4AA(1A)(a) of the GA86, arguing it makes clear that the environmental benefits of repex work form part of the interests of consumers.
[1250] 'Other Services' are one-off service relays linked to emergency work and connection issues in relation to which work is delivered by WWU's current direct labour workforce that undertakes emergency and repair work. WWU stated that in Ofgem's categorisation, Tier 2b services are included as part of the Other Services category. However, in practice GDNs manage Tier 2b mains replacement and services together and so Tier 2b services do form part of WWU's appeal in relation to repex; WWU, RFI WWU 001, response to question A1.

WWU's view of its repex deficit

15.33 WWU said that GEMA's FD allowance for repex was £76 million lower than the amount the work would cost in GD2. WWU had originally expected to continue to outsource its repex work in GD2 (as it had in GD1) and had completed a full market tender exercise to evaluate this option. The costs from this market evidence were higher than it had included in its business plan. A decision was therefore taken by WWU to insource the repex activities for delivery in GD2, but even after reducing its costs through undertaking these activities in-house, a shortfall of £76 million remained.[1251]

15.34 Table 15-4 summarises WWU's various cost projections for its repex work during GD2, presented in chronological order. The shortfall of £76 million is the difference between the allowance in the FD of £365.3 million and WWU's latest cost projection of £441.3 million. All figures here relate to the appealed components of repex only.

Table 15-4: WWU estimated repex costs for GD2, as re-estimated over time

	Date	WWU Repex Cost Projection (appealed components only)
WWU Business Plan	December 2019	£392.5m
WWU External Delivery Market Evidence	Autumn 2020	£453.7m
WWU Delivery Cost after Insourcing	Late 2020	£441.3m

Source: WWU NoA, Table C4.

Our approach to our assessment

15.35 In assessing whether GEMA was wrong in its determination of the repex allowance for WWU at RIIO-GD2, we:

(a) structured our assessment around the statutory grounds set out by WWU in its NoA, as noted in paragraph 15.30; In doing so, we

(i) considered WWU's position that the repex allowance set by GEMA was insufficient for WWU and that it had relevant evidence of rising labour costs that were above those projected in its business plan;

(ii) assessed WWU's evidence of its differences from other GDNs to determine whether a regional adjustment specific for WWU was required to GEMA's repex modelling;

[1251] *Long 1 (WWU),* paragraphs 6.1 to 6.9 and 8.1 to 8.25; WWU NoA, paragraph C1.5 and Table C4 at paragraph C8.12.g.

(b) considered GEMA's position that repex was a component of the totex allowance and reviewed GEMA's position on the alleged errors set out by WWU;

(c) asked GEMA to model what would have been a revised GEMA allowance for i) repex and ii) overall totex, had the additional labour costs for WWU been used in setting its Determination.

15.36 We also considered WWU's claim that GEMA had failed to have regard or give appropriate weight to its principal objective and general duties (paragraph 15.31).

15.37 This approach to our assessment led to our provisional determination, to which responses on our approach and the substance of our assessment were received from WWU and GEMA and considered before making our final determination.

CMA provisional determination

15.38 Our provisional determination was that GEMA had not erred in any of these ways alleged by WWU.

WWU response to the provisional determination

15.39 WWU submitted that the CMA's provisional determination in relation to WWU's repex head of appeal was flawed in the following respects relating to our approach:

(a) The CMA failed to consider, and make findings on, all of WWU's grounds of appeal on repex;

(b) In answering the questions that it did consider, the CMA either provided inadequate reasoning or displayed errors in its reasoning; and

(c) The CMA undermined the right of WWU to appeal specific elements of its price control by making (an unjustified) finding on its totex allowance 'in the round'.[1252]

15.40 With respect to point (a), WWU submitted that the principal question to which the CMA must turn its mind is clearly the overarching question of whether the repex allowance is sufficient on the merits to fund the repex work, the majority of which it is legally required to undertake. WWU stated that the CMA simply recorded but did not grapple with this issue, and had failed to consider or

[1252] WWU Response to PD, paragraph C1.2.

make findings on the arguments made by WWU as to why Ofgem's decision on repex was wrong on the merits in policy terms.[1253] In particular, WWU submitted that the structure of the assessment which we had adopted in our provisional determination (addressing three questions based on a summary paragraph of its NoA) had meant that the CMA had overlooked this overarching question and had failed properly to consider its 'policy arguments' under section 23D(4)(a) and (b) of GA86 (ie whether the Authority had failed to have regard to the principal objective and the performance of its duties under GA86 or had failed to give appropriate weight to such matters).

15.41 WWU further submitted that the question whether GEMA was wrong on the merits in policy terms cannot be answered simply by looking back to when, or in what form, information was sent to Ofgem prior to the FD. Nor can it be answered by reference to what Ofgem's cost assessment model might have produced had Ofgem taken proper account of that information as it existed at the time. To do either would be for the CMA to focus on process rather than outcome and thereby misdirect itself by treating the current process as though it were a judicial review rather than an appeal on the merits.[1254] With respect to point (c), WWU submitted that the implication of the CMA's finding [that WWU's focus on repex has been 'misplaced'…] is that where a company wishes to appeal any discrete decision forming part of a top-down cost assessment model, it must bring an appeal against the entirety of the model.[1255]

15.42 We summarise and consider WWU's submissions on the adequacy/robustness of the CMA's reasoning in the relevant sections below.

Our assessment of WWU's submissions

15.43 WWU has invited the CMA to consider whether the repex allowance provided by GEMA is sufficient to fund its planned repex work, the majority of which it is legally obliged to undertake. As set out in detail above, WWU contends that its repex allowance falls short of the required level by £76 million, based on its latest estimates of the costs of undertaking this work in-house.

15.44 However, we do not consider that the simple comparison WWU makes between its estimate of delivering the work in-house and its repex allowance represents of itself evidence that the allowance GEMA has provided is insufficient.

[1253] WWU Response to PD, paragraph C2.4.
[1254] WWU Response to PD, paragraph C2.5.
[1255] WWU Response to PD, paragraph C4.1 and C4.4.

15.45 As described above, GEMA's approach to modelling repex costs gathers both historical and forecast cost information from all GDNs and seeks to identify the level of allowance that would be required for an efficient firm to undertake repex work, taking into account the mix of locations, types of pipes to be replaced etc across the country as a whole. Where it considers there are structural factors which result in above average costs,[1256] GEMA seeks to make a separate allowance for such costs. To the extent that this modelling is robust, it can be expected to produce an allowance that should be adequate for an individual efficient firm to undertake its repex work.

15.46 However, there are many reasons for which a firm may (expect to) incur higher or lower repex costs than its allowance over a particular price control period. These include, for example, being more or less efficient than the benchmark, focusing on completing more/less expensive work in a particular period, or having structurally higher costs, for which adequate separate allowance has not been made. To the extent that incurred and allowed repex differ for either of the first two reasons, we do not consider that that supports the finding of an 'insufficient' allowance. In contrast, where there is evidence of inadequate allowance for structurally higher costs, this would suggest an error in setting the level of allowances.

15.47 WWU has not appealed GEMA's use of top-down modelling[1257] and reiterates that it is seeking adjustments to be made within the existing modelling framework. WWU must therefore be taken to accept that its repex allowance will only be deemed 'insufficient' if an efficient firm having WWU's characteristics would be unable to fund the repex work required in WWU's network using that allowance set by GEMA. Hence, we have considered the arguments and evidence put forward by WWU in the context of the top-down model, ie whether GEMA erred in not accepting claims that WWU made to specifically adjust WWU's repex allowance for sparsity, labour costs, the changing composition of WWU's work and other relevant factors.

15.48 In its NoA, WWU does not allege that the reasoning in GEMA's decision on repex reveals that it had failed to have regard, or give appropriate weight, to the principal objective or one of its general duties. Rather, WWU's policy arguments are that GEMA's decision on its repex allowance (if not corrected in this appeal) would leave it underfunded and would consequently result in reductions in consumer safety and a reduced efficiency of the gas network. From this anticipated result (which would clearly be detrimental to consumers), WWU reasons that GEMA must have failed to comply with its obligations under section 23D(4)(a) and (b) of GA86. We consider that

[1256] Such factors may include higher labour costs or sparsity in one region as compared with other regions.
[1257] WWU NoA, para C6.4, page 101.

WWU's policy arguments are not sufficiently specific for us to rule on them separately from its other submissions that GEMA erred in its application of the top-down model. Rather, we consider that its policy arguments are contingent on WWU successfully demonstrating that GEMA failed to implement the top-down model appropriately (ie by showing an efficient firm would be unable to fund the repex work in WWU's network using that allowance) and on its indicating how such failure resulted from an error in policy. Since WWU has failed in that respect its policy arguments must fail.

15.49 In this context, we consider that it is for WWU to make its case that the difference between its expected and allowed costs is due to inappropriate modelling assumptions and not due to other factors. Where WWU identified potential modelling adjustment failings in its NoA, we have considered these and concluded that GEMA was not wrong in its decisions on the appropriate modelling adjustments it made.

15.50 Therefore, we do not agree with WWU's submission set out at paragraph 15.39(a) above that we had failed to address the 'overarching question' of whether WWU's repex allowance was sufficient on the merits or that we had failed to consider its policy arguments.

15.51 We do not agree with WWU's submission, set out at paragraph 15.39(c) above, that our approach undermines its ability to appeal discrete decisions within a totex model. WWU has brought forward several specific modelling points on repex which are considered individually and in detail below. However, where no error is found with the approach to modelling, ie inclusion/exclusion of specific adjustments for structural factors, we continue to find that the correct approach with respect to any revised/updated evidence on repex costs is to feed them into the overall totex model to give an overall revised totex allowance, rather than to make a separate adjustment. This does not undermine a GDN's ability to appeal an error in one aspect of the totex calculation. Rather, it simply means that relevant consequential adjustments are made and ensures that the GDN is not overcompensated. To seek to argue, as WWU does, that its forecast actual repex costs must be compared with the modelled allowance and that an error has been made if the two figures are not the same, undermines the purpose of GEMA's totex modelling of benchmarking costs across the industry. We find that such an approach would not be in the interests of energy consumers.

15.52 In the following sections, we consider each of the specific arguments (as summarised in paragraph 15.39(b) above) and accompanying evidence that WWU has put forward.

Question 1: Did GEMA act inconsistently and irrationally in its treatment of sparsity?

15.53 The first question raised by WWU related to whether GEMA was wrong in law by acting inconsistently and irrationally in its treatment of sparsity.

WWU's submissions

WWU's sparsity circumstances

15.54 In relation to sparsity, WWU said that during GD2 a greater amount of its repex work would be conducted at the extremities of its network, and that this would increase its costs significantly.[1258] At its clarification hearing, WWU said that 60% of its repex work would be moving out of towns and cities in GD2.[1259]

15.55 WWU stated that GEMA should apply a regional cost adjustment for sparsity in its cost models and provided various pieces of supporting evidence and arguments for this, including:

(a) a paper from Oxera, submitted in response to the DD ('the Oxera DD Report'), which commented on GEMA's approach to cost assessment and stated that the approach did not reflect higher costs associated with sparsity for repex work;[1260]

(b) a paper from Oxera, included within WWU's business plan, which examined how regional factors (particularly labour costs) resulted in higher repex costs;[1261] and

(c) a paper from WWU, provided in response to queries about its evidence from GEMA ('WWU's Sparsity Paper'), which quantified the impact of sparsity factors on WWU's costs, particularly as a result of WWU's network differing from other networks.[1262]

15.56 WWU's Sparsity Paper suggested that both densely and sparsely populated regions have relatively high costs with regions in between having lower costs,

[1258] WWU NoA, paragraph C4.4.
[1259] WWU Clarification Hearing Transcript, 14 May 2021, page 36, lines 16-1.
[1260] WWU NoA, paragraphs C6.6–C6.10. Oxera, 2020, *A review of Ofgem's cost assessment approach in the RIIO-GD2 Draft Determination* ('the Oxera DD Report'), WWU Exhibit B4.2.
[1261] WWU NoA, paragraph C4.3(d).
[1262] WWU NoA, paragraphs C4.6–C4.7. WWU, 2020, SQ_CA_10 – WWU Sparsity estimation ('WWU's Sparsity Paper'), WWU Exhibit H4.

meaning that sparsity and density gave rise to a U-shaped impact on GDN costs.[1263]

15.57 WWU said that the factors leading to higher costs when more repex activity was undertaken at the extremities of the network included higher travel costs; a need for more local depots; and larger distances to quarries and mines for tipping and materials.[1264]

15.58 WWU had said in its business plan that its sparsity costs in relation to repex amounted to £2.12 million per annum and it confirmed that it had embedded these in its business plan cost base.[1265] We issued an RFI to WWU asking it to update its valuation of the regional factors claim for sparsity. In its response, WWU said that the sparsity claim was now £15.2 million per annum,[1266] which at £76 million for the GD2 period was identical to the gap between GEMA's FD repex allowance and WWU's latest repex projection after its market testing and decision to insource activities.

Industry wide sparsity adjustment

15.59 WWU stated that the Oxera DD Report suggested that a specific sparsity adjustment for repex was needed across the industry. WWU noted that GEMA had taken account of sparsity for emergency and repair work, but not for repex. WWU considered it should do so.[1267] It said that GEMA's decision to 'take account of sparsity for emergency and repair costs and not for repex is inconsistent and irrational'.[1268]

GEMA's submissions

Pre-modelling sparsity adjustment

15.60 GEMA confirmed that sparsity is a pre-modelling adjustment made at local authority level using ONS population density variables. The adjustment is applied before the regression models operate and this approach sought to normalise costs to take account of non-controllable regional differences.[1269]

[1263] WWU NoA, paragraph C4.8.
[1264] WWU NoA, paragraphs C4.3(c) and C4.9.
[1265] WWU NoA, paragraph C4.11.
[1266] WWU, RFI WWU 008.
[1267] WWU NoA, paragraph C4.5 and C6.7.
[1268] WWU Reply, paragraph C3.14.
[1269] GEMA Response B, paragraph 489, and GEMA Main Hearing Transcript, 8 July 2021, page 36, lines 2-9.

Rejection of WWU's sparsity claim

15.61 GEMA noted that within their business plans the GDNs were able to provide evidence on regional factors that would result in a material cost difference. It said that WWU's business plan had suggested sparsity effects would add £2 million per year to its repex costs through increased travel times and other factors associated with more rural work in GD2.[1270] GEMA had decided against implementing a sparsity adjustment for repex because WWU had not demonstrated with reliable evidence that its sparsity effects would result in higher costs relative to other networks. In particular GEMA stated that a lot of the evidence provided by WWU was illustrative, ie based on qualitative factors, rather than being quantitative evidence. Moreover, to the extent WWU had included a quantitative assessment, this analysis was only focused on the specifics of WWU's region, so it did not take into account the wider impacts across networks, and it was not clear that there was a relationship between the relevant costs and population density.[1271] GEMA also noted that no other GDNs had favoured a repex-related sparsity adjustment and referred to the Scottish region where SGN operated that had similar sparsity characteristics to WWU's operational area.[1272]

Rejection of an industry-wide sparsity cost adjustment

15.62 GEMA said that it had made a specific sparsity cost modelling adjustment for emergency and repair work, but not for repex because:

(a) this was consistent with its approach at GD1;

(b) sparsity costs were already accounted for since they were included in the costs from the GDNs; [1273]

(c) the evidence that WWU provided in support of its claim did not clearly demonstrate that its costs were affected to a greater degree than other regions, and did not demonstrate a clear link between sparsity and repex costs in the way that it did for emergency and repair costs;[1274] and

(d) only WWU had suggested this modelling change was needed, yet other GDNs also encountered sparsity challenges and those in Scotland were similar to the WWU operational area.

[1270] GEMA Clarification Hearing, part 3, 24 May 2021, slide 32.
[1271] GEMA Main Hearing Transcript, 8 July 2021, page 37, line 24 to page 39, line 3. GEMA referred to analysis that it had carried out which showed that 74% of the cost impact in WWU's analysis resulted from spoil rates but that these showed little correlation with population density.
[1272] GEMA Main Hearing Transcript, 8 July 2021, pages 37-38.
[1273] GEMA Main Hearing Transcript, 8 July 2021, page 37, lines 16-25.
[1274] GEMA Response B, paragraph 492.

Responses to our provisional decision

15.63 In response to our provisional decision, WWU submitted that:

(a) It had provided evidence that sparsity had the same effect on costs for repex as for emergency and repair, and highlighted that it had provided more evidence to Ofgem in relation to repex than emergency and repair work;

(b) Many of WWU's submissions had been directed at showing how its situation differs from that of a notional GDN and, as such, there was no absence of evidence in this respect;

(c) The CMA had stated that WWU had failed to provide evidence of the extent to which its cost base in GD1 was influenced by sparsity and that it appeared to have assumed that the influence of sparsity in GD1 was negligible. This statement was factually incorrect. For example, the Sparsity Paper relied on evidence from GD1 and the modelling which underpinned Oxera's reports on behalf of WWU applied a sparsity adjustment to all repex costs, including GD1;

(d) It was also factually incorrect to state that WWU had provided no evidence of the differences in costs between its work in more urban and sparser areas. The clearest and most appropriate way to quantify that difference in practical terms was simply to compare the difference between the average actual cost per metre of repex work undertaken in GD1 (without the distortion caused by the pain/gain mechanism in the Alliance Contract) and WWU's projected cost per metre in GD2, noting that the build-up of the latter is set out in detail and verified as being robust in the T&T Report;[1275]

(e) The CMA had seemingly ignored the evidence that WWU had submitted in relation to the extent to which its labour costs will rise in GD2. It was this evidence which explained the significant increase between the estimated repex costs submitted in the Business Plan and those which WWU now seeks;

(f) Those labour increases mean that the CMA's finding that sparsity pressures will already be captured in the historical and forecast repex costs of the GDNs, and hence Ofgem's modelling, was simply a mistake of fact. As sparsity was not accounted for in Ofgem's modelling, then

[1275] See paragraph 15.101 for more details

WWU's higher and increasingly higher costs due to sparsity and the tightening labour market would be incorrectly attributed to inefficiency;

(g) The CMA erroneously considered it relevant that WWU was the only GDN to request a regional factor in relation to sparsity. However, it had failed to take into account WWU's explanation as to why SGN did not need to request such an adjustment and the wider point around WWU's higher labour costs increasing the effect of sparsity in its region; and

(h) In addition, the CMA had failed to address WWU's submission that providing a sparsity adjustment for emergency and repair but not repex was inconsistent and irrational (and wrong on the merits) in circumstances where the effect of sparsity on the two activities are the same and WWU provided more evidence in relation to the effect of sparsity on repex than for emergency and repair.[1276]

15.64 GEMA's response to our provisional decision agreed with our findings on the treatment of sparsity.[1277] It noted that WWU had not explained why its revised estimate of the sparsity costs, changing from £2.1 million pa to £15.2 million pa, had changed so significantly nor how the revised figure was constructed. GEMA noted an inconsistency in WWU's evidence, highlighting that Bristol, its most urban sub-region, had the highest repex costs.

Our assessment

15.65 In considering WWU's appeal insofar as it relates to the need to make sparsity adjustments, we consider the following points to be of relevance:

(a) WWU has said that a greater proportion of the repex work required in the GD2 period will be in sparse locations, having completed significant repex work in GD1 in towns and cities.

(b) WWU has acknowledged that it included sparsity costs of £2.12 million per year within its business plan,[1278] but subsequently said that these had been underestimated, based on the market tender evidence received by WWU following submission of its business plan to GEMA. Following its decision to insource this work, WWU now estimates these sparsity costs to be £15.2 million per year, a substantially higher figure.[1279] This suggests there has been a significant change in WWU's projection of how much sparsity factors will influence its costs in the GD2 period. The

[1276] WWU Response to PD, paragraphs C3.4–C3.13.

[1277] GEMA Response to PD, paragraphs 368–370, page 72.
[1278] WWU NoA, paragraph C4.11.
[1279] WWU, RFI WWU 008.

estimate of the increase in costs due to sparsity is £76 million for the GD2 period (£15.2 million per annum for 5 years). In other words, WWU has now told us that the balance between WWU's latest repex estimates and the GEMA allowance fully relates to cost pressures arising from sparsity.

(c) WWU's Sparsity Paper highlights that both sparse and dense regions have relatively high costs, while regions in between these two extremes will have lower costs. In urban areas, traffic management requirements and congestion lead to longer travel times, which increase repex costs.

(d) Similarly, the Oxera DD Report recognises that there is a U-shaped cost profile, finding that repex costs are higher in sparser areas. Using the contractor bids provided to WWU for work in different areas (excluding Bristol), Oxera finds a negative coefficient on the density variable and statistically the relationship is significant at the 15% level.[1280]

(e) GEMA made pre-modelling adjustments for sparsity, labour costs and urbanity, ie took into account the potential influence of these factors in the overall totex model. It then made a further adjustment for the impact of sparsity on emergency and repair costs but did not make a further specific adjustment for the potential impact of sparsity on repex costs (for either WWU or the industry as a whole).

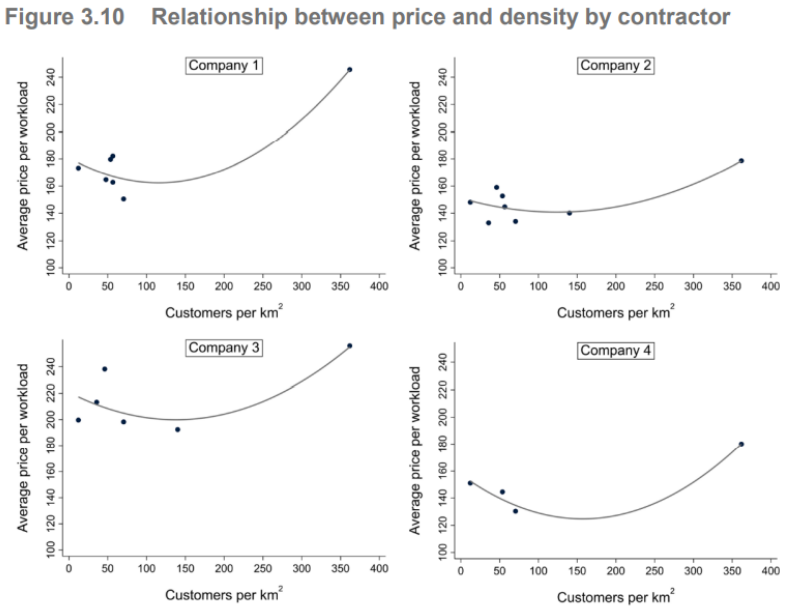
15.66 There appear to be three relevant strands to the argument that WWU has put forward with respect to sparsity which we deal with here:[1281] first that undertaking repex work in sparse areas is more costly than in more densely populated areas (see 15.65 (a) and (d)); second, that WWU incurs structurally higher sparsity costs than other GDNs (see 15.65(b)); and third that the impact of sparsity on repex costs is due to an increase in labour costs between GD1 and GD2 as the location of WWU's work moves out of cities (see 15.65(e)).

15.67 In relation to the first and second strands of WWU's argument, we find that the evidence provided by WWU does not support its contention that it expects to incur material additional repex costs relative to other GDNs as a result of the sparsity of its region. In particular we note that the Sparsity Paper and Oxera DD Report both indicate that there is a U-shaped cost profile (as work extends from urban-average-rural areas). As a result, it is not clear to what extent firms with sparser regions should have structurally higher costs than those with more densely populated regions, or to what extent we should expect an increase in costs, as WWU's profile of work moves from urban to

[1280] Oxera DD Report, paragraphs 3.35–3.36.
[1281] The other strands of WWU's arguments in its response to PD are dealt with further below (see paragraphs 15.71 to 15.72 below).

rural areas. We note that WWU's Sparsity Paper does not provide relevant comparisons in this respect[1282] but that Oxera's DD Report indicates that particularly dense areas, such as Bristol, have higher costs than the sparser areas that WWU is planning to focus on during the RIIO-2 period (see Figure 15-2).[1283]

Figure 15-2: Oxera DD Report analysis of the relationship between price and density, based on WWU contractor bids



Note: The fitted lines show quadratic lines of best fit.

Source: Oxera analysis of WWU tender data. See *Tab J10: Oxera – Datapack - Repex, 4. Tender data analysis*.

Note: Bristol is the right-most dot on each of these graphs.

15.68 We agree with GEMA's view that much of the evidence that WWU put forward to support its repex sparsity claim was illustrative/qualitative and that the quantitative evidence supplied was weak. As discussed above, various reports support a U-shaped cost curve as population density declines, which does not provide a clear indication of how the overall costs of a network in a sparse region would compare with one in a densely populated region. Similarly, we agree with GEMA that the link between spoil rates and population density was tenuous.[1284] This conclusion is even stronger with respect to WWU's revised estimate of sparsity costs (of £15.2 million per year) due to the lack of underlying detail to substantiate the figure, which is

[1282] WWU's Sparsity Paper focuses on the impact of sparsity but does not compare the costs of operating in relatively high cost urban areas, such as Bristol, with those of operating in rural/sparse areas.
[1283] Depending on the precise mix of locations, with this pattern of costs it is possible that repex costs would fall – other things equal – due to the move out of urban areas.
[1284] This comment was made in response to a WWU paper which sought to quantify the additional costs of sparsity in GD1 by looking at certain categories of cost. Spoil rates accounted for approximately three quarters of the higher costs that it estimated resulted from sparsity.

simply the difference between its allowance and its expected costs, rather than a detailed estimate of costs specifically arising from sparsity.

15.69 In relation to the third strand of WWU's argument, ie that repex costs are increasing as work in GD2 is located away from towns and cities, we disagree strongly with WWU's submission that the clearest and most appropriate way to quantify the difference in cost between sparser and more urban regions in practical terms is simply to compare the difference between the average actual cost per metre of repex work undertaken in GD1 (without the distortion caused by the pain/gain mechanism in the Alliance Contract) and WWU's projected cost per metre in GD2. A claim that repex costs were increasing because of undertaking more work in sparse areas would need to control for the impact of other changes in the composition of the work undertaken, such as mains replacement technique and materials. Moreover, a 'regional factors' claim in respect of costs attributable to sparsity would need to be based on how costs at WWU differed from the industry norm, ie a notional GDN. This would show how its costs differed because of its outlier status on sparsity factors. Instead WWU's evidence in this appeal focused on the gap between the GEMA allowance and its projected costs, which could be explained by several factors, including (potentially) inefficiency.

15.70 Next, we consider WWU's arguments regarding the impact of rising labour costs on sparsity. As with other elements of WWU's submissions on sparsity, we found the Oxera DD Report's analysis of specific labour cost challenges in WWU's region to be unconvincing. Much of the evidence in the report was circumstantial – for example, the proportion of over 60s in the population, the existence of (economy-wide) skills shortages or the change in house prices in WWU's regions – while the 'harder' evidence did not, in our view support the conclusions that Oxera sought to build on it. For example, Figures 3.1 and 3.2 in the paper suggest to us that overall and sector-specific wage growth in WWU's region have fluctuated around the national average in recent years rather than diverging in any systematic way. We do not consider it appropriate to place weight on a single year of data as Oxera appears to suggest should be done. Similarly, the impacts of the furlough scheme on the indexation of labour costs appear likely to be temporary with wage falls offset by significant wage increases as staff return to work.

15.71 We considered above (in paragraphs 15.633(a) and (h)) WWU's submission that GEMA was irrational and inconsistent since it applied a sparsity adjustment for emergency and repair costs but not repex. We note GEMA's views that the difference in treatment was the result of a clear difference in the strength of evidence from all GDNs to support adjustments in these two categories of costs. As set out above, we agree that the evidence to support a sparsity adjustment for repex was weak. We have not considered it necessary

to examine the strength of the evidence for a sparsity adjustment in emergency and repair costs as this point has not been appealed. Therefore, in the absence of stronger evidence on the impact of sparsity on repex costs, WWU has failed to persuade us that GEMA's approach of applying a sparsity adjustment for emergency and repair costs but not for repex was wrong.

15.72 In terms of WWU's comments noted in paragraphs 15.63 (c) and (g) above, relating to WWU's sparsity costs in GD1 and its position as the only GDN appealing repex, these are not factors that are fundamental to our final assessment and decision. These issues had limited relevance and so did not form a core part of the basis on which we make our determination.

Our conclusion

15.73 Overall, we conclude that GEMA was not wrong in how it treated sparsity issues in its GD2 Decision for WWU. WWU has not presented evidence that persuades us that GEMA was wrong in its treatment of sparsity when determining WWU's repex allowance.

Question 2: Did GEMA fail to properly consider how WWU's situation differs from that faced by other networks?

15.74 The second question raised by WWU related to whether GEMA had failed to have regard, or give appropriate weight, to the relevant considerations outlined by WWU explaining why its situation differed from that faced by other networks. We recognise that there is some overlap with the first question, in that both relate to why WWU might incur higher costs. In this section, we consider additional submissions from WWU on the way that GEMA's modelling did not properly reflect WWU's operational circumstances.

WWU's submissions

WWU's specific circumstances

15.75 WWU said that it considered that GEMA had not sufficiently recognised how the conditions it faced differed from those faced by other networks. It made references to how its operational area and infrastructure had different characteristics and challenges compared to the sector generally.[1285]

[1285] WWU NoA, paragraphs C9.35 and C9.39(b)(i).

15.76 WWU made references and sought to demonstrate through evidence how its operational area led to cost differences compared to the other GDNs. Examples included:

(a) The need for additional depots each staffed and stocked with specialist equipment (with an illustration provided drawing a contrast with Cadent's network in the West Midlands).[1286]

(b) Larger distances and longer travel times to quarries and mines (with maps illustrating the low numbers of quarries in Wales and the South West relative to other areas in Great Britain, and Oxera suggesting that the issue was even more pronounced with respect to tips).[1287]

(c) WWU's customer base being widely dispersed with average customer density being significantly below the UK average, and customers being clustered with large empty patches around them and long driving distances in between on road networks less well developed than in other parts of the UK.[1288]

15.77 WWU also argued that GEMA should set 'separate costs in relation to mains replacement technique and type of iron, as well as by pipe material (iron or steel) and diameter'.[1289]

15.78 At its clarification hearing, WWU observed that SGN may have fewer challenges with sparsity as much of its network is focused around Glasgow and Edinburgh, with only around 28% of the population to the north of those cities being connected to the gas network. WWU said that as a result SGN does not have as many far-reaching gas mains to replace on the extremities of its network.[1290]

WWU's evidence base for comparison with the sector

15.79 WWU noted that within its operational region it covered many different areas. It noted that it faced the following effects in GD2:

(a) In relation to labour shortages, WWU referred to evidence from Oxera that had 'noted that WWU's areas of Wales and the South West had the highest proportion of over 60-year-olds in Great Britain, and that the difficulties it had in attracting skilled labour borne out by the biennial Employment Skills Surveys … showed that the skills shortage is

[1286] WWU NoA, paragraph C4.9(b).
[1287] WWU NoA, paragraph C4.9(g).
[1288] WWU NoA, paragraph C4.7.
[1289] WWU NoA, paragraph C6.14.
[1290] WWU Clarification Hearing Transcript, 14 May 2021, page 38, lines 11–17.

becoming more acute in Wales over the years, particularly in the utilities sector.'[1291]

(b) In relation to both technique (the extent of open cut work required vs insertion) and material (the proportion of ductile iron mains to replace), WWU was not able to demonstrate differences from the levels at other GDNs. At its clarification hearing, WWU confirmed that it was referring to regional information, such as from tendered information, to which it would not have access for other GDNs.[1292]

(c) However, WWU also submitted that:

(i) Ofgem had acknowledged that WWU would have the highest or joint highest proportion of open-cut and ductile iron work out of all the GDNs over GD2 but had stated that it was not significantly out of line with other networks. However, in relation to ductile iron, WWU stated that what may look like a relatively small difference in proportionate amounts would mask the fact that ductile iron takes twice as long to deal with than cast iron and that this is not differentiated by Ofgem in its repex synthetic unit costs.[1293]

(ii) Likewise, open-cut work in the road is more expensive than other techniques, and WWU has a higher than average volume of this work to carry out in GD2. Again, WWU submitted that this work is not differentiated and remunerated at the higher rate necessary in Ofgem's unit costs.[1294]

(iii) Ofgem had stated that WWU has the second lowest volume of high diameter pipes to deal with in GD2. However, WWU submitted that that must be considered alongside the fact that WWU has 25% of the total open-cut work across all GDNs for all pipes of 180mm and over in diameter. That lower volume would therefore cost more to deal with.[1295]

(iv) All factors that would serve to decrease costs in GD2, such as WWU's innovations, any efficiency improvement from system changes and the removal of management costs have been reflected in the insourced unit cost.[1296]

[1291] WWU NoA, paragraph C4.3(d).
[1292] WWU Clarification Hearing Transcript, 14 May 2021, page 39, lines 5–23.
[1293] WWU Reply, paragraph C3.22.
[1294] WWU Reply, paragraph C3.23.
[1295] WWU Reply, paragraph C3.24.
[1296] WWU Reply, paragraph C3.25.

(v) Overall, Ofgem had failed to grapple with the detail of how different factors interact to produce different costs. WWU stated that this broad-brush approach is reflected in unit costs which do not make different provision for different types of work or different materials – nor did WWU consider that the overall unit cost had been set at an appropriate rate to account for the increased costs arising from these factors.[1297]

(d) Finally, WWU's repex activity was increasing in GD2 in the more sparse areas compared to what it had experienced in GD1.[1298]

GEMA's submissions

15.80 GEMA told us that its totex models already took account of the relevant factors raised by WWU in its appeal insofar as adjustments were made for sparsity, urbanity and regional labour costs. GEMA also noted that the key factors influencing cost pressures were also accounted for in the models as this data had been reflected in the business plans of the eight GDNs, and, therefore, factors such as the materials to be replaced, the types of techniques to be used and the location of the work at the extremities of the network were modelled.[1299]

15.81 At its main hearing, GEMA said that it would be inappropriate for WWU to be subject to special treatment and have a repex allowance set from a different basis from the other GDNs simply as a result of costs identified through its undertaking a tender process, particularly as repex is only one aspect of the wider totex modelling and assessment.[1300]

15.82 GEMA also provided comparisons of WWU's cost drivers relative to other GDNs, including that:

(a) WWU's projection of 18% of its GD2 repex work requiring use of the open cut technique is in line with the proportion that two other GDNs have reported;[1301]

(b) 32% of work requiring replacement of ductile iron pipe materials is high, but similar to some other GDNs. In addition, GEMA highlighted that WWU recently (June 2021) published a Network Innovation Allowance (**NIA**) close-down report, which stated that:

[1297] WWU Reply, paragraph C3.27.
[1298] WWU Main Hearing Transcript, 1 July 2021, pages 89–90.
[1299] GEMA Response B, paragraph 467(2).
[1300] GEMA Main Hearing Transcript, 8 July 2021, page 52, lines 10–15.
[1301] GEMA Main Hearing Transcript, 8 July 2021, page 41, lines 9–12.

> Wales and West understands that even with this improved cutter [which is the ductile iron cutter] that they were funded through NIA, the work on ductile iron will require slightly more time than on traditional cast iron mains. That said there is potential for less excavation required underneath the gas main and that time saving may account for extra time needed to cut the windows.

GEMA suggested that, even by WWU's own assessment of the effectiveness of their project, the time accounted for and the difference in cost associated with ductile iron versus cast iron is relatively small, ie it would not necessarily result in a significant difference in cost;[1302] and

(c) WWU's own estimates of its likely cost increases for these types of factors were around 4%, with many of the other GDNs estimating higher cost increases as a result of these factors.[1303]

15.83 Consequently, GEMA submitted that WWU was not unique such that a specific cost adjustment would be justified and that these (general) cost drivers would be reflected in the cost information used in GEMA modelling.[1304]

15.84 GEMA's response to our provisional decision agreed with our provisional findings on how WWU's situation differed from other GDNs. It said that WWU was not a particular outlier on the workloads or cost pressures faced in GD2.[1305]

Our assessment

15.85 WWU has submitted that it faces more challenging repex conditions than other GDNs for both sparsity and other reasons. We have considered the sparsity evidence in the previous section and found that it is not sufficiently persuasive to support the need for a separate modelling adjustment for the potential impact of sparsity on repex costs.

15.86 Having already considered sparsity within question 1, in this assessment, we focus on each of the other aspects of WWU's submission, in particular the changing composition of mains replacement technique and type of iron, as well as pipe material (iron or steel) and diameter.

15.87 First, with respect to the changing composition of mains replacement technique, we note that there are contradictions between some of the claims made by WWU regarding the additional time required for ductile iron pipes

[1302] GEMA Main Hearing Transcript, 8 July 2021, page 40, line 15–page 42, line 4.
[1303] GEMA Main Hearing Transcript, 8 July 2021, page 40, lines 9–19.
[1304] GEMA Main Hearing Transcript, 8 July 2021, page 40, line 19–page 41, line 5.
[1305] GEMA Response to PD, paragraph 371, page 72.

(see, for example its, NoA[1306]) compared with cast iron pipes and statements on the same issue made in June 2021 (ie after this appeal started) in WWU's NIA report,[1307] as highlighted by GEMA (in 15.82(b) above). In this context, we consider more weight should be placed on the statements in the NIA report, which was prepared independently of WWU's appeal against GEMA's repex allowance, and which suggests that the impact of increased ductile iron in the repex portfolio is likely to have a relatively small impact on costs.

15.88 Second, with respect to the proportion of open-cut work,[1308] we find that the evidence provided by GEMA (see 15.82(a)) does not suggest that WWU faces materially different costs from other GDNs, and hence these should be adequately captured in the cost modelling.

15.89 Third, with respect to the evidence on the impact of pipe diameter on costs, we note WWU's acknowledgement (see paragraph 15.79(c)(iii)) that it has the second lowest proportion of high-diameter pipes to deal with. This factor should serve to lower WWU's costs when compared with other GDNs.

15.90 On this basis, we find that the evidence provided by WWU that it can expect higher than average repex costs due to the changing composition of mains replacement technique and type of iron, as well as pipe material (iron or steel) and diameter is not persuasive and that GEMA had sufficient reasons to support the view that WWU should not be considered a particular outlier in its repex work. Our assessment for questions 1 and 2 has found that the effects of sparsity, urbanity, labour costs and the various repex techniques will already be sufficiently incorporated in GEMA's cost modelling.

Our conclusion

15.91 The evidence that WWU has adduced has failed to persuade us that it faces more challenging repex conditions and that it merits a separate modelling adjustment specifically for WWU for the potential impact of other factors it identifies on repex costs. Overall, therefore, we conclude that GEMA was not wrong in its Decision so far as concerns its assessment that WWU's situation did not differ from that faced by other networks.

[1306] WWU NoA, paragraph C4.3(b)
[1307] See paragraph 15.82(b).
[1308] *Wagner 3* (*GEMA*), Table 7 on p.26 shows that i) for technique, WWU is one of three GDNs (out of 8 GDNs) that will replace 18% of Tier 1 workloads using the open cut technique, with the industry average position being 15%. So it is not an outlier; ii) for material, whilst WWU will have the highest proportion of ductile iron work, at 32% compared to an industry average of 21%, with innovations it is not clear that this activity is now particularly more expensive than repairing cast iron mains; iii) for workload size, its proportion of large diameter work (>125mm) is the third lowest at 19% compared to an industry average of 31%. It should have lower costs for replacing more small diameter pipes.

Question 3: Did GEMA fail to recognise that WWU's outperformance in GD1 could not be replicated in GD2?

15.92 The third question raised by WWU related to whether GEMA failed to have regard, or give appropriate weight, to the relevant considerations outlined by WWU explaining why its outperformance in GD1 cannot be replicated in GD2.

WWU's submissions

WWU's delivery strategy and cost consequences

15.93 WWU's NoA referred to the success it had achieved in GD1 in keeping repex costs low as the Alliance Contract had been based on labour rates that were effectively locked-in when labour conditions had been more favourable.[1309] It noted that, as a result, the contractors had often made losses such that WWU was not able to extend similar contractual terms into GD2. WWU's NoA referred extensively to its market tendering exercise and its subsequent decision to insource repex activities for the GD2 period.[1310] These are discussed below. WWU explained that it had a particular set of circumstances that meant that GD2 repex costs would be very different from those in GD1, and that GEMA needed to reflect this in its modelling and ultimately in its FD allowance.

WWU's tendering process and insourcing decision

15.94 WWU told us that it had received initial market evidence of the costs of its repex work in GD2 in August 2020 and then received best and final offers in December 2020. This information was received after its business plan submission made in December 2019. WWU told us that when it had completed its market tendering exercise to establish the costs of its GD2 repex programme, there was 'a 24% shortfall between the unit cost that the market was prepared to offer and the unit cost of £175 per metre allowed by Ofgem'.[1311]

15.95 WWU told us that in light of the market rates and the challenges of the FD, it had decided to insource its repex work.[1312] This would create cost efficiencies but also some additional risks as, unlike in GD1, WWU could no longer agree a pain/gain mechanism with external contractors.[1313]

[1309] WWU NoA, paragraph C3.10.
[1310] For example, WWU NoA, paragraphs C6.18–C6.30 and C8.1–C8.12.
[1311] WWU NoA, paragraphs C8.1 and C8.2.
[1312] WWU NoA, paragraph C8.2.
[1313] WWU NoA, paragraph C8.8.

15.96 WWU told us that the insourcing decision would yield efficiencies of £6.4 per metre. It hence calculated that with insourcing of its repex activities, it could achieve a unit cost of £211.4 per metre, which was 'still 21% above the £175 per metre allowance granted by Ofgem in the Final Determination'.[1314]

Implications for cost projections

15.97 WWU told us that the estimated cost of its repex programme in GD2, following its evaluation of market rates completed in Autumn 2020 from the tendering proposals of external contractors, was £507.9 million. Thus, WWU's market rate evidence predicted costs 15% higher than its December 2019 business plan projection of £441.8 million.[1315]

15.98 As summarised in Table 15-5 below, WWU provided information to us that showed that having decided to insource its repex activities in early 2021, its revised GD2 repex cost projection was £495.5 million. This estimate is 12% higher than its December 2019 business plan projection and 18% higher (£76 million) than the FD.[1316]

Table 15-5: Summary of WWU estimated repex figures and unit rates

	WWU Business Plan for GD2 (December 2019)	WWU Update after Market Testing (Autumn 2020)	WWU Update after Insourcing Decision (Early 2021)	FD (December 2020)
Total Repex	£441.8m	£507.9m	£495.5m	£419.5m
Equivalent unit rate	£183.7 / metre	£217.4 / metre	£211.4 / metre	£175.0 / metre

Source: WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.

Supporting evidence on specific circumstances

15.99 WWU referred to three reports relevant to the specific circumstances it faced:

(a) The first report related to the activity it would need to undertake ('Repex Cost Justification Paper').[1317]

(b) The second report related to its procurement process to seek efficient market rates ('Tender Process Validation Report').[1318]

[1314] WWU NoA, paragraph C8.10.
[1315] WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.
[1316] WWU, RFI WWU 003, supporting spreadsheet provided as annex 1.
[1317] WWU NoA, paragraph C6.12. WWU, 2020, *REPEX Cost justification paper,* WWU Exhibit B4.3.
[1318] WWU NoA, paragraph C6.19. Turner & Townsend, 2021, *Expert Report on Mains Replacement Appeal : Wales & West Utilities Ltd*, ('the Tender Process Validation Report'), WWU Exhibit I1.

(c) The third report considered the impacts of sparsity and labour shortages on its costs, building on Oxera's previous reports in this area ('2021 Oxera Report').[1319]

- *Repex Cost Justification Paper*

15.100 WWU provided GEMA with a Repex Cost Justification Paper covering its request for a more granular approach to setting unit costs. It said that 'the unit cost proposed by Ofgem would not enable WWU to carry out the repex work which it was legally obliged to do for Tier 1 mains'.[1320] WWU also said that this report had highlighted its view that 'it was apparent that Ofgem had not considered many of the factors specific to WWU that it had set out in its Business Plan to explain why its unit costs would increase in GD2'.[1321]

- *Tender Process Validation Report*

15.101 In respect of the end of WWU's Alliance Contract for GD1 in June 2021 and the procurement process for GD2, WWU submitted a report from Turner & Townsend (a consulting business specialising in programme management) as independent verification that the tender process had been robust. This report was produced on 1 March 2021.[1322]

15.102 WWU said that the Tender Process Validation Report produced by Turner & Townsend found the tendering exercise that WWU had performed was robust and produced reasonable prices. It said this evidence was 'clear in its conclusion that Ofgem was therefore wrong to ignore that more up to date evidence in its Final Determination in preference for that submitted with the Business Plan'.[1323]

- *2021 Oxera Report*

15.103 WWU noted that the 2021 Oxera Report had focused on how repex costs are influenced by labour pressures and sparsity.[1324]

15.104 WWU explained that, to attract smaller external providers, it had allocated its work into geographical lots. WWU drew attention to the fact that no bids were received from external contractors to undertake repex work in GD2 in two areas at the extremity of its network (Plymouth and Cornwall).[1325]

[1319] WWU NoA, paragraph C4.3(d). Oxera, 2021, *The impacts of labour market pressures and sparsity on REPEX in the Wales & West region ('2021Oxera Report'),* WWU Exhibit J1.
[1320] WWU NoA, paragraph C6.12.
[1321] WWU NoA, paragraph C6.13.
[1322] WWU NoA, paragraph C1.9.
[1323] WWU NoA, paragraph C9.24.
[1324] WWU NoA, paragraph C9.15.
[1325] WWU NoA, paragraph C6.22.

This was noted in the 2021 Oxera Report as evidence that sparsity was a relevant factor, alongside an assessment that bidders' prices were higher in regions of greater sparsity.[1326]

15.105 WWU said GEMA should have factored in these adjustments but had not done so. It noted that Oxera had shown that 'the effect of failing to take account of increasing labour pressures and sparsity leads to a £23 million shortfall in the allowances provided by Ofgem for WWU's repex work'.[1327]

Cost pressures in GD2

15.106 WWU submitted that there were a number of cost pressures that would lead to increased costs in GD2 compared to the costs incurred in GD1. Some of these were specific to WWU, while some were also industry wide challenges, such as labour cost pressures. WWU noted reasons why the industry wide challenges may have a different impact on it from the impact they would have on other GDNs. WWU's costs in GD2 would increase due to the end of the Alliance Contract in June 2021 and the 'pain sharing' mechanism it contained. Costs would also change in GD2 due to the choice of repex work undertaken in GD1, such as the location of schemes undertaken and the size or material of pipes already replaced in GD1.[1328]

15.107 WWU put the cost pressures at GD2 compared with GD1 into four categories that are discussed below. WWU submitted that the first three – technique, material and location – are interlinked in that they all contribute to increased time needed to replace the pipes, which in turn increases labour costs.[1329]

(a) Replacement technique: WWU's open cut activity would increase from 8% in GD1 to 20% in GD2, due to the capacity constraints on the pipes due for replacement in GD2. This is the most expensive technique to use, costing up to three times more than insertion.[1330] Open cut involves digging and backfilling a trench along the full length of the main to be replaced, laying the new main in the trench and transferring all services. This open cut work is a time-consuming technique that increases labour costs. This contrasts with the mains insertion technique which involves digging pits at each end of the main then inserting the new main into the old one. However, it is not always possible to use the mains insertion technique, which leads to a need for the more expensive open cut technique to be used. In its business plan, WWU provided an example of

[1326] WWU NoA, paragraph C4.12.
[1327] WWU NoA, paragraph C9.22.
[1328] WWU NoA, paragraph C9.13.
[1329] WWU NoA, paragraph C4.3.
[1330] WWU Clarification Hearing Opening Statement, 14 May 2021, Slide 9.

a project where the cost of insertion technique was £73.3 per metre whereas the use of open cut would cost £215.7 per metre.[1331] WWU estimated that overall the 12% increase in open cut activity in GD2 would add £11.9 million in repex costs compared to GD1.[1332]

(b) Materials replaced: WWU submitted that it would need to replace more ductile iron pipes in GD2 compared to GD1. Ductile iron is more difficult to cut than cast iron pipes and hence takes longer to deal with, which increases labour costs.[1333]

(c) Work location: WWU said that in GD2 more work would occur away from the major towns and cities where more activity was undertaken in GD1.[1334] It said that as it moved to having more activity in the extremities of its operational areas there would be increased costs from longer travel times and higher quarry/tipping fees. WWU said that in GD2 it would need to undertake work that was more diverse and therefore progress more inefficient schemes in GD2, compared to repex work in close proximity in GD1. In the clarification hearing, WWU stated that around 60% of work was moving from major cities to towns, suburbs, and rural locations.[1335] It noted that major work had occurred in cities such as Bristol, Cardiff and Swansea in GD1 and hence less activity in these cities was planned in GD2. Subsequent to the hearing, it evidenced this with data stating that in GD1 it worked in an average of 940 areas per year, whereas in GD2 it would work on average in 1,304 areas per year. WWU said that this showed a greater spread of work across WWU's region in GD2 compared to GD1. It also supplied 'heat maps' showing the increasing tendency of work to be undertaken in rural areas in GD2.[1336]

(d) Labour shortages: WWU said that there were rising labour costs arising from the shortages of suitable labour in its operational area. It noted that there was strong competition for skilled labour with major projects progressing within or close to its area, such as Hinkley Point C, HS2, Thames Tideway and the Heathrow expansion.[1337] The 2021 Oxera Report was intended to evidence its regional factors claim for the shortfall in skilled labour, which it said contributed to higher labour costs in the

[1331] WWU business plan, Appendix 9D – Mains Replacement Performance RIIO-GD1, page 6.
[1332] WWU NoA, paragraph C4.3(a).
[1333] WWU NoA, paragraph C4.3(b).
[1334] WWU NoA, paragraph C4.3(c).
[1335] WWU Clarification Hearing Transcript, 14 May 2021, page 36, lines 16-21.
[1336] WWU, RFI WWU 002, response to question 2.
[1337] WWU NoA, paragraph C4.3(d) and footnote 227.

WWU region.[1338] WWU noted that their GD1 Alliance Contract had shielded WWU from the upward pressures in the labour market.[1339]

WWU's efficiency drive in its cost projections

15.108 In its NoA, WWU referred to various mitigation strategies it was progressing in response to the rising cost pressures in GD2. These included, for example, use of a more efficient ductile iron cutter and a recruitment and training programme for graduates and apprentices.[1340]

WWU's views on GEMA's repex models

15.109 WWU told us that in its response to the DD, it 'did not object to the use of a top-down model by Ofgem, but made clear that the model used did not adequately capture some circumstances which were specific to WWU in GD2'.[1341]

15.110 WWU stated that GEMA's modelling must cross-check to ensure a GDN can perform its activities and that where there are good reasons to do so, the models should take into account company specific cost factors where they are justified. WWU said GEMA had failed to undertake this cross-check for WWU. WWU said it had clearly explained the particular circumstances faced by WWU and it had provided GEMA with the details of its market evidence on bids for GD2 repex work, but 'Ofgem failed to provide sufficient allowances to fund continued outsourcing'. It then added that 'Ofgem's allowances remain insufficient even where the work is insourced'.[1342]

GEMA's submissions

Labour costs

15.111 In terms of the influence of rising labour costs, GEMA said that it had significant concerns about relying on the 2021 Oxera Report submitted by WWU, particularly its focus on labour cost pressures in the last year when Coronavirus (COVID-19) issues had created unusual labour market conditions.[1343] It submitted that as the totex models used data from all GDNs, it would capture trends in labour costs as the models did with other cost pressures like materials to replace, location of schemes and techniques

[1338] WWU NoA, paragraph C4.3(d).
[1339] WWU NoA, paragraph C9.13(a).
[1340] WWU NoA, paragraphs C4.3(a) and C4.3(d).
[1341] WWU NoA, paragraph C6.4. See also WWU Clarification Hearing Transcript 14 May 2021, page 40, lines 16-19.
[1342] WWU NoA, paragraphs C9.6–C9.10.
[1343] GEMA Response B, paragraph 504.

available to use. GEMA also noted that the RPEs adjustment mechanism was in place to address in-period pressures on labour costs.[1344]

GEMA's modelled data

15.112 GEMA confirmed that its FD allowances for totex and repex were based on the GDNs' business plan data from December 2019. It also reflected any updates after the DD, from cost information provided by the GDNs included in BPDT submissions made in early October 2020.[1345] In this submission, WWU had not updated its GD2 repex cost projections. This meant that GEMA's calculations did not reflect the higher tender costs evidence that WWU had obtained. GEMA said that the information on tender prices from WWU was not used as it was provided late, outside of the formal submissions, it was not fully assured, and it was not finalised data given that a later decision made by WWU to insource the work had lowered the cost projections for repex work.

15.113 GEMA confirmed that its totex and repex models had been based on seven years of historical actual cost information from the eight GDNs and six years of forecast cost data, covering the final year of GD1 and the whole of the GD2 period.[1346]

Repex - context of overall totex

15.114 GEMA noted in its response that its FD had allowed WWU a totex allowance of £1,157 million for the GD2 period, which was a reduction of 3.9% on WWU's requested totex. It noted that this was the lowest reduction from the business plan submissions of any of the eight GDN regions. In terms of repex, which is a component of totex, the FD allowed £420 million, which was 5% lower than the £442 million repex costs which WWU submitted in its business plan in December 2019.[1347] In comparison, the industry average repex reduction was just over 8%.[1348]

GEMA approach to repex

15.115 GEMA said that its approach was to set totex allowances for each GDN relative to its assessment of what a notionally efficient company that shared the characteristics of each network would require. Repex allowances were derived from these totex models and WWU had not objected to GEMA's use

[1344] GEMA Response B, paragraph 467 (3).
[1345] GEMA Response B, paragraphs 477, 481 and 482.
[1346] GEMA Response B, paragraph 472.
[1347] GEMA Response B, paragraph 464.
[1348] GEMA Clarification Hearing, 24 May 2021(Part 3), slide 32.

of this top down totex modelling approach.[1349] GEMA said that while there are specific outputs that WWU must deliver, including repex workload kilometre of mains to replace, WWU did have discretion over how it apportions its totex to deliver these outputs.[1350] GEMA said it was incorrect for WWU to suggest that repex allowances should be considered in isolation.[1351]

Scenario modelling update

15.116 We asked GEMA to model two scenarios reflecting WWU's current view of GD2 repex cost projections compared to its business plan estimate, namely:

(a) Outsourced at market tender rates, with repex costs 15% higher than originally projected in its business plan;[1352] and

(b) Insourced, with repex projections 12% higher than its business plan estimate.[1353]

15.117 In response to this request, GEMA's scenario modelling indicated the revised repex allowances for WWU would have been:[1354]

(a) £458.9 million in the market testing scenario where WWU's repex costs were 15% higher, which is an extra £39 million (9.4%) compared to the FD repex allowance of £419.5 million. However, GEMA's models also showed that overall totex (including repex, opex and capex allowances) would have been only £8 million higher (0.7% higher) at £1,164 million, compared to WWU's £1,157 million totex allowance; and

(b) £451.9 million in the insourcing scenario where WWU's repex costs were 12% higher, which is an extra £32 million (7.7%) compared to the FD repex allowance of £419.5 million. However, GEMA's models also showed that overall totex would have been only £4 million higher (0.3% higher), at £1,160 million rather than £1,157 million.

15.118 GEMA stated that the totex changes were lower than the repex changes as WWU's efficiency ranking would be lower if it asked for more repex, hence WWU would have been subject to a greater catch up efficiency target. Further, the allocations of opex and capex within totex would change if

[1349] GEMA Response B, paragraph 467 (1).
[1350] GEMA Main Hearing Transcript, 8 July 2021, page 52, lines 2-7.
[1351] GEMA Response B, paragraph 474 (1).
[1352] WWU Business Plan repex costs: £441.8 million. Market rate evidence: £507.9 million, hence 15% higher.
[1353] WWU Business Plan repex: £441.8 million; revised estimate after insourcing decision: £495.5 million, ie 12% higher.
[1354] GEMA, RFI GEMA 008.

the repex components were different.[1355] Table 15-6 summarises GEMA's scenario modelling analysis that we requested.

Table 15-6: Summary of GEMA's Scenario Modelling

	Model Input (ie WWU request)	Model Output (ie repex allowances)	WWU Efficiency Rank	WWU Totex Allowance
FD	£441.8m	£419.5m	2nd	£1,157m
Scenario A: Market testing cost projection	£507.9m	£458.9m	6th	£1,164m
Scenario B: Insourcing cost projection	£495.5m	£451.9m	6th	£1,160m

Source: GEMA, RFI GEMA 008.

Our assessment

GD1 outperformance and GD2 cost pressures

15.119 First, we considered WWU's fundamental argument that it had a particular set of circumstances that meant its GD2 repex costs would be very different from those in GD1, and that GEMA should reflect this in its modelling and ultimately in its FD allowance. In this respect WWU highlighted four factors, namely replacement technique, materials, work location and labour shortages.

15.120 In the previous sections, we have considered each of these factors and have concluded that the evidence we have considered does not support the finding that WWU faces materially different cost pressures from the other GDNs, such that separate modelling adjustments are required. We agree with GEMA that its use of historic and forecast costs across the industry, together with RPEs to reflect changes in labour costs, mean that changes in costs which affect all of the firms should be adequately reflected in the totex model.

15.121 We recognise, however, that the change in repex costs between GD1 and GD2 may still be particularly significant for WWU to the extent that the mix and location of work it undertook in GD1 was particularly different from that it is proposing to take in GD2. It is in this context that we consider WWU's outperformance in GD1 to be relevant.

15.122 WWU had significant repex outperformance in GD1, retaining 63% of outperformance that was reported as £215 million, which would suggest a financial reward of around £135 million.[1356] GEMA told us that while all GDNs outperformed on repex costs in GD1, WWU's outperformance was the most significant.[1357] For GD2, WWU estimates a repex shortfall of £76 million. We

[1355] GEMA, RFI GEMA 008.
[1356] WWU NoA, paragraph C3.1: refers to repex in GD1 being £214.8 million below the GD1 allowance.
[1357] GEMA Main Hearing Transcript, 8 July 2021, page 43, lines 15-20.

consider that the financial outperformance and benefit arising to WWU in GD1 is relevant context in assessing whether there is a risk for WWU not being able to finance its activities in GD2. While WWU has suggested that GD1 rewards are in the past and are not relevant, in the context of a programme funded by customers over multiple periods, we consider that it is relevant that the framework should be able to be designed to cover the costs of delivering that programme over time.

15.123 WWU told us that in GD1 the HSE-driven work, addressing the top 20% of risky pipes, was mainly located in towns and cities, with other schemes chosen and developed nearby for efficiency reasons. We accept that this is logical. In our provisional decision, we noted that there is some discretion in which work progresses, such that WWU could have undertaken more of the expensive work in GD1 (eg more schemes involving open cut; ductile iron; or in rural locations) when it had the allowances to do so, rather than defer these schemes to the GD2 period. This would have helped alleviate a large cost increase in GD2. The evidence provided suggests there is a connection between the GD2 cost uplift requested by WWU and WWU's choice to pick low cost schemes which generated higher financial rewards in GD1.

15.124 In response, WWU submitted that the alternative approach to designing its repex programme would be to decommission individual pipes in a particular location but leave others in the same location to later in the repex programme – possibly returning to the same location on several different occasions causing obvious disruption to the public. This would be extremely inefficient and would therefore result in a much higher cost to the consumer over the whole of the programme. Therefore, the suggestion that WWU should have taken this approach in GD1 is irrational and unsupported by the evidence.[1358] Further, WWU argued that the CMA's suggestion in the provisional determination that Ofgem has the right to effectively claw back any outperformance on repex in a previous price control period by setting allowances lower in a future period than is actually required to fund the work to be done in that later period, finds no foundation in any evidence or submission given to the CMA by any party in any of the current appeals. WWU told us that it would fundamentally undermine the principles of price controls which are set for the period of that price control only. WWU stated that:

> the principle of incentive based regulation is that the regulator sets incentives for the period of the price control. Where the price control is outperformed through efficiencies consumers benefit

[1358] WWU Response to PD, paragraph C3.21.

from in-period sharing mechanisms and the lower costs baked into the next price control.[1359]

15.125 However, we find WWU's submissions in this respect to contradict its overall argument that GEMA failed to recognise that WWU's outperformance in GD1 could not be replicated in GD2 because the repex work that it seeks to undertake in GD2 was structurally more costly (due to work location, replacement technique, materials etc). Outperformance rewards represent important incentives for driving genuine efficiencies that benefit customers over the long term. If the lower costs that led to the outperformance cannot be replicated, then we find the argument that they were the result of efficiencies to be weak. The evidence taken as a whole strongly suggests a situation in which WWU carried out a particularly low cost element of its overall repex programme in GD1, resulting in very significant 'outperformance' and is now faced with a significantly more costly portion of its repex programme in GD2. It remains our view that it was open to WWU to balance its repex costs more evenly across the lifetime of the programme (which extends to 2032). However, regardless of the choices that WWU has made, we consider outperformance which results from carrying out a lower cost mix of work in one period is not equivalent to outperformance that derives from genuine efficiencies.

15.126 We find that GEMA would be failing in its duties to protect the interests of existing and future consumers if it were to allow a supplier to outperform by choosing cheaper than average projects, and then accede to a request for special adjustments to be made to fund above average costs in the next price control for the supplier to then undertake higher cost parts of its repex programme.

15.127 In addition, regardless of WWU's outperformance in GD1, we do not agree that GEMA failed to properly consider what WWU's costs for GD2 might be. We note that WWU did not fully update GEMA with its repex forecasts after DD when the opportunity to do so was available in the October 2020 BPDT submissions. WWU kept the £441.8 million repex forecast from its business plan in December 2019 unchanged. WWU said it briefed GEMA on its emerging market rates at a meeting, noting that its repex costs in GD2 would be higher than originally suggested. However, WWU has confirmed that it did not complete the required template as it was time constrained. While WWU has said that GEMA failed to consider this information, we do not accept that it can have been wrong to do so when WWU itself did not provide GEMA with all the information it had requested (and we further note that those cost estimates were later reduced as the result of the decision to insource the

[1359] WWU Response to PD, paragraphs 3.24–3.26.

work, which suggests GEMA was right to be wary of the robustness of the estimates). In any case, even if GEMA had received higher repex cost projections from WWU, such as the market tender rates, it would not have led to significant changes to the overall totex allowances of WWU, as demonstrated by GEMA's scenario modelling in paragraph 15.117 above.[1360] In response to our provisional determination, WWU suggested that the modelling undertaken by GEMA had reinforced its stance that a regional factor adjustment was needed.[1361] We disagree. The modelling by GEMA is strong evidence that if the revised higher labour costs from WWU had been used at the time of the FD, they would not have resulted in materially higher overall totex allowances.

15.128 Based on the analysis above, our assessment indicates that GEMA was not wrong in how it considered the GD2 cost changes that WWU is likely to experience compared to GD1. In particular:

(a) we consider that GEMA's approach to totex assessment might underestimate WWU's actual costs in GD2 if they are higher as a result of WWU undertaking low cost activities in GD1. If this is the case, we would not consider that GEMA was wrong to follow such an approach, as WWU would be fully funded over the life of the repex programme which stretches across several price control periods; and

(b) GEMA considered WWU's cost submissions as part of its standard approach to GD2, and GEMA has demonstrated that the increase in WWU's totex allowance would still have been much lower than WWU's indicated under-funding for repex, ie £4 million to £8 million higher, rather than the £76 million uplift WWU has requested.

15.129 Taking into account the latest available evidence, we consider the £4 million figure to be the most relevant estimate of potential under-funding on totex, rather than the £8 million figure based on the external bids received by WWU. We note that this £4 million figure is based on internal cost estimates from WWU and it is not clear to what extent such costs estimates reflect the full benefit of innovations such as those detailed in paragraph 15.82(c) or any other potential efficiencies that WWU may be able to identify over the course of the price control. In this context, we consider a potential shortfall of £4 million (equivalent to approximately 0.3% of totex funding) to be sufficiently small to conclude that a revised totex allowance based on WWU's updated repex costs would be substantially the same as GEMA's FD allowance for

[1360] Furthermore, as set out above, we observe that WWU's cost estimates have changed several times over the last couple of years, which reduces the confidence that GEMA can have in these estimates. We note that the latest estimates may be capable of reduction through further efficiency/innovation efforts by WWU.
[1361] WWU PD Response, paragraph C3.37

WWU, hence we do not find that GEMA erred in setting WWU's totex allowance.

Our conclusion

15.130 Overall we conclude that GEMA was not wrong in its GD2 Decision in its consideration of whether WWU's outperformance in GD1 could not be replicated in GD2. We also agree with GEMA that, in any case, WWU's ability to meet its repex allowance in GD2 should be considered alongside the wider totex assessment and that, in that context, the potential shortfall based on WWU's revised repex estimates is sufficiently small (0.3% of overall totex) that we conclude the revised allowance cannot be reliably said to be different from that allowed by GEMA. For these reasons, we find that GEMA has not erred in setting WWU's allowance.

15.131 We note that WWU contended in response to our provisional determination that we had failed to review its appeal on the merits and had ignored its evidence (and/or incorrectly restricted our review to the evidence that was before GEMA).[1362] As is evident from the passages above, this is not the case. We have carefully considered the totality of the evidence in this appeal (not simply the evidence before GEMA), but having examined it, we do not consider that it supports a finding that GEMA failed to apply the top-down model appropriately.

Our determination

15.132 For the reasons given above, we conclude that:

(a) GEMA did not act inconsistently or irrationally in its treatment of sparsity;

(b) GEMA did not fail to have regard, or give appropriate weight, to the relevant considerations outlined by WWU explaining why its situation differed from that faced by other networks; and

(c) GEMA did not fail to have regard, or give appropriate weight, to the relevant considerations outlined by WWU explaining why its outperformance in GD1 could not be replicated in GD2.

15.133 The fact that there was a gap between WWU's allowance for repex work and WWU's estimate of the cost of conducting this work is not evidence that GEMA wrongly set WWU's repex allowance too low. Our conclusions on the three points above mean that the repex allowance which GEMA set was sufficient for an efficient firm to undertake the repex work in WWU's network.

[1362] WWU PD Response, paragraphs C2.4, C2.5, C3.2 and C3.11.

Since WWU has not demonstrated that GEMA underfunded repex work in its network, its policy arguments that the allowance would negatively impact consumer safety and the efficiency of the gas network must also fail.

15.134 We therefore determine that GEMA was not wrong in its Decision on the repex allowance for WWU, and dismiss this ground of appeal.

16. WWU Head F: Tax clawback

Introduction

16.1 WWU's Head F relates to the way in which GEMA applies a policy described as 'tax clawback'. The tax clawback policy is designed to pass through to customers any tax benefits from higher gearing. WWU disagreed with GEMA about whether, and to what extent, reported movements on WWU's derivatives should be included within the measure of interest used to calculate the level of tax clawback.

16.2 As interest on debt is tax deductible, highly geared networks pay less tax than they otherwise would. Were there to be no tax clawback policy, these networks would, as part of their price control settlement, receive allowances for tax they do not in fact pay.

Background

16.3 In this section we provide background information on:

(a) Financial instruments (including derivatives); and

(b) the development of GEMA's tax clawback policy since its introduction.

Financial instruments

16.4 A financial instrument is any contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another entity. Financial instruments include both primary financial instruments — such as bonds issued to finance a firm's operations — and derivative financial instruments.[1363] A derivative financial instrument is an instrument that derives its value from the price or rate of some underlying item. Underlying items include bonds, interest rates, exchange rates and stock market and other indices.[1364]

16.5 As discussed in respect of Head A of WWU's appeal (see Chapter 14), some network operators use derivative financial instruments in combination with primary financial instruments. For example, a network operator might issue debt which pays a fixed rate of interest ('coupon') over its term but seeks to replicate index-linked debt by taking out a suitable derivative financial

[1363] FRS 13: Derivatives and other financial instruments disclosures, page 13.
[1364] FRS 13: Derivatives and other financial instruments disclosures, page 12.

instrument to swap the fixed rate of interest due on their primary financial instrument for an index-linked rate of interest.

Derivatives

16.6 Derivative financial instruments come in various forms. The derivatives that network operators take out are primarily interest rate derivatives. These have the following in common:

(a) The specification of a (notional) principal amount in £;

(b) A formula for determining the interest payable (fixed rate of interest, floating rate of interest or RPI-linked); and

(c) A formula for determining the interest receivable (fixed rate of interest, floating rate of interest or RPI-linked).[1365]

16.7 When entering into interest rate derivatives, at the day they are taken out, the normal approach is that there is no upfront payment or receipt, and therefore that the 'payable' leg will have the same expected value as the 'receivable' leg.[1366]

16.8 Firms take out derivatives to alter their exposure to developments in the price or cost of servicing their primary financial instruments. When entered into, the expected value of derivatives is zero.[1367] This reflects an exchange between parties who are respectively swapping one exposure for another at then market prices.

WWU's derivative financial instruments

16.9 WWU has taken out two sorts of derivatives, namely:

(a) Interest rate swaps

(b) Inflation swaps

Interest rate swaps

16.10 We understand WWU has entered into interest rate swaps where it exchanges one series of interest payments on a defined principal amount with

[1365] Based on *Friend 1 (GEMA)*, paragraph 140.
[1366] In practice, this is only so only once counterparty bank transaction charges that are implicit within the derivative contract are allowed for. It is through the charging of these implicit transaction fees that counterparty banks seek to make a profit.
[1367] The accounting convention is to treat the counterparty bank's implicit transaction fees as an element of interest payable to the counterparty bank and therefore factored into the zero expected value at the outset.

another series of interest payments. The most common type of such swaps is to exchange fixed interest for floating interest. These swaps will be specified as per paragraph 16.6.

Inflation swaps

16.11 WWU has entered into a number of swaps which, when combined with its bond debt, have the effect of creating an obligation to pay interest on an index-linked basis, ie interest that increases and decreases with the level of underlying inflation. This form of inflation-linked financing is commonly used by network companies, as price-controlled revenues also increase and decrease in line with inflation.

16.12 This form of derivative is comprised of three elements of 'interest' on the notional principal sum:

(a) a fixed rate of interest payable (designed to reflect an expected real level of interest)

(b) a specified measure of inflation payable (which in combination with the above, to form an index-linked rate of interest payable)

(c) a fixed rate of interest receivable (normally designed to reflect an expected nominal level of interest)

16.13 One of the characteristics of index-linked bond debt is that the inflation-linked part of interest payable is added to the principal during the life of the bond, and therefore is only paid out to holders of that debt when the principal is re-paid at the end of the debt term. We understand that the kind of inflation swaps used by WWU to a certain extent replicate this feature.[1368] The element of interest payable related to inflation, as per 16.12(b) above, is only settled every few years, typically every three or five years. Although the inflation-linked element of interest on these bonds and derivatives is not necessarily paid (ie settled) each year, they still represent a cost in those years. As a result, normal reporting conventions apply as set out in paragraph 16.16 below with this interest being reported as a finance charge within the relevant periods and the sum owed shown as an accrual in the balance sheet. This process of rolling up interest is called interest accretion.

16.14 In summary, firms can use inflation swaps, in conjunction with debt they have issued with a nominal coupon rate, to synthetically create index-linked debt. Network operators can use this index-linked debt to match the nature of the

[1368] The inflation element of WWU's inflation swaps are settled every three years. See *Harandy 1 (GEMA)*, paragraph 25.

revenue stream they are awarded under their price control, which is also linked to inflation, and therefore better match revenues received under the price control with payments out to holders of debt.

- *WWU's financial instruments*

16.15 [✂].[1369]

Accounting for derivatives

16.16 Up until relatively recently most firms only reported interest relating to the current period on the derivatives they held within their accounts. Both interest payable and receivable, including any elements linked to an inflation index, that was incurred or earned in respect of the period would be reported as a financing charge within the profit and loss account. Likewise any amounts due or payable in respect of interest charges at the balance sheet date would be reported as a debtor (accrued income) or accruals (an accrued expense).

16.17 For firms that report under International Financial Reporting Standards derivatives came on balance sheet in 2005. For other UK firms that requirement came in with the introduction of Financial Reporting Standard 102 (**FRS102**)[1370] in 2016. Bringing derivatives on balance sheet has implications for reporting of the finance charge within the profit and loss account. As a result, the finance charge may need to include an adjustment, so that changes in market value of the derivatives from one balance date to the next[1371] are appropriately reflected. This adjustment is called the fair value adjustment and relates to interest payable / receivable in relation to future periods (ie beyond the balance sheet date) in respect of derivatives held by the firm.

The development of GEMA's tax clawback policy

16.18 In the price control period before RIIO-1, GEMA identified the need to put in place a tax clawback policy. The concept of a tax clawback policy has also been applied by other regulators.[1372] This section sets out the process by which and the legal instruments through which GEMA designed and

[1369] [✂].
[1370] FRS 102, The Financial Reporting Standard applicable in the UK and Republic of Ireland, Financial Reporting Council (FRC), September 2015.
[1371] These changes in market value will relate to interest payable or receivable relating to periods beyond the balance sheet date.
[1372] Both the Civil Aviation Authority's RP3 determination and Ofwat's PR19 determinations recently reviewed by the CMA included a tax clawback policy.

implemented its tax clawback policy pre RIIO-1 and throughout RIIO-1 and RIIO-2.

16.19 The process by which GEMA re-calculates annually each licensee's allowed revenue by updating the forecast values set at FD for actual outturn data is called the Annual Iteration Process (**AIP**).[1373] This process is not specific to tax clawback.

16.20 GEMA implements its tax clawback policy via two documents which are incorporated in the licence by reference, and which it collectively terms 'Price Control Financial Instruments':[1374]

(a) The Price Control Financial Model (**PCFM**): The PCFM is the financial model that derives the incremental changes to base revenue during the price control period.[1375]

(b) the Price Control Financial Handbook (**Handbook**): This document gives a description of PCFM, and the AIP for it, that is used to calculate licensees' allowed revenue during the course of the price control period.[1376]

Pre RIIO-1 (GDPCR1)

16.21 Following a consultation process, GEMA set out its policy on tax clawback by way of an Open Letter in 2009 (**2009 Open Letter**).[1377]

16.22 According to the 2009 Open Letter, the intention was to claw back from licensees the revenue benefit they obtained from lower tax costs as a result of high gearing. The clawback would be triggered when in any year:

(a) actual gearing exceeded notional gearing; and

(b) interest costs exceeded those modelled at the relevant price control.

16.23 The 2009 Open Letter explained that, when both of these conditions were satisfied, GEMA would clawback the tax benefit which resulted from the difference between actual and modelled interest costs in that year.[1378]

[1373] *Harandy 1 (GEMA)*, paragraph 19, footnote 8.
[1374] These documents are themselves licence instruments.
[1375] *Harandy 1 (GEMA)*, paragraph 22, footnote 14.
[1376] Handbook for GD2, first published 17 December 2020, version 1.1, page 1.
[1377] 2009 Open Letter, 31 July 2009.
[1378] 2009 Open Letter, page 1.

16.24 The 2009 Open Letter noted that the clawback adjustments for the then current price control period would be made at the next Price Review, ie RIIO-1.[1379]

RIIO-1 price control

16.25 GEMA enacted its tax clawback policy within price control licence conditions for RIIO-1, which ran from 2013 to 2021. GEMA referred to the 2009 Open Letter in the Handbook for GD1,[1380] one of the Price Control Financial Instruments that has the same status as a licence condition. It did so by the following means:

(a) a legacy adjustment in relation to the previous price control was detailed in part 2 of Chapter 10 (Legacy price control adjustments) of the Handbook for GD1;[1381] and

(b) an in-period tax clawback mechanism was incorporated in Part B of Special Licence Condition 3C (Specified Financial Adjustments) with effect from 1 April 2013. Part B provided for the determination and direction by GEMA of revised PCFM variable values for the relevant network operator for tax liability revenue allowance adjustments in respect of the network operator's gearing levels and corporate debt interest costs. The implementation of the mechanism was further detailed in part 3 of Chapter 4 (Tax liability allowances) of the Handbook for GD1.[1382]

2015 correspondence

16.26 WWU wrote to GEMA in June 2015 seeking guidance, amongst other things, as to the correct treatment of the inflation expense on RPI derivatives for the determination of actual interest for the purposes of tax clawback.[1383]

16.27 GEMA replied in July 2015 (**2015 Letter**) advising that:

> Although interest on indexed linked debt is included in tax deductible net interest paid values for tax clawback calculations, expenses (or income) associated with derivatives are not.
>
> ….
>
> Inflation related expenses and income both accrued and actual should be excluded from the value for adjusted tax deductible net

[1379] 2009 Open Letter, page 4.
[1380] Handbook for GD1, 1 February 2013, for example at page 82.
[1381] *Harandy 1 (GEMA)*, paragraph 21.
[1382] *Harandy 1 (GEMA)*, paragraph 22.
[1383] Letter from WWU to GEMA, 22 June 2015.

interest paid for the purposes of RIIO GD1 tax clawback adjustment calculations.[1384]

Developments in reporting of financial performance under RIIO price control

16.28 GEMA has a long-established regulatory reporting mechanism for network operators which are referred to as the Regulatory Instructions and Guidance (**RIGs**).

16.29 On 2 August 2018, GEMA announced by way of an open letter that, following a review, it wanted to see a step change in how financial performance under RIIO price controls was reported by network operators.[1385] A key proposal was to require additional reporting to provide insight into the impacts of each network operator's level of gearing, cost of debt, and actual tax payments on its returns under the price controls which, GEMA explained, current reporting did not easily allow. GEMA labelled this reporting initiative Regulatory Financial Performance Reporting (**RFPR**). Guidance and templates it was currently developing, GEMA explained, would include the accounting standards that it expected companies to adhere to, and establish common and consistent methodologies in how key financial data (such as the actual cost of debt, gearing and tax liabilities) was reported.[1386]

16.30 GEMA set out that it considered a key reporting requirement for each network operator was its Return on Regulatory Equity (**RoRE**)– including and excluding finance and tax; and based on actual as well as notional gearing. Network operators would also be required to reconcile their RFPR reports to their own:

(a) Statutory Accounts;

(b) HMRC corporation tax returns – CT600; and

(c) PCFM.[1387]

16.31 On 13 March 2019 GEMA sent an open letter to gas distribution network operators stating that it was now proposing for comment modifications to the existing reporting regime (the RIGs) for gas network operators to include the RFPR requirement. GEMA explained that if it implemented the changes, they would take effect in April 2019, meaning that data submitted in July 2019 (in respect of the 2018/19 reporting year) would use the RIGs as modified.[1388]

[1384] 2015 Letter, 13 July 2015.
[1385] RIIO Accounts way forward and alternative approach, 2 August 2018.
[1386] RIIO Accounts way forward and alternative approach, pages 1 and 2.
[1387] RIIO Accounts way forward and alternative approach, pages 2 and 3.
[1388] Open letter from Ofgem to Gas Distribution Licence Holders, 13 March 2019, pages 1 and 2.

16.32 On 30 April 2019 GEMA issued a direction to licensees, including WWU, which provided a link to the following documents:

(a) RIIO Regulatory Financial Performance Reporting – Regulatory Instructions and Guidance; and

(b) RIIO Regulatory Financial Performance Reporting – Template.[1389]

16.33 We refer to the first of these documents as the **RFPR Decision**.[1390]

16.34 One instruction for completion within the RFPR Decision was, in respect of Tab *R7 Financing* of the accompanying template, the following:

> Row 28 - Net Interest Per Regulatory (RIIO-1) Definition actuals should reconcile to previous RIGs reported Net Debt & Tax Clawback Inputs to previous Tax Clawback Calculations.[1391]

RIIO-2 price control

16.35 GEMA re-enacted its tax clawback policy within price control licence conditions for RIIO-2. GEMA referred to the 2009 Open Letter in the Handbook for GD2,[1392] one of the price control financial instruments.

PCFM Guidance

16.36 On 12 April 2021 GEMA consulted on the introduction of a new Associated Document,[1393] namely the RIIO-2 PCFM Guidance.[1394]

16.37 The purpose of that guidance was as follows:

> The proposed drafts set out guidance and instructions to help licensees update the variable values in the Price Control Financial Model (PCFM) for the first Annual Iteration Process submission as well as the reporting templates, which licensees need to fill out to calculate some of these variable values.

16.38 This PCFM Guidance was intended, amongst other things, to cover the annual adjustment to allowances for tax clawback.

[1389] RIIO Regulatory Financial Performance Reporting – Template, 30 April 2019.
[1390] RFPR Decision, 30 April 2019.
[1391] RFPR Decision, page 15.
[1392] Handbook for GD2, page 49.
[1393] These are documents created under the licence conditions that supplement those conditions and are subordinate to them. Source for this explanation here.
[1394] Contained within the RIIO-2 PCFM Guidance documents – zipped folder found on the PCFM Guidance consultation landing page.

The RIIO-2 Decision

16.39 As part of the decision to implement price control licence conditions for RIIO-2, GEMA imposed the PCFM and the Handbook for GD2 (which are an integral part of Special Condition 8.1 of WWU's licence). Taken together, these two documents, along with the PCFM Guidance, aim to set out both GEMA's tax clawback policy and the mechanism through which tax allowances are clawed back.

Preliminary issue(s): whether GEMA had made an appealable decision re its tax clawback policy

16.40 WWU and GEMA disagreed on whether there was an appealable decision regarding GEMA's tax clawback policy in respect of the RIIO-2 price controls. More specifically WWU and GEMA disagreed over whether a price control licence condition had been modified.

At permission to appeal stage

GEMA's submissions

16.41 In its submissions on permission to appeal, GEMA submitted that 'no… changes have been made since the tax clawback mechanism was set out in GEMA's 2009 Open Letter'.[1395] GEMA said that 'the key premise of WWU's Sixth Ground of Appeal is that the inclusion of interest liabilities under derivatives (such as swaps) in the price control tax clawback calculation is "Ofgem's newly adopted position"… That is wrong. The inclusion of interest payments on derivatives in the definition of "actual interest" for the purposes of the tax clawback is clear from the terms of the 2009 Open Letter (which is incorporated into Part B of Licence Special Condition 3C of the Gas Transporter Licence …), once the distinction between interest liabilities (including index-linked interest liabilities) and "fair value adjustments" is understood.'[1396]

16.42 GEMA added that on 13 March 2019, it consulted on certain proposed changes to the RIGs, including the following note: 'We would expect Net Interest Per Regulatory (RIIO-1) definition to include all inflation derivative payments that attract tax relief (because that is the definition used for tax clawback)…'.[1397] GEMA contended that WWU was aware of this consultation as evidenced by its response to GEMA.[1398] GEMA submitted that on 30 April

[1395] GEMA's submissions on permission to appeal finance issues and TNUoS, paragraph 21.
[1396] GEMA's submissions on permission to appeal finance issues and TNUoS, paragraph 32.
[1397] GEMA's submissions on permission to appeal finance issues and TNUoS, paragraph 29.
[1398] GEMA's submissions on permission to appeal finance issues and TNUoS, paragraph 30.

2019, it published the RFPR Decision updating the RIGs so as to, inter alia, incorporate the language set out above and that it can be inferred that WWU was aware of the final RIGs document given its participation in the consultation.[1399]

16.43 GEMA said[1400] that to put the point another way, it had not made any modifications to the Gas Transportation Licence Conditions concerning the treatment of interest payments on derivatives for the purposes of the tax clawback and that there was accordingly no 'decision by GEMA to proceed with the modification of a condition of a licence under section 11A' that was susceptible to appeal under section 11C(1) of EA89.[1401]

WWU's submissions

16.44 In March 2021, for the purposes of assessing whether to grant permission to appeal, the CMA wrote to WWU saying that GEMA had challenged WWU's ground on tax clawback on the basis that it had not issued a licence modification in respect of the tax clawback policy. The CMA asked WWU to identify at which element of the licence modifications issued on 3 February 2021 the ground on tax clawback was directed.[1402]

16.45 WWU responded to the CMA's letter, stating that the licence modification which WWU was appealing was made by GEMA on 3 February and that it took effect by virtue of a statutory notice published on that date. WWU explained that paragraph 2 of the statutory notice made clear that the modifications, consistent with the consultation previously carried out by GEMA entailed 'a. removing the existing Special Conditions', and 'b. inserting new Special Conditions.' WWU added that, to be clear, this meant that 'the modifications involve the complete deletion of all of the existing special conditions in the WWU licence, and their replacement by an entirely new set of special conditions.'[1403]

16.46 WWU specified that the special conditions that were the subject of this modification decision were:[1404]

(a) everything that formed part of the section of the WWU licence headed 'Special Conditions', namely special conditions 1.1 to 9.12 inclusive; and

[1399] GEMA's submissions on permission to appeal finance issues and TNUoS, paragraph 31.
[1400] GEMA's submissions on permission to appeal finance issues and TNUoS, paragraph 33.
[1401] We understand that GEMA meant to refer to section 23B of GA86.
[1402] CMA letter to WWU, 23 March 2021.
[1403] WWU letter to CMA, 26 March 2021, paragraphs 2–4.
[1404] WWU letter to CMA, 26 March 2021, paragraph 6.

(b) the two documents known as the PCFM and the Handbook for GD2, which have the form of separate documents but are in fact an integral part of Special Condition 8.1.

16.47 WWU explained that tax clawback was part of the subject matter of both the new PCFM and the new Handbook and that tax clawback therefore formed part of the licence modification decision which was being challenged.[1405]

16.48 Although GEMA had set out its tax clawback mechanism in its 2009 Open Letter, WWU submitted, that letter had no legal status in its own right. The status and effect of the 2009 Open Letter in GD2 was therefore entirely dependent on the content of the licence conditions introduced by the decision of GEMA on 3 February 2021. The legally operative decision was made on that date, not in 2009.[1406]

16.49 The issue of tax clawback and the manner in which it was addressed in the newly-introduced special conditions was part of the licence modification decision made by GEMA and, WWU submitted, had been properly appealed.[1407]

Decision on permission to appeal

16.50 On 31 March 2021, an Authorised Member of the CMA granted WWU permission to appeal on the tax clawback ground, finding that:

> At permission stage, I am required to consider whether a ground of appeal is trivial, vexatious, or has no reasonable prospect of success. A detailed comparison of complex documents to determine the application and/or effects of a particular policy, before and after a change in wording, goes beyond that exercise. I express no view here on the correctness of GEMA's submission that the effects of the tax clawback policy are unchanged, nevertheless I am satisfied that there is a modification of a condition of a licence to direct an appeal against.[1408]

At appeal stage

GEMA's submissions

16.51 In its Response to WWU's NoA, GEMA reiterated its arguments made at the permission stage, namely that it had made no changes in substance to its

[1405] WWU letter to CMA, 26 March 2021, paragraph 8
[1406] WWU letter to CMA, 26 March 2021, paragraph 11.
[1407] WWU letter to CMA, 26 March 2021, paragraph 13.
[1408] WWU decision on permission to appeal, paragraph 15.

approach to the treatment of interest payments on derivative instruments since its 2009 Open Letter. The approach to the treatment of interest payments was not something which had been specifically addressed in the RIIO-2 FD.[1409] There was, GEMA submitted, accordingly, no 'decision by GEMA to proceed with the modification of a condition of a licence' that would be susceptible to appeal under section 23B of GA86.[1410]

16.52 GEMA submitted that although there had been a modification to the manner in which the policy had been implemented which involved a modification of a condition of a licence, GEMA had not made any modification to the Gas Transportation Licence Conditions concerning the treatment of interest payments on derivatives for the purposes of the tax clawback and that there was accordingly no decision susceptible to appeal. Further, GEMA submitted that the 2009 Open Letter had also been referenced in the Handbook for GD1. GEMA's decision on the treatment of interest payments on derivatives was historic (dating from 2009, or at the latest 2019 – see paragraph 16.42 above).[1411,1412]

16.53 GEMA submitted that, were there to be a change to its treatment of interest, that would be a matter which would be addressed in future PCFM Guidance which would sit alongside the RIGs.[1413] GEMA was currently consulting on that Guidance.[1414,1415] Its purpose, GEMA explained, was much like the RIGs in that it would provide guidance and instructions to network companies on how they should fill out the variable values in the PCFM ahead of each AIP.[1416]

16.54 The key premise of WWU's ground of appeal, GEMA submitted, was that the inclusion of interest liabilities under derivatives (such as swaps) in the price control tax clawback calculation was its 'newly adopted position.'[1417] That was wrong: the inclusion of interest payments on derivatives in the definition of 'actual interest' for the purposes of the tax clawback was clear from the terms of the 2009 Open Letter (which was incorporated into Part B of Licence Special Condition 3C of the Gas Transporter Licence), once the distinction

[1409] GEMA Response A, paragraph 466.
[1410] GEMA Response A, paragraphs 467 and 490.
[1411] GEMA referred to *Harandy 1 (GEMA)*, paragraphs 50–62 for a description of the changes to the implementation mechanism of its tax clawback policy for the GD2 price control.
[1412] GEMA Response A, paragraph 469.
[1413] GEMA Response A, paragraphs 466 and 490.
[1414] PCFM Guidance consultation landing page and draft GD2 PCFM Guidance, 'first publication' 1 June 2021. This consultation was launched on 12 April 2021 and closed on 11 May 2021.
[1415] *Harandy 1 (GEMA)*, paragraph 50.
[1416] *Harandy 1 (GEMA)*, paragraph 59.
[1417] GEMA Response A, paragraph 482.

between interest liabilities (including index-linked interest liabilities) and 'fair value adjustments' was understood.[1418]

16.55 GEMA submitted that WWU had not challenged the 2009 Open Letter and it was out of time to do so now. Nor had it challenged the RFPR Decision.[1419]

16.56 In response to an RFI dated 9 July 2021, GEMA submitted that there was nothing in the 2009 Open Letter (or the corresponding definition in the Handbook for GD1) which was unclear, since the definition of net interest would have been clear to regulatory finance professionals at that time and in any event the policy intent was clear (ie companies should not benefit from tax allowance where they did not pay tax). However, GEMA also stated that 'if the CMA were to reach the view that the position adopted in the Handbook for GD1 (which echoed the position in the 2009 Open Letter) was unclear, then it would be for the CMA to determine whether any subsequent change amounted to a modification of the licence such that the CMA's jurisdiction was engaged. That would be a question of law for the CMA.' GEMA said that its position was that the CMA's jurisdiction was not engaged by changes to the RIGs in circumstances where, as here, there was no alteration to the substantive conditions of the licence.[1420]

WWU's submissions

Reply to GEMA's 'core objection' to WWU's grounds of appeal

16.57 In its Reply to GEMA, WWU submitted that, as a matter of law, the decision to allow the appeal had already been made by the CMA, rendering the matter res judicata[1421] for the purposes of this appeal. The question of whether WWU's appeal was out of time and should be rejected was no longer open.[1422]

16.58 WWU submitted that, as a matter of fact, GEMA's assertion that its policy had, ever since 2009, been clear, stable and consistent with its current position was fanciful, even on the basis of its own witness evidence.[1423] GEMA, WWU submitted, could not credibly make this assertion in light of the facts.[1424]

16.59 During the main hearing, we told WWU that we understood the point it had made at permission to appeal stage, namely that 'the modifications involve

[1418] GEMA Response A, paragraph 483.
[1419] GEMA Response A, paragraph 484.
[1420] GEMA, RFI GEMA 019, response to question 1.
[1421] A matter that has been adjudicated by a competent court and therefore may not be pursued further by the same parties.
[1422] WWU Reply, paragraph F3.4.
[1423] WWU referred to *Harandy 1 (GEMA)*.
[1424] WWU Reply, paragraph F3.5.

the complete deletion of all of the existing special conditions in the WWU licence, and their replacement by an entirely new set of special conditions.'[1425] However, we asked WWU whether, assuming that that was incorrect, if the CMA thought that GEMA's interpretation of the previous licence condition was correct, then would it follow that there has not been a modification. WWU responded that 'if there is a lack of clarity and if in the context of GD2 that clarity is being supplied, I would say that should be treated as being a change of approach; … And even if that is Ofgem … simply taking what it had said in the past, which was ambiguous and silent on key points and now locking that down in a way which puts it beyond doubt, that is itself a change which is sufficient to engage the jurisdiction of the CMA.'[1426]

Regulatory reporting licence conditions

16.60 In addition, WWU noted that GEMA had sought to place some weight on changes it made to RIGs in 2019[1427] under which GEMA 'clarified the definition of net interest and net debt'. WWU submitted that GEMA claimed that that was a decision-point triggering a right for WWU to judicially review its policy, in the absence of which challenge GEMA had argued that the issue was now 'out of time'.[1428]

16.61 WWU submitted that the RFPR Decision was merely a set of reporting requirements. The licence condition under which they were made[1429] was not part of the price control licence conditions and therefore provided no legal basis for GEMA to change:

(a) price control allowances;

(b) the Price Control Financial Instruments;

(c) the operation of the AIP;

(d) the tax clawback policy; or

(e) the definition of any terms applicable to any of the above.[1430]

[1425] WWU letter to CMA, 26 March 2021, paragraphs 2–4.
[1426] WWU Main Hearing Transcript, 1 July 2021, pages 77–78.
[1427] WWU cross-referred to GEMA Response A, paragraphs 476–480.
[1428] WWU Reply, paragraph F3.7.
[1429] WWU referred to Standard Special Condition A40, the reporting licence condition within the Gas Transporters Standard Special Conditions.
[1430] WWU Reply, paragraph F3.9.

16.62 WWU submitted that the RFPR Decision was legally inoperative as far as the price control was concerned. Legally-inoperative decisions neither could, nor needed to, be subject to judicial review.[1431]

16.63 WWU submitted that GEMA had communicated to it at the time that 'the intention was certainly not to change any definitions for tax clawback purposes'.[1432]

Whether the policy was settled

16.64 WWU also referred to its correspondence with the Deputy Director Regulatory Finance at Ofgem about the letter GEMA was proposing to send to 'grandfather' the effect of the 2015 Letter during the GD2 period. When WWU expressed its concern that this treatment should be made clear on the face of the licence, GEMA replied to the effect that this was unnecessary, and that the letter could be effective on the same basis that the 2015 Letter was.[1433]

16.65 WWU argued that this showed that GEMA appeared to consider the price control legal framework to be sufficiently mutable that it could apply radically different policies on tax clawback – whether to one licence holder at different times, or (presumably) to different licence holders, at its own election – depending on the content of side correspondence.[1434] WWU also submitted that this firmly 'gave the lie' to the contention that the policy was settled and locked down by virtue of a letter written in 2009.[1435]

Our assessment on whether GEMA had made an appealable decision

16.66 The issue of whether there has been an appealable decision in relation to tax clawback is not a straightforward one.

16.67 Contrary to what WWU has submitted, the matter is not res judicata. The decision taken by the Authorised Member of the CMA at the permission to appeal stage was limited to finding that WWU's ground of appeal was not trivial, vexatious, and that it was not possible to conclude that it had no reasonable chance of success. In no way did the Authorised Member of the CMA make a definitive decision on whether or not there is an appealable decision. Indeed, the Authorised Member expressed no view on the correctness of GEMA's submission that the effects of the tax clawback policy were unchanged. That issue is for us to determine as part of the appeal. The question we have considered is whether there has been a 'decision by

[1431] WWU Reply, paragraph F3.9.
[1432] WWU referred to *Weldon 2 (WWU)*, paragraph 4.19(g).
[1433] WWU Reply, paragraph F3.11.
[1434] WWU Reply, paragraph F3.12.
[1435] WWU Reply, paragraph F3.13.

[GEMA] to proceed with the modification of a condition of a licence' that would be susceptible to appeal under section 23B of GA86.

16.68 Contrary to what has been submitted by WWU, in order to find that there has been a decision to proceed with the modification of a condition of a licence, it is not sufficient to find that all of the existing special conditions in the WWU licence have been completely deleted and replaced by an entirely new set of special conditions. We are required to determine whether there has been a substantive change to the licence condition as opposed to a mere formalistic one. We will not find that there has been a modification to a licence condition if in substance the 'new' licence condition is maintaining a previous condition.

16.69 In response to our provisional determination on this issue, WWU argued that there was no need to determine whether there had been a substantive change to the licence condition. WWU argued that such an approach would effectively introduce a new gateway test which found no basis in the relevant legislation.[1436] We disagree. The legislation makes clear that an appeal lies against a decision to proceed with a 'modification' of a condition of a licence.[1437] In our view, properly interpreted, the Act requires a substantive change in order for a right of appeal to arise.

16.70 The question as to whether there has been a substantive change to the licence condition is not easy to determine. On the one hand, we agree with GEMA that there has not been any change on the face of the licence itself. GEMA's tax clawback policy is set out in the 2009 Open Letter which is referenced in the Handbook for GD2 and which is an integral part of Special Condition 8.1 of WWU's licence under GD2.

16.71 On the other hand, we agree with WWU to the extent it has identified aspects of the 2009 Open Letter which lack clarity and contain internal contradictions. In such circumstances, it might be possible to find that there had been a decision to modify a licence condition that was capable of appeal if the correct interpretation of the 2009 Open Letter under GD1 differed from the way in which GEMA sought for it to be interpreted under GD2, ie if we decided that the 2009 Open Letter under GD1 should be interpreted as excluding some movements on inflation-linked swaps which, in the RFPR Decision, GEMA confirmed should be included. In that case, it could be argued that there had been a substantive change to the licence condition. By contrast, if we concluded that the 2009 Open Letter under GD1 should be properly interpreted as including some movements on inflation-linked swaps, then we

[1436] WWU Response to PD, paragraphs F3.2 d) and F3.3.
[1437] GA86, section 23B(1).

could conclude that there had been no decision to modify a licence condition that was capable of appeal.

16.72 In this case, however, we do not have to reach a definitive position on whether GEMA has made an appealable decision given that, as will be explained below, we have found that GEMA was not wrong to set the policy it did in RIIO-GD2 in respect of the measure of interest for tax clawback purposes. Indeed, the question of whether there is an appealable decision would only be relevant if we found that GEMA was wrong in relation to its approach to tax clawback in RIIO-GD2. In other words, remedial action would only be appropriate if we found that there was both an appealable decision and that GEMA had erred in its approach.

The ground of appeal

16.73 WWU is appealing against the policy of including the interest associated with derivatives within the assessment of tax clawback, both going forwards into RIIO-2 as well as historically.

16.74 WWU submitted that GEMA's tax clawback policy was inconsistent and irrational, in breach of legitimate expectation, in breach of requirements to consult, and lacking in policy justification of any kind. It was consequently wrong in law (section 23D(4)(e) of GA86).[1438]

16.75 WWU submitted that GEMA's tax clawback policy would also have a material adverse effect on its revenues, and accordingly had failed to have proper regard (section 23D(4)(a) of GA86) or give appropriate weight (section 23D(4)(b) of GA86) to its financing duty.[1439]

16.76 The errors that WWU alleged in its NoA were:

(a) lack of logical coherence;

(b) breach of legitimate expectation; and

(c) resiling from previous position without consultation.

Our approach to analysis and assessment

16.77 We find it helpful to articulate the errors alleged by WWU for the purposes of our assessment as follows:

[1438] WWU NoA, paragraph F3.2.
[1439] WWU NoA, paragraph F3.3.

(a) Was the tax clawback policy wrong because it included derivatives within the measure of interest for tax clawback purposes (alleged lack of logical coherence)?

(b) Was the tax clawback policy wrong because it set a policy for RIIO-2 which breached an alleged legitimate expectation set out in the 2015 Letter (alleged breach of legitimate expectations, looking forwards)?

(c) Was the tax clawback policy wrong in seeking to recover tax clawback from before RIIO-2 (alleged breach of legitimate expectations, looking backwards)?

(d) Did the various alleged procedural deficiencies, not least the alleged lack of consultation on the alleged change in policy, make the tax clawback policy wrong (alleged procedural deficiencies)?

16.78 We analyse each issue in turn below.

Alleged lack of logical coherence

WWU's submissions

16.79 WWU submitted that the 2015 Letter had established a position that was logically coherent. GEMA: (i) excluded derivatives from its calculation of the cost of debt, and (ii) also excluded them from the calculation of tax clawback. WWU submitted that so long as (i) remained the policy, it was consistent that (ii) should also be the policy.[1440]

16.80 WWU further submitted that it was inconsistent of GEMA to say that, for the purposes of tax clawback, derivative payments 'should be treated in the same way that interest on index-linked debt is treated', [1441] while at the same time maintaining that, for the purposes of the cost of debt, derivatives and index-linked bonds should be sharply distinguished.[1442] It was inconsistent of GEMA to make no allowance for derivative payments in setting the cost of debt, thereby requiring WWU to bear those costs in full, while demanding that any offsetting tax benefit was handed back to consumers.[1443]

16.81 WWU submitted that the calculation of interest payments for the purposes of the cost of debt and of tax clawback must be on a like-for-like basis. GEMA's

[1440] WWU NoA, paragraph F3.1 (d).
[1441] WWU referred to *Harandy 1 (GEMA)*, paragraph 64.
[1442] WWU referred to *Friend 1 (GEMA)*, paragraph 145.
[1443] WWU Reply, paragraph F2.6.

inconsistency was irrational, and therefore unlawful, and therefore wrong under section 23D(4) of GA86.[1444]

16.82 WWU submitted that GEMA's argument that the cost of debt allowance was based on a **notional** company whereas for tax clawback purposes was based on the circumstances of the **actual** company was merely a description of the inconsistency.[1445] (Emphasis added by WWU.) It was not a justification for the argument, still less a valid justification for it.[1446]

16.83 WWU further submitted that Ofwat's policy was consistent in its treatment of derivatives between cost of debt and tax clawback – derivatives were excluded.[1447]

16.84 WWU told us in its hearing that the 2009 Open Letter was 'very unsatisfactory'. In particular, when companies switched from old UK GAAP into the new accounting regimes, GEMA should have updated that letter. That would have been a good time to do it, because the letter relied on accounting treatment to a large extent. WWU explained that, in its view, the letter had fallen behind where the utility and accounting world had moved on to. As a result, the letter was both unclear and silent on the treatment of derivatives.[1448]

Interlinkage with WWU Head A on cost of debt

16.85 In section A of its NoA, WWU noted that it contended that derivatives should be included in the calculation of the cost of debt. WWU submitted that, if it were to succeed on that ground, it would accept that the logical consequence of that outcome would be that derivatives should also be included in the calculation of the tax clawback.[1449]

GEMA's submissions

16.86 GEMA submitted that there was a rationale for excluding derivatives from the allowed return on debt and an explanation as to why the position was different for tax clawback:

(a) The allowed return on debt was calibrated with reference to average debt costs, which did not explicitly include derivatives. However, in the FD, GEMA had confirmed that at the industry level, inclusion of derivatives in

[1444] WWU Reply, paragraph F2.7.
[1445] WWU referred to GEMA Response A, paragraph 494.
[1446] WWU Reply, paragraphs F3.20–3.21.
[1447] WWU Clarification Hearing: Opening Statement to the CMA, 14 May 2021, slide 25.
[1448] WWU Main Hearing Transcript, 1 July 2021, page 68, lines 12–20.
[1449] WWU NoA, paragraph F3.4(d).

this assessment would not have changed the RIIO-2 GD&T allowed return on debt calibration decision (ie a 10- to 14-year trailing average plus 0.25%) and inclusion of derivatives would not be expected to cause a revenue shortfall relative to the allowed return on debt. The allowed return on debt was provided on a notional company basis.

(b) The tax allowance was likewise set on a notional company basis, unless the conditions for tax clawback were met.

(c) The primary purpose of the tax clawback was not to adjust the notional [tax] allowance to an actual company allowance; its primary purpose was to remove the incentive, which would otherwise exist, for licensees to increase their gearing and lower their actual tax costs, while retaining the full tax allowance.[1450]

16.87 GEMA submitted that it believed that creating an incentive for companies to maintain excessive levels of gearing was not in the long-term best interests of consumers. The tax clawback was an adjustment directly referencing actual company circumstances where a company operated with both a level of gearing and an interest expense more than the notional company and as a result created an excessive tax shield. As set out above (in paragraph 16.86(c)), the purpose of the tax clawback mechanism was to claw back from licensees the revenue benefit they obtain from the excess tax deductibility of interest associated with excessive levels of debt.[1451,1452]

16.88 GEMA told us in its hearing that there was a question whether following FRS102 it should revisit the tax clawback mechanism more generally to look at whether some of those accounting changes, which might lead to tax charges on fair value movements, would lead it to revisit its tax clawback policy. GEMA further explained that one of the reasons why it stated in the FD that it was intending to consult on tax clawback was that it was a detailed and complex area that it had not consulted on for a while in terms of the overall policy. It wanted to hear from a broader set of stakeholders and 'not just one that stands to benefit commercially from understanding one element of it in one way or another'.[1453]

Our assessment and conclusions

16.89 The principal argument of WWU's appeal, as set out at paragraph 16.79, is that it is logically incoherent for GEMA to adopt one position regarding

[1450] GEMA Response A, paragraph 494.
[1451] GEMA referred to *Friend 1 (GEMA)*, paragraphs 148–150.
[1452] GEMA Response A, paragraph 494.3.
[1453] GEMA Main Hearing Transcript, 9 July 2021, page 116, lines 10–20.

derivatives for the purposes of setting cost of debt allowances and another position for the purpose of tax clawback. These are, however, two distinct purposes. The appropriate treatment of derivatives in each case are separate questions where different objectives come into play; it follows that it may be justified for GEMA to adopt differing positions in relation to these separate questions. We set out our assessment for the purpose of setting WWU's cost of debt allowance in WWW Head A: Cost of Debt (see Chapter 14). We set out our assessment for the purpose of tax clawback below. We refer to the different objectives of the cost of debt calculation and tax clawback calculation at paragraph 16.98 below.

16.90 As set out in paragraph 16.77, we frame our assessment of this alleged error under the question 'Was the tax clawback policy wrong because it included derivatives within the measure of interest for tax clawback purposes?'.

16.91 In considering whether GEMA's policy to include derivatives within the measure of interest for tax clawback purposes was wrong, we consider the following three questions, which, in our view, are relevant steps in the logic as to why GEMA included derivatives in tax clawback:

(a) Whether it is normal business practice to include derivatives within financing/financing costs;

(b) Whether it is wrong to seek to assess the position of the individual firm rather than a notional firm; and

(c) Whether it is wrong to seek to measure interest based on the firm's actual financing strategy rather than on an alternative notional financing strategy.

Whether it is normal business practice to include derivatives within financing/ financing costs

16.92 Tax clawback calculations rely on a measure of the financing costs of debt ie interest. In our view, interest on debt derivatives are as much a part of the measure of interest as the interest on primary debt instruments for the following reasons:

(a) firms, including network operators, finance their businesses and determine their interest rate profile[1454] using a combination of both

[1454] The interest rate profile refers to the characteristics of interest payable on the firms' debt instruments, including associated derivatives. This would include the tenor (length of time remaining before the contract expires), and also other characteristics of the interest rate payable, including whether interest rate payable is specified is fixed in nominal terms, floating or as a real rate plus a measure of inflation.

primary financial instruments and derivatives and, in principle, so could a notionally efficient network operator;

(b) both measures are treated as interest within accounts that firms prepare. Whilst recent accounting practice separates out interest on primary debt instruments from interest on derivatives, both items appear under the same umbrella heading of 'interest';[1455] and

(c) for tax purposes, interest on derivatives is included within the measure of total interest used when assessing an individual firm's tax liability.

16.93 As a starting point when considering what comprises interest of a regulated firm such as WWU, there is therefore a solid foundation for including interest related to both debt and any associated derivatives. This is in practice also WWU's position: it accepts that derivatives could be included but says that GEMA is wrong to do so while excluding the same derivatives when setting the cost of debt allowance. We therefore consider it is normal business practice to use derivatives to alter the expected interest rate profile on debt taken out, and for the resulting amounts owed (or owing) at period ends to be reflected within the balance sheet and the resulting interest payable in financing costs within the profit and loss account.

Whether it is wrong to seek to assess the position of the individual firm rather than a notional firm

16.94 We consider that, for the purposes of a calculation to adjust the tax allowances of an individual firm to reflect the actions of that firm, it is appropriate to seek to assess the position of that individual firm. That is the whole point of the tax clawback policy.

16.95 We recognise that there may be questions on how 'actual' firm and 'notional' firm are defined, particularly for firms with complex financing structures. However, in our view it is clear and not in dispute that the tax clawback mechanism is based on assessing the financing costs of an 'actual' firm.

16.96 We therefore consider it not wrong for GEMA to seek to assess the actual financial position of the individual firm rather than the costs of a 'notional' firm.

[1455] See Annual report and consolidated financial statements for the year ended 31 March 2012, pdf page 27 and Annual report and consolidated financial statements for the year ended 31 March 2020, pdf pages 53–54. Both obtainable for Wales and West Utilities Limited from Companies House (05046791).

Whether it is wrong to seek to measure interest based on the firm's actual financing strategy rather than on an alternative notional financing strategy

16.97 If the above two points are accepted, and given that we do not consider that WWU is seeking to dispute those points, then the alleged error is whether GEMA was wrong in how it calculated the interest incurred by the 'actual' firm for tax clawback purposes. In particular, GEMA calculated interest based on the 'actual' financing strategy, including derivatives, whereas WWU said GEMA should calculate interest on a basis which excluded derivatives, which we consider could be described as a 'notional' financing strategy. WWU's position is that GEMA's approach is wrong, as it is inconsistent with the position on the cost of debt.

16.98 For the purposes of measuring interest payable by the actual firm for the purposes of tax clawback policy, it is not necessary to consider some of the broader questions around the definition of interest, such as whether it was efficiently incurred. This contrasts with the position for measuring interest for the purposes of preparing the evidence base used to set cost of debt allowances, which is intended to provide an allowance for a notional company. The objective of the calculation of tax clawback is to calculate and claw back for consumers the tax benefits that the actual firm has gained from the financing actions it has taken to the extent that they differ from the notional company, whether taken efficiently or inefficiently.

16.99 As described above, it is therefore evident that the calculation of tax clawback needs to be based on actual financing, in that it is based on the consequences for tax payable of the differences between actual and notional financing decisions. Given that we also consider that derivatives are a normal part of financing strategy, and indeed that WWU has not disputed this, this would imply that the tax clawback policy would also include derivatives.

16.100 The tax benefit to a firm from deducting interest is a function of its actual interest charge, which will reflect actual financing, including derivatives, rather than the notional financing used in setting the cost of debt. As a result, the tax benefit will also be affected by the firm's choice of actual debt instruments, including the mix of floating and fixed rate debt and the use of bank and bond debt, as well as any related derivative instruments. There are therefore a number of differences between the financing assumptions used in measuring the 'actual' interest deductible for tax purposes and the measure of interest used to set the cost of debt allowances. Other than derivatives, WWU has not indicated that the other differences in financing policy between the actual and notional firm should be excluded when calculating interest for the purposes of tax clawback.

16.101 We recognise that there was evidence received during this appeal that the 'actual' interest under GEMA's definition for tax clawback may still differ from the 'actual' interest applied for tax purposes, in particular for WWU's derivatives.[1456] However, this does not change the question of whether it is right as a general principle to include or exclude derivatives in calculating the interest used for tax clawback, which was WWU's ground of appeal.

WWU's arguments in response to our provisional determination

16.102 In its response to our provisional determination, WWU pointed out that, whilst obligations arising from interest rate (real or nominal) derivative contracts might be presented as a financial liability within financial statements under FRS102, that did not mean that such derivatives provided debt finance.[1457] Rather such derivatives were used by WWU to achieve a target interest rate profile.[1458] WWU went on to note that GEMA agreed that interest rate derivatives were neither intrinsic to debt financing nor required for capital raising purposes.[1459]

16.103 WWU further submitted that the sole purpose of the tax clawback policy was to deter excess leverage.[1460] [1461] As its derivatives were not debt instruments, derivatives[1462] were, WWU argued, not relevant to assessing the extent of a firm's leverage.[1463] It was therefore wrong for us to state in our provisional determination that, because derivatives were part of normal financing strategies, derivatives must be included in clawback.[1464] The fact that, WWU contended, derivatives were Net Present Value (**NPV**) zero contracts ab initio fundamentally distinguished them from debt. That, WWU argued, necessarily meant that the tax clawback policy could not apply any incentive power (whether negative or positive) to derivative actions ab initio.[1465]

16.104 We agree with WWU that derivatives are generally not a means by which external investors provide finance to businesses. Derivatives such as those held by WWU are instead used to alter the interest rate profile of the

[1456] Based on submissions from WWU, we understand that its interest, calculated under FRS 102, also includes fair value adjustments that are excluded from interest under the tax clawback policy. See paragraph 16.17.
[1457] WWW Response to PD, paragraph F2.8.
[1458] WWW Response to PD, paragraph F4.1, commenting on paragraph 16.99 in the PD.
[1459] WWW Response to PD, paragraph F2.12.
[1460] Excess leverage refers to the situation where the finance provided by outside investors to fund a business disproportionally comes in the form of debt rather than equity finance, such that resilience of the business to withstand shocks is compromised.
[1461] WWW Response to PD, paragraph F4.1, commenting on paragraph 16.99 in the PD.
[1462] WWU pointed out at paragraph F2.8 there was one exception to this rule in that cross-currency swaps did provide finance to a business.
[1463] WWW Response to PD, paragraph F2.4.
[1464] WWW Response to PD, paragraph F4.1, commenting on paragraph 16.99 in the PD.
[1465] WWW Response to PD, paragraph F2.5 and F2.6.

primary financial instruments[1466] (ie debt) that WWU holds. As such they are part of the financial toolkit with which network firms are able to service their debt obligations.

16.105 However, the evidence does not support WWU's contention that the **sole** purpose of the tax clawback policy was to deter excess leverage. As stated in the 2009 Open Letter the tax clawback policy 'claws back from licensees the revenue benefits they obtain from lower costs as a result of higher gearing.'[1467] We note that including interest relating to derivatives would, all other things being the same, result in a calculation for the tax liability that more closely reflects what the individual firm would be required to pay. Therefore the treatment actually adopted by GEMA more closely reflects the implementation approach set out in the 2009 Open Letter than that proposed by WWU.[1468] We therefore do not consider that GEMA erred in adopting this approach.

16.106 In summary, we conclude that GEMA was seeking, in applying tax clawback, to identify a measure of interest for an actual financing structure. We consider that, for companies that choose to enter derivative contracts, the 'actual' financing structure would normally include derivatives as well as primary debt instruments. On that basis, we conclude that, rather than being incoherent by including derivatives, GEMA was in practice taking into account the different objectives it faced when defining a measure of interest for the purpose of, on the one hand, the cost of debt and, on the other, tax clawback. We therefore conclude that GEMA was not wrong to take a measure of actual interest which includes derivatives for tax clawback purposes.

Alleged breach of legitimate expectations

16.107 We include below our assessment of whether GEMA has breached any legitimate expectations. We have framed our assessment under two questions: (i) the alleged breach of legitimate expectations looking forwards and (ii) the alleged breach of legitimate expectations looking backwards.

[1466] We note that this is the way WWU describes the resulting balance sheet balances in its 2020 group financial statements. See note 14(e).
[1467] 2009 Open Letter, page 1.
[1468] The first paragraph of the 2009 Open Letter states 'The adjustment claws back from licensees the revenue benefit they obtain from lower tax costs as a result of high gearing.'

Alleged breach of legitimate expectations – looking forwards

WWU's submissions

16.108 WWU submitted that, on account of the significant amounts of RPI swaps and interest rate swaps within its debt portfolio,[1469] it had written to GEMA in 2015 seeking to clarify the treatment of derivatives under its 2009 Open Letter. GEMA responded stating in clear terms that derivatives should be excluded from actual interest for the purposes of tax clawback calculations (2015 Letter[1470]). WWU subsequently applied that approach to all clawback calculations for GD1.[1471]

16.109 WWU submitted that GEMA had had a clear policy on the treatment of derivatives for tax clawback purposes, as set out in the 2015 Letter, which had never been withdrawn.[1472] WWU had relied on that letter, and continued to rely on it. GEMA had previously acted in accordance with it.[1473] WWU contended that the 2015 Letter established a legitimate expectation in law as to the continuation of the policy set out in it as part of the price control arrangements.[1474]

16.110 WWU submitted that in October 2020 GEMA had, however, advised that derivatives should be included in tax clawback calculations. GEMA stated that it had updated its guidance by virtue of the RFPR Decision, claiming that the 2015 Letter was sent in error, and making it clear that the 2015 Letter would no longer be followed.[1475] Further dialogue had taken place between WWU and GEMA but GEMA's position that derivatives should be included in tax clawback calculations had not changed.[1476]

16.111 WWU submitted that GEMA had correctly identified that the test for a legitimate expectation was a promise that was 'clear, unambiguous and devoid of any relevant qualification'.[1477,1478] The 2015 Letter fell squarely within that description.[1479,1480] WWU submitted that the 2015 Letter had been designed to be relied upon by WWU, a point which GEMA had acknowledged

[1469] WWU NoA, paragraph F2.1.
[1470] 2015 Letter.
[1471] WWU NoA, paragraph F2.2.
[1472] WWU NoA, paragraph F3.1(a).
[1473] WWU NoA, paragraph F3.1(b).
[1474] WWU NoA, paragraph F3.1(c).
[1475] WWU NoA, paragraph F2.7.
[1476] WWU NoA, paragraph F2.8.
[1477] WWU referred to GEMA Response A, paragraph 487.
[1478] WWU Reply, paragraph F3.15.
[1479] WWU referred to the three paragraphs under the heading *Treatment of inflation expenses/income on RPI derivatives* on page 1 of the 2015 Letter.
[1480] WWU NoA, paragraph F3.16.

in early 2021 in an undated draft letter to WWU.[1481,1482] The draft letter had also made clear that GEMA had understood that it was WWU's expectation that the 2015 Letter would continue to apply.[1483]

16.112 A legitimate expectation, WWU submitted, was capable of being frustrated only where there was a public interest sufficiently strong to override the expectation, having full regard to the duty of fairness to the person seeking to rely on it.[1484] GEMA had not come close to demonstrating that that high threshold test was met in this case. The legitimate expectation could not possibly have been 'defeated by'[1485] the change to the RIGs via the RFPR Decision in 2019, for the reasons it had given (see paragraphs 16.60 to 16.63) about the status and effect of that document. The fact that GEMA now sought to dismiss the 2015 letter as 'inaccurate'[1486] – a claim that WWU heard for the first time on 8 December 2020[1487] – had no bearing on its legal force and effect.[1488]

GEMA's submissions

- *2015 Letter*

16.113 GEMA submitted that in its 2015 Letter to WWU it had incorrectly concluded that 'inflation related expenses and income both accrued and actual should be excluded from the value of adjusted tax deductible net interest paid for the purposes of RIIO GD1 tax clawback adjustment calculations'. Specifically, that conclusion had confused the concepts of a 'fair value adjustment' to a swap contract, being an unrealised gain or loss on the value of a derivative broadly analogous to capital appreciation/depreciation in real estate, with the inflation accretion payments due under a swap contract, broadly analogous to rental income or expense on real estate.[1489,1490]

16.114 GEMA submitted that the 2015 Letter had been sent to WWU only and had not been drawn to the attention of other network licence holders. With the exception of WWU, no other network licence holder had queried the treatment of interest liabilities under derivative contracts for the purposes of the tax clawback. GEMA had not seen any instances in which a licensee – other than

[1481] WWU referred to an email within a bundle of correspondence between GEMA and WWU dated 14 January 2021, page 30 (PH 1/1).
[1482] WWU Reply, paragraph F3.17.
[1483] WWU referred to undated draft letter (PH1/27).
[1484] WWU referred to case *R v North and East Devon Health Authority ex p Coughlan [2000] 3 All ER 850*.
[1485] WWU referred to GEMA Response A, paragraph 489.
[1486] GEMA referred to *Harandy 1 (GEMA)*, paragraph 64.
[1487] WWU referred to *Weldon 2*, 10 May 2021, paragraph 4.1(g).
[1488] WWU Reply, paragraph F3.18.
[1489] GEMA referred to *Harandy 1 (GEMA)*, paragraph 28.
[1490] GEMA Response A, paragraph 474.

WWU – had excluded interest or inflation accretion payments associated with derivatives from its 'actual interest' figure reported for the purpose of the tax clawback.[1491,1492]

16.115 GEMA submitted that, after it had queried the consistency of WWU's RFPR template submission (see paragraph 16.33) with its submission for tax clawback purposes, WWU had shown it the 2015 Letter. That was the first time that current GEMA staff had been aware of it. GEMA had reviewed the letter, finding that the 2015 Letter had conflated fair value movements with inflation accretion payments. Those, GEMA explained, were two quite different things for RPI derivatives. The latter (ie the inflation accretion payments) should be treated in the same way that debt inflation accretion payments were. Both should be included in the net interest for tax clawback purposes.[1493]

- *Update to regulatory reporting requirements*

16.116 GEMA submitted that it had consulted on certain proposed changes to the RIGs on 13 March 2019.[1494] That included a note that said:

> We would expect Net Interest Per Regulatory (RIIO-1) definition to include all inflation derivative payments that attract tax relief **(because that is the definition used for tax clawback)**… (emphasis added by GEMA).[1495]

16.117 GEMA submitted that WWU had been aware of that consultation as evidenced by its response to GEMA dated 11 April 2019,[1496] indicating that it 'appears to conflict with what we have previously been advised by Ofgem'.[1497]

16.118 On 30 April 2019, GEMA published the RFPR Decision updating the RIGs 'so as to, inter alia, incorporate the language set out [in its Response] at paragraph 475'.[1498,1499]

[1491] GEMA referred to *Harandy 1 (GEMA)*, paragraph 29.
[1492] GEMA Response A, paragraph 475.
[1493] GEMA Clarification Hearing Transcript, 21 May 2021, pages 105–106.
[1494] GEMA referred to its RIIO Regulatory Financial Performance Reporting – Regulatory Instructions and Guidance consultation document and associated Open letter from Ofgem to Gas Distribution Licence Holders, both dated 13 March 2019.
[1495] GEMA Response A, paragraph 476.
[1496] GEMA referred to *Emails between Ofgem and WWU regarding GD Proposed RIGs changes consultation,* page 1 (PH1/14).
[1497] GEMA Response A, paragraph 477.
[1498] GEMA Response A, paragraph 478.
[1499] We believe GEMA meant to refer to paragraph 476 of its Response, not paragraph 475, which contains the language included in paragraph 16.116 of this document.

- *Link to tax clawback calculation*

16.119 GEMA submitted that it had emailed all network licensees on 4 October 2019 reminding them that it had clarified the definition of net interest and net debt in the RFPR Decision. In that email it had instructed all licensees to use in their upcoming RFPR submissions the value reported as 'Net Interest Per Regulatory (RIIO-1) Definition' for the purposes of the tax clawback. The purpose of that [email] communication, GEMA submitted, was to ensure that there was no room for doubt as to the treatment of derivative inflation payments as regards the net interest calculation [for the purposes of the tax clawback calculation].[1500] In its email, GEMA wrote:

> As part of both the AIP and review of RFPR process we have identified for some licensees that the tax clawback file does not reconcile with the submitted RFPR for 2018-19. The RFPR RIGs requires that Total Net Debt per Regulatory (RIIO-1) definition and Net Interest Per Regulatory (RIIO-1) Definition should reconcile with the tax clawback inputs. Attached is a workbook which highlights the discrepancies. Please provide by CoP 11 October a reconciliation using the workbook.[1501]

- *Response to alleged breach of legitimate expectations*

16.120 GEMA submitted that WWU's claim was baseless and that there had patently been no promise that would meet the relevant legal test in this case.[1502] Finance professionals would have understood the 2009 Open Letter as including interest on derivatives. To its knowledge no other network licence holder had excluded interest payments on derivatives from their 'actual interest'.[1503]

16.121 Furthermore, GEMA submitted, any such expectation would have been obviously defeated by the RFPR Decision. As at 2019, the position that such interest was included was made wholly clear to WWU; WWU had responded to the consultation, disagreeing with the approach and accordingly plainly understood GEMA's position as at that point. WWU did not seek judicial review of that Direction at the time; it was, again, now out of time to do so.[1504]

16.122 GEMA submitted that even if a legitimate expectation had arisen it would not be unfair for it to depart from that. Its statutory duties required it to

[1500] GEMA Response A, paragraph 480.
[1501] GEMA referred to *AIP 2019 Timeline - GD1 email chain*, page 9 (PH1/1).
[1502] GEMA set out that the promise relied upon must be clear, unambiguous and devoid of any relevant qualification and referred to case *R (Heathrow Hub Ltd) v Secretary of State for Transport* [2020] EWCA Civ 213 at paragraphs 68-69.
[1503] GEMA Response A, paragraphs 486–488.
[1504] GEMA Response A, paragraph 489.

apply the approach which it considered best meets those duties and its objectives. Moreover, GEMA could not unduly fetter its discretion.[1505]

Our assessment and conclusions

16.123 A legitimate expectation may arise in circumstances where a public decision-maker changes, or proposes to change, an existing policy or practice.[1506] A legitimate expectation will only be created if a public authority has given a promise or adopted a practice which represents how it is going to act in a given matter or area. The promise or practice relied upon must give rise to a representation which is clear, unambiguous and devoid of any relevant qualification.[1507]

16.124 In the seminal case *Ex p Coughlan*, the Court of Appeal held that:

> Where the court considers that a lawful promise or practice has induced a legitimate expectation of a benefit which is substantive…, the court will in a proper case decide whether to frustrate the expectation is so unfair that to take a new and different course will amount to an abuse of power. Here, once the legitimacy of the expectation is established, the court will have the task of weighing the requirements of fairness against any overriding interest relied upon for the change of policy.[1508]

16.125 We agree with GEMA that any expectation that would have arisen as a result of the 2015 Letter would have been defeated by the RFPR Decision. On 13 March 2019, GEMA notified its intention to consult on certain proposed changes to the RIGs,[1509] including within the consultation document the note 'We would expect Net Interest Per Regulatory (RIIO-1) definition to include all inflation derivative payments that attract tax relief (because that is the definition used for tax clawback)…'.[1510] WWU responded to the consultation on 11 April 2019. Its response noted that the draft RIGs 'appears to conflict with what we have previously been advised by Ofgem', which shows it was aware of the clarification GEMA was intending to make to its approach regarding tax clawback. On 30 April 2019, GEMA published the RFPR Decision updating the RIGs, which included the language cited above.[1511] The notification of GEMA's intention to consult on certain proposed changes to the

[1505] GEMA Response A, paragraph 490.
[1506] *R (Bhatt Murphy and others) v Independent Assessor* [2008] EWCA Civ 755, at paragraph 28, citing *R v North and East Devon Health Authority, ex parte Coughlan* [2001] QB 213.
[1507] *R (Heathrow Hub Ltd) v Secretary of State for Transport* [2020] EWCA Civ 213, at paragraphs 68–69.
[1508] *R v North and East Devon Health Authority, ex parte Coughlan* [2001] QB 213, at paragraph 57.
[1509] Open letter from Ofgem to Gas Distribution Licence Holders, 13 March 2019.
[1510] RIIO Regulatory Financial Performance Reporting – Regulatory Instructions and Guidance, 13 March 2019, page 16.
[1511] RFPR Decision, 30 April 2019, page 17.

RIGs, followed by the consultation, in which WWU participated, and the publication of the resulting Direction was sufficient to remove any legitimate expectation that would have been created by the 2015 Letter (to the extent such a legitimate expectation actually arose).

16.126 In response to our provisional determination, WWU argued that a legitimate expectation created by means of a clear and unequivocal promise given by a regulator to a licence holder could not be 'defeated' merely by making a public statement that was at odds with the promise.[1512] We disagree with WWU's characterisation of the RFPR Decision (and its prior consultation process) as being merely 'a public statement … at odds with the promise.' Whilst GEMA might have handled the matter better than it did, we conclude that the circumstances described in paragraph 16.125 above are such that WWU ought reasonably to have understood that no reliance should be placed on the 2015 Letter following the RFPR Decision (to the extent that such a legitimate expectation actually arose).

16.127 WWU also disagreed with the way we had characterised its legitimate expectation claim in the provisional determination. WWU submitted that it had not relied on a claim of legitimate expectation with regard to the forward-looking GD2 period. WWU therefore contended that our provisional conclusions concerning its legitimate expectations 'looking forwards' were academic and unnecessary.[1513] We note that WWU submitted to us in its NoA that the 2015 Letter established a legitimate expectation in law as to the continuation of the policy set out in it as part of the price control arrangements.[1514] Thus, WWU clearly contended that its legitimate expectations extended into GD2. In the absence of a request by WWU to withdraw that part of its appeal, it is appropriate for us to rule upon it.

16.128 In any case, to the extent that any legitimate expectation was created by the 2015 Letter, we also agree with GEMA that it would not be unfair for it to depart from the position described in such letter. We consider that GEMA's decision to depart from such position for RIIO-2 did not meet the threshold of being so unfair that it amounted to an abuse of power. Indeed, GEMA's statutory duties required it to apply the approach to tax clawback which it considered best met those duties and its objectives.

16.129 For the above reasons we therefore do not find that GEMA breached any legitimate expectation on the part of WWU by including interest on

[1512] WWW Response to PD, paragraph F3.5 (a). WWU referred to paragraph 16.121 in our PD.
[1513] WWW Response to PD, paragraph F3.4.
[1514] See paragraph 16.109 above.

derivatives within the measure of interest for tax clawback purposes in its RIIO-GD2 decision.

Alleged breach of legitimate expectations – looking backwards

16.130 In WWU's NoA, it identified harm to it in respect of the period prior to RIIO-1 (**GDPCR1**) of £23.7 million. We later learnt through WWU's response to an RFI and GEMA's clarification hearing that the amount of tax due to be clawed back in relation to RIIO-1 is also in dispute between WWU and GEMA. See paragraph 16.133.

16.131 It is our understanding that WWU has excluded interest on derivatives from the outset, and that GEMA is seeking to recover for customers at least some of the tax benefits that WWU achieved as a result of losses on its derivative portfolio.

WWU's submissions

16.132 WWU told us that GEMA might seek to make retrospective adjustments via the close out process. WWU further explained that the RIIO-1 'close out' is a mechanism which impacts allowed revenues in RIIO-2 through the legacy MODt variable value.[1515] In its Closing Statement, WWU submitted that any change to the treatment of derivatives in GD1 would contravene GEMA's 2015 Letter, on which WWU relied, and would lead to an adjustment of revenues in GD2 and that it was thus within the scope of the GD2 price control and within this appeal.[1516]

GEMA's submissions

16.133 GEMA told us in its hearing that the question of whether the 2015 Letter created rights for WWU was a question that would be resolved in the close out of RIIO-1.[1517] GEMA also wrote in response to a request for information that any dispute as to the legal effect of the 2015 Letter for GD1 is a matter to be addressed on close out of RIIO-GD1.[1518]

Our assessment and conclusions

16.134 We agree with GEMA that the issue of recovering tax clawback from before RIIO-2 is a matter for the RIIO-1 close out process as it relates to the consequences of transactions and events occurring before the outset of RIIO-

[1515] WWU, RFI WWU 004, paragraphs 2.2–2.5.
[1516] WWU Closing Statement, paragraph 10.8.
[1517] GEMA Main Hearing, Transcript, 9 July 2021, page 119, lines 7–9.
[1518] GEMA, RFI GEMA 019.

2. Therefore, the decision on this close out process, which has not yet been concluded in practice, is outside of the scope of the RIIO-2 appeal process.

16.135 We have therefore not reached a view as to whether there has been any breach of legitimate expectation in relation to the recovery of tax clawback from before RIIO-2.

Alleged procedural deficiencies

WWU's submissions

16.136 WWU submitted that GEMA had recently indicated that it intended to resile from the position in the 2015 Letter. WWU further submitted that, although this policy was an important element of the price control, and material sums of money were at stake, GEMA had not consulted on a change to the treatment of derivatives for tax clawback calculations in any of its RIIO-2 consultations, or by any other means. No reference had been made to the subject in either the DD or FD.[1519]

16.137 Subsequent to the NoA WWU also alleged another procedural issue regarding the lack of clarity within the documentation.

16.138 WWU submitted that the consistency of approach between the 'interest recognition & measurement' policy for cost of debt and for tax clawback should be clearly reflected on the face of the licence conditions. The issue was one of considerable value to it and it was not a matter that should be mired in ambiguity. WWU submitted that it was entitled to clarity on this issue.[1520]

GEMA's submissions

16.139 GEMA submitted that it was proposing to retain its current tax clawback policy. Although the precise mechanism in the licence conditions and related documents had changed under RIIO-2,[1521] there had been no change whatsoever to the treatment of interest payments on derivative instruments for the purposes of the 'tax clawback' mechanism. There was nothing in the revised Handbook (the provision identified by WWU in response to the CMA as the element of the licence modifications its appeal was directed against) which addressed **at all** the treatment of interest payments. (Emphasis added by GEMA). The treatment of interest on derivative payments, GEMA

[1519] WWU NoA, paragraph F3.1(e).
[1520] WWU Reply, paragraph F2.8.
[1521] GEMA referred to *Harandy 1 (GEMA)*, paragraphs 50–62.

submitted, remained governed by the RFPR Decision.[1522] GEMA said that to the extent that there was going to be a change in the future from the present position (set out in the RFPR Decision), GEMA was consulting on that and had yet to reach a position.[1523,1524]

16.140 Regarding what was meant by 'face of the licence', GEMA explained that with RIIO-1, the link between its tax clawback policy and the licence was established in the Handbook for GD1, and that Handbook was itself a licence instrument. The special licence conditions were the face of the licence and then there were the price control financial instruments, which were the Handbook and the PCFM.[1525]

Our assessment and conclusions

16.141 We note GEMA's argument that there was no need for consultation, but we have not reached a view on this issue because, in any event, the fact that there may have been procedural deficiencies, including a flawed public consultation, would not make the adoption of GEMA's tax clawback policy in its RIIO-GD2 decision wrong itself, unless the deficiencies were so serious that that we cannot be assured that the Decision was not wrong.[1526] As explained above at paragraphs 16.89 to 16.106, our view is that GEMA was not wrong to set the policy it did in respect of the measure of interest for tax clawback purposes for RIIO-2.

16.142 We welcome that GEMA has indicated that it intends to refresh the policy following consultation with all relevant stakeholders (see paragraph 16.88).[1527] Such an approach should enable the policy to be set out within a clearly defined range of documents in a way that can be understood in the same way across disciplines. This should also allow GEMA to address some of the issues identified in this appeal regarding the precision with which it has expressed its definition of interest for the purposes of tax clawback.[1528]

[1522] See paragraphs 16.28–16.33 above for an explanation of the changes made to financial reporting in 2019.
[1523] GEMA referred to *Harandy 1 (GEMA)*, paragraphs 50–62.
[1524] GEMA Response A, paragraphs 481 and 492.
[1525] GEMA Clarification Hearing Transcript, 21 May 2021, page 118, lines 7–11.
[1526] See paragraph 3.57 in the Legal Framework chapter.
[1527] This consultation would be different to the consultation process referred to in paragraph 16.139. We understand the latter recently concluded consultation referred to the mechanics of tax clawback policy implementation.
[1528] For example, distinguishing between the amount of interest payable in respect of an accounting period and the level of payments made during the same period in respect of interest payable, whether relating to that same period, prior periods or even future periods.

Our determination

16.143 We therefore determine that GEMA was, for the purposes of the RIIO-2 price control, not wrong to set the policy it did in respect of the measure of interest for tax clawback purposes. We also do not find that GEMA breached any legitimate expectation on the part of WWU by including interest on derivatives within the measure of interest for tax clawback purposes. Any breach of legitimate expectation on the part of GEMA in respect of periods prior to RIIO-2 is outside the scope of the appeal. Accordingly, we dismiss this ground of appeal.