Title: Raising the Non-Domestic Smart Meter Consumer Offer **IA No:** BEIS024(F)-22-SMIP **RPC Reference No: RPC-BEIS-5090(1)** **Lead department or agency:** Department for Business, Energy and Industrial Strategy **Other departments or agencies: N/A**	**Impact Assessment (IA)** **Date:** 10/03/2022 **Stage:** Final **Source of intervention:** Domestic **Type of measure:** Secondary legislation **Contact for enquiries:** smartmetering@beis.gov.uk

Summary: Intervention and Options

RPC Opinion: GREEN

Cost of Preferred (or more likely) Option (in 2020 prices)			
Total Net Present Social Value	**Business Net Present Value**	**Net cost to business per year**	**Business Impact Target Status**
£1061m	£464m	£11.7m	Qualifying provision

What is the problem under consideration? Why is government action or intervention necessary?

Smart meters enable consumers to engage with their energy use, in large part due to better information about how much and when they use energy. The majority of non-domestic consumers currently do not readily have access to their smart meter data in a way that enables them to engage, and the same data is also not easily available to wider market innovators. Government intervention is therefore required to unlock access to these data to realise non-domestic consumer benefits from smart meters and achieve the Government's Net Zero commitments.

What are the policy objectives of the action or intervention and the intended effects?

The objectives of this policy are:

- To increase the number and quality of available energy feedback tools in the market.
- To increase take-up by consumers of said tools and effective engagement with them, leading to non-domestic consumers managing their energy consumption more efficiently and saving on bills.
- To boost innovation and promote competition in this market, so that data feedback tools available to consumers can continue to improve in the future. In the longer term, this will promote a more efficient and flexible energy system.

The intended impact of this policy is to help consumers derive maximum benefit from the rollout of smart meters, including how to use the data from them to make informed choices about their energy use.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Do Nothing: No change in energy supplier licence conditions and continue with the smart metering implementation programme's existing non-regulatory approach to drive improvements in energy supplier data offers. Currently, energy suppliers are only required to provide energy consumption data on request by customers (or consumers' representatives acting with consent) in any format and can charge for the data.

Option 1 (preferred): Require energy suppliers to meet non-domestic smart meter customer (and their nominated third party) requests for up to 12 months of their energy use data for free and within a time limit from December 2022. Require energy suppliers to provide smaller organisations with ongoing energy use information (based on their smart meter data) by October 2024. This option is preferred as it a) will deliver on Government objectives where the current non-regulatory approach has not and b) will deliver a significant net benefit to society.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** During/2027

Is this measure likely to impact on international trade and investment?		No		
Are any of these organisations in scope?	**Micro** Yes	**Small** Yes	**Medium** Yes	**Large** Yes
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)		**Traded:** -0.7	**Non-traded:** -2.8	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister: Date: 26/05/2022

Summary: Analysis & Evidence

Policy Option 1

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year 2020	PV Base Year 2022	Time Period Years 13	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	**High:** Optional	**Best Estimate:** 1206

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	0		13.7	**142**

Description and scale of key monetised costs by 'main affected groups'

The costs of developing data feedback offers, including initial investment (e.g. software development, product design, project management) and ongoing costs (e.g. server updates, data analytics, server and cloud costs). The costs of providing data on request include the costs associated with collecting, processing and then disseminating this data to consumers.

Other key non-monetised costs by 'main affected groups'

N/A

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	0		130	**1348**

Description and scale of key monetised benefits by 'main affected groups'

The monetised benefits correspond to the following benefits from the 2019 Smart Metering Cost-Benefit Analysis: direct energy savings, reduced carbon emissions and air quality benefits. Energy savings and reduced carbon emissions are the most sizeable, monetised benefits, representing 50% and 48% of the total, respectively.

Other key non-monetised benefits by 'main affected groups'

Non-domestic consumers will be empowered to manage their energy use and have strengthened rights to access information on their own energy consumption, as well as passing this information onto third parties. Increased data availability will also support energy efficiency service providers to help businesses reduce their carbon footprint, benefitting society in general in the long run. The policy is also likely to produce benefits to third party innovators who will see barriers to data access removed. In the medium-long term, this should lead to wider competition and innovation in the market for non-domestic smart energy management services.

Key assumptions/sensitivities/risks	Discount rate (%)	3.5%

Key assumptions on costs of providing data offers in response to the policy, the likely quality of these offers and whether they will be produced in-house or outsourced are all uncertain given they rely on responses made to the consultation prior to such offerings being available (as reliable cost data is likely to be scarce.)

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 13.3	**Benefits:** 0	**Net:** -13.3	58.7

Evidence Base

Problem under consideration and rationale for intervention

1. Smart meters are currently replacing traditional gas and electricity meters in homes, small businesses and public sector buildings across Great Britain as part of an important upgrade to the national energy infrastructure, underpinning the cost-effective delivery of the Government's net zero commitment. They are a critical tool in the transition to a low carbon energy system; for example, by enabling incentives for consumers to use energy when renewable generation is available and automatic charging of electric vehicles when prices are low. A key benefit of the transition to smart meters is that the energy data they record can be used by consumers to engage with, and better manage, their energy consumption.

2. The Government's new four-year framework to reach market-wide coverage of smart meters by 2025 came into effect on 1 January 2022. This Targets Framework sets energy suppliers' annual installation targets subject to an annual tolerance level.[1] In June 2021, the Government confirmed the tolerance levels for the first two years of the new Framework. This includes distinct tolerances for domestic and non-domestic rollouts for the duration of the Framework.[2]

3. The non-domestic smart meter rollout covers around three million meters across two million sites[3][4], of which 70% are microbusinesses. The rollout covers a range of sectors, including retail, hospitality and public sector sites. Smart meters allow businesses and public sector sites to use their energy consumption data to identify ways to save energy and lower costs, upgrade to more energy efficient equipment, as well as allowing them to share their energy consumption data with third parties of their choice – thus enabling a wider market in energy management services. The Smart Metering Implementation Programme's 2019 Cost-Benefit Analysis[5] estimates that this consumer engagement, coupled with new data-driven services, will lead to over £1.5bn (2011 prices) in energy savings in the non-domestic sector, as well as a further £0.6bn (2011 prices) in benefits from reduced carbon emissions and improved air quality over the appraisal period, which runs up to 2034.[6]

4. Unlike for domestic customers (households) where energy suppliers are obligated to offer smart meter customers an In-Home Display (IHD), enabling visibility of their near real-time energy use, energy suppliers are not currently obligated to provide non-domestic customers with a default way of accessing or engaging with their energy consumption data. Instead, non-domestic customers and their nominated third parties are entitled to "timely" access to their energy use data from their smart meter upon request, but there is no specificity with regards to the format by which this must be provided. Energy supplier licence conditions were set in this way due to the diversity in sites covered by the smart metering mandate, with the policy expectation that industry would deliver bespoke tools and services for different types of non-domestic customers in the market.

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/893124/delivering-smart-system-post-2020-govt-response-consultation.pdf

[2] https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers

[3] https://www.gov.uk/government/statistics/smart-meters-in-great-britain-quarterly-update-september-2021

[4] https://www.gov.uk/government/publications/smart-metering-non-domestic-leaflet

[5] https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019

[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/831716/smart-meter-roll-out-cost-benefit-analysis-2019.pdf

5. In addition, Government research in 2017 re-emphasised the potential for value-add tools and services in the non-domestic sector.[7] In particular, it found that smart meter data has the potential to prompt organisations into taking action, provided they know how to interpret it within the context of their own operations and a cost-effective solution is available. However, at the time of the research, there was little evidence of energy suppliers providing any information or support to encourage this. In addition, findings showed that the smallest organisations face additional challenges around skills and capacity to analyse their raw energy use data– for them, products and services have potential to simplify the involvement required.

6. From 2018-2020 BEIS ran and funded the Non-Domestic Smart Energy Management Innovation Competition (NDSEMIC) with the aim to pilot such products and services in the retail, hospitality and school sectors, to understand what functionalities and features can drive non-domestic consumer engagement with their data, behaviour change and energy savings, and to learn what might be required to drive further market development in this area. The evaluation showed that value-added data tools and services, if they have the right features, can lead to high levels of consumer engagement and help realise higher energy savings.[8] The evaluation also identified the following as relevant factors for future market development:

    a. The strategies adopted by energy suppliers, and possibly other market actors, in developing new, bundled services as part of energy tariffs which offer additional benefits to customers at scale and potentially for no additional charge.

    b. Regulatory drivers, including obligations on suppliers to make consumption data readily available to their non-domestic customers or third parties acting with customer consent.

7. BEIS' monitoring of the energy supply market (which includes regular bilateral meetings with energy suppliers and analysis of commercially-sensitive evidence from energy suppliers to inform 'state of the market' assessments) suggests that while energy suppliers are making some progress in both their data provision services and energy efficiency advice offered to non-domestic customers, this progress is generally slower than needed to maximise consumer benefits and deliver a platform for net zero innovation as the smart meter rollout progresses, and there is concern that this may therefore impact the level of savings and energy efficiency potential that non-domestic smart meter customers realise.

8. In particular, evidence obtained from energy suppliers regarding the nature and uptake of their current data offerings, mapped against evidence of what functionalities/features are effective at engaging non-domestic consumers[9], suggests that while some suppliers have begun to offer some limited forms of data access tools and energy efficiency advice to their non-domestic customers, the quality of these is often low, the provision is not consistent, and services offered are not very sophisticated, and so the engagement they generate is limited. For example, whilst some larger energy suppliers offer free energy feedback tools to all of their non-domestic customers, others only offer them to part of their non-domestic customer base (for example through patchy offerings of domestic In-Home Displays (IHDs)), or not at all. Where these limited tools do exist, they often require a lot of additional manual analysis by the customer to interpret the information,

[7] https://www.gov.uk/government/publications/smart-metering-in-non-domestic-premises-early-research-findings

[8] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

[9] https://www.gov.uk/government/publications/smart-metering-in-non-domestic-premises-early-research-findings, https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

despite evidence showing that smaller organisations have limited time/resource to dedicate to such interpretation, therefore affecting engagement.[10] Some energy suppliers offer very limited access to consumers' energy consumption data altogether, offering nothing but raw energy use data files upon request. The number of smaller suppliers offering free energy feedback tools to their non-domestic customers is even smaller than amongst larger suppliers. This does not conform with expected market dynamics, where smaller energy suppliers would have greater incentive to provide innovative data products/services to increase their market share. However, this likely reflects the highly competitive nature of the retail energy market in recent years (rather than a lack of demand for useful data offers) – smaller energy suppliers will not necessarily have produced the supernormal profits to stimulate investment, leaving larger suppliers (who can likely access credit more easily) to take more tentative initial steps in this space.

9. Analysis of commercially sensitive data received from energy suppliers via a 2020 Request For Information also shows that the number of ad-hoc requests for access to consumption data that suppliers receive from customers and their nominated third parties is low. This is unsurprising given the Government research (referenced in Paragraph 5) which showed that smaller businesses and schools are unlikely to have the time and resource to proactively request and drive analysis of their raw data themselves. The NDSEMIC evaluation also found that willingness to pay for data tools and services may not be universal amongst all smaller non-domestic organisations, which may have further-reduced supply-side incentives to drive innovation.

10. Innovation by third parties in providing such tools and services is also limited by obstacles in accessing consumer energy consumption data. Findings from the NDSEMIC evaluation showed that despite acting with consumer consent, NDSEMIC innovators struggled to access the energy consumption data they needed to test their innovations. In cases where NDSEMIC innovators did not partner with an energy supplier, data access costs and processes applied by suppliers ranged across industry, with data requests sometimes taking several months to be granted.[11] The implications of this for ubiquitous data provision are explored further in Paragraph 99.

11. Finally, we have also considered the existing market for non-domestic smart (SMETS and AMR) meter data tools and services that exists independently of energy suppliers. There are some organisations offering data analytics services to non-domestic organisations (more so for AMR meters at present than SMETS). It is a relatively small pool of providers, some of which belong to a number of the same umbrella organisations. This pool becomes narrower when assessing those that offer data analytics services to smaller non-domestic consumers specifically (as opposed to I&C consumers). Further analysis of the impacts on competition is set out in paragraph 96.

12. Altogether, this suggests that competition between energy suppliers and third parties is limited and is not delivering the types of data access tools that have been shown to work best in engaging non-domestic consumers and helping them to become more energy efficient at scale. This is found to be caused by a market failure: there are barriers preventing potentially large societal benefits from being realised. These barriers relate to a combination of factors; the main ones identified in this analysis are:

    a. **Behavioural constraints and imperfect information**: consumers in the non-domestic market are historically challenging to engage when it comes to energy

[10] https://www.gov.uk/government/publications/smart-metering-in-non-domestic-premises-early-research-findings

[11] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/933628/insights-for-innovators.pdf

efficiency.[12] In addition, historically, non-domestic consumers (particularly microbusinesses) have shown lower levels of awareness of their eligibility for smart metering and the possible benefits.[13] Some consumers may therefore be unaware of the benefits that smart meters can offer them and therefore fail to demand tools and services to help them engage with their data, despite the benefits that they would accrue. This is evidenced by the NDSEMIC evaluation, which found that not all participants had pre-existing environmental or cost motivations - some took part in the pilots (both free and incentivised) as they had 'nothing to lose', but nevertheless engaged with the tools and services provided and realised savings.[14] Innovation literature also discusses the ways in which "Freemium" (or free software offered as a precursor to premium functionalities within the same tool or service) can drive demand for paid-for features over time.[15]. Some consumers may also experience additional resource and time constraints, compared to domestic consumers, which prevent them from making effective decisions that can improve their energy efficiency such as taking time to analyse raw energy consumption data, or navigate basic and inaccessible data tools, to identify inefficiencies themselves. However, recent studies suggests that if the right tools are provided to them (as this policy seeks to encourage), consumers do engage with them, leading to energy savings.[16][17]

b. **Externalities and misalignment of incentives**: energy savings lead to lower costs for consumers but deliver no direct benefits to energy suppliers. Thus, without strong consumer demand and/or awareness of the benefits of smart meter data, there is no strong incentive for energy suppliers to provide tools and advice around energy use, and to tackle the complexities of the SME market, unless they are a main part of their commercial strategy. Moreover, some of the benefits produced by smart meters – such as lower greenhouse gas emissions and better air quality – benefit society as a whole but are not priced as part of suppliers' own benefits and may therefore not be accounted for when suppliers and consumers make decisions in the market.

c. **Direct data access issues:** third parties (acting with consumer consent) that request access to consumption data through energy suppliers are facing obstacles and inefficiencies (such as charges or delays over several months), preventing use of the data to support energy efficiency objectives.

13. Overall, the proportion of smaller businesses accessing and monitoring their detailed consumption data is much lower than needed to realise the full benefits of smart metering for these consumers. This is driven by:
    a. The currently limited and inconsistent provision of smart meter data tools in the non-domestic market that have been meaningfully designed to address barriers to consumer engagement.

[12] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/392908/Barriers_to_Energy_Efficiency_FINAL_2014-12-10.pdf

[13] https://www.gov.uk/government/consultations/smart-metering-implementation-programme-realising-non-domestic-benefits

[14] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

15 Jiang, Z., & Sarkar, S. (2009). Speed matters: The role of free software offer in software diffusion. Journal of Management Information Systems, 26(3), 207–240- https://www.researchgate.net/profile/Zhengrui_Jiang/publication/220591125_Speed_Matters_The_Role_of_Free_Software_Offer_in_Software_Diffusion/links/59776e45a6fdcc30bdbad4e7/Speed-Matters-The-Role-of-Free-Software-Offer-in-Software-Diffusion.pdf and Kumar, V. (2014). Making" freemium" work. Harvard Business Review, 92(5), 27–29- https://hbr.org/2014/05/making-freemium-work.

[16] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/831716/smart-meter-roll-out-cost-benefit-analysis-2019.pdf , especially pp. 36-37 which refers to the studies done in this area.

[17] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

b. The fact that (as a consequence) consumer demand for such products and services is below its potential and therefore consumer benefits are not being maximised.

14. However, evidence shows that when designed with the right functionalities and features, such data tools can meaningfully engage consumers.[18] In addition, as demonstrated in Paragraph 12(a) above, non-domestic consumers can be made aware of the availability of a service they were not expecting and proceed to engage with it and benefit from it. Therefore, we consider the accompanying policy proposals (including the requirement for suppliers to provide customers with a default data offer) to be a proportionate intervention to drive engagement, addressing both supply-side and demand-side constraints. SME consumers that would not have proactively sought out (and/or paid for) a data offer will benefit from receiving insights into their energy consumption on an ongoing basis. In addition, suppliers will be required to raise SME awareness of what free data files and information are available to them. Overall, raising awareness of data options, combined with providing/making available insight without individual consumers having to request it will drive further engagement with smart meter data amongst harder to reach organisations.

15. We have considered whether there are alternative ways to ensure that consumers receive a default data offer without the need for regulation. One such alternative is the continuation of programme non-regulatory engagement activities with industry. To date, the programme has engaged extensively with energy suppliers and other relevant parties to promote best practice around energy savings and data innovation, and to increase consumer engagement with smart metering. Whilst some progress has been made, particularly with regards to improving consumer engagement (such as an overall increase in microbusiness awareness of smart metering[19]) and with a limited number of energy suppliers developing new data tools, the rate and consistency of market progress has not been sufficiently consistent to deliver the consumer benefits anticipated in the programme's cost benefit analysis. In particular, there has not been ample nor consistent market activity across energy suppliers to date to normalise the provision of such data tools in a manner that would create a genuine market disadvantage to not offering one.

16. Furthermore, it could be argued that there is a "first-mover disadvantage" (in terms of offering data tools that have sufficiently addressed the complexity of how to successfully engage non-domestic consumers[20]) whereby a late entrant can learn from previous entrants and optimise their own offerings at a minimised cost point, potentially to the disadvantage of early movers. This could explain the current paucity and limited functionalities of data offers from energy suppliers and thus the market-wide under provision of engaging data offers. This would be rectified by mandating the near-simultaneous market-wide provision of data offers by all suppliers that must meet a "baseline" , which in turn would drive up consumer engagement and demand.[21] For example, the policy gives industry an opportunity to use the wealth of evidence produced by the NDSEMIC evaluation regarding what data tool functionalities and features were

[18] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

[19] Insight received via partner organisations.

[20] As stated elsewhere in the document, we acknowledge that some providers have provided some very limited and basic data offerings. However, the quality, consistency and prevalence of these is so limited as to not reflect a meaningful and committed first-move into the market space of engaging data offers.

[21] By "baseline" we mean establishing a minimum standard of data provision to ensure a level of quality and consistency that evidence has demonstrated does not exist in the market at present. The policy specifies that energy use information should be provided or made available to smaller organisations on a regular, ongoing basis in a form and frequency sufficient to enable the customer to gain insights into, and make informed choices about, their energy use. The electricity consumption data (on which that is based) should be recorded at half-hourly (or more granular) intervals and gas consumption data at hourly (or more granular) intervals (subject to the relevant data privacy considerations for microbusinesses).

effective at engaging non-domestic consumers and driving energy savings to develop propositions to maximise consumer engagement that meet the baseline requirement. The policy itself has also been designed to reflect evidence from the NDSEMIC competition, for example that the energy information to be made available to consumers must be based on half-hourly energy use data (which was found during NDSEMIC to be key driver of consumer engagement). As set out in the Government response in more detail, the policy has been carefully designed to balance prescription and flexibility; ensuring that all suppliers must meet the baseline but giving them flexibility (to adapt to their own customer bases) in how they deliver it.

17. Another such alternative is fiscal incentives, such as subsidies/tax benefits for consumers/suppliers or further Government funding for the development of non-domestic smart meter data tools:

    a. Regarding subsidies/tax benefits for consumers, we did not consider this a viable option. This is because consumers already have significant potential to reduce costs as a result of smart meter data and data tools (and thus a financial incentive for uptake is already present).[22][23] However, for the reasons outlined throughout this document, uptake of current data tools and awareness of the benefits of smart meter data remain low. Therefore, there is no available evidence that tax incentives would address this challenge. Instead, the consultation response sets out why a free "default" data offer (i.e., information made available to consumers without them asking for it, coupled with raising consumer awareness of its availability) is expected to drive more engagement in this regard.

    b. Regarding subsidies/tax benefits for energy suppliers, we do not consider it proportionate for Government to offer tax relief/subsidies for the sole purpose of developing non-domestic smart meter data tools. The expectation that industry would innovate and develop a range of non-domestic tools to deliver consumer benefits has been set out by the Government consistently over time as the smart meter rollout evolved.[24] Therefore the policy expectation that suppliers will offer more than what is stated in current licence conditions is not new and it would not be suitable to commence offering tax breaks for this objective at this stage. In addition, whilst market progress to date is not sufficient nor universal across customers/suppliers to maximise consumer benefits (as set out elsewhere), some suppliers have already invested in developing data tools and services. Therefore, it would be unfair to those market leaders (that need to do less to comply with the proposed legislative baseline) to offer tax breaks to those suppliers that have not taken steps to deliver the policy expectation to date, whilst also having a distortionary impact on the operation of the marketplace.

    c. Regarding further Government funding for non-domestic smart meter data tools, the Government has already invested significant funding into market development in this area. NDSEMIC was an £8.8 million Government-funded innovation competition which ran from 2018-2020. Whilst some energy suppliers participated in NDSEMIC and the tools piloted were found to deliver consumer benefits (with six out of seven of the projects showing evidence of energy savings), our latest market analysis since the Competition concluded (set out in this document) has not identified a seismic shift in market data offerings as a result of the Competition alone. In addition, the Government offered up to £6 million of funding for

[22] https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019

[23] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

[24] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/43043/4933-data-access-privacy-con-doc-smart-meter.pdf

innovative solutions that reduce transaction costs through economies of scale of via harmonised and simple practices that encourage the take up of energy efficiency by SMEs as part of the Boosting access for SMEs to energy efficiency (BASEE) competition.[25] Overall, we do consider that future Government innovation funding may play an important role in further evolution of the non-domestic smart energy services market, but do not consider it sufficient to drive the anticipated behaviour change from consumers outlined in this document in isolation.

18. We have also considered whether there are ways to achieve the policy objectives without making energy suppliers responsible for ensuring the default data offer is provided. It is possible to place the responsibility on energy suppliers because they are regulated through licences under the Electricity and Gas Acts.[26] Energy suppliers are also responsible for ensuring compliance with many other smart meter requirements and obligations (even where aspects are delivered on behalf of the supplier via a third party or where a customer's direct relationship is via a Third-Party Innovator). We do not consider it is appropriate to place the responsibility for the default data offer on the Data Communications Company (DCC) or on distribution or transmission companies, as they do not usually have a regular direct relationship with the smaller non-domestic energy customer or the customer's broker. Some energy customers may have their own metering agents or data service providers, but many do not. We considered making the energy supplier responsible only in those cases where the customer did not have their own data service provider etc, but we considered this would unfairly penalise those customers that have contracted for data services as it would exclude them from the default data offer available to other smaller businesses.

19. Finally, we considered whether a regulator-led approach may be appropriate as opposed to Government regulation (for example enforcement of a framework regarding data provision which could be adapted as market innovation develops, or devolvement of responsibilities to the regulator on an as-needed basis). However, this option was discounted on the basis that:

    a. The Government is responsible for policies to ensure that the benefits of smart metering are realised for consumers, including setting regulations regarding data provision for domestic households, as well as the existing non-domestic regulations. Therefore, a regulator-led approach in the non-domestic sector would set an unusual precedent and shift in responsibilities, given that the policy objective concerns consumer benefits realisation as opposed to energy system delivery or licence condition enforcement. In addition, the policy design has emerged from Government-led research and analysis regarding non-domestic consumer smart meter benefits realisation. Therefore, the Government is best placed to take forward policy implications of such analysis.

    b. The Government is already working closely with the regulator to further align these non-domestic data offer policy measures with the regulator-led Market-Wide Half-Hourly Settlement (MHHS) Programme (see Government response for more detail on this). Therefore, the Government and Ofgem are coordinating to ensure links between consumer benefits realisation and energy system delivery/enforcement are considered in any case.

    c. As set out in the Government response, the regulations have been designed to be future-proof and flexible as market innovation progresses regardless, as they set a

[25] https://www.gov.uk/government/publications/boosting-access-for-smes-to-energy-efficiency-basee-competition

[26] and Parliament has given the Secretary of State the power to modify these licences to make provision about access to information from meters (s.88(3)(i) of the Energy Act 2008.

baseline requirement for non-domestic data provision. Energy suppliers (or third parties acting on their behalf) that seek to innovate above and beyond that legislative baseline to drive further consumer engagement are actively encouraged to do so. Some examples of this (from the Government response) are that the legislation specifies the policy outcome rather than the means (i.e., that data-driven information must be provided in a form/frequency sufficient to support consumers with energy use choices). In addition, the legislation does not go as far as to specify that data must be provided in near real-time, nor does it specify how "up to date" the data-driven information should be, in the interest of giving industry sufficient flexibility to innovate beyond the legislative baseline. The policy framework will be kept under review (see monitoring and evaluation plan), but we expect the principle of all non-domestic consumers being entitled to a baseline smart meter data offer to remain, even if market innovation progresses significantly.

20. Overall, the final policy design aims to remove an important barrier to innovation and encourage the development of engaging data feedback tools. By streamlining the process through which nominated third parties (with consumer consent) can access energy consumption data, the policy aims to remove the barriers that third party innovators currently face in developing new tools, which can often prove costly. By mandating free provision of consumption data, we aim to reduce the financial risk associated with innovation, encouraging the development of new energy feedback tools and fostering greater competition in this market.

21. Furthermore, when determining the key design principles for the new smart metering policy framework[27] two of the objectives that were agreed with energy suppliers, Ofgem and Citizens Advice were:

    a. "to encourage consumers to benefit from the rollout of smart meters, including how to use the data from smart meters."

    b. "to deliver a market-wide rollout of smart meters as soon as possible, that ensures value for money and maintains installation quality so that consumers can derive **maximum benefit** and have a good experience."

22. These policy measures will also work to meet this overarching objective for non-domestic consumers. Further to this, the delivery of this policy (and the wider policy framework) will contribute to Government's wider objectives. In particular, the energy savings resulting from this policy will see reductions in greenhouse gas emissions that work towards meeting Government's Net Zero target by 2050.

23. Throughout this Impact Assessment (IA), expressions such as "default data offer" and "on request offer" are used. The former refers to any visual or otherwise user-accessible tool or service through which consumers can engage with their energy consumption data. This might refer to smartphone apps and web portals, but also to more basic tools such as regularly issued graphs and tables, summary documents and the like. More detail on the types of data offers that can be more effective in helping non-domestic consumers to achieve energy savings can be found in the sections below. An "on-request offer" refers to raw data made available by an energy supplier in response to a consumer (or their nominated third party's) request to access their energy consumption data.

[27] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/991994/Impact_Assessment.pdf

24. Moreover, throughout this Impact Assessment it is assumed that “take-up” of sophisticated, charged, additional features and services reflects engagement with them. For free, default offers (i.e., where the consumer is provided with feedback on their energy consumption without having to proactively ask for it or ‘take it up’) the term “engagement” is used instead, meaning active interaction with the energy use information provided or made available by the supplier as part of the “default” offer.

Policy objective

25. To meet the objectives of the overarching policy framework as specified in paragraph 20, this specific policy aims:

    a. To increase the number and quality of available energy feedback tools in the market, including baseline data offers for consumers at no cost to them and more sophisticated tools and functionalities potentially offered for a charge.

    b. To increase take-up by consumers of said tools and effective engagement with them, thus leading to non-domestic consumers managing their energy consumption more efficiently and saving on bills.

    c. To boost innovation and promote competition in this market, so that data feedback tools available to consumers can continue to improve in the future. In the longer term, this will promote a more efficient and flexible energy system.

26. By mandating the provision of free consumption data on request (from December 2022) we expect to increase and improve the provision of data to non-domestic consumers. This should work as a prompt, alongside the awareness raising requirement of the policy, to increase consumer engagement with their consumption data and realise the greater potential for energy savings whilst also priming the market for the increased uptake of data tools to maximise energy savings (due to their demonstrable impact). The increased use and availability of data tools will create a larger market for such tools and spur competition between providers of smart meter data tools, encouraging greater innovation in order to develop the most effective tools. This should then create a positive feedback loop, helping consumers further realise the benefits of engaging with a data tool, driving further engagement with these tools and maximising energy savings (and associated emissions savings).

27. The key expected outcomes of the policy are thus directly related to the policy objectives. If successful, the policy should lead to an increase in the number of suppliers and providers of effective data feedback tools and services to their non-domestic customers, as defined above. It should lead to wider engagement of customers with their energy consumption data, measured in terms of interactions with energy feedback and management tools and ultimately energy savings. Thirdly, it should also lead to a wider range of data feedback offers and data management tools by third parties on the market, maximising the benefits that consumers will be able to realise from their consumption data.

Description of options considered

28. While evidence shows that energy feedback via an In-Home Display (IHD) is effective in delivering savings for households[28], the diversity of sites covered by the non-domestic mandate has long pointed to non-domestic consumers requiring a more bespoke approach in terms of data offering.[29]

29. For this reason, licence conditions were left flexible. At present, energy suppliers are only obligated to provide non-domestic SMETS and AMR[30] meter customers with access to their consumption data (at least half-hourly for electricity and hourly for gas) upon request and in a timely manner. However, energy suppliers can charge for data access, it can be provided in any format and there is no specificity with regards to 'timeliness'.

30. The Government's ambition has always been that energy suppliers would go further than these minimum requirements, leveraging the smart metering infrastructure to drive market-led innovation and deliver energy saving benefits to non-domestic smart meter customers. However, as described in this Impact Assessment, industry intelligence suggests that the market is not leveraging these flexible conditions to drive forward innovation at the pace needed to fully deliver consumer benefits in line with the 2019 Smart Metering Cost-Benefit Analysis.

31. Additionally, the NDSEMIC evaluation also identified barriers to third party data access under existing licence conditions. It found that a dependency to future market development is the extent to which energy suppliers are incentivised, or obliged, to make consumption data readily available to their non-domestic customers, or third parties acting with customer consent.

32. Therefore, a policy need was identified to strengthen existing licence conditions in order to facilitate future market development and innovation. The full range of options considered prior to the consultation were as follows:

    a. **Option 0: Status quo**: No change in energy supplier licence conditions. Rely upon existing licence conditions, combined with existing non-regulatory activities, to drive energy supplier and third-party innovation through Government funding, engagement and facilitating best practice sharing. Continue to monitor the state of the market and probe suppliers accordingly, with the aim to facilitate more consumer engagement and energy savings via competition in the market. Continue to allow variable data charges across industry and no boundaries around timeliness of data provision. Continue to promote campaigns aimed at raising consumer awareness to support market development. Continue to identify opportunities for market support i.e., Government-funded innovation competitions.

    b. **Option 1**: Amend energy supplier licence conditions (medium level of prescription.)

        i. **Default data offer.** Require suppliers to provide or make available regular and free user-accessible energy use information to all non-domestic smart meter customers[31], based upon up to 12 months of their half-hourly

[28] https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019

[29] https://www.gov.uk/government/consultations/smart-meter-data-access-and-privacy

[30] AMR (Automated Meter Reading) and SMETS (Smart Metering Equipment Technical Specification) meters, which are both commonly referred to as smart meters, measure consumption every half hour and transmit readings to the supplier without customers needing to carry out manual meter readings. SMETS meters must also meet a range of enhanced functional, interface and data requirements (of relevance to this consultation, they can connect to Consumer Access Devices (CADs) and the Data Communications Company via the Wireless Area Network/Home Area Network).

[31] All non-domestic smart meter customers is defined as all customers with an Advanced Meter Reading (AMR) meter or SMETS meter (i.e., a smart meter that complies with the latest Smart Metering Equipment Technical Specifications).

(electricity) or hourly (gas) smart meter data. This should be provided or made available without the customer having to actively request it and enable them to gain insights into their energy consumption. However, it gives energy suppliers flexibility in the formats by which they may seek to meet the obligations.

ii. **Data upon request.** Tighten existing licence conditions regarding data access requests. Require suppliers to provide non-domestic customers and their nominated third parties with their historic half-hourly/hourly energy use data files for free upon request, set a time limit on supplier responses to data access requests (ten working days) and require suppliers to publish their data access processes on their websites.

iii. **Awareness raising requirement**. Accompany policy changes with a requirement for energy suppliers to make customers aware of their available means for accessing their energy use data for free.[32]

c. **Option 2**: Amend energy supplier licence conditions (low level of prescription). Require energy suppliers to make data access free for all non-domestic consumers and their nominated third parties, with data having to be provided in a generically defined "useful format" and with no boundaries around timeliness of data provision or whether suppliers must provide or make available data by 'default' or upon request.[33] This option makes no distinction between raw data files and regular energy use information.

d. **Option 3**: Amend energy supplier licence conditions (high level of prescription). Require suppliers to make data files upon request free for all non-domestic consumers and their nominated third parties. In additional, require suppliers to provide or make available regular and free energy use information to all non-domestic smart meter customers, with a very clear specification, in legislation, of the format that the data would need to be provided in. This entails specifying a "menu of options", i.e., types of data tools (e.g., a non-domestic In-Home Display or app) that constitute compliance with the policy, that energy suppliers can choose from to meet the obligation.

33. Option 0 represents both our status quo baseline and non-regulatory option. To date, the programme has engaged extensively with energy suppliers and other relevant parties to promote best practice around energy savings and data innovation, and to increase consumer engagement with smart metering. This would continue in the absence of a firmer policy intervention. However, whilst some progress has been made, particularly with regards to improving consumer engagement (such as an overall increase in microbusiness awareness of smart metering[34]) and with some energy suppliers developing new data tools, the rate and consistency of market progress has not been sufficiently consistent to deliver the consumer benefits anticipated, due to the issues identified in paragraph 12. In particular, there has not been ample market activity across energy suppliers to date to normalise the provision of such data tools in a manner that would create a genuine market disadvantage to not offering one. Furthermore, it could be argued that there is a "first-mover disadvantage" whereby a late entrant (in terms of

[32] Costs of notifying customers of their routes for accessing their data have not been explicitly quantified. This is because these costs are anticipated to be a very small proportion of overall costs and highly variable/specific to each supplier. For example, the supplier's administrative capabilities, their current approach to responding to data access requests, the mode by which and/or the extent to which they wrap communications up into existing ones will all affect costs. Instead, these costs are addressed via other sensitivity analysis and/or optimism bias factors outlined in this document.

[33] In this and in the following descriptions of policy options, "require" refers to a change in energy supply licence conditions.

[34] Insight received via partner organisations.

offering data tools that have sufficiently addressed the complexity of how to successfully engage non-domestic consumers) can learn from the successes of previous entrants and optimise their own offerings at a minimised cost point, potentially to the disadvantage of early movers. This could explain the current paucity of data offers from energy suppliers and thus the market-wide under provision of data offers (which would be rectified by mandating the near-simultaneous market-wide provision of data offers by all suppliers that must meet a "baseline", which in turn would drive up consumer engagement and demand). Therefore, we do not perceive option 0 (the non-regulatory option) to sufficiently incentivise all market participants to achieving our wider objectives (as also discussed in paragraphs 15 and 16.)

34. After an initial assessment of the risks and opportunities of each option, it was also determined that Options 2 and 3 should be discarded:

    a. Option 2 was discarded due to an assessment that it was too intangible to actually drive behaviour and market change, as energy suppliers could comply by (and would likely do so given the lower costs associated) continuing to provide raw data files (e.g., in CSV format) to their customers upon request. This would be unlikely to increase consumer engagement and drive market momentum in isolation, particularly given previous research findings regarding capacity constraints amongst smaller organisations to request and drive analysis of their own raw energy use data – see paragraph 5.

    b. Option 3, on the other hand, had potential to drive customer engagement (on the basis that a pre-set list of means for delivering the policy, based on current research findings, could be specified in legislation). However, it was ultimately rejected on the grounds of being too prescriptive and potentially stifling innovation. In particular, innovative ways of designing data tools and services could be developed in the future that do not yet exist and were not in scope of current research. Therefore, strictly defining acceptable digital formats and technologies in this area could limit both innovation activity and consumer outcomes in the longer-term.

35. Therefore, on the basis of the unsuitability of Options 2 and 3 for driving intended policy outcomes, Option 1 and the status quo are the only options where a fully quantified cost-benefit analysis was undertaken at consultation stage.

36. Following an analysis of the feedback and evidence received at consultation stage, we have further refined Option 1 in the following areas, to produce an Option 4:

    a. **Amendments to timeframes**. The consultation proposed that all policy changes would come into effect from July 2022. However, stakeholders doubted industry's ability to deliver to timeframes and highlighted the risks of coinciding with several other major industry change programmes, including Market-Wide Half-Hourly Settlement (MHHS). In particular, stakeholders emphasised overlaps in the system changes that energy suppliers will be making in coming years to deliver MHHS and the policy's proposals for a default half-hourly data offer. Therefore, to maximise cost-efficiency, energy suppliers will have until **October 2024** to implement the default data offer. The other requirements of the proposals (data upon request and awareness raising requirement) will come into effect from **December 2022.** This introduces the easier to implement and more independent policy aspects first, whilst still giving industry an additional six months to prepare.

b. **Amendments to scope.** The consultation proposed that all of the policy changes would apply to all non-domestic smart meter customers, irrespective of profile class and/or size. However, some stakeholders had concerns about the implications of a default energy supplier data offer for existing third-party data services, particularly for larger organisations that are more likely to procure existing services. Whilst the evidence continues to support the case for a default data offer for smaller sites, larger industrial and commercial organisations[35] will now be excluded from the default data offer. The remainder of the proposals (data upon request and awareness raising requirement) will continue to apply to all non-domestic smart meter customers irrespective of profile class and/or size. For additional rationale, please see full consultation response.

c. **Minor amendments to policy draft**. The awareness raising requirement has been made less prescriptive (so suppliers must raise awareness at "intervals deemed appropriate" rather than every six months), a technical exemption has been introduced, suppliers will need to include contact details for meter feed issues within the transparency requirement and some clarifications have been added to the legal text.

37. Analysis of the consultation responses also reaffirmed that the right balance regarding prescription in legislation had been achieved. Whilst a small number of stakeholders suggested that the Government revisit Option 2 the majority of respondents agreed with proposals for a "default data offer" alongside opening up consumer and third-party access to raw data. Some stakeholders felt that further clarity in defining how energy use information can be provided in a "user-accessible format" may be helpful. The Government has therefore issued guidance alongside the consultation response to support industry in this regard.

38. Option 4 (preferred option/option 1 on summary sheet) has therefore been taken forward for full appraisal in this IA. The policy intervention will still work to meet the same objectives; increasing the availability, quality and take up of energy data tools and files to help consumers realise energy savings (and so making best use of their smart data) whilst doing so in a manner that is more achievable for industry.

39. Another option that was considered following an analysis of the consultation responses was to proceed with the policy but to exclude AMR meters from the scope of the policy. Although the proportion of SMETS2 meters continues to rise in the non-domestic market, as of the end of 2021, 80% of smart meters currently operating in non-domestic smart mandate sites are AMR meters (as opposed to SMETS1 or SMETS2 meters) and so we rejected this option given the misalignment with our underlying strategic objective as detailed in paragraph 14 and the sizeable net benefit of our preferred policy option.

Monetised and non-monetised costs and benefits of each option (including administrative burden)

40. The main benefits from the policy coincide with the consumer benefits identified in the 2019 Smart Metering Cost-Benefit Analysis (2019 CBA) and are monetised following the same assumptions as the 2019 CBA (with some inputs updated to reflect newly available evidence and changes to Green Book guidance on appraisal.) These benefits are

[35] This has been defined as "those sites outside of the smart metering mandate". The smart metering mandate covers profile classes 1-4 (electricity) and sites with gas consumption below 732 MWh per annum.

assumed to apply to all non-domestic consumers covered by the smart metering mandate[36], while the smaller number of larger businesses not covered by the mandate will only realise non-monetised benefits, which are listed in a subsequent section.[37] The monetised benefits are the following:

a. **Energy savings (indirect)**: Consumers observe and engage with their energy consumption data, allowing the identification of wastage and the ability to optimise routines, enabling consumers to reduce their energy consumption and therefore save money on their energy bills.[38] This is computed using the long-run variable cost of energy[39] in line with guidance on computing the societal benefit of changes in energy consumption (however, for the purposes of the BIT calculation we have used commercial retail energy prices[40]). This assumes that a reduction in energy consumption does not result in losses for suppliers, networks or generators – the reduction in energy consumption is driven entirely by efficiency savings and does not consider economic transfers.

b. **Reduced carbon emissions (indirect)**: The lower gas and electricity consumption (as specified in 37a) results in a lower level of greenhouse gas emissions (calculated by multiplying the aforementioned reduction in energy consumption by Government carbon values for appraisal[41]).

c. **Air quality benefits (indirect)**: The lower gas and electricity consumption (as specified in 37a) leads to the reduction in particulate emissions results and cleaner air, improving health outcomes for the population at large (calculated by multiplying the aforementioned reduction in energy consumption by Government air quality damage values[42]).

41. The policy is expected to lead to a larger proportion of these benefits being realised sooner. It is expected that in the absence of the policy (i.e., in the counterfactual) a proportion of the benefits would still have been realised, but at a slower pace and not to the full extent assumed in the 2019 Cost-Benefit Analysis. The proportion of benefits realised in the counterfactual scenario is based on current evidence on the state of the market suggesting that consumers that do not engage with their smart meter data will initially realise approximately 34%[43] of the energy savings assumed in the Cost-Benefit Analysis. The policy is expected to lead to a larger proportion of these benefits being realised sooner. It is expected that in the absence of the policy (i.e., in the counterfactual) a proportion of the benefits would still have been realised, but at a slower pace and not to the full extent assumed in the 2019 Cost-Benefit Analysis.

[36] The smart metering mandate uses a site-based definition to identify the sites which are in scope of the non-domestic rollout. Energy supply licence conditions require energy suppliers to install smart meters (or in some circumstances, advanced meters) at gas sites where the annual consumption is no more than 732 MWh per year and all electricity sites in profile classes 1-4 (the majority of non-domestic electricity consumers are in profile classes 3 and 4).

[37] This is not to imply that larger sites will realise no energy savings as a result of the policy. In fact, we believe that this policy – and the third-party services that it enables – will help support the realisation of outcomes, including energy savings, of other government programmes. We do not explicitly monetise the latter to avoid double counting.

[38] To keep the assumptions made in this Impact Assessment in line with the 2019 CBA, it was assumed that AMR meters only lead to, on average, 80% of the energy savings that SMETS meters lead to. This can be interpreted as SMETS customers being more likely than AMR customers to be offered the most sophisticated data feedback tools, e.g., tools that enable real-time data provision of a very granular kind.

[39] https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

[40] https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

[41] https://www.gov.uk/government/publications/valuing-greenhouse-gas-emissions-in-policy-appraisal/valuation-of-greenhouse-gas-emissions-for-policy-appraisal-and-evaluation

[42] https://www.gov.uk/government/publications/assess-the-impact-of-air-quality/air-quality-appraisal-damage-cost-guidance#annex-a-updated-2020-damage-costs

[43] This is based on evidence from the Small Business Survey on the number of respondents who report using technology to engage with their smart meter data and data on the provision of IHDs – see paragraph 42 for more detail.

42. In the counterfactual scenario we assume that, at the point of policy implementation, approximately 34% of non-domestic customers with a SMETS or AMR meter are realising the full benefits associated with reduced energy consumption. While we don't hold complete data on the existing data provision and engagement in the market, this figure reflects a cautious but appropriate assessment based on the evidence available. The 34% estimate encompasses two different data points on related metrics:

    a. From the Small Business Survey, we observe that in 2019 14% of small businesses made use of technologies that use smart meter data to help control their energy use.

    b. Similarly, data collected by the programme shows that around 20% of non-domestic SMETS installations have been offered an IHD (In-Home Display) to monitor their energy consumption, so are likely to have some level of engagement with their energy use.

43. Whilst it is likely that there is some degree of overlap between these two data points, we cannot observe this directly from the data, and in the absence of more complete, market-wide data we have assumed these metrics are distinct for the purposes of calculating counterfactual benefits. This potentially leads to an overestimation of the counterfactual benefits, however, we consider this preferable to overestimating the additional benefit of the policy (in the absence of a definitive data), in line with the prudent approach taken throughout this assessment.[44]

44. Based on the principles of the 2019 Cost Benefit Analysis, engagement with smart meter data is then assumed to result in energy consumption reductions in line with the CBA assumptions. This principle is also applied in the domestic sector, where evidence shows that energy feedback via an IHD is effective at delivering energy savings for households as per the CBA.[45] The 2019 Small Business Survey is used to set the baseline (rather than the more recent 2020 Small Business Survey) to reflect uncertainties about the impact of the Covid-19 pandemic on the 2020 metric.

45. As indicated above, evidence on the rate of change of engagement with smart meter data over time is more mixed; with the Small Business Survey suggesting growth in those using technologies to monitor/manage energy use remaining relatively static between 2019 (14%) and 2020 (11%). However, to ensure that we do not underestimate benefits in the counterfactual, we assume that increasing non-domestic awareness of smart metering, along with changing attitudes around the environment will lead to higher levels of engagement with smart meter data in absence of any policy intervention. The link between consumers' environmental awareness and concerns and smart meter engagement has been demonstrated through NDSEMIC, while survey data from a partner organisation shows awareness and environmental consciousness increasing.[46] In addition, the current energy market context is raising the profile of energy efficiency amongst small businesses more generally which has the potential to drive engagement with smart metering.[47] Therefore, using such data on the growing awareness of smart metering amongst microbusinesses as a proxy for the increase in engagement, we have assumed an annual increase in engagement (and hence benefit realisation) of

[44] One consultation response from a data provider, which services some of this market, also provides some assurance that the estimate for current provision is broadly consistent with the range discussed here, however, we are unable to use this data to provide a data point on a market wide basis.

45 https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019

[46] Insight from a partner organisation (not disclosed for sensitivity reasons) shows growth in awareness (amongst microbusinesses) that smart meters are available for businesses of around 5 percentage points between the end of 2020 and end of 2021.

[47] https://barmagazine.co.uk/deborah-meaden-calls-for-the-hospitality-industry-to-invest-in-energy-efficiency-this-winter/

5%[48] amongst non-domestic consumers with a smart meter, in both the counterfactual and policy scenarios.

Table 1 - Undiscounted benefits of policy options (£m, 2020 prices)

Undiscounted Benefits (£m, 2020 prices)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Policy Option	**155.5**	**192.1**	**385.4**	**417.4**	**451.5**	**483.3**	**503.9**	**525.0**	**555.1**	**583.2**	**599.2**	**610.5**	**618.1**	**6080.0**
Energy savings	75.3	92.4	185.1	202.4	221.8	238.5	248.8	260.4	279.1	297.5	306.7	312.7	316.1	3036.8
Air quality benefits	2.6	3.3	6.8	7.5	8.2	8.9	9.6	10.2	11.0	11.8	12.4	13.0	13.5	118.6
Reduced carbon emissions	77.7	96.4	193.5	207.5	221.5	235.9	245.6	254.4	265.0	273.9	280.1	284.8	288.5	2924.6
Counterfactual	**155.5**	**192.1**	**225.0**	**253.8**	**284.8**	**315.2**	**338.7**	**362.9**	**393.7**	**423.5**	**452.6**	**483.0**	**510.9**	**4391.6**
Energy savings	75.3	92.4	108.1	123.1	139.9	155.5	167.2	180.0	198.0	216.1	231.7	247.4	261.3	2195.8
Air quality benefits	2.6	3.3	4.0	4.5	5.1	5.8	6.4	7.1	7.8	8.6	9.4	10.3	11.1	86.0
Reduced carbon emissions	77.7	96.4	113.0	126.2	139.7	153.8	165.1	175.8	187.9	198.9	211.6	225.3	238.5	2109.8
Net	**0.0**	**0.0**	**160.4**	**163.6**	**166.7**	**168.1**	**165.1**	**162.1**	**161.4**	**159.7**	**146.6**	**127.6**	**107.1**	**1688.5**
Energy savings	0.0	0.0	77.0	79.3	81.9	83.0	81.5	80.4	81.2	81.5	75.0	65.3	54.8	841.0
Air quality benefits	0.0	0.0	2.8	2.9	3.0	3.1	3.1	3.2	3.2	3.2	3.0	2.7	2.3	32.7
Reduced carbon emissions	0.0	0.0	80.5	81.3	81.8	82.1	80.5	78.5	77.1	75.0	68.5	59.5	50.0	814.8

46. The costs from the proposed policy, and those in the counterfactual, are assumed to be entirely born by energy suppliers in the first instance, though they may of course reduce them by outsourcing some, or all, of the development of data offerings to third parties or share them with consumers by charging a fee for the use of more sophisticated functionalities.[49] In either case, the total costs generated by the policy does not change and can be broken down as follows:

    a. **Initial investment (fixed)**: This is the estimated one-off cost of developing a new data feedback tool or service, including software development, product management, and visual design. The size of these costs does not depend on the number of consumers who will use the tool. This cost would be lower if a supplier were adapting or expanding the scope of an existing tool, rather than developing it from scratch. Development from scratch is assumed in the central scenario given the lack of market-wide evidence on existing tools and to be prudent in our assessment of costs. Also included within this are familiarisation costs associated with the change in legislation, which is considered in 2022 in line with the implementation date. More detail on the approach to this calculation can be found in paragraph 65. [50]

    b. **Initial investment (variable)**: This is the cost of additional servers, cloud services, and other equipment which also represents an initial, one-off investment, but increases with the number of consumers who will use the tool.

    c. **Ongoing running costs (fixed)**: This is the estimated cost of running a service, including for example offering relevant energy efficiency advice, continuously updating the service with new tools, creating new versions, and responding to changes in demand. It does not depend on the number of consumers who use the tool.

    d. **Ongoing running costs (variable)**: This is the variable cost of running the service continuously which does depend on the number of consumers and consumer sites using the tool. It includes, for example, the direct cost of data

[48] Insight from a partner organisation (not disclosed for sensitivity reasons) shows growth in awareness (amongst microbusinesses) that smart meters are available for businesses of around 5 percentage points between the end of 2020 and end of 2021.

[49] Suppliers may choose to develop these enhanced functionalities as commercial, charged offers on top of the free baseline.

[50] Familiarisation costs are expected to be a one-off cost to energy suppliers. Engagement with industry experts who have worked across the energy system suggested that energy suppliers would have a compliance officer (or similar) to familiarise themselves with legislative changes before then working any updates to training and practices into existing employee training. See paragraph 65 for more detail on our approach.

service provision, analysis, and machine learning, as well as smaller software updates to keep the service up to date. This also includes the costs of responding to data requests.

47. In the counterfactual, costs are accrued in the same manner as in the policy option (as discussed in paragraph 46), but given the lower prevalence of data offers, the low quality of those that do exist and current lack of incentive to meaningfully increase provision, these costs are significantly lower than in the policy option. These costs are discussed in more detail elsewhere in this assessment and the cost profiles in the counterfactual and policy scenarios can be seen in table 2 below.

Table 2 – Undiscounted costs of policy options (£m, 2020 prices)

Undiscounted Costs (£m, 2020 prices)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Policy Option	**2.49**	**2.49**	**17.97**	**19.86**	**20.50**	**21.06**	**21.56**	**22.06**	**22.57**	**23.10**	**23.40**	**23.59**	**23.78**	**244.44**
Total fixed costs	0.01	0.00	13.50	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	29.24
Total AMR variable costs	2.38	2.38	3.13	12.73	12.85	11.94	11.72	11.62	11.32	11.11	10.81	10.48	10.31	122.77
Total SMETS variable costs	0.10	0.10	1.34	5.56	6.08	7.55	8.27	8.87	9.68	10.42	11.02	11.54	11.90	92.43
Counterfactual	**0.07**	**0.07**	**1.89**	**4.05**	**4.58**	**5.10**	**5.59**	**6.10**	**6.62**	**7.15**	**7.70**	**8.26**	**8.84**	**66.04**
Total fixed costs	0.00	0.00	0.99	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	2.22
Total AMR variable costs	0.07	0.07	0.39	1.47	1.61	1.24	1.18	1.17	1.05	0.95	0.81	0.64	0.56	11.22
Total SMETS variable costs	0.00	0.00	0.51	2.45	2.85	3.74	4.29	4.80	5.45	6.08	6.76	7.50	8.16	52.60
Net	**2.42**	**2.41**	**16.08**	**15.82**	**15.91**	**15.96**	**15.96**	**15.96**	**15.96**	**15.95**	**15.71**	**15.33**	**14.94**	**178.40**
Total fixed costs	0.01	0.00	12.50	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	27.02
Total AMR variable costs	2.31	2.31	2.75	11.26	11.23	10.70	10.54	10.44	10.28	10.15	9.99	9.84	9.75	111.55
Total SMETS variable costs	0.10	0.10	0.83	3.11	3.23	3.81	3.97	4.06	4.23	4.35	4.26	4.04	3.73	39.83

48. In the long term, all costs resulting from the policy are likely to be passed on to consumers by energy suppliers, potentially by charging them for the use of more sophisticated data functionalities/services. Assuming that they pass costs on only to non-domestic consumers, this would represent a cost of approximately £3-4 per consumer per year.[51] In addition, the analysis in this IA suggests that even larger increases in costs to non-domestic consumers would be outweighed by the benefits resulting from potential energy savings, as outlined below.

49. One of the principal aims of the consultation was to obtain more robust evidence on the likely size of costs to suppliers and third parties offering data feedback services. Cost data obtained from relevant industry representatives during the consultation has been used as an input to the cost-benefit analysis below (this data has also been cross-checked with NDSEMIC cost data that was used in the pre-consultation IA as a form of validation). Where evidence gaps that we sought to resolve at the consultation stage still remain, we have engaged industry experts to verify the data we already possessed and ensure the robustness of our CBA. Where any remaining data gaps exist, they have been flagged and appropriate sensitivity analysis around the assumptions used has been undertaken to ensure they do not have a significant impact on the findings of this assessment. Furthermore, we shall use future bilateral engagements and supplier reporting obligations to reduce these evidence gaps further with a view to the post-implementation review and future policy development.

Cost-benefit analysis

50. In order to obtain an estimate of the likely costs of the policy, an analysis of commercially sensitive cost-related information from NDSEMIC Competition Partners (i.e. those funded

[51] Our estimate is that even in the absence of any energy savings being realised, assuming energy suppliers will incur all costs assumed in the Central Scenario, this would only increase the average non-domestic energy bill by £3-4 per year. Assuming an average non-domestic consumer bill of around £4,000 for businesses under the smart metering mandate, this means an increase of less than 0.1%.

by NDSEMIC) was used to derive reasonable initial estimates of the costs of developing and providing varying levels of data feedback offers to consumers.[52]

51. Once these representative estimates were obtained, we determined that each supplier would respond to the policy by choosing to offer its consumers one of four types of data offer, listed in decreasing order of both costs and benefits produced:

    a. **"High" data offer**: The most expensive offer, with costs in line with those of developing the tools trialled in NDSEMIC. Consumers on a "high" offer would be provided with tailored energy efficiency advice as well as insightful presentations of their energy consumption data. Typically, these offers will include tailored support to the individual consumer as part of a broader service.

    b. **"Medium" data offer**: This is a less costly version of the "high offer", with initial investment fixed costs roughly in line with the median costs of NDSEMIC tools, but lower ongoing costs, as consumers on this offer receive insights and some embedded energy efficiency advice – but of a more generic kind.

    c. **"Low" data offer**: A further step down in terms of both costs and likely benefits (i.e., consumer engagement) achieved. Fixed costs are in line with the lowest cost NDSEMIC projects, and consumers are offered more basic tools to engage with their energy consumption data – such as automated comparisons with historic data and granular insights.

    d. **"Minimum" data offer**: the minimum baseline that consumers would be entitled to, with fixed costs around one third of the cost of developing the least costly tools trialled in NDSEMIC. This still includes meaningful presentations of granular data – but lacks the sophistication of other offers in terms of product design, comparison with historical data and embedded energy efficiency advice. The actual features of a "minimum" data offer that consumers can access may vary significantly across suppliers and specific circumstances. This category is intended to capture the range of less effective, but also less costly offers that some suppliers might initially develop or offer as alternatives to more sophisticated, charged offers.

52. Each of these different data offers then has a cost breakdown as described in paragraph 46 with the lower offers being less expensive in each of the cost areas (whilst higher offers are more expensive). Whilst all suppliers have to offer at least a minimum data offer free of charge, it is worth noting that they can charge consumers for any additional functionality beyond this. We also expect the quality of data offer to become a source of competition between different suppliers/third-party providers as the market matures, maximising the consumer benefit.

53. Following an analysis of the consultation responses, it remains appropriate to split the different data offers as described above – it is clear that relevant parties will respond to the policy in different ways with varying levels of data offer. Furthermore, cost data that was provided to us in consultation responses has been used to update the cost inputs to the analysis. These were broadly similar to the NDSEMIC cost figures used at in the consultation stage IA but were typically larger (and so to be prudent we have used

[52] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings
Data is deemed commercially sensitive (and therefore aggregated for the purposes of this Impact Assessment) as it relates to costs of, in some cases, live business models and innovation plans of commercial actors. It is therefore stored and handled accordingly within the relevant teams and unsuitable for public dissemination.

figures from the consultation responses.) The cost figures taken from the consultation are commercially sensitive and so cannot directly be referenced in this document. Instead, we have used them to calculate all aggregated figure present in this document, whilst continuing to use our pre-consultation figures to demonstrate the dynamics of the modelling.

54. In line with HMT Green Book supplementary guidance on optimism bias[53] and to account for any remaining uncertainty regarding the costs of this policy[54], we have considered, as a starting point, optimism bias factors of 41% and 200% for ongoing and investment expenditure figures respectively. This reflects an update from the pre-consultation IA, where 100% optimism bias factors were applied, as interim assumptions, to both cost types. We implemented this change from the consultation assumptions of 100% optimism bias to align better with Green Book guidance.

55. For estimates representative of capital expenditure[55] linked to the provision of a data offer, we have adopted a 200% optimism bias factor as a starting point. Following a review of the available evidence, including some received at the consultation stage, some mitigating factors have been identified which can be used to reduce the headline optimism bias. In particular, this evidence led us to consider the risk factors relating to the inadequacy of the business case, the degree of innovation and the technology fully mitigated. This is on the basis that:

    a. This assessment has been developed using an HM Treasury approved cost-benefit analysis as a key input with additional input taken from consultation responses, and so the business case reflects the best available evidence.

    b. Consultation evidence and other research conducted by the programme also confirms that the technology to comply with the policy already exists within the market with no technological barriers to delivery[56].

    c. Other areas of optimism bias remain included in the aggregated figure given the lack of overwhelming evidence to exclude them and to ensure that the cost calculation remains prudent.

56. Based on the Green Book guidance we have reduced the headline optimism bias for capital expenditures by the appropriate underlying contributing factors to account for the risks that have been fully mitigated[57]. As a consequence, we have applied a final optimism bias factor of 94% to capital expenditures.

57. Similarly, given that ongoing costs reflect operational expenditure, following the Green Book guidance available we have taken an optimism bias factor of 41% as a starting point. In line with the justification presented for mitigating the risk factor associated with inadequacy of the business case in paragraph 55, we have reduced the optimism bias to account for the full mitigation of this risk[58]. We consider there to be insufficient evidence

[53] https://www.gov.uk/government/publications/green-book-supplementary-guidance-optimism-bias

[54] These figures are based on the upper end of the recommended adjustment ranges for equipment & development projects aligning with the approach in Mott MacDonald, Appraisal of costs and benefits of smart meter roll out options, April 2008.

[55] These are costs a and b as described at paragraph 46.

[56] Where individual suppliers don't hold the technology required by the policy in-house, this is offered by third-party providers they could procure.

[57] This includes contributions of 17% for degree of innovation, 18% for inadequacy of the business case and 18% for technology, all expressed as % of the headline optimism bias (200% in our case). This corresponds to reductions of 34%, 36% and 36% respectively, which when summed give 106%, leaving remaining optimism bias as [200% - 106% = 94%].

[58] Taking into considerations the contributions in the footnote above the optimism bias factor decreases from 41% to 20%, following reductions of around 7% for each contribution.

to remove the other contributory factors to the optimism bias. This leaves us with a final optimism bias figure of 20% for ongoing expenditure.

58. For modelling purposes, we then assumed that each supplier would develop its own data feedback offer, the sophistication of which would depend on the size of the supplier in terms of non-domestic market share.[59] This is a simplification of what we actually expect given the responses received at the consultation stage and our engagement with energy suppliers, which suggests that some suppliers would look to procure or partner with third parties to develop their data feedback offer. However, to be prudent in our consideration of costs (in the absence of explicit data on third party commissioning) we have assumed that each supplier will directly produce their own data tool and incur all associated costs – likely leading to an overestimation of supplier costs in line with a conservative assessment of the impact of the policy.

59. It was initially assumed that suppliers with the highest market shares[60] (above 10%) would find it commercially worthwhile to develop more sophisticated ("high" or "medium") data feedback tools, while suppliers with lower market shares would develop less sophisticated tools. Reflecting qualitative analysis (based on market theory and internal state of the market assessments) that innovators in the market may be more likely to be medium-sized, growing businesses, the following was assumed:

    a. Incumbent, large suppliers (with market shares above 15%) develop "medium" offers for their customers.

    b. Medium-sized, growing suppliers (with market shares between 10% and 15%) develop "high" offers.

    c. Smaller suppliers (with market shares between 0.5% and 10%) develop "low" offers.

    d. Very small suppliers (with market shares below 0.5%) develop "minimum" offers.

60. These assumptions have then been compared to consultation responses from different energy suppliers on how they would respond to this policy intervention. Following a qualitative assessment of the responses, we have concluded that whilst the general trend from the responses matches the above, it does not necessarily hold true for all energy suppliers. Where this is the case, the above portfolio analysis has been updated to account for the newly available evidence from the consultation – where a supplier has responded to the relevant consultation question[61] we have cross-checked their response with the portfolio analysis and reclassified their likely data offer accordingly. It is also worth noting that the programme does not expect only larger or growing suppliers to be able to offer sophisticated data tools. However, it is a necessary assumption to construct plausible and prudent scenarios to assess the likely impacts of the policy intervention.

61. To arrive at an estimate for total fixed costs, individual supplier fixed costs (which are determined by the level of their data offer, as described above) are multiplied by the number of non-domestic energy suppliers. Where these costs are not one-off (i.e., they recur across the appraisal period) appropriate discount factors are applied.

[59] In practice, it is likely that suppliers will reduce costs by outsourcing the development of at least some of these tools to third parties. However, due to the underlying uncertainty of this, it is not explicitly modelled in the Central Scenario.

[60] As determined by number of non-domestic metering points covered by the smart metering mandate within their portfolios.

[61] "What types of energy supplier data offerings do you think are likely to emerge in response to the policy changes in Box 1 and Box 2? We welcome views from energy suppliers on this question in particular. Please give reasons and evidence to support your answer." – see consultation response for more detail on the exact nature of these responses.

62. For variable costs associated with the default data offer component of the policy, the cost per consumer per year is established from the input data received at consultation stage (cross-checked against NDSEMIC data) on the per customer costs for each of the different levels of data offer. This is then multiplied by the number of consumers who are expected to receive a particular data offer (the level of data offer a supplier offers is determined as described above, and is then combined with data the programme holds on the number of non-domestic consumers each supplier serves[62]). This is then also appropriately discounted.

63. For the variable costs associated with the on-request data provision, we have first estimated the expected increase in data requests as a result of the policy. We have done this by first establishing the number of requests for data that suppliers currently receive (using an RFI issued to large suppliers in 2020) and then determining the likely number of responses that suppliers would receive in the policy scenario. We anticipate that the policy will result in a market wide increase in data requests; with all suppliers receiving the same proportion of requests that the most engaged suppliers currently receive on an annual basis. This sees the number of requests increase significantly from a low base to a level where there is regular active engagement across the market - this then provides a prudent estimate for the increase in the number of data requests. This increase is then split appropriately between SMETS meters, AMR meters affiliated with the energy supplier's Data Collector[63] and AMR meters where the Data Collector is different to that affiliated with the energy supplier (and thus incur a higher cost). The number of requests by meter type is then multiplied by the typical cost of responding to the different requests[64] and a yearly cost for the on-request component of the policy is determined.

64. Costs in the counterfactual (status quo) scenario are calculated in the same way as the policy scenario but with some differences with respect to uptake and the level of data offer generally available. A qualitative assessment of the state of the market shows that at present (and under the status quo) there is not market wide availability of sufficiently engaging data offers and where they are offered, they are (generally speaking) of a lower quality than we anticipate following the implementation of the policy. If this evidence is then combined with evidence we have on the current rate of engagement with smart meter data[65], as referred to in paragraph 42, we can then estimate the costs associated with data offers that would be incurred in the counterfactual scenario.

65. Now included with the fixed costs line are the familiarisation costs associated with policy implementation (an update from the consultation stage IA). The total cost for familiarisation has been estimated at £6,776[66]. This has been calculated by multiplying the Full Time Equivalent (FTE) hourly wage rate of a compliance officer employed by an energy supplier[67] by the expected time taken for a compliance officer to understand and

[62] This analysis assumes no switching of suppliers given the implausibility of modelling the impacts of supplier switching on the data offers that customers receive, because there is no reasonable evidence available to make assumptions about the distribution of these switchers between different types of data offers.

[63] Data Collectors/Data Aggregators collect half-hourly consumption data from across AMR meters and aggregate it for settlement purposes. They will also provide data back to suppliers for billing and other purposes, depending upon what granularity has been agreed between them (which in turn may also depend on customer data privacy considerations).

[64] Cost figures available were limited to those regarding ongoing data access arrangements. Therefore, this likely overestimates the cost of responding to requests for one-off/ad-hoc data files as anticipated in the policy scenario where we would expect the cost of responding to individual requests to decrease (given economies of scale etc).

[65] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/894345/LSBS_2019_employers_data_cohort_A_rev.xlsx - Does your business make use of any technologies that use smart/advanced meter data to help control your energy use? – 14% responded in the affirmative and the number of non-domestic SMETS installs that are offered IHDs – see paragraph 42.

[66] Following engagement with industry experts, we have confirmed that the likeliest approach is for an energy supplier to familiarise themselves with the legislation once, as the legislation changes, rather than twice to coincide with the dual implementation points.

[67] https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashetable14

process this change. Based on the industry expertise available to the programme[68], we have prudently estimated the time taken by the compliance officer to be 8 hours (FTE) and that dissemination of any changes will be worked into regular training activity, incurring no additional cost. The product of the hourly wage rate and hours worked has then been multiplied by the number of energy suppliers that this policy will apply to, arriving at the above cost estimate. This cost does not vary for energy suppliers which are small or micro businesses and are within the scope of this policy. It is the responsibility of all licenced suppliers of energy to ensure that they keep abreast of all regulatory changes and ensure they are complying accordingly. Even the smallest supplier would be expected to have either an employee or a contractor performing the role of a "Regulatory Affairs and Compliance" officer (potentially in a part-time capacity).[69] Whilst we recognise the potential for third parties to carry out familiarisation for multiple energy suppliers (thus lowering overall familiarisation costs), in the absence of evidence to the contrary, we have assumed that each non-domestic energy supplier covered by the smart meter mandate will undertake familiarisation activity and accrue associated costs. Whilst smaller organisations may face additional time or resourcing pressures more generally, expectations regarding compliance upon entering the supply market are not proportionate to organisation size.[70] In addition, the extent to which an organisation prioritises compliance alongside other responsibilities, as well as the salary/skillset of those recruited to oversee compliance, are likely to be driven by a range of factors other than organisational size, not least strategic approach, employee non-salary benefits and organisational priorities. Given the lack of more detailed evidence in this area and the likely heterogeneity in compliance arrangements we have avoided making more specific (but less robust) assumptions around the diversity of these arrangements across suppliers of different size.

66. The discounted cost time series of the policy scenarios are then summed. The difference between this and the total discounted costs of the counterfactual scenario are used to determine the economic cost of the policy.

67. We have chosen not to conduct any further sensitivity analysis as part of this assessment beyond the scenario presented in the central analysis. This is due to a lack of alternative data and our desire to avoid arbitrary analysis. Instead, we have tended towards using prudent cost data (i.e., that which is at the upper end of our estimates) to ensure that we do not overestimate the net present value of the policy measure.

68. For the calculation of benefits, it was then determined that of all consumers whose supplier provides a "high" or "medium" data offer (as part of paid-for functionalities or services offered in addition to the free baseline), around a third would take up and engage with these functionalities or services. This is based on an aggregation of BEIS monitoring data available to the programme on take-up of existing data feedback tools.

69. As these suppliers will still be required to provide a free baseline as a minimum, it was next assumed that a further third of consumers whose supplier provides "high" or "medium" features for a charge, will choose not to pay for these, and instead will engage with the free baseline provided. They have thus been assigned to the "minimum" data offer, reflecting the prudent assumption that some suppliers investing heavily in charged, value-added functionalities/services may seek to lower the sophistication of their free baseline in order to drive uptake of their paid-for offerings. The remaining proportion of consumers are initially assumed not to engage with their energy consumption data.

[68] In particular, we have consulted with an industry expert with 20+ years' experience of working in and around the retail energy industry and has particular insight into how energy suppliers operate.

[69] This has been confirmed by industry experts.

[70] https://www.ofgem.gov.uk/publications/supplier-licensing-review-final-proposals-entry-requirements

Overall, this is a cautious approach, which aims to account for the behavioural constraints to engagement with energy consumption data identified in the preceding sections and their interaction with the effects of the policy – an alternative approach would be to assume full rationality which we have avoided to be prudent[71].

70. Following the same line of reasoning, it was assumed that a third of consumers provided with a "low" or "minimum" free data offer by default would not engage with the data provided to them, leaving an initial 36% of all non-domestic consumers unengaged with their energy consumption data when the policy first comes into effect. This reflects the possibility that, although the policy requires suppliers to provide their baseline data offer for free and by default, it is prudent to assume that some consumers may not initially engage with the data provided to them.

71. It was then assumed that engagement with energy consumption data would increase by 5 percentage points every year in all scenarios, in line with the assumption justified in paragraph 45.[72][73][74] This is to account for the progressive overcoming of behavioural constraints due to a variety of reasons, including improved technologies, the availability of more effective tools and the increased society-wide focus on reducing carbon emissions.

72. In terms of the benefits generated from these data feedback offerings, the approach taken was that they would lead to the realisation of the benefits time series assumed in the 2019 CBA for the monetised benefits listed above, on a per-meter basis. However, the 2019 CBA implicitly recognised that these benefits are unlikely to be realised in a homogenous way across all non-domestic consumers.[75] This Impact Assessment also recognises this explicitly, and in the modelling work to support it we assume that higher offers would lead to the realisation of a larger proportion of benefits. Specifically, we assume that:

    a. "High" offers will realise 160% of the average benefits per meter assumed by the 2019 CBA.

    b. "Medium" offers will realise 105% of those average benefits.

    c. "Low" offers will realise 85% of the average benefits.

    d. "Minimum" offers will realise 30% of the average benefits.

73. These figures represent an illustrative mix of the level of benefits that various offers are likely to help consumers realise, the underlying impact of the policy is to realise impacts

[71] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/999271/Annex_C-_Impact_Assessment.pdf. As this distribution does not impact the final NPV, further sensitivity analysis has not been conducted for this IA. Please see the consultation stage IA for further sensitivity analysis around this input.

[72] Including in the counterfactual "Do Nothing" scenario, as is described further below.

[73] Newly engaged consumers are assumed to be distributed between the various offers in the same proportion as already engaged consumers. Engagement increases by 5 percentage points every year until it reaches 100%. In the Central Scenario, this happens in 2030. This aligns with our expectation that this policy will allow for the realisation of benefits in line with the 2019 CBA whilst also acknowledging that 100% of benefits will not be realised immediately. The same increase is assumed in the counterfactual to a) account for the growing awareness of the transition to net zero and all that entails b) to be prudent in our estimation of benefits.

[74] The innovation literature discusses the ways in which "Freemium" (or free software offered as a precursor to premium functionalities within the same tool or service) can drive demand for paid-for features over time. Jiang, Z., & Sarkar, S. (2009). Speed matters: The role of free software offer in software diffusion. Journal of Management Information Systems, 26(3), 207–240- https://www.researchgate.net/profile/Zhengrui_Jiang/publication/220591125_Speed_Matters_The_Role_of_Free_Software_Offer_in_Software_Diffusion/links/59776e45a6fdcc30bdbad4e7/Speed-Matters-The-Role-of-Free-Software-Offer-in-Software-Diffusion.pdf and Kumar, V. (2014). Making" freemium" work. Harvard Business Review, 92(5), 27–29- https://hbr.org/2014/05/making-freemium-work.

[75] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/831716/smart-meter-roll-out-cost-benefit-analysis-2019.pdf , particularly pp. 34-36.

in line with the 2019 CBA (accounting for the fact that some benefits are already being realised, in line with the counterfactual, and that some inputs, like carbon values, have been updated). Whilst there is inevitably some uncertainty in the exact proportion of benefits that any given data offer enables, the range is presented here is broadly consistent with case studies from the NDSEMIC competition.

74. At the point at which behavioural constraints to engagement with data feedback offerings are overcome entirely, these benefits scaling factors, coupled with the uptake of the data offers, will lead to an aggregate level of benefits in the policy scenario that would match those anticipated by the 2019 CBA document.[76]

75. This central policy scenario was compared to the counterfactual (status quo) scenario. In the counterfactual, it was assumed that a smaller number of suppliers would offer some form of data feedback tool to their customers, and that this would result in 5% of consumers being on a "medium" offer, 10% on a "low" offer, and 10% on a "minimum" offer. This is based on monitoring data and insights available to the programme and a qualitative assessment of the state of the market.

76. As in the main policy scenario, it was assumed in the counterfactual that engagement with and take-up of data offers would increase by 5% every year (in line with the assumption in paragraph 45). This is reflective of the fact that the market is expected to eventually lead to more widespread engagement with smart meter data and availability of data feedback tools. This would likely happen significantly more slowly in the absence of intervention; however, there is limited evidence in this space[77] and so we have assumed an identical increase in the rate of uptake. To note, in the policy scenario, there is an immediate one-off increase in uptake, resulting from the policy, which lifts the baseline level of consumer engagement above the counterfactual.

77. The appraisal period considered is 2022-2034 – to keep the timeframe consistent with the 2019 CBA. The discount rate is 3.5% in line with HMT Green Book guidance. This approach leads to the following estimates of the costs and benefits resulting from the policy's implementation, expressed in 2019 prices:

Central Scenario: Discounted Costs and Benefits		
Costs	Total fixed costs (£m)	**23**
	Total variable costs (£m)	**119**
Benefits	Energy Savings (£m)	**670**
	Reduced GHG Emissions Benefits (£m)	**652**
	Air Quality Benefits (£m)	**26**

Net Present Value (NPV, £m)	**1,206**
Benefit-cost ratio (BCR)	**9.5**

[76] In fact, these figures were assumed precisely because they lead to average savings in line with the 2019 CBA assumptions, which are based on real-world evidence on non-domestic smart meter energy savings. Because the specific figures were assumed, extensive sensitivity analysis was carried out for the consultation stage IA in order to assess the impact of different benefits scaling factors on the model outputs. Nonetheless, it is worth noting that even the scaling factors for the high offers correspond to savings well within the range of the evidence from NDSEMIC. Specifically, 160% of the CBA benefits implies savings of about 4.5% for electricity and 7.2% for gas, while some NDSEMIC sites reported savings of up to 11%.

[77] Evidence from the Small Business Survey indicates that the usage of smart meter data to reduce energy consumption has been fairly static over time.

78. In the central policy scenario, the net benefits of implementing the policy are clearly positive, with an NPV of £1,206m and a BCR of 9.5. The benefits from reduced greenhouse gas emissions presented in the table are calculated assuming a carbon value correspondent to the central carbon values series from the Green Book Supplementary Guidance on the appraisal of greenhouse gas emissions. This is following the latest available advice from HM Treasury, and has been updated since the consultation, leading to much higher monetised savings from a reduction in GHG Emissions.

79. Clearly, there is potential for large benefits to be unlocked for consumers and suppliers. The exact distribution of these benefits between the two groups will depend on how much suppliers will charge consumers for the use of their more advanced data feedback tools, and to what extent they would share any outstanding costs with consumers in the form of higher tariffs. If we assume that suppliers will charge the entirety of their costs back to consumers – either in the form of direct fees for added value functionalities (unlocked by the free offering) or passing costs back to consumers via their bills– but make no additional profits out of it, the total benefits to consumers would be about £528m over the thirteen-year appraisal period.

80. We are aware that the BCR of this policy is relatively high for a policy in the energy efficiency sector. This reflects the available evidence[7879] on the effectiveness of data feedback offers: the potential benefits in terms of, mainly, energy savings clearly outweigh the estimated production costs. As outlined in earlier sections of this Impact Assessment, these large potential benefits remain currently largely unrealised due to the various market failures discussed in paragraph 12.

81. Although we are confident, given the above analysis, that the policy intervention will deliver a net benefit to society, we also recognise that there remains some inherent uncertainty about how consumers will respond to the policy intervention. However, internal sensitivity analysis shows that if approximately 25,000 more non-domestic dual-fuel customers with SMETS2 meters realise the full benefit of their smart meter data following policy implementation, then this would be sufficient to see the policy's costs "breakeven". This is equivalent to approximately 3% of current non-domestic metering points with smart meters and under 2% of all non-domestic smart metering mandate metering points.

82. Given the present uncertainty in the energy supply market, we have undertaken a brief assessment on the impact this could have on the net benefit of this policy. In the event that more non-domestic energy suppliers cease trading, the net benefit of this policy would increase. This is because costs are a function of the number of energy suppliers in the market (and total costs fall in proportion to the number of energy suppliers) whilst benefits are a function of the number of consumers in the market which we anticipate will remain largely unchanged. Given the current volatility in energy prices, it is worth highlighting our use of the long-run variable cost of energy when monetising energy savings. This is in line with Green Book guidance, however, is worth noting that an analysis using market prices would see net benefits increase, particularly in earlier years, as the value of savings increase.

Non-monetised costs and benefits

[78] https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019,

[79] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

83. In addition to the monetised costs and benefits, a number of non-monetised benefits have also been considered. Moreover, the overall strategic fit of the policy within the Government's wider net zero plans, and particularly the transformative vision set out in the Energy White Paper[80] also need to be given appropriate consideration.

84. The following benefits cannot be adequately monetised for the purpose of cost-benefit analysis, but are nonetheless important factors to consider in the appraisal of the policy:

    a. **Consumer empowerment:** Greater understanding of their energy use may empower consumers to manage their energy beyond simple energy saving behaviours. Through this, consumers might also become more aware of their carbon footprint and more climate-conscious overall (as some evidence from NDSEMIC indicates), leading to positive behavioural feedback loops.[81] Generally, lowering barriers to consumer engagement with energy data in the non-domestic space could facilitate the success of other interventions and policies in the same space – for example, where they rely on a behavioural response.

    b. **Increased data availability**: wider energy efficiency schemes would benefit from easier access to business consumption data (with consumer consent). The fact that the on-request data offer and awareness raising requirements apply to all non-domestic customers with a smart (SMETS/AMR) meter (including Industrial & Commercial (I&C) organisations) could enable more granular auditing of firms in terms of their energy use and carbon emissions. This would support the delivery of the Government's net zero commitments.

    c. **Rollout benefits:** As the potential benefits of smart meters in the non-domestic sector are realised more widely, this could lead to non-domestic energy consumers developing increased awareness of smart meters and their benefits. In turn, this could increase demand for smart meters and facilitate their rollout to non-domestic customers during the Targets-based framework period.

    d. **Third party benefits**: the policy requires that suppliers provide data offers to their non-domestic smart meter mandate customers by default. Crucially, however, it also aims to remove the barriers that third parties currently face in accessing energy consumption data from suppliers to provide effective energy management tools. In the medium and longer term, the policy could enable the development of a broader market for such tools, generating opportunities for growth and profits for the third parties producing them.

    e. **Competition and innovation:** generally, the policy is designed to enable and boost innovation rather than stifle it. It aims to remove barriers to data access and empower consumers, thus leading to more competition between energy suppliers and, crucially, with and between third parties in providing effective energy feedback and management tools. As this competition drives innovation going forward, and other complementary technologies are adopted at scale[82], this could increase the benefits of the policy over time beyond what is assumed in the analysis.

85. There are no non-monetised costs that have been considered in the appraisal of this policy. The timeframes for the introduction of the default data offer have now been

[80] https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future - particularly the goal to "enable a smarter, more flexible energy system."

[81] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

[82] Including electric vehicles, "smart" appliances, and other, similar technologies.

broadly aligned with wider industry system changes taking place, including broader updates to data systems and processes. Therefore, for those energy suppliers that choose to build or develop data tools in-house that leverage these systems (as opposed to partnering with a third party, offering SMETS-based solutions via the WAN/HAN or providing insight on an individual customer basis) we do not quantify additional costs as a result of the policy.

Direct costs and benefits to business calculations

86. All costs considered in this Impact Assessment are incurred directly by energy suppliers (or their third parties) in developing and operating data feedback tools. Therefore, the total direct cost to business of this policy is equivalent to the total costs estimated in the above sections. As mentioned above, it is likely that energy suppliers will reabsorb these costs by charging consumers for access to the most sophisticated, added value functionalities and services, or by raising tariffs. It is possible that they would only reabsorb part of these costs, or that they would charge consumers for use of commercial offers and earn a profit from this.

87. For the purposes of this Impact Assessment, we have treated all costs of the policy as direct costs to business. This is because most of the non-domestic consumers in scope of the policy are themselves businesses (with the remaining consumers being public sector organisations); thus, regardless of the proportion of costs that suppliers recuperate by charging consumers back for them, the totality of the costs will be incurred by businesses. The benefits from energy savings, on the other hand, are treated as indirect benefits to business. This is because for energy savings to be realised, non-domestic consumers need to actively engage with their energy consumption data and modify their behaviour.

88. In line with BIT methodology, 2019 prices and 2020 present values are used, so these numbers are not comparable to those determined above for the policy's net present value. Following this methodology, the Equivalent Annual Net Direct Cost to Business (EANDCB) of the policy is found to be £11.7m, with estimated total costs of £178m over the appraisal period (undiscounted). The discounted total direct costs to business are £142m. Note that the table below uses the retail energy prices rather than the long-run variable cost of energy as discussed in paragraph 40a above. As such, the NPSV below is not comparable to the NPSV generate by the policy as a whole.

Cost of Option (2019 prices, 2020 present value)			
Total Net Present Social Value	**Business Net Present Value**	**Net direct cost to business per year**	**BIT Score**
1214.6	618.1	11.7	58.7
Appraisal Period (Years)	13		

Impact on small and micro businesses

89. With reference to the policy under consideration, both the energy suppliers and the consumers are businesses, as the policy applies to the non-domestic sector. Most of the non-domestic consumers covered by the smart metering mandate are micro businesses, while the rest are small and medium-sized enterprises (SMEs) and smaller public sector organisations.

90. The impact of the policy on small and microbusinesses as consumers who have had a smart meter installed is expected to be positive and has the potential to deliver substantial benefits to them in terms of energy savings[83] (which would only be partly offset by suppliers charging for the most sophisticated, value-added tools they offer) and empowerment in controlling their energy use. In the long term, this can allow them not only to save on their energy bills but also to make better business decisions, choose tariffs that better align to their needs, and increase their own awareness of their environmental footprint.

91. The impact of the policy on small energy suppliers is more uncertain, at least in the short term. It has not been possible to source complete data that distinguishes energy suppliers by their exact number of employees and so, given the absence of data on the number of employees by energy supplier, it has not been possible to undertake an assessment of the effect of this policy on small and micro businesses using the most typical definition of small and micro businesses (which are those with between 11-50 employees and 10 or fewer employees, respectively). Indeed, given the complexity of energy suppliers' operations and business structures, an employment-based definition may not have given an accurate representation of whether an energy supplier is a small or micro business – it is common practice in the energy supply industry to have a third-party business manage a large proportion of the business operations (including back-office functions and installations), which would likely skew the findings of any such assessment.

92. Instead, this Impact Assessment (IA) has used an annual turnover-based approach where a small business is defined as one with an annual turnover less than £6.5m and a micro business is defined as one with an annual turnover less than £632k. This is in line with the approach used for the Smart Meter Policy Framework Post 2020 IA[84]. Annual turnover has been collected from Companies House data, where available, to determine which suppliers meet the above criteria. Where no specific turnover data is available, individual financial accounts submitted to Companies House have been studied to determine the basis on which abridged accounts have been submitted. Where the likely cause for abridged accounts is that individual businesses do not meet the required turnover threshold to submit full accounts, they have been classified as a small or micro business.

93. At the time of writing there are 46 non-domestic energy suppliers who have obligations covered by the smart metering mandate operating in the market. Of these, we estimate that 11 of these are small businesses and micro businesses.

94. A substantial component of the cost of developing new data feedback tools is the initial, fixed-cost investment, which in principle could represent a higher burden for the smallest suppliers, if they decide to build tools in-house. However, to exempt small and micro

[83] https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019

[84] https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers

suppliers from the legislation could have other, unintended consequences. Firstly, it would work counter to the policy objectives from a consumer perspective - some of the suppliers offering the least developed offerings (raw CSV files on request and similar) are the smallest suppliers. To exempt them could have a negative impact in the longer term. It could put them at a competitive disadvantage compared to larger competitors who, as a result direct of the policy, could be offering more sophisticated data offers which are sufficiently effective so as to attract consumers away from small and micro suppliers.

95. Instead, we have aimed to design the policy in a manner which will work to mitigate the costs to suppliers (particularly small and micro suppliers) particularly compared to a scenario where more sophisticated data offers come about in a fragmented manner. Firstly, in setting a market wide requirement, we aim to encourage third party innovators to operate in this space and create new data tools. A benefit of this is that smaller suppliers will then be able to buy tools “off the shelf” which will effectively allow them to pool their resources. This is particularly useful for smaller energy suppliers as the initial fixed costs likely represent the largest barrier to investing in more sophisticated data tools. Additionally, as the bulk of new requirements will now take effect in October 2024, smaller suppliers will have sufficient time to build plans for their data offer into their strategies and spread out any costs accordingly. Furthermore, we have built sufficient flexibility into the policy so that suppliers may not need to build entirely new systems or technologies to comply. For example, they could adapt existing systems or find cost-effective means for compliance in the shorter-term (e.g. through email or billing mechanisms) while they invest in longer-term solutions.

Wider impacts

96. We have considered the risk that the availability of a default data offer from their energy supplier might cause some customers not to seek or renew contracts for third party data provision. However:

    a. We consider any such negative impact will be limited given limited levels of non-domestic consumer engagement with smart meter data as set out throughout this document. In addition, the actual requirement regarding the default data offer comprises a baseline level of service that does not extend to some of the more sophisticated products and services on the market.

    b. The default data offer could also have some positive impacts for third party service providers. The requirement on energy suppliers to provide or make available the default data offer should encourage greater competition both amongst existing service providers, should they seek to provide the default data offer for energy suppliers, and between energy suppliers and such service providers, therefore delivering better outcomes for consumers and creating new market opportunities for providers. In addition, energy suppliers can make use of third-party services providers to deliver the default data offer. This offers an additional route to market for these service providers. Increased consumer awareness of the benefits of smart meter data through the default data offer may also drive demand for enhanced smart meter data services, including from third party providers.

    c. More generally, we expect that the existence of a free baseline from suppliers is likely to further incentivise third party service providers that want to compete directly to set themselves apart from such a baseline by offering additional value-add features and services, thus benefiting consumers, and leading to further market expansion/development.

97. With regards to the market for data tools, our expectation, following the implementation of this policy, is for there to be an increase in activity for businesses and other relevant parties which specialise in the development of data tools. Given the relative immaturity of this market (in a smart metering context) there is a genuine opportunity and incentive for these parties to innovate and offer value for money data tools in order to establish their market position. This should work to the benefit of businesses, third party innovators and energy suppliers, who would respectively benefit from better data offerings (leading to greater energy savings) and potentially lower costs for the development of data tools than would be present in the absence of any policy intervention.

98. We do not expect the requirements of the policy to create meaningful barriers to entry to the energy supply market. This was not a theme recurring within the consultation responses; new suppliers already face more significant entry costs[85] to become licenced energy suppliers (ensuring appropriate protections are in place for consumers) and, as set out in this Impact Assessment, the particular costs of this policy are small in comparison to benefits. In addition, the non-domestic market has not seen the same scale of supplier exits from the market in light of the recent energy market context; at the end of 2021, large suppliers operated 99% of domestic meters compared to 77% of non-domestic meters.[86]

99. We have also considered whether ubiquitous data is required for the full benefits of the policy to be realised in terms of innovation and consumer outcomes:

    a. Under the final policy design third party innovators (in developing their business models or innovations) will plan on the basis that non-domestic consumer rights around nominating third parties to access their energy use data for free via their energy supplier are universal. However, if third parties had to check an individual consumer's energy supplier before they knew whether their data could be accessed for free this would make business development and planning more difficult and possibly impact scalability. Therefore, we have concluded that ubiquitous data is necessary to achieve the policy's intended innovation outcomes.

    b. We also consider that if certain suppliers (for example, smaller organisations) were exempt from the obligations it would be unfair for a microbusiness consumer of a particular energy supplier to have different rights in relation to their data (i.e., to nominate a third party to access data on their behalf to provide them with value-add services) than a microbusiness from another, simply because they have chosen a different provider. Therefore, ubiquitous data is necessary to ensure consumer fairness under the policy design.

    c. Finally ubiquitous data provision is consistent with the fact that timeframes for this policy have been designed to further align the policy with supplier delivery of MHHS, which is also a market-wide requirement. This is in recognition of the shared direction of travel in relation to suppliers updating their data systems and processes to deliver both initiatives and the cost-efficiencies of alignment.

100. The policy is designed to enable public sector organisations (of all sizes) to access their energy use data for free, and to ensure that smaller public sector organisations

[85] https://www.ofgem.gov.uk/sites/default/files/docs/2016/07/entering_the_retail_energy_market_-_a_guide.pdf

[86] https://www.gov.uk/government/collections/smart-meters-statistics ; large energy suppliers, as defined at the end of 2021, supply gas and/or electricity to at least 150,000 metering points irrespective of domestic/non-domestic market

receive ongoing information on their energy use. The NDSEMIC evaluation showed the potential for smart meter data tools to support public sector organisations such as local authorities and schools to deliver both environmental objectives and strategies, and wider benefits such as education (with tools that taught school pupils how to code with energy data, broader lesson plans that made use of energy use data and data to support school eco-clubs). Tools also enabled local authorities to monitor energy use across schools within their portfolio in support of management objectives. Making data freely available will also support those public sector organisations for which payment for energy use data could be a barrier to engagement with their energy use. The NDSEMIC evaluation, combined with previous research[87], has shown that there are some factors unique to smaller public sites (particularly schools) in determining levels of engagement with smart meter data. These include:

a. Whether site managers have decision making powers in relation to energy efficiency measures.

b. Whether senior leadership teams and/or governors are supportive of initiatives.

c. Whether site managers feel that the behaviours of staff or students can be meaningfully influenced.

d. Whether funding is available upon which to action energy efficiency measures linked to smart meter data.

e. Whether tools and services based upon smart meter data have educational benefits for pupils and/or can support schools with their wider environmental objectives, such as those set at local authority level.

f. Whether any savings achieved through engagement with data/energy efficiency measures can be reinvested into learning objectives.

101. However, many other motivations relating to engagement with smart meter data were shared with private sector organisations. These included perceptions of savings vs cost of investment (and whether savings could be “proved” by past examples), whether insights were based on half-hourly (or more granular) data and whether organisations were aware of the availability of smart meter data and/or the functionalities/benefits of smart meter data tools. Overall, there is no evidence from either research and evaluation programmes to suggest that public sector premises with smart meters have any reduced incentive to engage with their energy data to reduce costs. Indeed, several drivers of engagement are the same; public sector organisations face many of the same cost pressures as a private enterprise – money spent on energy bills represents an opportunity cost. This reasoning also applies to Civil Society Organisations (CSOs); which also often have a fiduciary responsibility to ensure that money is safe, properly used and accounted for. CSOs are also likely to share objectives with the public sector regarding reinvesting any cost savings into social objectives (as opposed to profits).

Equalities analysis

102. The Public Sector Equality Duty (the equality duty) is a legal requirement under the Equality Act 2010, whereby public sector organisations must consider people with protected characteristics when planning, implementing and reviewing policies and making decisions.

[87] https://www.gov.uk/government/publications/smart-metering-in-non-domestic-premises-early-research-findings

103. Three internal workshop exercises were conducted to identify any equalities risks of the policy throughout policy development (from inception, before consultation and after consultation). These were then assessed against existing data sources (including consultation responses) and prioritised, to assess those most directly linked to the policy proposals. Those prioritised for full analysis were user accessibility (and therefore any implications for data tool users with a disability, people from particular racial or ethnic backgrounds that require energy insight in a language other than English and/or those from more rural areas where internet connectivity may be more challenging), data privacy (with possible links to age and vulnerability of data tool users) and costs (with links between protected characteristics and likelihood of being in poverty).

Usability/accessibility

104. Whilst energy supply licence conditions focused on vulnerable consumers apply to domestic consumers/households only[88], there are some broad principles that will also apply to the relationship between smart meter data provision and non-domestic organisations.

105. According to the D'entrepreneur campaign for business owners with disabilities, there are 14 million disabled people in the UK and nearly 20% of working age adults are disabled; many start their own business and many more aspire to.[89] Therefore, there will also be business owners and occupants with disabilities or specific accessibility needs regarding energy insight. It is also true that commercial landlords or bill payers with access to consumption data may make decisions about energy use in buildings which could affect the people working in them, including those with vulnerabilities such as particular disabilities. In addition, some non-domestic business owners from particular racial or ethnic backgrounds may require energy insight in a language other than English or be based in particularly rural areas that do not have access to data provision via the internet.

106. Overall, we have identified, or will implement, the following mitigations:

a. Energy suppliers of non-domestic customers have a duty to comply with the Equalities Act, and with Electricity and Gas Supplier Licence Condition 0A which requires them to treat microbusiness consumers fairly, for example providing information to the consumer that does not create a material imbalance in the rights, obligations or interests of the licensee and the Micro Business Consumer in favour of the licensee.

b. We will use existing forums to re-emphasise these requirements, and to support industry to consider accessibility requirements in the development of non-domestic data tools and services.

c. For microbusiness customers, tenant consent would be needed for a commercial landlord to access energy use data.

d. We have ensured final legal text is neutral to the means by which data is provided or made available to the non-domestic customer (i.e., the data must be "presented" to them, rather than "visualised" or such like).

[88] Supply Licence Condition 26 (Electricity and Gas) requires licensees to establish and maintain a Priority Services Register of its domestic customers who, due to their Personal Characteristics or otherwise being in a vulnerable situation, require specific services.
[89] https://www.dentrepreneur.uk/

107. We have also re-considered our emphasis on internet-based data provision for third parties; however, we propose to retain this on the basis that:

a. Third party innovators and energy managers are the intended user of this part of the policy – consultation respondents have flagged the importance of internet-based solutions for this kind of innovation.

b. The data security risks of manual data transfer (i.e., via memory stick) outweigh the low equalities risks in referring to the internet specifically.

c. We only use this language for the "free on request" part of our proposals. As per above, for default data offer for customers, suppliers will be encouraged to consider equalities considerations for those with accessibility needs.

d. The language used does not prevent a supplier from meeting any Equality Act obligation which might otherwise be applicable. For example, if the customer requests reasonable adjustments/their data in an alternative format.

108. In addition, we have concluded that the equalities opportunities of our policy from an accessibility perspective outweigh the risks. The evidence base which led to the policy suggested that some suppliers currently provide energy use data only in response to customer requests, and in inaccessible formats (i.e., CSV files). By mandating that moving forwards all suppliers must provide data-driven information in a "user-accessible" format, those with vulnerabilities and accessibility needs will be given free insights into their consumption that they likely do not receive at present, improving their ability to monitor/manage their energy use and reduce costs.

Data Privacy

109. The policy (by virtue of its objectives) does make it easier for customers to nominate third parties to access their energy use data, with their consent. It is true that certain characteristics may make some non-domestic customers more vulnerable to exploitation, for example evidence shows that elderly people are more likely to be targeted by scams.[90] In addition, there may be times where the bill payer/customer receiving the "default data offer" in our proposals is not the occupant of the building. For example, a landlord may use the data to monitor energy use across their portfolio of properties, which could reinforce existing power structures that interplay with protected characteristics (e.g., a landlord being able to see that a lone member of staff with vulnerabilities/accessibility needs is utilising more energy in a particular premises and using this information in a way that is counter to the tenant's interests).

110. Overall, we have identified, or will implement, the following mitigations:

a. Broadly, the policy does not propose any changes to energy supplier obligations under UK GDPR or in relation to consent under the Smart Metering Data Access and Privacy Framework (DAPF).

b. Regarding the relationship between landlord and tenants' permissions to access smart meter consumption data, in 2017 the Government published a "Letter to SEC Parties regarding privacy and smart metering energy consumption data (in

[90] In 2016 the average age of mail scam victims was 74 and over half (53%) of people aged 65+ believe they have been a target of a scam- Citizens Advice: Changing the story on scams Protecting consumers and increasing reporting.

domestic and microbusiness premises)".[91] This reaffirms that where the microbusiness occupant is not the bill payer, suppliers will need to seek consent from the occupant as well as the bill payer to process half-hourly energy use data in delivering our policy. This mitigates the risk of a landlord or employer misusing data against tenants' interests.

111. In addition, easier access to smart meter data has significant potential for benefits in support of net zero, which needs to be balanced against the above. For example:

a. The NDSEMIC evaluation showed the potential for property managers or landlords to oversee and manage energy use across a portfolio of sites in driving down consumption.[92]

b. The Government has recently consulted on a range of broader non-domestic energy efficiency measures including minimum Energy Performance Certificate (EPC) standards for non-domestic buildings. Therefore, there is potential for smart meter data to support those responsible for making their buildings more efficient.

c. The Energy Saving Opportunity Scheme requires owners including landlords to carry out audits on their commercial properties, and there is evidence that half-hourly data can support these audits.[93]

Costs

112. Although energy suppliers will need to provide or make available a default data offer for free[94], suppliers may (as well as any relevant savings) pass costs of this default data offer to their customers indirectly (e.g., passing costs onto consumer bills). This could have a disproportionate impact on organisation owners or employees from lower socioeconomic backgrounds, which in turn may also be correlated with protected characteristics such as sex, disability or race (for example, lone parents (of which the majority are women), families with a disabled member and some ethnic minorities are at greater risk of poverty).[95] Businesses could also pass these costs onto their customers, who themselves may have protected characteristics or face socioeconomic challenges. In addition, if suppliers spread the costs into consumer bills evenly across businesses, those consumers from lower socioeconomic backgrounds/particular groups and with lower energy use/energy intensity could face a further disproportionate cost compared to those with higher energy use/intensity. For example, the Building Energy Efficiency Survey (2016) found that hospitality premises had the highest median total energy intensity followed by emergency services and health. The five largest sectors in terms of energy consumption were offices, retail, industrial, health and hospitality.[96]

113. Overall, we have identified, or will implement, the following mitigations:

a. Our consultation proposed implementation from July 2022. We are now recommending a phased approach to policy implementation. This will be more

[91] https://smartenergycodecompany.co.uk/latest-news/letter-to-sec-parties-regarding-privacy-and-smart-metering-energy-consumption-data-in-domestic-and-microbusiness-premises/

[92] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

[93] https://www.gov.uk/government/publications/energy-savings-opportunity-scheme-esos-evaluation-of-the-scheme

[94] As outlined elsewhere, this does not prevent them from providing value-add products and services in exchange for a charge, but this would sit in parallel to the free baseline offering.

[95] https://www.equalityhumanrights.com/en/file/15071/download?token=5oRVDDTg

[96] https://www.gov.uk/government/publications/building-energy-efficiency-survey-bees

efficient from an industry cost perspective as any changes to supplier processes and systems can be aligned with other initiatives. This does go some way to ensure that disproportionate costs will not be passed on to consumers as a result of this policy.

b. Our final cost-benefit analysis, as set out in this IA, also shows that the benefits of the policy to consumers (as a result of energy savings) significantly outweigh costs. We also account for suppliers passing costs through to tariffs as part of this IA. Therefore, we also propose that these costs are proportionate, and benefits outweigh them, even for businesses with lower energy use or intensity.

c. Our evidence base broadly suggests that business characteristics are evenly spread across the market[97] and we have not identified any links between particular customer bases and protected characteristics.

Monitoring and Evaluation

114. The smart meter roll-out has an established programme of monitoring and evaluation, delivered by the Programme's Benefits Realisation team. This includes commissioned research and evaluation alongside statistical data collection and third-party evidence reviews. Focussing on non-domestic smart metering specifically, to date this has included early research into smart metering in non-domestic premises[98] and evaluation and research carried out as part of the Non-Domestic Smart Energy Management Innovation Competition[99].Monitoring and Evaluation activities for this policy will include:

a. Monitoring of energy supply market data offerings via programme engagement with suppliers. This will include utilising bilateral meetings with energy suppliers to collect insights on the number of smart meter data offerings available to non-domestic consumers, their specific characteristics, what functionalities are provided for free versus charged, and the extent to which they deliver the features identified by NDSEMIC as likely to lead to consumer engagement and energy savings.

b. Monitoring of consumer uptake and engagement with such data offers, via issuing requests for information from energy suppliers and/or collecting data via bilateral meetings with them. Data will also be collected via these methods to track the number of ad-hoc requests for data access received by energy suppliers from customers and their nominated third parties, and whether they are granted within the timeframes established within the policy (10 working days). [100]

c. Desk-based monitoring of the implementation of the awareness raising requirement, for example reviewing supplier communications around the data access process and using bilateral meetings to further understand how this is being delivered.

[97] Overall, the Ofgem state of the energy market report (2019) combined with internal analysis suggests that non-domestic suppliers generally have a range of customers from a variety of different sectors. Therefore, there is no evidence of non-domestic energy suppliers being more likely to have a predominance of a particular protected characteristic within their customer base.

[98] https://www.gov.uk/government/publications/smart-metering-in-non-domestic-premises-early-research-findings

[99] https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition-ndsemic-evaluation-findings

[100] Subject to suppliers meeting other obligations such as those relating to data privacy.

d. Continued monitoring of data collected via the Small Business Survey[101] to assess the uptake of new tools and technologies that use smart or advanced meter data to help control businesses' energy usage, as well as any changes in SME demographics which could overlap with the policy.

e. Ad-hoc research and evaluation (including commissioned work) as required to address evidence gaps or benefits risks and opportunities identified by existing activities.

115. A Post-Implementation Review (PIR) of these policy changes will also be conducted as part of the Programme's ongoing benefits monitoring and evaluation activities. The PIR will be published within five years of policy implementation, alongside other monitoring and evaluation work for the Programme.

[101] https://www.gov.uk/government/collections/small-business-survey-reports