Independent evaluation of FID Enabling for Renewables

Final Report to the Department of Energy and Climate Change

15 October 2015

Contents

1 Disclaimer

Audience and disclaimer

1.1 This report is provided in accordance with our appointment under the contract for the provision of services for the evaluation of the first round of EMR delivery and the FID Enabling for Renewables process dated 13 October 2014 to the Department of Energy and Climate Change ('DECC').

1.2 We have satisfied ourselves, so far as possible, that information presented in our report is consistent with other information which was made available during the course of our work in accordance with the terms of our appointment. We have not verified the accuracy of the data or the information and explanations provided by the third parties and therefore accept no liability in relation to this.

1.3 This report has been prepared exclusively for DECC. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than DECC for our work, our report and other communications, or for any opinions we have formed. We do not accept any responsibility for any loss or damages arising out of the use of the report by DECC for any purpose other than in connection with this project. We draw your attention to the limitation of liability in our appointment.

2 Executive summary

Introduction

2.1 In order to address the energy and climate change challenges faced by the UK, the 2011 Energy White Paper[1] proposed a new system of long-term contracts in the form of Contracts for Difference ('CfD'), with the express objective of providing greater price certainty for investors in low-carbon electricity generation. This mechanism was to work alongside the introduction of a Carbon Price Floor and an Emissions Performance Standard, together with a new Capacity Mechanism ('CM').

2.2 The FID Enabling for Renewables project was designed in response to concerns expressed by the market, initially around the time of the 2011 White Paper[1]. Developers of large low carbon projects with long lead times, felt that the transition from the Renewable Obligation ('RO') to the CfD was creating investment uncertainty to the point of creating a risk that investment decisions could be delayed or even cancelled. It was apparent, notwithstanding the proposed period of parallel running between the RO and the CfD, that parts of the market saw the transition as a major impediment to making investment decisions, for as long as the details of the enduring CfD remained undefined. In addition, to this primary objective, the project was also seen as an opportunity to provide a 'proof of concept' for the CfD and therefore facilitate a smooth transition to the enduring regime.

2.3 The FID Enabling for Renewables process has now concluded and eight Investment Contracts[2] have been awarded as a result. These include 5 offshore wind, one biomass CHP and two biomass conversion projects. At the time of writing, the two biomass conversion projects are still awaiting State aid approval from the European Commission, but the remaining six projects have received State aid approval.

1 Planning our electric future: White Paper https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48129/2176-emr-white-paper.pdf

2 Investment Contracts https://www.gov.uk/government/publications/final-investment-decision-fid-enabling-for-renewables-investment-contracts

Table 1 – Summary of projects awarded an Investment Contract under FID Enabling for Renewables[3]

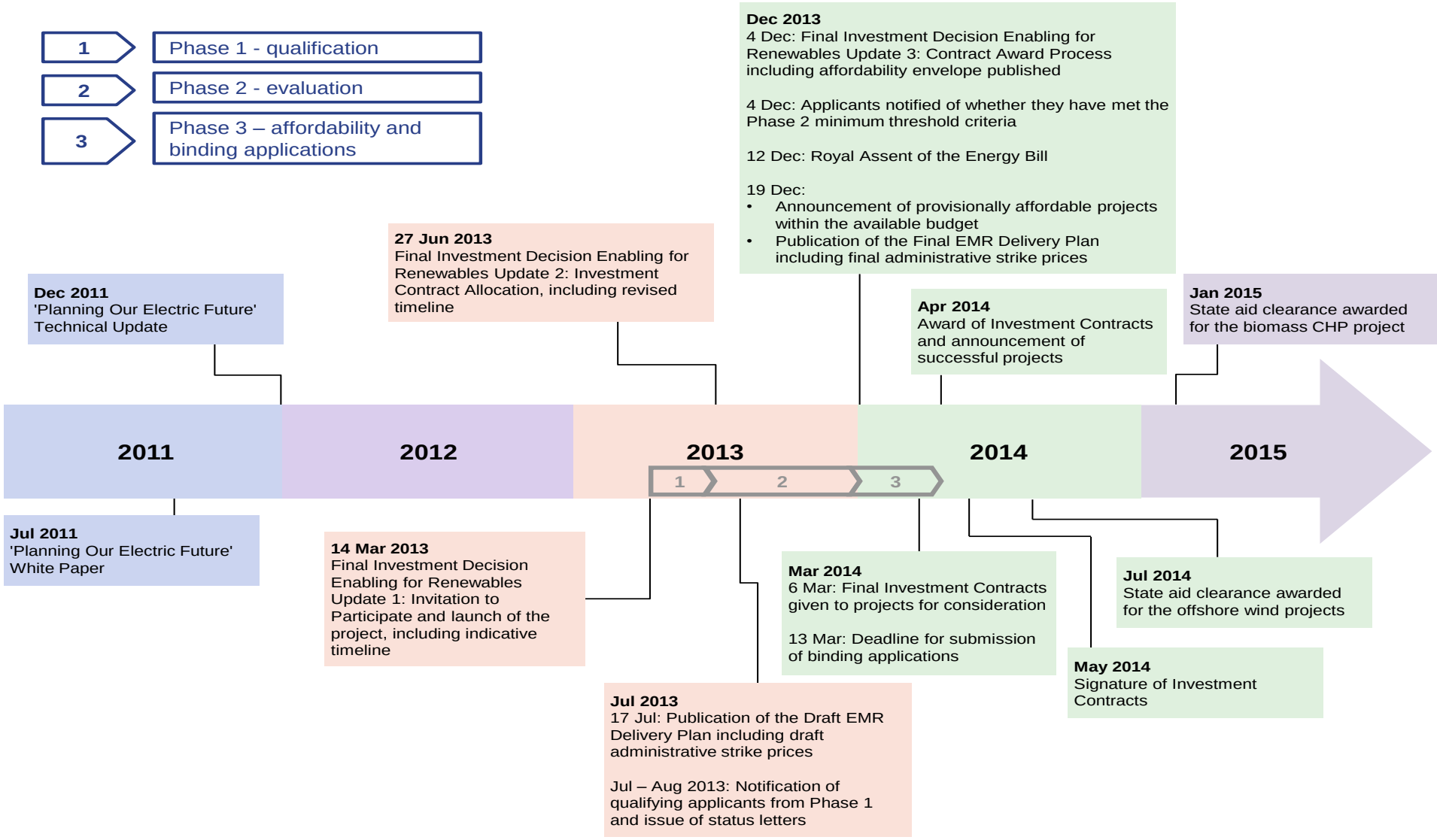
Project	Technology	Target Comm. Date	Target Capacity (MW)	Contract length/ fixed end date	Strike price £/MWh (2012 prices)	Cost of Support (£bn, 2012 prices)[4]
MGT - Teesside	Biomass CHP	Mar-18	299	15 years	125	1.2
Drax - Unit 1	Biomass conversion	Feb-16	645	2027	105	1.7
RWE - Lynemouth	Biomass conversion	Dec-15	420	2027	105	1.1
SSE – Beatrice	Offshore wind			15 years	140	1.9
Phase 1		Mar-18	280			
Phase 2		Mar-19	384			
DONG - Burbo Bank extension	Offshore wind	Mar-17	258	15 years	150	0.9
DONG - Walney extension	Offshore wind			15 years	150	2.0
Phase 1		Mar - 17	330			
Phase 2		Mar - 18	330			
Statoil/ Statkraft – Dudgeon	Offshore wind			15 years	150	1.2
Phase 1		Mar - 17	90			
Phase 2		Aug - 17	210			
Phase 3		Dec - 17	102			
DONG - Hornsea 1	Offshore wind			15 years	140	3.2
Phase 1		Mar - 19	400			
Phase 2		Mar - 20	400			
Phase 3		Mar - 21	400			
Total			**4,548**			**13.3**[5]

3 Assumes all projects commission on time at their expected capacity and achieve their projected load factors. Information taken from Investment Contracts

4 Discounted at 3.5% (2012 prices) for the duration of the contract assuming that all projects commission on time at their expected capacity with .wholesale price and load factor assumptions taken from the revised October 2014 final allocation framework (published 2 October 2014). For further assumptions underpinning these figures see Figure 26.

5 Figures do not add up due to rounding

Figure 1 – FID Enabling for Renewables project timeline highlighting key external milestones



The evaluation

2.4 The evaluation was delivered by a team led by Grant Thornton, and including Poyry, Professor Steve Martin and Professor Derek Bunn (the Evaluation Team / Contractor Delivery Team).

2.5 The specific objectives and outcomes of the evaluation of FID Enabling for Renewables were to provide:

- a clear assessment, backed by evidence, of how the FID Enabling for Renewables project has delivered against each of its objectives (as far as it possible to determine at this stage);
- an opinion (backed by evidence) of how well the FID Enabling for Renewables process was designed, developed and managed, and what could have been done better; and 'lessons learned' and recommendations for future policy making and for the design and development of similar processes in the Department; and
- information to support future evaluations and benefits management.

2.6 Refer to Sections 3, 4 and 5 for further details on the evaluation approach and methodologies employed.

Key outcomes of the evaluation

Policy background, evolution and rationale

Evidence of conditions which can be described as having the potential for creating an investment hiatus in the renewable electricity sector existed for which Government intervention was warranted. However, the evidence is that conditions were not universal but rather technology and even project specific. Therefore, there would have been benefit to getting greater clarity on the exact nature of how the market was being impacted before framing the Government response.

2.7 The development of EMR took place in a post-financial crisis world where investment generally was suffering from a systemic credit crunch. While the balance sheets of large market players such as global utilities provided some initial cushion, the energy sector in general and the renewables sector in particular were not immune from the financial pressures that resulted from reduced liquidity and a sharp increase in the cost of available finance, as well as more restrictive terms available. Therefore not only was there a new policy mechanism that would have created concerns, but there was a severe financial crisis in the background. In this financial climate (described in more detail in Section 6d), investors were likely to require a high level of certainty from any proposed mechanism.

2.8 Our assessment is that there existed market uncertainties during 2011-12, as a result of the challenges which developers in the renewable electricity sector faced. However, these challenges and uncertainties were not universally or consistently applicable in terms of technology, developer or on a project specific basis. It would have been helpful to recognise in the decision making processes at the time that government was not dealing with a generic phenomenon that had a standard universal impact.

2.9 Therefore in our view it would have been useful to commission an independent evaluation of the practical implications of perceived investment hiatus during 2011-

2012 before committing to address a non-generic issue. This would have helped to frame DECC's subsequent response.

A single narrative summarising all key decisions and their rationale would have provided greater retrospective clarity and audit trail on the link from the on-going development of policy to the roll out of the FID Enabling for Renewables procurement.

2.10 FID Enabling for Renewables was run as a project. This required a structured approach and a clear audit trail evidencing the options appraisal and the decision making process that determined the selection of the preferred option. A series of business cases were developed and approved (in line with the five business case model), albeit a number of key executive decisions were made independently of the business case process.

2.11 While we recognise the particular challenges posed by the FID Enabling for Renewables project, where it is possible to show a consistent narrative through the business cases, this would have been very helpful in providing a clear rationale for the evolution of the policy. Moreover, this approach is consistent with Government best practice. In the case of FID Enabling for Renewables, rapid and flexible response was required from DECC, so documenting this policy evolution effectively seems to us to have been particularly important. We recommend that steps and processes are put in place to ensure a suitable mechanism is put in place to provide an effective and comprehensive audit trail that summarises all key decisions underpinning policy rationale. If the business cases are not considered to be the appropriate deliverable to record this information, then we recommend DECC investigate an alternative means of achieving this. Refer to Section 6 for further details.

Evaluation of the process

2.12 DECC followed a three stage process in order to award Investment Contracts. Further details of the process stages are set out in Section 7. A formal process similar to a competitive tender was adopted, based on a qualitative assessment and subject to overall affordability. The point at which the process effectively moved to this procurement-style approach is critical because it effectively fired a starting gun for the market to respond to. At this point, it became critical to establish a level playing field through a standardised approach. Throughout the process the market was kept informed through a series of updates[6].

2.13 Our assessment is that from a reputational (albeit not legal) perspective, DECC were effectively committed to some kind of process at the point of publication of Update 1, which through its very publication would have triggered significant interest from developers, who would then seek to frame a response to the parameters set out in a way that met DECC's requirements.

2.14 Although Update 1 set out DECC's intention to award Investment Contracts, it highlighted that the "nature and timing of support available under FID Enabling for Renewables was dependent on the on-going development of the enduring EMR regime". As such, there were still many policy options available within that framework, for example the size of budget, how to allocate it and evaluation scoring process, whether to use the draft or final strike prices, technology specificity or not), up until the Full Business Case ('FBC') in November 2013 and Update 3 in

[6] Updates 1, 2 and 3 https://www.gov.uk/government/publications/increasing-certainty-for-investors-in-renewable-electricity-final-investment-decision-enabling-for-renewables

December 2013. In any open process between the Government and the market, there is a fundamental tension between the desire to retain policy flexibility and the market's need for clarity and certainty. Reflecting the above, we have evaluated how successful the process was in relation to:

- ensuring sufficient participation to meet the objectives (refer to Section 8b);
- whether the qualification and evaluation criteria (including investment hiatus) were appropriate and their timing of their use in the process (refer to Section 8c and 8d)
- to what extent the affordability assessment and down selection processes were appropriate (refer to Section 8e);
- whether the modelling, forecasting and analysis used was appropriate (refer to Section 8f);
- ensuring transparency (refer to Section 8g); and
- what lessons can be learned from challenges (refer to Section 8h).

2.15 Based on these areas, our evaluation has derived the following key messages. These key messages do not cover all areas looked at and further details are available in the Section 8 of the report.

The procurement process was fit for purpose.

2.16 Out of 57 initial applications in Phase 1, 26 qualified to participate. In Phase 2, 16 projects were successful in meeting the minimum threshold evaluation criteria (based on moderated scores), of which eight were ultimately affordable within the available budget. The overall level of failure at Phase 1 indicates that the Phase 1 qualification criteria were successful in flushing out speculative or undeliverable applications at an early stage.

2.17 Some stakeholders we interviewed commented on the subjectivity of the criteria, but only one stakeholder suggested more objective criteria would have been better. Refer to Section 8c and 8d for further details on the qualification and evaluation criteria.

Notwithstanding the desire not to exclude anyone, it may have been beneficial if a clearer steer could have been given to prospective participants as to the characteristics of a successful application to avoid some speculative, inappropriate or under-developed applications.

2.18 The level of initial participation across the industry was high. Phase 1 of the FID Enabling for Renewables process generated 57 applications across a range of technologies. The low level of subsequent withdrawals provides further evidence that the FID Enabling for Renewables process was attractive to applicants and high levels of participation (in terms of number of applicants) indicate that the process was successful in engaging the market.

2.19 From our stakeholder research there is limited evidence of developers who may have participated but did not. A number of stakeholders noted that an earlier decision on RO grace periods affected participation in the FID Enabling for Renewables process. Refer to Section 8b for more details on participation.

2.20 Notwithstanding the understandable desire not to exclude anyone, given the end result of the process, in which Investment Contracts were awarded only to offshore wind, biomass CHP and biomass conversion projects, we are not clear on the significance of this early wider participation. It may have been more beneficial if DECC had given a clear steer upfront on what project characteristics would be most

likely to lead to a positive outcome as this could have saved developers of unsuccessful projects in abortive application time and costs.

Affordability parameters should have been set out more clearly from an earlier stage, even if the budget itself could not be determined until a later stage

2.21 The down-selection affordability methodology was clearly set out in Update 3 and gave priority to the highest ranked projects in Phase 2, using the top quartile for each technology, and enabled the highest ranked projects that were affordable within the available Levy Control Framework ('LCF') budget to be selected across technologies.

2.22 Given what is at stake for all parties, it is important that transparency is achieved in the process wherever possible. In this case, DECC's approach to the affordability mechanism was not set out until nine months into the evaluation process, by which time project developers had already invested significant time and resources in getting through Phase 2. If a similar project were to be run in the future, we would recommend that the affordability methodology is set out clearly from the outset (even if the budget itself cannot be determined until a later stage).

2.23 Going forward it is important that the installed capacity for each project is carefully monitored, to establish whether any projects will exceed the assumed generation volumes and therefore the proportion of the LCF budget allocated for FID Enabling for Renewables projects. Equally any underspend will need careful monitoring.

Overall, the procurement process was well communicated. However, as part of that, the decision making process for choosing the successful projects could have been made more transparent to the market.

2.24 In general terms our analysis and stakeholder research indicates that DECC put a considerable amount of resource into communicating with the market.

2.25 The project phases, each with an Update document, enabled a process of structured communication to take place with the market, providing a progressively more detailed framework for the FID Enabling for Renewables application process. The Updates struck a balance between keeping the market informed of the latest process developments and allowing DECC sufficient flexibility to amend the process later if required.

2.26 DECC were transparent in terms of changes in the overall timetable and the underlying reasons for this. However, some stakeholders complained about the changes in project timing, commenting that the Phase 1 and Phase 2 timetables were not clear from the outset. According to a number of stakeholders, the next steps were not always clear. This was primarily due to the evolving nature of the project.

2.27 There was a perceived lack of transparency around the decision making process for choosing the successful projects and what evidence applicants needed to provide to satisfy certain criteria, as well as the extent to which DECC would request additional information after the applicant submission. There was also a perceived lack of transparency around how DECC set the level of budget for FID Enabling for Renewables.

2.28 We have suggested recommendations in relation to the above should a similar project be undertaken by DECC. See Section 11 for further details of these.

Evaluation of process outcomes

2.29 The outcomes of the FID Enabling for Renewables process have been evaluated in terms of the following cross cutting policy issues in this report:

- Averting an investment hiatus in renewables (Refer to Section 9b);
- Transitioning to CfD (Refer to Section 9c);
- Achieving a technology mix (Refer to Section 9d);
- Meeting 2020 renewable targets (Refer to Section 9e);
- Strengthening supply chain and industry development (Refer to Section 9f);
- Magnitude of the LCF expenditure (Refer to Section 9g); and
- Impact on consumer bills (Refer to Section 9h).

2.30 In most cases, a complete evaluation of these topics will only be possible once the impact on the enduring regime can be assessed and the funded projects are commissioned. However we have identified a number of key messages.

There is evidence that FID Enabling for Renewables has added value as the intervention method chosen, albeit only in relation to securing investment in certain technologies.

2.31 FID Enabling for Renewables allowed projects to hold valid contracts at least nine months ahead of the earliest date possible under the CfD regime (although some projects may have been delayed for longer or cancelled). As a result, we have estimated the net present value, based on the additional investment expenditure that resulted from implementing the FID Enabling for Renewables project, to be £1.3bn. We have set out below some particular examples:

- Based on Gross Value Added (GVA) analysis of the Walney extension project we have estimated the additional GVA benefit of averting the expected delay in the project is £19mn; and
- The impact of FID Enabling for Renewables decisions on the Drax share price suggests that FID Enabling for Renewables was highly influential to investment decisions and outlook in this particular case at least.

2.32 The perception from a range of stakeholders is that the impact of FID Enabling for Renewables on averting an investment hiatus was more concentrated on certain technologies. It appears that the process has contributed towards averting an investment hiatus in offshore wind but perhaps less so in other technologies. DECC should consider whether this has caused any unintended consequences, making it more challenging for certain technologies to compete. This is explored in the EMR report.

2.33 From our analysis we have highlighted recommendations covering monitoring of actual capex spend and actual commissioning dates to understand if these are in line with those in the binding applications, as well as considering whether further detailed GVA assessment would be useful to help quantify the benefits associated with averting an investment hiatus under the FID Enabling for Renewables project. Refer to Section 9b for further details.

There are mixed views from the market as to whether FID Enabling for Renewables allowed a smoother transition to the enduring CfD regime.

2.34 There are both important similarities and differences between FID Enabling for Renewables and the enduring CfD regime which has an impact on the transition to the enduring CfD regime. The FID Enabling for Renewables Investment Contracts

and CfD standard contracts are very similar, which is likely to give confidence to CfD participants that the contractual terms are acceptable to peer entities. Key differences between the FID Enabling for Renewables and the enduring regime include:

- less flexibility in CfD standard contracts with respect to Milestone Delivery Dates ('MDD');
- the difference in the selection process did not help prepare the market for allocation risk (although a 'first come first served' approach was envisaged for the first CfD allocation round at the time of the FID Enabling for Renewables process being designed); and
- the difference in the qualification criteria under the enduring regime.

2.35 Some stakeholders felt the process acted as a bridge, allowing contract terms to be tested and demonstrating the viability of the new regime. Others felt its usefulness as a transitioning process was undermined by the fact only a few technologies were awarded Investment Contracts and that it did not prepare the market for allocation risk under competitive allocation rounds. Refer to Section 9c for further details on transition to a CfD.

Although eight different technology types applied for the FID Enabling for Renewables process, only three types of technology have been awarded Investment Contracts.

2.36 Only three types of technology have been awarded Investment Contracts (out of a total of eight technologies which initially applied and a total of 14 different technologies, outlined in the EMR Final Delivery Plan[7], that can be supported under the enduring regime), namely biomass conversion, biomass CHP and offshore wind. Although we note two onshore wind projects that were provisionally affordable within the available budget in December 2013[8] subsequently withdrew before submitting binding applications in March 2014. This represents a relatively limited technology mix but is probably to be expected given the overall objectives of FID Enabling for Renewables and the respective risk profiles of different renewable electricity technologies and the fact that investment hiatus is likely to be most pronounced for technologies with the longest lead times. In terms of outcomes, the explicit requirement for a mix of technologies introduced further complexity into the process which ultimately did not affect the result.

The FID Enabling for Renewables projects will provide a significant contribution towards the interim and 2020 EU renewable energy targets.

2.37 We estimate that the eight projects that were awarded an Investment Contract under FID Enabling for Renewables could contribute 16.8TWh of renewable electricity generation by 2020. This would represent 17% of the expected required renewable electricity generation (101TWh) outlined in EMR Delivery Plan (December 2013). This represents a significant contribution towards the target.

7 Final EMR Delivery Plan https://www.gov.uk/government/publications/electricity-market-reform-delivery-plan

8 On the 19 December 2013, shortly after the publication of Update 3, DECC announced the 10 projects that were provisionally deemed affordable, based on the allocation of the LCF budget. See Section 8e and 8f for more details

There is some evidence that FID Enabling for Renewables has stimulated supply chain development, but it is still early days and should be the subject of on-going monitoring.

2.38 The Phase 2 applications proposed a number of ways in which the eight projects intended to drive industry development and develop the supply chain within the biomass and offshore wind sectors. At this early stage, there is some evidence to suggest that these benefits are being realised.

2.39 Part of the rationale for FID Enabling for Renewables was to support supply chain development was to help drive cost reductions in the industry. Therefore we recommend that the generation unit cost for the biomass and offshore wind technologies should be closely monitored going forward to ensure the benefits of early deployment to drive industry development are being achieved. Refer to Section 9f for further details on strengthening supply chain and industry development.

There is a recognition that the high allocation of LCF budget for FID Enabling for Renewables has provided an element of certainty to DECC in meeting 2020 EU renewable energy target. However, there is real concern in the market that this may have endangered the credibility of the enduring CfD regime.

2.40 Determining how much budget to allocate to FID Enabling for Renewables was made difficult by the fact that the amount of remaining budget available under the LCF (which includes other forms of support such as small-scale FIT, RO and future CfD allocation) was continually changing as updated forecasts on the amounts committed/forecast on these other elements were updated (eg RO deployment levels).

2.41 Based on DECC's October 2014 projections[9] the FID Enabling for Renewables projects are expected to represent £3.6bn of the LCF spend cumulatively to 2020/21. Applying the same methodology that was used at the time the FID Enabling for Renewables budget was set (but updating for October 2014 revised wholesale prices and expected spend on all schemes), the FID Enabling for Renewables projects, at £3.6bn represent 71% of the residual LCF budget for renewable CfDs. The significant allocation under FID Enabling for Renewables allowed DECC to achieve a relatively high level of certainty around the UK Government's ability to meet its 2020 renewable targets and provide the clear investment signal to allow supply chains to be developed.

2.42 The amount of budget for CfD allocation rounds, where contracts are being competitively allocated based on price, is affected by the proportion of the LCF budget taken up by FID Enabling for Renewables (and budgets of other schemes such as the RO). However, competition for limited budgets under the enduring regime may drive prices down further. To the extent that market perception is that the available budget allocation in the enduring regime is too constraining, this may discourage some participants.

2.43 At this stage, it is not possible to be definitive about how constrained budgets (driving down price) and lack of visibility on the available budget (discouraging

[9] Annual Energy Statement 2014, Annex A, 2015/2015-2020/21 (2011/12 prices) (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/371387/43586_Cm_8945_accessible.pdf)

participation and/or investment) will interact. Stakeholders interviewed have provided a mixed view on the appropriateness of the budget for FID Enabling for Renewables, with most recognising the challenges in determining the budget level and the majority – understandably, given their commercial objectives - expressed concern that the budget was too high and therefore endangered the credibility of the enduring regime.

It is too early to assess the impact of FID Enabling for Renewables on consumer bills. However, there is evidence based on current wholesale electricity prices and RO prices that the cost of support will be lower under FID Enabling for Renewables than the RO.

2.44 We estimate that the cost of supporting these eight Investment Contracts to be £13.3bn[10] (2012 prices) over the course of their contacts, assuming all projects commission at their stated capacity on their Target Commissioning Date and achieve the projected load factors. Supporting these contracts under FID Enabling for Renewables as opposed to RO, provides a £1.1bn saving (7.4%).[10]The cost of support under FID Enabling for Renewables will vary depending on the wholesale electricity price (which drives the relevant market reference price) and the amount of electricity produced by each project (which in turn will depend on the commissioning date, final installed capacity and load factors achieved).

2.45 At this stage it is too early to provide a definitive assessment of the relative cost of support under enduring CfD regime as opposed to FID Enabling for Renewables. In fact it may never be possible to undertake a robust like for like comparison, not least because of the different technology mix in FID Enabling for Renewables compared with the overall EMR programme, which will make an appropriate counterfactual difficult. In broad terms, the question seems to us to be whether, if the cost of support for projects turns out to be lower overall in the enduring regime, this is offset by the broader benefits that are derived from the timing of the FID Enabling for Renewables project and the platform it creates for industry development which, in turn may deliver lower cost generation over time. Refer to Section 9h for further details on the cost of support impact.

Although it is too early to give a clear view, there is evidence of a reducing cost of capital. However, this may be more as a result of wider conditions in the funding market as opposed to FID Enabling for Renewables specific reasons.

2.46 There is very little empirical and project specific data available in the public domain or from Phase 2 applications to evidence the expected reduction in cost of capital for projects funded through a CfD contract (compared to a RO counterfactual).

2.47 Based on our discussions with stakeholders, the general expectation is that the CfD regime should facilitate a lower cost of capital than under the RO, but its magnitude and timing are uncertain at this stage. However, the credit-cycle, the capital market liquidity and the availability of commercial debt are likely to play a bigger role in driving financing costs. This is explored in further detail in the EMR report.

2.48 Given the inconclusive evidence and the early stage of the programme, further on going analysis will be required to conclude on whether expected cost of capital and cost of support benefits have been realised. Refer to Section 9h for further details on the cost of capital impact.

[10] Assumptions behind this calculation are shown in Figure 26, in Section 9h

Evaluation of the project management

Although the procurement was managed effectively, this was despite evidence of under-resourcing of the project and limited resource planning which in turn led to discontinuity and significant pressure on internal resource.

The team structure indicated in the full business case ('FBC') shows a relatively compact team, with staff mostly committed 100% to the project and supported by external advisers, which would seem to us to be an appropriate delivery structure. However, the team was continually changing throughout the course of the project and there were a large number of fractional full time equivalent ('FTE') allocations. From our discussions with the team we understand that resourcing was a constant issue throughout the project. It appears that the planning of resource was not performed at the outset and was flexed in line with immediate resource requirements, often being filled through core team overtime.

The costs for running the FID Enabling for Renewables project were largely in line with the original budget. However, these project costs appear low when compared to benchmark data of other government department running costs for similar procurement exercises, particularly in view of the value of Investment Contracts secured by the FID Enabling for Renewables project. We therefore consider that further budget could have been justified for this project and that the project may have been under-resourced. Refer to Section 10 for further assessment of project management.

Governance arrangements for FID Enabling for Renewables within DECC were complex, albeit there were justifiable reasons for this. In respect of LCCC, the Governance structure appears at this early stage to be fit for purpose.

2.49 A number of stakeholders commented on the difficulty in understanding how the different teams within DECC interacted. There is an inherent complexity in the governance structure in relation to the interaction with DECC with a significant number of different reviews / meetings / committees / boards relevant to the governance purposes of the project. This was driven by the multiple interfaces between the FID Enabling for Renewables project and the wider EMR programme, and as such seems to be an inevitable consequence of what the project was seeking to achieve. However, this increases the risk of roles and responsibilities being misunderstood.

2.50 One example of the above is having separate Senior Responsible Officers ('SROs') for FID Enabling for Renewables and EMR provided clear separation of governance and roles but opened the project to the risk of divergence from the wider EMR programme.

2.51 The LCCC, a private company, owned by DECC, and which will manage the FID Enabling for Renewables Investment Contracts, is at an early stage of its development. However, good governance has clearly been central to its design principles from the outset. The governance structure in place appears to give the LCCC's executive sufficient flexibility to carry out their role. There was some concern from stakeholders over the level of discretion that LCCC may choose to use and whether this will be in line with DECC's original policy intent, such as how LCCC will enforce non-delivery disincentives. Refer to Section 10 for further assessment of project management.

Recommendations

2.52 As a result of our evaluation we have made a number of recommendations within the report which can be categorised between:

- those that would apply if DECC were to undertake similar large scale projects, including how the project could have been improved; and
- those that are about ensuring the FID Enabling for Renewables project outcomes are effectively monitored and the intended benefits realised.

2.53 The full list of recommendation is incorporated in Section 11 of the report.

3 Introduction

The evaluation

3.1 The evaluation, commissioned by the Department of Energy & Climate Change ('DECC' / the Department / the Client), is for an independent evaluation of the first round of Electricity Market Reform ('EMR') Delivery (first allocation round for Contracts for Difference, and the first Capacity Market auction), and the Final Investment Decision (FID) Enabling for Renewables process (the Evaluation). For the purposes of this document, the first allocation round of Contracts for Difference will be referred to as 'CfD', the first Capacity Market auction as 'CM' and the FID Enabling for Renewables process will be referred to as 'FID Enabling for Renewables'. Collectively, CfD, CM and FID Enabling for Renewables will be referred to as the 'Programme Elements'.

3.2 Whilst the first allocation round of Contracts for Difference is referred to as ‘CfD’ as opposed to ‘FID Enabling for Renewables’, for the avoidance of confusion it should be noted that the Investment Contracts allocated through FID Enabling for Renewables are early Contracts for Difference; they are literally Contracts for Difference in terms of contracting to pay to the generators the difference between the ‘strike price’ on the contract and a market reference price, or for generators to pay back the difference when the market reference price is higher than the strike price. However, there are some small differences between the FID Enabling for Renewables Investment Contracts and the Contracts allocated through the first allocation round of Contracts for Difference. Further details are provided in Section 9c.

3.3 The evaluation was delivered by a team led by Grant Thornton and Pöyry, and included Professor Steve Martin and Professor Derek Bunn (the Evaluation Team). Field work and analysis was carried out in the period November 2014 to June 2015 and the text in the report is consistent with the programme situation during this period. Unless otherwise stated, this evaluation focuses on the activities from 2012 to March 2015. Business as usual activity since the FID Enabling for Renewables project closure (eg State aid approval process) will be considered in future evaluations.

Background of the evaluation

3.4 The EMR programme is long-term and designed to meet the UK’s long-term energy objectives. The Evaluation Team were asked to report after the first round of the programme. The evaluation is a key source of evidence for the Department and their Delivery Partners in their on-going delivery of the programme and lessons learned will be required to feed into any changes that may be required during future rounds of the programme.

3.5 The overall evaluation comprised a mixture of process assurance, analysis of outputs against Departmental objectives and qualitative work with external participants and stakeholders in the electricity generation and financial investment sectors.

3.6 The outcomes of the evaluation are being split between two reports:

- An EMR report which focusses on the first allocation round for CfD and the first CM auction
- A FID Enabling for Renewables report (this report)

Given that FID Enabling for Renewables was a precursor to CfD there are cross overs and inter-linkages between these two elements which the evaluation

captures. It is recommended that anybody with an interest in CfD reads both reports. In particular, the following topics are analysed in our main EMR report that may be of interest from a FID Enabling for Renewables point of view:

- Process for setting administrative strike prices
- Process of budget setting for future allocation rounds
- CfD contract terms

Aims and objectives of the evaluation

3.7 The key aims and objectives of the evaluation were to provide:

- assurance and lessons-learned on the first year operation of EMR processes;
- evidence-based advice on EMR policy and processes to inform the second year of operation;
- recommendations that would support the development of updated secondary legislation process and making any changes to the CM and CfD parameters and processes, recognising the tight timescale to make changes;
- scoping and an initial examination of the extent to which EMR and FID Enabling for Renewables are on track to meet objectives;
- identification of any gaps in the supply of data and any other issues that will be required to evaluate the programmes over the longer-term; and
- an evaluation of the process for allocating early Contracts for Difference through the FID Enabling for Renewables process

FID Enabling for Renewables evaluation objectives

3.8 The specific objectives and outcomes of the evaluation of FID Enabling for Renewables are to provide:

- a clear assessment, backed by evidence, of how the FID Enabling for Renewables project has delivered against each of its objectives (as far as it possible to determine at this stage).
- an opinion (backed by evidence) of how well the FID Enabling for Renewables process was designed, developed and managed, and what could have been done better; and 'lessons learned' and recommendations for future policy making and for the design and development of similar processes in the Department.
- information to support future evaluations and benefits management.

Evaluation questions

3.9 At the core of the evaluation, have been a set of research questions and sub-questions that DECC has identified against which evaluation evidence will be collected and analysed. These sub-questions have been split into three groups in order to phase the sub-questions accordingly:

- **FOCUS**: sub-questions which we expect to answer within this project.
- **SCOPE**: more exploratory sub-questions, for which we will scope the methodology that could best answer the question and the timescale that would be necessary
- **DEFER**: these questions cannot be meaningfully covered at this stage or are an express focus of a later evaluation. They should not be covered at all and are included purely to give a sense of long-term direction.

3.10 As the evaluation has progressed there has been some amendments to the categorising of these questions. The full list of these questions and their categorisation is set out in Section 5.

Evaluation framework

3.11 Based on the list of questions proposed by DECC, four major threads with common evaluation frameworks were identified:

- **Design and parameters** – evaluation of the principles and numerical inputs of the programme's design;
- **Process** – how well the processes were designed (prior to implementation) and managed (after implementation);
- **Outcome** – impact/economic evaluation of the short to medium term 'factual' results and consequences of programmes;
- **Policy objectives** – impact/economic evaluation of whether programmes are on track to meet long-term policy objectives. At this early stage, any such view will be indicative.

3.12 These evaluation threads were discussed and validated jointly with DECC officials together with the focus, scope and defer prioritisation of questions. They also formed one part of a structural element for guiding the selection of specific methodologies and for realising synergies.

Out of scope activities

3.13 The following aspects of Programme Elements are specifically excluded from this evaluation:

- Evaluation of the Hinkley Point C nuclear Contract for Difference (CfD);
- Carbon Capture & Storage (CCS);
- Levy Control Framework (LCF), and how the renewable CfD interacts with the other spending items capped by the LCF;
- Supplier Obligation;
- Performance of the Low Carbon Contracts Company (LCCC) or Electricity Settlements Company;
- Compliance of the CfD with State Aid guidelines; and
- Electricity Demand Reduction (EDR) which is subject to its own evaluation.

4 Methodologies

Methodology types

4.1 The methodologies employed and evidence base in the evaluation come under one of the following four headings as set out in Table 2 below.

Table 2 – Summary of methodologies

Literature / Document Review	A review of the key documentation relating to the development and implementation of the FID Enabling for Renewables project covering: • business case documentation • minutes of DECC decision making entities • external reviews of the process eg NAO review • applications and assessments • relevant legislation and regulation A full list of documents reviewed is set out at Appendix B.
DECC team interviews	Interviews were held at various stages of the evaluation with DECC staff involved in the development and implementation of the FID Enabling for Renewables project
Quantitative and qualitative analysis	The following quantitative analysis has been undertaken: • the effect of FID Enabling for Renewables on cost of capital • the cost of support provided under FID Enabling for Renewables • the extent to which FID Enabling for Renewables has contributed to 2020 EU renewable energy target • the magnitude of LCF expenditure represented by FID Enabling for Renewables • quantitative analysis of Phase 1 and Phase 2 applications The qualitative analysis is as set out in Sections 6-10.
Stakeholder research	Face to face and telephone interviews as well as online written responses were undertaken with various stakeholders. The stakeholder research methodology is set out in Appendix C.

4.2 As mentioned in Section 3 the core evaluation questions represented our point of departure for this evaluation. These questions formed the basis for our analysis and shaped the areas of our investigation. During the early stages of the evaluation we discussed these questions with DECC to ensure the topics covered were a) appropriate and b) could be addressed at this stage of the policy implementation. Inevitably there was an element of fluidity in the process and we were minded to allow the way in which the evidence emerged to shape the evaluation rather than stick rigidly to the initial research questions. We are satisfied that there is a broad correlation between the question topics and the evaluation coverage and we have sought to present the results of the evaluation in a way that is intelligible to the reader.

4.3 The evaluation itself was an iterative process as we progressively reviewed the policy development and identified emerging themes and key messages. Following our initial meetings with teams within DECC, we performed extensive desktop reviews of both the internal and external documentation provided by DECC. Following this baseline review we then performed further interviews with the DECC teams and highlighted any information gaps. Where possible quantitative analysis was performed, this was then supplemented with qualitative analysis where appropriate. Finally the stakeholder research was fed into our analysis and used to supplement and add to the existing evidence base.

5 Evaluation questions

FID Enabling for renewables evaluation questions

5.1 Table 3 below presents the subset of evaluation questions that underpin our FID Enabling for Renewables evaluation and a reference to where we have addressed these questions within this report. The remaining evaluation questions have been addressed in our EMR report.

Table 3 – Overview of evaluation questions

Question		Reference
1.	**What evidence is there that CfDs and FID Enabling for Renewables investments contracts have helped to reduce the cost of delivering investment in low-carbon generation and prevent an investment hiatus?**	
1.1	What evidence is there that the expected financing/cost of capital benefits of Contracts for Difference (and Investment Contracts awarded under FID Enabling for Renewables) for low-carbon technologies relative to the RO are being realised? **Scope**	Section 9h
1.2	What evidence is there for the effects of Contracts for Difference (and Investment Contracts awarded under the FID Enabling for Renewables) on consumer bills, relative to existing instruments? **Scope**	Section 9h
1.3	Was there a real hiatus risk at the time of the launching FID Enabling for Renewables (March 2013) and has that hiatus risk been proven since? **Focus**	Section 6d
2.	**What evidence is there that the allocation of available monies from the Levy Control Framework within enduring CfD budget and FID Enabling for Renewables funds is meeting the Department's research, development, demonstration and deployment objectives (as set out in the EMR Delivery Plan)?**	
2.1	What evidence is there of the impact on outcomes from the balance of support allocated between less and more established technologies for achieving the respective objectives of EMR and FID Enabling for Renewables (as set out in the respective Full Business Cases and Delivery Plans) and taking into account the information available at the time of decision-making? **Focus**	Section 9d
2.2	What impacts did the budget available under FID Enabling for Renewables and CfD enduring regime both individually and collectively and (in the case of the CfD Enduring Regime) the split between more established and less established technologies have on the number and type of projects coming forward? **Focus**	Section 9g
2.3	To what extent did constrained allocation secure successful competition? **Focus**	Section 8e
2.4	Was the modelling, forecasting and analysis behind the setting of strike prices, budget allocation and technology modelling appropriate? How might we improve our evidence base going forward? **Focus**	Section 8f

	Question	Reference
2.5	What evidence is there that Contracts for Difference can contribute to mitigating post-2020 security of supply issues by incentivising a diverse mix of technologies? **Scope**	Section 9d and 9e
5.	**Were the design, processes and parameters of the Contracts for Difference and the FID Enabling for Renewables contract and allocation appropriate?**	
5.2	To what extent was the process of applying for an Investment Contract (under the FID Enabling for Renewables) transparent? **Focus**	Section 8g
5.4	To what extent did the FID Enabling for Renewables application process encourage sufficient participation to support the objectives set out in the FID Enabling for Renewables business case? **Focus**	Section 8b
5.5	To what extent were the qualification and evaluation criteria used in the CfD and FID Enabling for Renewables process appropriate to delivering the objectives of the process? **Focus**	Section 8c & 8d
5.6	To what extent was the affordability assessment and 'down selection' process to allocate Investment Contracts appropriate to delivering the objectives of FID Enabling for Renewables ? **Focus**	Section 8e
5.11	What can be learned from the basis of any appeals and challenges made under the CfD process and the FID Enabling for Renewables process? **Focus**	Section 8h
5.12	To what extent has the FID Enabling for Renewables process provided an effective transition to the CfD enduring regime (in terms of preparing the market for CfDs and testing the instrument)? **Focus**	Section 9c
6.	**What evidence is there that EMR (including FID Enabling for Renewables projects) will contribute to Government decarbonisation and renewable objectives?**	
6.2	To what extent has EMR and the FID Enabling for Renewables process strengthened supply chains in low carbon technologies? **Scope**	Section 9f
6.3	To what extent has EMR and the FID Enabling for Renewables process contributed to the electricity share of the renewable energy mix and reduction in emissions in line with Government targets? **Scope**	Section 9e
6.4	To what extent has the EMR and FID Enabling for Renewables process contributed to industry development and supported job creation? **Scope**	Section 9f
6.5	What economic, social and environmental impacts have the delivery of projects awarded under the FID Enabling for Renewables process had? **Scope**	Section 9

Question		Reference
7.	**How well has the FID Enabling for Renewables project been delivered?**	
7.1	To what extent have the governance and performance management arrangements for the FID Enabling for Renewables process been fit for purpose? **Focus**	Section 10b
7.2	To what extent have roles and responsibilities for delivery and management of the FID Enabling for Renewables process been appropriately assigned? **Focus**	Section 10c and 10d
7.3	How well do participants and stakeholders consider the Department has designed and operated the FID Enabling for Renewables process? **Focus**	Section 8, Section 10i
7.4	Have FID Enabling for Renewables set up and running costs to date been in line with expectations? What is the source of any variance? **Focus**	Section 10f
7.5	How well has the transition of the management of Investment Contracts awarded under the FID Enabling for Renewables from DECC to the Counterparty been managed? **Focus**	Section 10g

6 Policy background, evolution and rationale

6a Introduction

In this Section we consider the context and background to the FID Enabling for Renewables process, we also explore the evolution of this policy over the duration of the project. Finally we review the rationale for the project's objectives and how it proposed to meet these objectives.

6b Background

6.1 In order to address the energy and climate change challenges faced by the UK, the 2011 Energy White Paper[1] proposed a new system of long-term contracts in the form of Contracts for Difference ('CfD'), with the express objective of providing greater price certainty s for investors in low-carbon electricity generation. This mechanism was to work alongside the introduction of a Carbon Price Floor and an Emissions Performance Standard, together with a new Capacity Mechanism.

6.2 The White Paper, which followed an extensive consultation process, highlighted four unprecedented energy challenges that the UK would face in the coming years, namely:

- the threat to security of supply as existing plants close;
- the need to decarbonise electricity generation;
- an expected rise in the demand for electricity; and
- an expected rise in the price of electricity.

6.3 It noted that current market arrangements would neither deliver the pace of investment needed, nor give consumers the best deal.

6.4 The key objectives of EMR were set out in the White Paper as follows:

- **Provide a more efficient and stable framework** for investors, ensuring lower cost of capital for new low-carbon generation capacity;
- **Encourage investment** in proven low-carbon generation technologies, but also allow new technologies such as CCS to get off the ground and allow them to become cost-effective and compete without support;
- **Boost competition within the market** and provide the framework for independent generators and new investors to invest in low-carbon generation;
- **Lead to competition** within and between different low-carbon generation technologies for their appropriate role in the energy mix, moving to technology-specific auctions for contracts towards the end of the decade, and technology-neutral auctions further in the future;
- **Introduce an appropriate policy framework** in the electricity sector to contribute towards delivery of the fourth carbon budget; and
- Achieve these aims at least cost to the consumer.

6.5 The White Paper included a chapter on managing the transition (Chapter 8), where, in addition to detailing the handover from RO to CfD, it also highlighted the issue faced by projects having to deal with the uncertainty that would prevail until the details of the new CfD regime were finalised. This was summarised as follows:

6.6 "To ensure the continuity of all low-carbon development, we will work actively with relevant parties to enable early investment decisions to progress to timetable wherever possible, including those required ahead of full implementation of the FiT CfD".

6.7 The White Paper thus provides the basis for the FID Enabling for Renewables project, which is the subject of this element of the evaluation.

6.8 The Government's early thinking on how it might address this uncertainty was elaborated in the Technical Update[11] in December 2011, where it indicated that it was prepared to enter into discussions with developers in relation to qualifying projects with certain characteristics, including that:

- there was a real prospect that if the project was not in receipt of some form of comfort from Government before 2014, it would be cancelled, put at significant risk or delayed; and
- there was no realistic prospect of it being accredited under the RO.

6c FID Enabling for Renewables project

6.9 The FID Enabling for Renewables project was designed in response to concerns expressed by the market, initially around the time of the 2011 White Paper[1]. Developers of large low carbon projects with long lead times, felt that the transition from the Renewable Obligation ('RO') to the CfD was creating investment uncertainty to the point of creating a risk that investment decisions could be delayed or even cancelled. It was apparent, notwithstanding the proposed period of parallel running between the RO and the CfD, that parts of the market saw the transition as a major impediment to making investment decisions, for as long as the details of the enduring CfD remained undefined.

6.10 DECC introduced the FID Enabling for Renewables project to enable developers of renewable electricity projects to take final or critical investment decisions which would otherwise be delayed by the uncertainty caused by the transition from the Renewables Obligation to the Contract for Difference regime. In addition, to this primary objective, the project was also seen as an opportunity to provide a 'proof of concept' for the CfD regime and therefore facilitate a smooth transition to the enduring regime.

6d Existence of investment hiatus

Context

6.11 As the primary objective for the FID Enabling for Renewables process was to avert an investment hiatus in the renewable electricity market we first explore the concept of an investment hiatus. The question of an investment hiatus needs to be addressed at three interconnected levels:

- **Context**. Understanding the interaction between the macro-economic and financial context during the time that the policy was conceived and implemented, and the specific challenges posed by a change of policy regime to support low carbon projects to determine whether in fact an investment hiatus existed at the time.
- **Interpretation**. Assuming the existence of an investment hiatus, how DECC analysed this as intervention options were considered, taking into account the implications for specific projects and technologies and leading to the selection of a preferred intervention option for the FID Enabling for Renewables project.

[11] Planning our electric future: technical update https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48253/3884-planning-electric-future-technical-update.pdf

- **Implementation**. Finally, the question of how this interpretation was put into practice – how it was played back to the market and what proposals were brought forward by DECC to address the problem.

6.12 We discuss each of these 'levels' separately. Under this Section we discuss the context to establish what evidence there is that an investment hiatus existed.

6.13 In Section 8c and 9b, we look at the second and third levels of the question respectively, namely how DECC interpreted the concept of an investment hiatus and how it was incorporated into a specific mechanism aimed at addressing the problem.

Evaluation

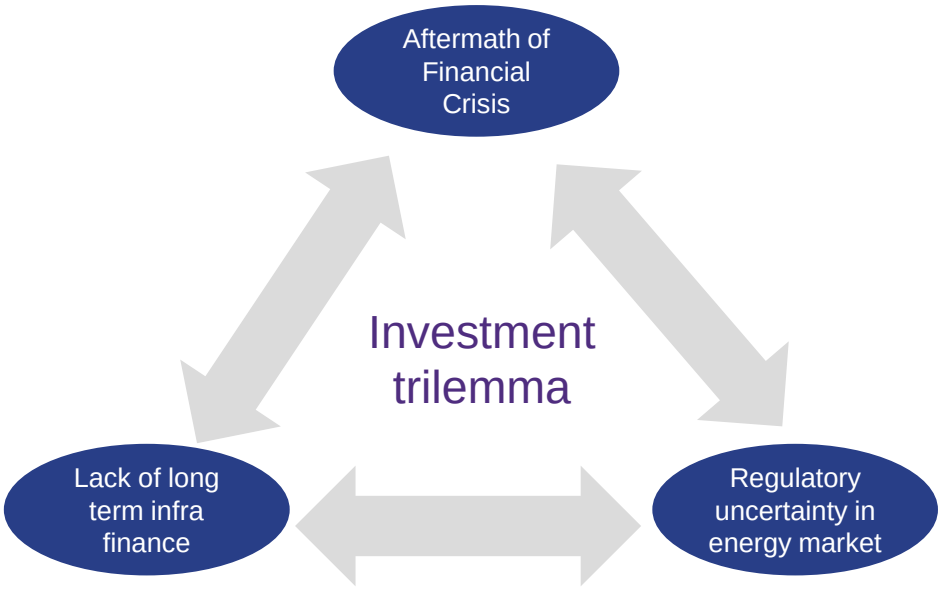
Market conditions

6.14 The development of EMR took place in a post-financial crisis world where investment generally was suffering from a systemic credit crunch. While the balance sheets of large market players such as global utilities provided some initial cushion, the energy sector in general and the renewables sector in particular were not immune from the financial pressures that resulted from reduced liquidity and a sharp increase in the cost of available finance. While the market began to stabilise over time, the availability and cost of finance remained challenging for a number of years, particularly in the infrastructure sector, which is highly capital intensive and requires long term finance. This situation was exacerbated by some fundamental regulatory changes which affected capital allocation models and the pricing of long term finance.

6.15 Many of the large renewable electricity projects were in principle capable of being funded on balance sheet, but conditions in the financial markets still had direct implications even for projects that did not require third party finance, through their effect on credit ratings and the ability to raise corporate debt, on hold / exit strategies and consequently the long term programme of investment of these developers. The availability of capital in this world was now a major issue.

6.16 From a developer's perspective, we can see projects were caught in an 'investment trilemma', as illustrated in Figure 2 below.

Figure 2 – Investment trilemma



Aftermath of financial crisis and lack of long term infra finance

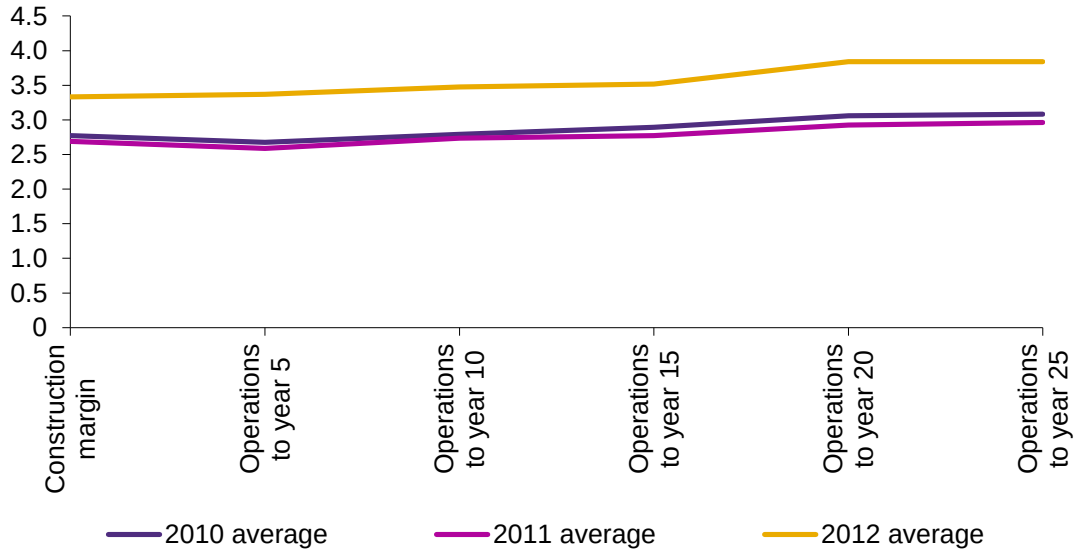
6.17 In 2012, typical cost of bank finance for long term infrastructure projects had been increasing since the Global Financial Credit Crisis (GFCC), reflecting both:

- the increased cost of capital for banks following GFCC and the subsequent Eurozone crisis; and
- the impact of Basel III regulations which was increasing the cost to banks of long term loans

6.18 The chart in Figure 3 below illustrates the trends in funding terms for PPP/PFI projects. In particular, as banks responded to the impact of Basel III, there was a sharp increases in funding margins, particularly for maturities in longer than 10 years (sometimes these increases were in excess of 500 bps). Alternatively, banks became simply unwilling to provide long term debt, instead offering solutions such as 'mini-perms', which offered the illusion of long term debt whilst forcing borrowers to contemplate refinancing after 5 or 7 years, for instance, or face either aggressive step-ups in margins or the prospect of default or, in some cases, both.

6.19 While the overall cost of finance was mitigated by historic lows in long term interest swap rates offsetting the impact of the higher funding terms, the ability of borrowers to secure committed long term finance had become severely compromised.

Figure 3 – Project finance lending margins 2011-12[12]



Regulatory uncertainty in energy market

6.20 The third leg of the 'investment trilemma' in Figure 2 encompasses the risks associated with the proposed investment; in this case, committing to long term development plans in the face of a radically changing regulatory regime.

6.21 In a perfect market, investors can be found along the risk curve, the variable being the price that they demand for taking a particular risk position. In practice, as the financial crisis illustrated, in difficult financial conditions, investors sometimes cannot be induced to take a certain risk profile at all, whatever the price offered. It is important to note that the financial problem that resulted from the crisis was one of liquidity as well as price (hence the creation of the Green Investment Bank). These

[12] Based on Grant Thornton's database of PFI projects

are the conditions in which an investment hiatus can be created, where inaction becomes the dominant mode of thinking and where the primary focus shifts to averting further erosion of value rather than creation of new value.

6.22 Just as governments have the ability to anchor confidence in a market, if their actions, on the other hand are seen to be unpredictable, this will induce a high level of investor caution. As a result, the transition period from the RO to the CfD had the potential not simply to put investment decisions on hold, but to have more profound disruptive effects (in the establishment of supply chains, etc) through the cancellation of projects. The need for policy certainty would have been heightened by the cautious investment environment that existed at the time and we think it makes sense to frame this as a potential investment hiatus. In 2011 the publication of the Energy White paper outlining proposals for EMR would have resulted in regulatory uncertainty in the renewable energy market. This uncertainty was amplified by announcement of the Renewable Obligation Certificate (ROC) banding review on 20 October 2011.

Internal evidence

Early correspondence

6.23 To support the notion of an investment hiatus, DECC have provided us with various representations made by developers and summary tables summarising highlights from conversations that were taking place prior to the formal launch of the FID Enabling for Renewables project in March 2013. During this period DECC was in conversation with 12 developers including seven offshore wind, three biomass conversion, one biomass CHP plant and one dedicated biomass project. This dialogue highlighted a number of reasons developers were facing investment hiatus, for example, one developer said that although there was a "possibility of the project achieving FID and accreditation before the close of the RO scheme…given the programme risk and the likely pre-FID financial commitment levels this may require, this cannot be relied upon." This developer went on to say "any delay in investment decision resulting from continued uncertainty regarding support available to these projects will result in non-UK projects taking precedence in the construction pipeline." Another developer highlighted that they could not "place significant supply chain orders without having a financial investor signed up"; and they thought it was highly unlikely that any financial investor would without knowing the likely returns (ie strike prices).

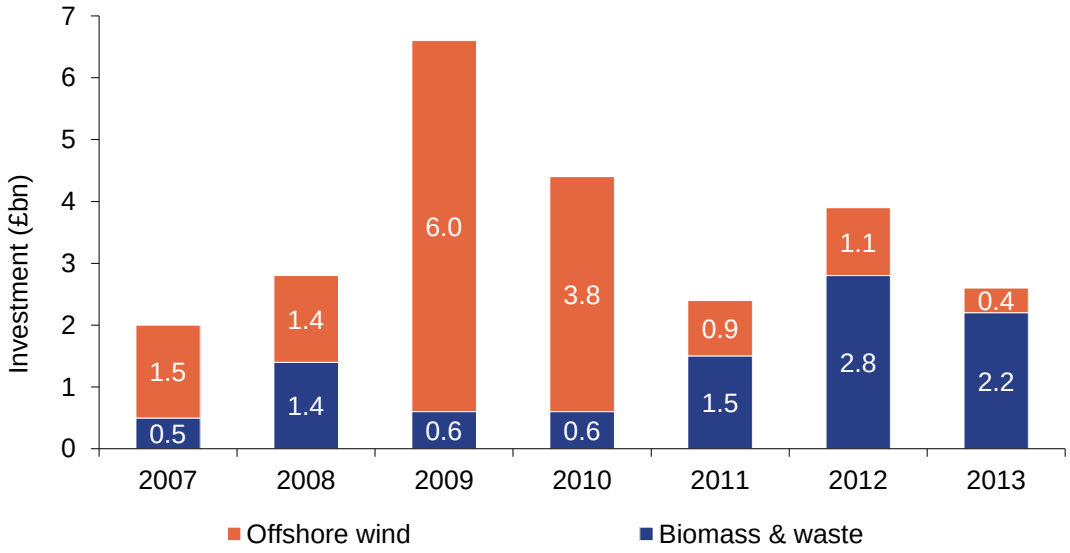
External evidence

6.24 The concept of an investment hiatus is very much anchored in market sentiment and confidence that underpins the ability to make investment decisions. So by its very nature it is ephemeral and with the passage of time collective memories fade and it becomes harder to define this sentiment. As a result we have looked for circumstantial evidence that provides a reasonable level of certainty that there was an issue to be addressed at the time. As part of this process we have sought third party evidence available at or around the period in question to provide additional corroboration of the sense of investment hiatus that was evident from the internal documents DECC provided us with.

Volume of UK financial investments in the renewables market

6.25 In 2014 the Green Investment Bank ('GIB') published a strategic report[13] which included analysis of the financial investment in the offshore wind and biomass and waste energy sectors between 2007-13. This analysis (reproduced in Figure 4) showed that there was a clear reduction in the amount of investment in 2011, particularly noticeable in the offshore wind sector. At a time when the level of investment in offshore wind might be expected to be ramping up there is a clear drop in investment activity in offshore wind, supporting the notion that government intervention was necessary. However, the position is less clear for biomass technologies.

Figure 4 – Investment in offshore wind, biomass and waste sectors 2007-13[13]



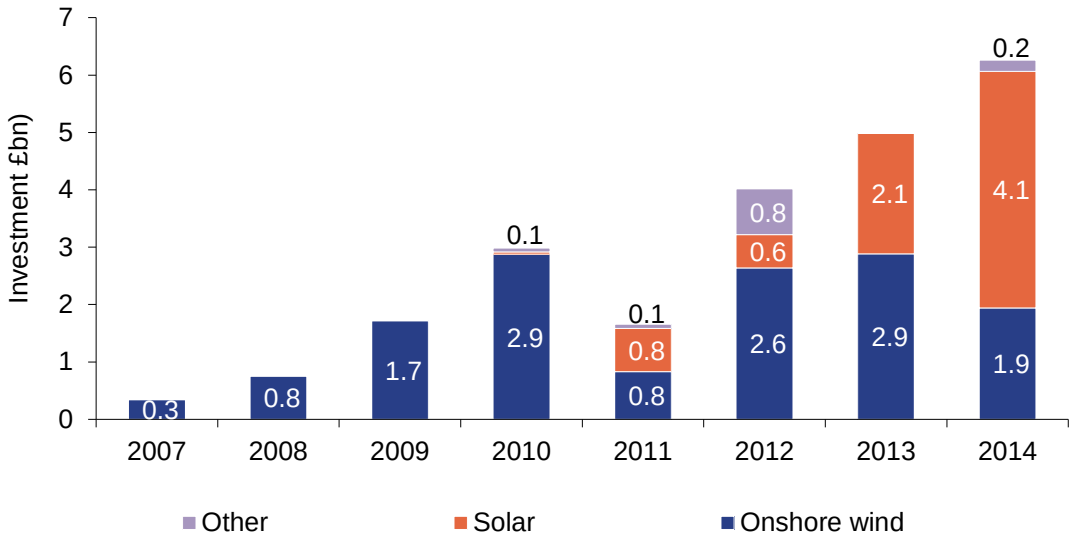
Assumptions

1. GIB estimates based on BNEF, Infrastructure Journal and Lets Recycle data
2. Data excludes energy efficiency
3. Includes UK projects only
4. Based on calendar years

6.26 We have performed a similar exercise for other renewable technology categories included within the EMR Final Delivery Plan[7]. The results of this analysis are included in Figure 5. Again there is a noticeable drop in onshore wind investment in 2011, however, this investment level appears to recover more quickly with investment returning to the 2010 levels by 2013. There appears to be a less noticeable impact on solar and other technologies, with a large increase in solar investment in 2014, largely due to the announcement in October 2014 that RO would be closed to solar PV capacity greater than 5MW from 1 April 2015. It therefore appears that at an industry level investment hiatus was not apparent in the solar industry (notwithstanding the fact that some solar projects passed the investment hiatus test in Phase 1 of the process).

[13] GIB Strategic Report 2014, page 16. http://www.greeninvestmentbank.com/media/25378/strategic-report-2014-final.pdf

Figure 5 – Investment in onshore wind, solar and other renewable technologies



Assumptions

1. Estimates based on Clean Energy pipeline data
2. Data excludes energy efficiency measures
3. Includes UK projects only
4. Based on calendar years
5. Other technologies category includes – ACT, hydro, tidal and wave technologies

EY country attractiveness index

6.27 Each quarter EY publishes renewable energy country attractiveness indices. These indices are aimed to examine the attractiveness of different countries as an investment destination to help businesses make informed decisions. The indices take into account the electricity market regulatory risk, planning and grid connection issues and access to finance. Each index represents a score out of 100.

6.28 The EY country attractiveness index is widely regarded as a benchmark for the relative attractiveness of different jurisdictions/regulatory regimes globally and was referenced by a number of stakeholders during the stakeholder research process. It is therefore worth considering what the index said about the UK's attractiveness during this period as it would have formed part of the evidence used by investors at the time.

6.29 From reviewing the country attractiveness index for the UK in 2011 the UK index dropped from 62 at the beginning of the year down to 57 by the end of the year, and dropped from fifth in the world rankings to sixth over this period. This drop was partly attributed to: "the on-going review of the proposed EMR" and the "medium term uncertainty with [associated with] EMR".

Media searches

6.30 We undertook media searches[14] of material between 2011 and 2014 to assess the volume of commentary around both the general concept of regulatory uncertainty and the more specific term "investment hiatus". Statistically, our search threw up a total of 572 'hits' for the term "investment hiatus" or where the words are nearby and, similarly, 370 'hits' for "regulatory uncertainty" in relation to the energy sector. When compared to the previous four year period (2007-2010) this represents a 314% increase in the number of 'hits' for "investment hiatus" and 208% increase in the "regulatory uncertainty" in relation to the energy sector. This provides further contextual evidence to support the notion that an investment hiatus existed at the time.

Stakeholder analysis

6.31 From our stakeholder research there were mixed opinions on the existence of an investment hiatus.

6.32 One applicant acknowledged the risk of an investment hiatus, recognising the time involved in implementing the new framework which might have caused companies to put the brakes on in the meantime which risked the reserve energy running low. A wind turbine supplier expressed that without the FID Enabling for Renewables process, no offshore wind projects would have progressed – leaving an extended period of up to three years between current projects in construction and those entering the first enduring round. This view that there would have been an investment hiatus in the offshore wind industry was supported by two successful applicants and a developer who was not involved in the FID Enabling for Renewables process.

6.33 A financier confirmed that an investment hiatus was indeed a concern of the financial community but there was no evidence of a hiatus at the time. This stakeholder commented that if the EMR had not moved so quickly, an investment hiatus may have taken place. This contrasts with the view of another financier who did not agree that the market would have had an investment hiatus without FID Enabling for Renewables.

6.34 One applicant with both successful and unsuccessful projects felt that DECC shied away from making decisions on whether or not there was a risk of an investment hiatus and gave up to strong lobbying from industry.

Messages

6.35 The concept of an investment hiatus is anchored in market sentiment and confidence. Therefore, by its very nature it is ephemeral and with the passage of time it becomes harder to define this sentiment. This was reflected in the mixed views shared by stakeholders on the existence of an investment hiatus.

6.36 Aside from the evidence gathered by DECC during 2011 and 2012, there is no hard proof that an investment hiatus existed. However, there is circumstantial evidence that supports the notion that there were significant market uncertainties as a result of an 'investment trilemma' within the renewables market. This uncertainty would have manifested itself differently both within technology groups and on a project by

[14] This research was carried out using 'Factiva', a press aggregator tool owned and published by Dow Jones. Search content included local and global newspapers, newswires, trade journals, newsletters, magazines, transcripts and web sources.

project basis, for example, our analysis suggests that offshore wind were more at risk of an investment hiatus than other technologies.

6.37 Although we appreciate that DECC did not wish to be discriminatory, given that the concept of an investment hiatus was very technology and project specific it would have been helpful to recognise in the decision making processes at the time that government was not dealing with a generic phenomenon that had a standard universal impact. We therefore believe it would have been useful to commission an independent evaluation of the practical implications of perceived investment hiatus during 2011-2012. This would have allowed DECC to test the wider market and see if there were other technologies and projects affected by investment hiatus issues that had not already made individual representations to DECC ahead of Phase 1.This could have helped to frame DECC's subsequent response.

6e Policy evolution

Overview

6.38 In order to undertake a meaningful assessment of the FID Enabling for Renewables project in particular, we consider that it is important to be able to understand:

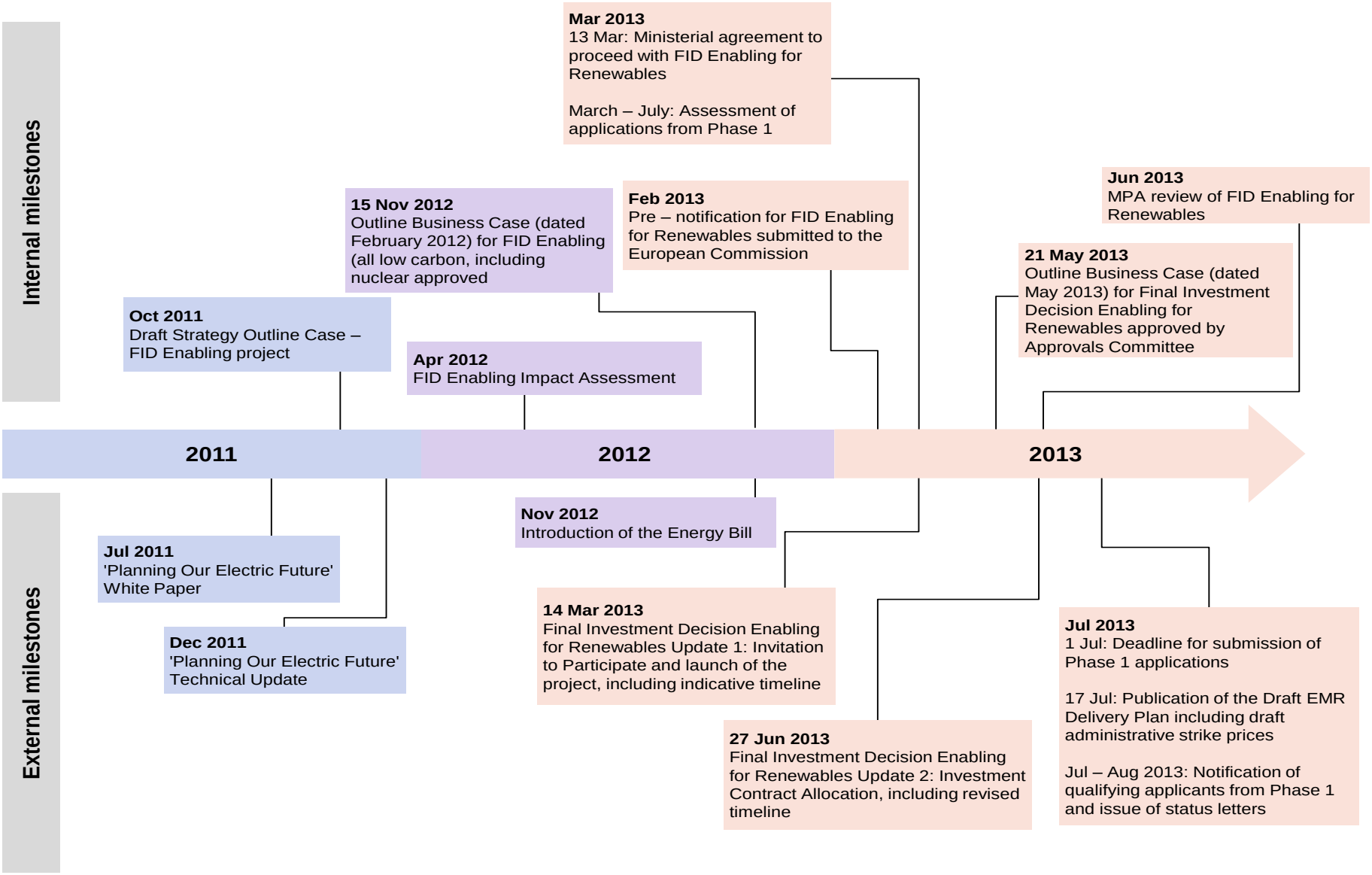
- the evolution of the project through its different stages;
- how these stages are connected; and
- how they relate to the wider EMR programme.

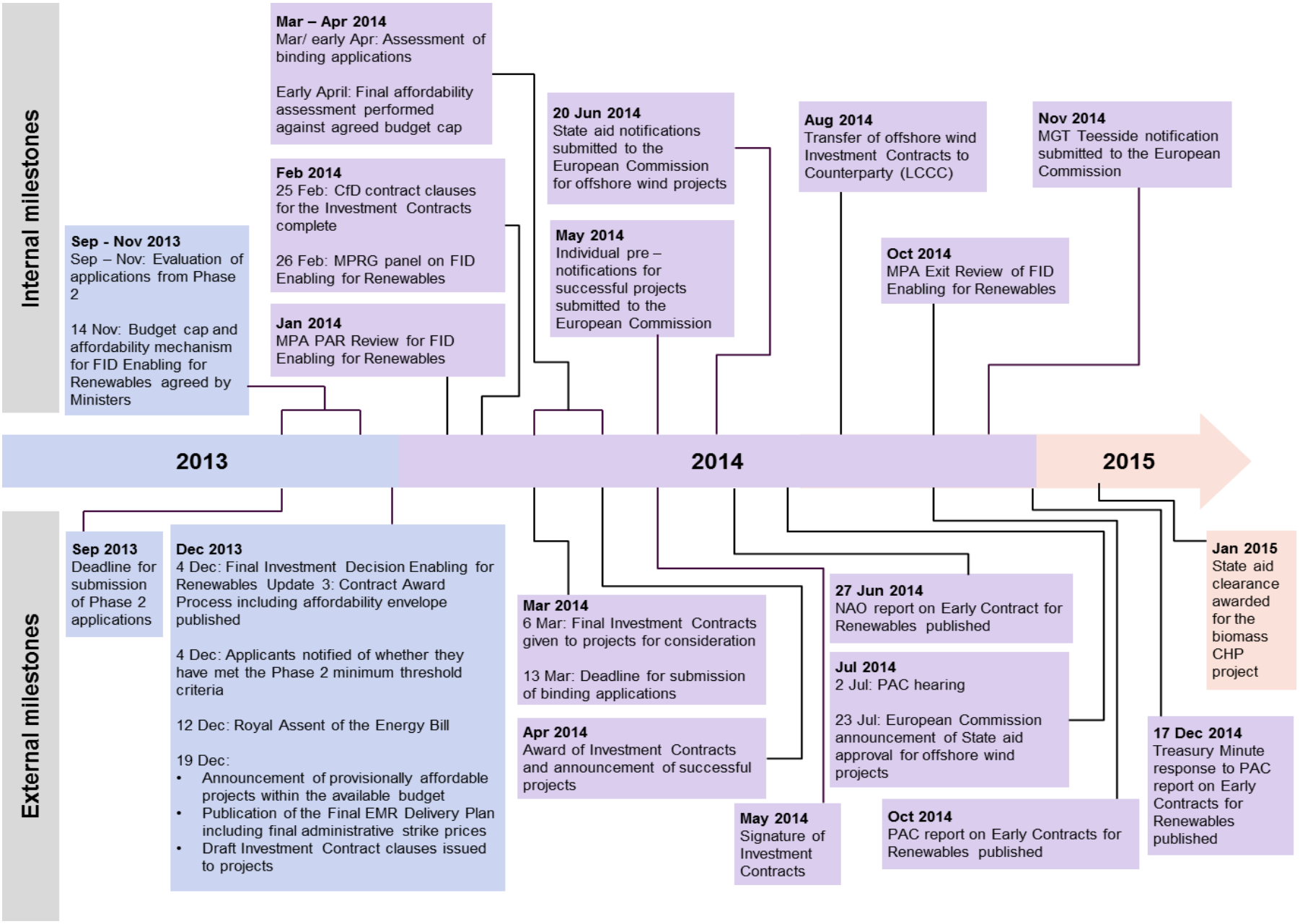
6.39 It is important to note that the FID Enabling for Renewables process was responding to a live and evolving market situation and that as such the Government was not able fully to dictate the timescales of the project. In addition, the wider EMR policy was evolving over this period and therefore certain FID Enabling for Renewables policy decisions were required to be made during the implementation of the policy. For example, the size of the budget to allocate to FID Enabling for Renewables and whether to use the draft or final strike prices were all policy decisions that were made after the publication of the Update 1 (March 2013) which invited generators to participate in the FID Enabling for Renewables process. We recognise that DECC was in a difficult position between giving certainty to the FID Enabling for Renewables participants and the wider market on the one hand, and managing an evolving policy position on the other.

6.40 In this Section we explore the key stages in the evolution for the FID Enabling for Renewables project and option appraisal process up until the point it was determined that awarding Investment Contracts was the preferred option. In Section 7 we highlight the key policy decisions that were made following the launch of the project in March 2013.

6.41 Figure 6 overleaf sets out the key milestones in relation to the FID Enabling for Renewables project.

Figure 6 – Key milestones for the FID Enabling for Renewables project





Evaluation

Option appraisal

6.42 We have traced the option appraisal process through three main internal governance documents, namely:

- FID Enabling OBC (covering all low carbon, including nuclear and CCS) in February 2012
- OBC for Final Investment Decision Enabling for Renewables, May 2013
- FBC, February 2014, written in November 2013, finalised in February 2014

6.43 We have also reviewed a draft Strategic Outline Case ('SOC') dated 25 October 2011, which provides an insight into the early thinking and a long list of potential delivery options, whilst emphasising that a lead delivery option was not being recommended, nor was the case being made for progressing to the delivery phase at that time. In common with the February 2012 OBC, the SOC covered CCS and nuclear, as well as renewables.

6.44 Our focus has been on the business cases as this is the normal mechanism in public policy for capturing and justifying the policy rationale. The Green Book Supplementary guidance on public sector business cases stresses that business cases should "provide decision makers, stakeholders and the public with a management tool for evidence based and transparent decision making and a framework for the delivery, management and performance monitoring of the resultant scheme". The Green Book itself underlines the importance of providing "sufficient evidence to support conclusions and recommendations" and "an easy audit trail".

6.45 While we recognise the particular challenges posed by the FID Enabling for Renewables project, where it is possible to show a consistent narrative through the business cases, this would have been very helpful in providing a clear rationale for the evolution of the policy. Moreover, this approach is consistent with Government best practice. In the case of FID Enabling for Renewables, rapid and flexible response was required from DECC, so documenting this policy evolution effectively seems to us to have been particularly important.

6.46 We have therefore also reviewed a number of supporting EMR Executive Board Meeting minutes and Ministerial Submissions to the extent we have been provided with this information we have included this information in our analysis. See Appendix B for a full list of documents reviewed.

2012 OBC

6.47 The 2012 OBC covered the entire low carbon sector, including nuclear, and renewables was not separated out at this point. However, it is useful in providing the context for future decision-making specific to renewables.

6.48 The 2012 OBC provides a refined set of Critical Success Factors originally articulated in the SOC (in the 2012 OBC they are referred to as Critical Success Criteria or CSCs). These are key to understanding the direction of travel for the project and are set out below:

- CSC1- Delivers value for money to government, taxpayers and energy consumers.
- CSC2- Is legal
- CSC3- Is affordable
- CSC4- Is deliverable
- CSC5- **Is compatible with enduring EMR arrangements**

- CSC6- Is consistent with HMG and EU policies on economic intervention, subsidies and State aid rules.

6.49 While the project retained a focus on all of these factors, in terms of shaping the preferred option, CSC5 (compatibility with enduring EMR arrangements) is clearly very significant. This is reflected in the options shortlisting set out in the 2012 OBC.

6.50 The shortlist of options considered in the 2012 OBC was as follows:

- Option 1 – Do Nothing;
- Option 2 – Indicative strike price and assurance from the Secretary of State that the project is expected to be eligible for a CfD when EMR is implemented;
- Option 3 – A commitment by the SofS to provide a CfD conditional on EMR being implemented and any necessary State aid approval being secured;
- **Option 4 (the preferred option) – Provision of a commitment to the developer that they will receive a CfD on the terms and conditions agreed (including strike price) provided primary powers are secured and any necessary State aid approval is forthcoming**

6.51 In essence, other than the do nothing option, these offered a progressive level of certainty for a market based approach leading up to the preferential option. From an investor / developer perspective there is no doubt which of these options is likely to prove more attractive. From our stakeholder research a number of participants in the FID Enabling for Renewables process stated that anything short of full commitment by government (removing allocation risk and uncertainties around the future implementation of EMR) would be insufficient to allow investment to continue during this period.

6.52 The key question, it seems to us, is whether a single, overarching mechanism should have been adopted, or whether to address issues raised by developers on a case by case basis. Clearly there are a number of reasons why the former approach should appear more attractive than the latter, not least the alignment within certain of the objectives of the project and its critical success factors, as well as the time involved in running eight bilateral negotiations.

6.53 The theoretical alternatives to an overarching approach are around specific interventions to resolve particular issues brought to DECC by developers. These might have included commitments to underwrite certain development costs with extended timescales pre-financial close, pre-orders or difficulties aligning supply chain contracts. We understand that some parts of the market favoured an extension of the Renewables Obligation. Some of the representations regarding an investment hiatus were connected with the diminishing availability of PPAs, which suggests that Government intervention on PPAs was also at least a theoretical option for consideration.

6.54 However, one of the key project risks identified in the 2012 OBC was the reputational risk that DECC was seen to be favouring one technology type or specific developers unfairly. From this argument the proposition was developed that the process needed to be open to all and adopt a common approach across technologies, although in practice it could have been argued that the investment hiatus identified tended to pose a greater risk to some technologies than to others. Indeed, the bi-lateral conversations up until March 2013 supported this argument, with representations being made by offshore wind and biomass projects and ultimately these were the technologies that were awarded Investment Contracts. However, DECC recognised that hiatus could be experienced by a number of technologies and from our analysis in Section 8c of this report, we highlight that a number of projects from other technologies (for example solar) successfully made a

case that they were facing an investment hiatus in their Phase 1 application for FID Enabling for Renewables, but were failed for not meeting other criteria such as project deliverability. By opening the process to all technologies DECC hoped to reduce the risk of criticism and challenge from specific technologies.

6.55 While we can see the grounds for this argument, an alternative approach which delineated the technologies requiring support at an earlier stage might have allowed the process to be more closely managed.

6.56 It is possible that, despite the openness of the process, there remains a market perception that DECC did nevertheless favour certain technologies through the process. This view was supported by a large number of stakeholders. See Section 9d.

6.57 We understand from discussions, that a long list of options, had been considered before arriving at this shortlist. A long list of eight options is set out in the 2011 SOC, which expressed a preference for 'conditionally binding' options rather than the fully binding option which ultimately became the preferred option. We recognise that the SOC was not intended to provide a specific recommendation and that the market position was evolving rapidly during this period.

6.58 However, the 2012 OBC does not go into the reasons why long-listed options were discarded, and it would be helpful to be able to establish a clear logic chain through all the stages of policy evolution. We understand from our review of Executive Board meeting minutes that any option that undermined the enduring regime (CSC5 test) was dismissed on the basis that a holistic approach to price setting across a range of technologies was required under EMR and any earlier bilateral arrangement for a specific renewable project/technology would have undermined this holistic approach and open the risk of challenge. However, we think it would have been useful for the long list of options and the arguments to dismiss these options to have been captured in the 2012 OBC. As it could have been argued that while these options would fail the CSC5 test, the question of whether they might have delivered better outcomes than the preferred option against other critical success factors could have been considered.

6.59 A key consideration in defining the proposed options for the FID Enabling for Renewables project, is seeking to interpret what the term investment hiatus meant in practice. The key questions that we would envisage being asked (specifically in relation to renewables), would be:

- How much of a delay is likely to result from the investment hiatus?
- Is the likely delay impact greater (because of a domino effect in the market) or smaller (because other projects will fill the gap) than the projected time delay between the award of Investment Contracts and the start of the CfD process?
- Are we talking about an absolute loss in capacity because it is not possible to catch up later on?
- Or would catch up be possible to meet 2020 targets but at the expense of securing as significant carbon emissions?
- Do the effects of an investment hiatus vary between technologies?

6.60 Our preliminary observation is that what "delay" was likely to mean in practice is not explored in a qualitative 'real world' sense in the 2012 OBC although a range of potential options is set out for the purposes of establishing the appropriate counterfactual in the economic appraisal of the 2012 OBC.

6.61 The Economic Appraisal (Annex B to the 2012 OBC) sets out the following possible outcomes were considered as counterfactuals:

a) Final investment decisions progress to timetable.
b) Final investment decisions are postponed until HMG has committed to a strike price and risk allocation under the terms of the CfD, creating an investment hiatus until the EMR delivery organisation has been established through primary and secondary legislation and is able to sign CfDs.
c) As for b) but supply-chain bottle necks, capital constraints, or other negative investment signals, lead to projects being delayed by some longer period of time, say 3 to 5 years.
d) A lack of engagement leads developers to lose confidence in HMG's support, and investments are cancelled.

6.62 Outcome b) is selected as being the 'conservative' counterfactual, representing a minimal delay option. The target investment hiatus to be avoided was identified as two years in the 2012 OBC, with a stated objective of avoiding delay until 2014.

6.63 The 2012 OBC (which was also referenced in the 2013 OBC) uses a net welfare assessment showing a positive impact of c£2.1bn with the prospect of a significantly better outcome (the chosen counterfactual being at the lower end of the potential range). The upper end of the quoted range in the 2012 OBC was £22bn. However, this assessment included nuclear, so it is not possible to draw quantified conclusions specifically about the benefits of FID Enabling for Renewables.

6.64 We would consider that greater definition around what an investment hiatus could mean in practice specifically for the renewables sector at this stage, effectively translating what we believe would have been knowledge held by the DECC team members who were communicating with the market at the time, could have assisted with the development of options and the risk analysis in the 2012 OBC.

6.65 The 2012 OBC concluded that recommended course of action was an early CfD (issued on commencement of the Energy Act) conditional on State aid approval. However, DECC sought approval that in principle the project should be able to deploy a range of FID enabling 'products' during negotiations with developers, including the option to form a binding promise to issue the CfD ahead of the Energy Act, if powers were received. This flexibility was deemed to allow DECC to establish the level of certainty that would enable final investment decisions to be made through dialogue with the industry.

6.66 In summary, we consider that the 2012 OBC option appraisal was in line with the overarching objectives of the project, however further analysis into defining the investment hiatus risk faced and evaluation of the long list of options considered and rationale for rejecting these would have provided a richer evidence base to support the rationale for the preferred option in the 2012 OBC. This could have included, for instance, more detailed assessment of the implications of the investment hiatus for different renewables technologies, or some form of external validation of the claims made by the developers who had approached DECC.

2013 OBC

6.67 The timing of the 2013 OBC broadly coincided with the point at which, from a market perspective, the FID Enabling for Renewables project became a formal process rather than an informal dialogue or a series of representations and discussions.

6.68 'Final Investment Decision Enabling for Renewables Update 1: Invitation to Participate' ('Update 1'), was issued in March 2013 and steered the market clearly to the Investment Contract. This is consistent with DECC's motivation to give investor certainty and a desire to avoid bespoke solutions for renewable energy projects.

6.69 Two options are presented in the 2013 OBC, namely:

- Option 1 – Do Nothing;
- Option 2 – Offer Investment Contracts based on July 2013 draft strike prices

6.70 The FBC produced in February 2014, also presented the same two options, with the exception that Option 2 referred to final strike prices. Whilst the 'do nothing' option was presented in both cases, this was primarily as an analytical counterfactual in order to seek approval to move to the next stage of the process. From a reputational point of view, the 'do nothing' option would have proved challenging following the publication of Update 1. Particularly by the time the FBC was produced, DECC would have been at risk of legal challenges in the event of cancellation as applicants would have invested large sums on projects and Phase 2 applications.

6.71 One further question is whether Update 1 could have been framed to allow a wider range of options. However, the early stage CfD was clearly the option most closely aligned with the longer term development of the CfD under EMR, which was articulated as CSC5 in the 2012 OBC. In addition a wider range of options could have created confusion in the market at this stage.

6.72 In summary, the development of the FID Enabling for Renewables policy can be split into to two key stages (although these 'stages' did overlap):

- **Market response** – DECC was already receiving representations from developers and was in dialogue with them at the time of the 2011 Energy White Paper and the December 2011 Technical Update invited developers of low carbon projects facing the prospect of delay (who met certain criteria) to enter into discussions. The OBC, produced in February 2012 appears to have been written with an open-ended process in mind, recognising that there was value in sustaining dialogue with the market. Leading up to the publication of Update 1 in March 2013, DECC was in conversation with 12 developers including seven offshore wind, three biomass conversion, one biomass CHP plant and one dedicated biomass project. This dialogue helped shape the qualification criteria ultimately adopted for Phase 1 of the process. For example, it was decided to drop the proposed criterion that a project had to be 'ineligible for RO' as some developers expressed concerns that in their opinion the cliff-edge nature of failing to qualify for RO in the event of unexpected delays, and difficulties in obtaining PPAs under the RO, meant that the RO provides insufficient comfort to funders in the existing market conditions.
- **Options appraisal** - The 2012 OBC suggested that different approaches were seen as needed for different developers with range of 'products', albeit in practice a single preferred option for renewables was adopted, namely an Investment Contract. The November 2012 draft Energy Bill made provision for Investment Contracts between a developer and the Secretary of State as one of the options available to DECC for giving comfort to developers under the FID Enabling for Renewables process. In the financial climate described in Section 6d, investors were likely to require a high level of certainty from any proposed mechanism, so it is difficult to see how anything short of the full commitment would have satisfied those projects genuinely facing an investment hiatus. There is also a reputational risk to consider; and in this context, having engaged with the market with a view to providing additional investors certainty, we consider that any flexibility on the part of DECC to stop short of a full commitment without good cause will have started to disappear relatively early in the process.

6.73 In terms of key messages and recommendations we would highlight:

- General best practice is that the business case should provide the full and clear evidence base to support the development of projects like FID Enabling for Renewables. There should also be a continuity through from SOC to FBC and key executive decisions should reflect the business cases and not be independent of them.
- Our evaluation indicates that this was not always the case on this project, with the business cases not capturing the rationale for every major decision made.
- Assessing and collating papers that provide the narrative for this project has proved a time consuming process. If it is not practical to reflect the rationale for all key decisions within the business case narrative, consideration should be given to an alternative means of providing an accessible and clear audit trail of the policy rationale and development. We recommend that steps and processes are put in place to ensure a more robust business case structure is put in place for future projects. We have also commented on this in Section 10k.

6f Policy rationale

6.74 Over the course of the project, the objectives have been articulated in a number of different ways in both internal and external documents. The final internal objectives for FID Enabling for objectives are defined in the 2013 OBC (and the FBC) as:

- To remove uncertainty created by the development of the EMR CfD regime and enable renewable electricity developers to take final and critical investment decisions ahead of the implementation of the enduring EMR regime;
- To enable a steady pipeline of projects, through preventing an investment hiatus, to enable industry development and drive down costs;
- To facilitate the delivery of the Government's wider decarbonisation, security of supply, and affordability objectives, including the 2020 renewables target; and
- To provide jobs and supply chain opportunities for British companies, resulting from the construction and operation of renewable electricity projects

6.75 The FID Enabling objectives are expressed in the February 2013 Executive Board meeting minutes as follows:

- To enable developers of renewable energy projects to take final investment decisions, which would otherwise be delayed by the uncertainty caused by the transition to the enduring CfD regime.
- To provide a 'proof of concept' for the CfD regime

6.76 This provides a relatively clear and simple purpose for the project, although we consider that providing a 'proof of concept' for the CfD regime' could be seen as a benefit of doing the scheme rather than an objective. We would also consider the primary objective, of avoiding an investment hiatus, would benefit from being framed in the context of meeting the 2020 renewables target (and interim targets), as arguably the project may not have gone ahead had the Government considered there to be sufficient renewable projects in the development pipeline to meet these targets. Framing the primary objective in light of the 2020 targets may have helped with the prioritisation of support under FID Enabling for Renewables.

6.77 On the other hand, Update 1 communicated the objectives of the project externally as follows:

- To enable developers of renewable electricity projects to take final investment decisions, [….] which would otherwise be delayed by the uncertainty caused by the transition to the enduring CfD regime.

- Ensure that any assurance it provides supports, rather than undermines, the delivery and sustainability of EMR.

6.78 Again, we would consider 'supporting rather than undermining the delivery and sustainability of EMR' is more of a 'ground rule' rather than an objective.

6.79 In practice, the project's objectives and rationale evolved throughout the implementation of the project. The 2012 OBC estimated a net benefit of £2bn from the impact of the proposed early contract, however this analysis included new nuclear power projects as well as renewable projects. In the FBC (finalised in February 2014), the business case showed that there was no clear monetised benefit from the scheme, but identified other non-monetised benefits which it concluded outweighed the potential risks to value for money:

- demonstrating that CfDs were viable ahead of the enduring regime
- reducing industry costs, by supporting early supply chain development and enabling a steady pipeline of projects
- minimising the risk of penalties for failing to meet the UK's 2020 renewable energy targets

6.80 We also note that in setting the budget for this project, DECC decided to include a mechanism to ensure a technology mix. However, this mechanism did not, in the end, affect the outcome. This is explained in Section 8e.

6.81 In our view, the narrative for this project could have been better in distinguishing the benefits of awarding Investment Contracts from the underlying objectives of the FID Enabling for Renewables project, and in some cases as the benefits of the project were established, these fed into the objectives expressed in the Business Cases. With the benefit of hindsight the objectives of the project could have been simplified without necessarily changing the outcomes. For example the objective could have been simply framed as:

- To enable developers of renewable electricity projects to take final investment decisions, which would otherwise be delayed by the uncertainty caused by the transition to the enduring CfD regime to enable the 2020 renewable targets to be met

7 Implementation of the policy

7a Introduction

7.1 In this Section we outline the overall process followed to award Investment Contracts under the FID Enabling for Renewables project.

7b Overall approach

7.2 In order to award Investment Contracts, a formal process similar to a competitive tender was adopted, based on a qualitative assessment and subject to overall affordability. The point at which the process effectively moved to this procurement-style approach is critical because it effectively fired a starting gun for the market to respond to. At this point, it became critical to establish a level playing field through a standardised approach.

7.3 Our assessment is that from a reputational (not legal) perspective, DECC were effectively committed to some kind of process at the point of publication of the Update 1[6], which through its very publication would have triggered significant interest from developers, who would then seek to frame a response to the parameters set out in a way that met DECC's requirements. From a legal point of view, DECC did make it clear that at all stages of the process it retained the option of not offering any contracts. However, had DECC decided to not go ahead with the process after the publication of Update 1, from a legal point of view the risk of challenge may have been low, however, this could have caused a significant loss of confidence in the market.

7.4 An overview of the process followed to award Investment Contracts is shown in Figure 7. This shows a three stage process:

- **Phase 1** (March-June 2013) – a general invitation to developers to submit a brief application explaining why they met the qualification criteria, which are summarised in the light green process box shown in Figure 7;
- **Phase 2** (July-December 2013) – projects which were successful in Phase 1 were invited to apply for an Investment Contract, which was described as an early form of CfD. The application requirements were more extensive and DECC set out in detail the process by which they would evaluate proposals;
- **Phase 3** (December 2013- April 2014) – projects which were successful in Phase 2 and continued to meet the criteria set out in Phase 1, were notified whether they had the opportunity to secure an Investment Contract. This was dependent on the available budget and the projects were ranked according to criteria set out below. Availability of the Investment Contract for projects was further subject to agreement of contract terms and confirmation of continuing eligibility through a binding application.

Figure 7 – Overview of FID Enabling for Renewables process

7.5 Although Update 1 set out DECC's intention to award Investment Contracts, it highlighted that the "nature and timing of support available under FID Enabling for Renewables [was] dependent on the on-going development of the enduring EMR regime". As such, there were still many policy options available within that framework, for example the size of budget, how to allocate it and evaluation scoring process, whether to use the draft or final strike prices, technology specificity or not), up until the FBC in November 2013 and Update 3 in December 2013. In any open process between the Government and the market, there is a fundamental tension between the desire to retain policy flexibility and the market's need for clarity and certainty. In the following Section we highlight the overview and outcome of each Phase of the project alongside the key policy decisions that were made during each Phase.

7c Overview of each stage of the process

Phase 1

Overview

7.6 Phase 1 of the FID Enabling for Renewables process was designed to establish which projects met the qualification criteria and identify projects that were at risk of a delay and had detailed project plans in place.

7.7 Update 1: Invitation to Participate ('Update 1') was published in March 2013 and sets out two 'core' qualification criteria that each project must meet to continue into Phase 2 of the process, namely a 'Qualifying Technology' requirement to ensure that the technology was currently eligible under the RO, and a 'Qualifying Project' criterion, which was defined using the following five conditions:

- there are credible plans to start generating electricity within the First Delivery Plan (2014 -15 to 2018 – 19)
- without an Investment Contract there is a significant risk that the associated electricity generation will not occur or will be significantly delayed
- the project is not already accredited under the RO
- the project has an expected nameplate capacity of 50MW or greater or, for an offshore project 100MW or greater
- the project is located in the UK

7.8 We have assessed the appropriateness of these criteria in Section 8c of this report.

7.9 The deadline for submitting a Phase 1 application was the 1 July 2013, with the intention of issuing Investment Contracts by Autumn 2013 (subject to Parliamentary timetable). Applicants were asked to provide a project description setting out why the developer believed that the project met each of the qualification criteria above, supported by evidence where appropriate. In addition, applicants were required to provide a statement signed by an authorised member of the Board (responsible for making investment decisions), that there was a significant risk of delay or cancellation without an Investment Contract and warranting that the information provided was true and accurate. Finally applicants were asked to state whether they sought a Status Letter, Investment Contract or both under the FID Enabling for Renewables project. Where a project's commissioning date was prior to 2017, applicants had to demonstrate why the project was at risk of an investment hiatus despite the availability of support under RO.

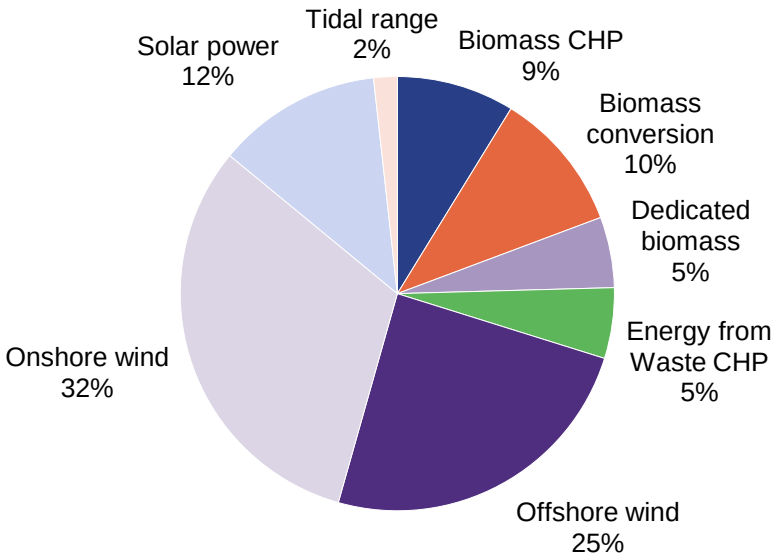
7.10 Applications were assessed by the team within DECC. Each criterion (and sub-condition) was marked as a 'pass' or 'fail'. Both criteria had to be met for the project to pass Phase 1 of the process and be eligible for Phase 2. Each application was assessed by two assessors and the outcome was reviewed by a third assessor to ensure consistency between applications.

7.11 Although applicants were asked to provide supporting evidence where appropriate, no guidance was provided on the type of evidence DECC expected to see and for a number of applications, DECC asked for additional information to enable them to assess the qualification criteria fully.

Outcome of Phase

7.12 Phase 1 of the FID Enabling for Renewables process generated 57 applications across a range of technologies. A summary of the applications received by technology type in Phase 1 is provided in Figure 8.

Figure 8 – Summary of Phase 1 applications by technology type



7.13 Of the 57 applications, 26 projects qualified and were issued Status Letters and one biomass conversion project subsequently withdrew.

Key developments in policy, decisions made during this time

7.14 During Phase 1 of the process the following key developments occurred:

- In June 2013, the draft administrative strike prices were set and the Draft First Delivery Plan was published in July 2013. This allowed DECC to calculate the expected cost of supporting projects under FID Enabling for Renewables.
- The Draft First Delivery Plan also announced that dedicated biomass projects were no longer eligible under CfD (and therefore no longer eligible under FID Enabling for Renewables). This resulted in three Phase 1 applications no longer being eligible.
- Following legal advice, in June 2013, it was decided to put back the final award of Investment Contracts to March 2014, as the CfD terms were not sufficiently defined. As a result of this delay, DECC decided to adopt the final administrative strike prices rather than the draft administrative prices (that would be published in the Final Delivery Plan in December 2013).
- DECC acknowledged that the delay in the FID Enabling for Renewables timetable, would reduce the effectiveness of the project in enabling developers to take early final investment decisions. At this stage two key alternative options that were considered:
  - Firstly to halt the FID Enabling for Renewables project and wait for the enduring regime. However, given the number of policy uncertainties in the main EMR programme it was decided this was not an appropriate option as there was still a minimum of nine months of investment hiatus between the signing of Investment Contracts and the signing of the first CfDs which would increase the risk of not meeting the 2020 renewables target (and interim targets). This would have also significantly undermined industry confidence given the industry expectations set by Update 1.
  - In addition, there was consideration of whether bespoke negotiations with individual projects (particularly those that required earlier Final Investment Decisions) would be appropriate. DECC decided this was not a viable option

as the time commitment to perform bi-lateral negotiations and therefore would not necessarily result in awarding Investment Contracts before March 2014. In addition, these individual negotiations could have led to an approach that was significantly different to the enduring regime and therefore this option was rejected.

Phase 2

Overview

7.15 The process followed for Phase 2 was outlined in Update 2 in June 2013. Applicants applying to Phase 2 of the FID Enabling for Renewables process had to confirm that they still met the Phase 1 qualification criteria. They were then further assessed on the evaluation criteria for Phase 2 which were set out in Update 2 as follows:

Project deliverability

Project deliverability made up 75% of the overall score and was further defined as:

- technical deliverability – this was scored in terms of the technical solution, project management, land availability, planning consent, grid connection and aviation/radar consents
- financial deliverability

7.16 The project deliverability criteria were designed to ensure that the project would be delivered within the LCF period and by the end of the Target Commissioning Window, and therefore help ensure the Government met its stated objective of bringing forward investment and delivery of renewable electricity.

7.17 Minimum thresholds were set for technical deliverability and financial deliverability, ensuring that projects which scored well overall could not pass unless they scored high enough on each of these criteria.

Impact on industry development

7.18 The impact on industry development made up the remaining 25% of the available marks and was measured in terms of:

- development of technologies
- development of the industrial supply chain
- improvement/expansion of workforce skills and capabilities

7.19 This criterion aimed to establish whether the project is likely to support the long term growth and economic viability of the renewable technologies. This supported the government's objective to develop the supply chain and thereby reduce the costs of future projects. No minimum thresholds were set for this criterion.

7.20 The deadline for submitting Phase 2 applications was 6 September 2013, and the timetable provided in Update 2 indicated that applications would be notified whether they had satisfied the minimum criteria by November 2013. The timetable therefore for reviewing the applications was tight.

7.21 The application required a qualitative assessment and therefore to reduce the risk of subjective scoring, each application was scored twice by two different assessors and then moderated. The assessors worked in specialist teams (Technical, Commercial or Industry) within technology areas (biomass CHP, biomass conversion, offshore wind and onshore wind), to ensure that the assessors had the relevant skillsets. DECC relied on staff with knowledge of the renewables sector

(including staff from ORED and BIS) as well as technical and financial advisors from KPMG and Mott MacDonald.

7.22 While external resource was used to supplement the assessment team, no structured external support was sought to corroborate statements made by developers. The DECC team confirmed that they relied on the expertise of the assessors to be able to evaluate the plausibility of the applicants' claims and assumptions.

7.23 All assessment comments for Phase 2 were recorded in the AWARD evaluation system. This system provided a common platform to ensure that all assessors comments were captured. It also provided a mechanism for assessors to highlight queries or areas of ambiguity. These could then be tracked and acted upon by the DECC team.

7.24 The moderation process and the final moderation decisions were clearly documented in the 'Evaluation & Moderation Report'. The moderation process aimed to ensure:

- consistency of scoring for bids for the same technology
- consistency of scoring across the technologies
- consistency of scoring across the specialist evaluation areas

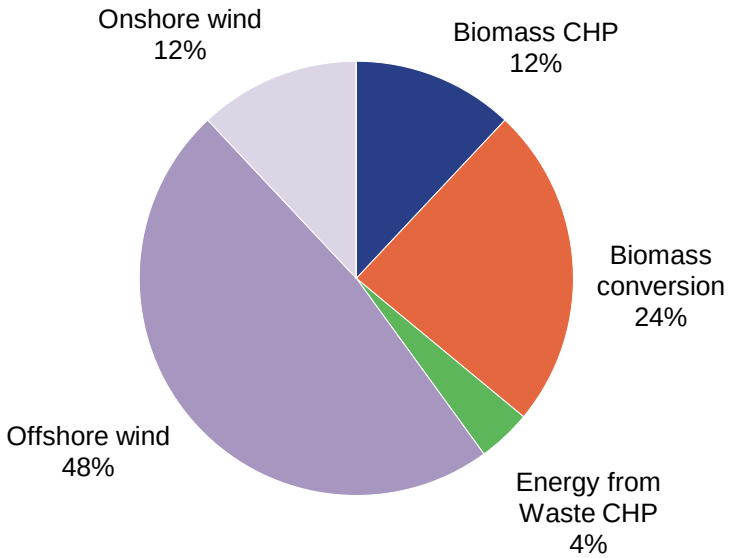
7.25 To this end, the moderators focused on:

- scores which appeared outside the normal range (relative to the quality of the response)
- all cases where criteria failed to meet the minimum score
- all 'borderline' scores

Outcome of Phase

7.26 Phase 2 of the FID Enabling for Renewables process generated 25 applications across a range of technologies. A summary of the applications received by technology type in Phase 2 is provided in Figure 9.

Figure 9 – Summary of Phase 2 applications by technology type



7.27 Of the 25 projects that passed Phase 1, in total 16 projects were successful in meeting the minimum evaluation criteria in Phase 2 (based on moderated scores

and excluding the biomass conversion project that withdrew). Successful projects were issued with a Status Letter in Phase 1 confirming that their project was a 'qualifying project'. Unsuccessful applicants were notified with a written explanation of the reasons for failure.

Key developments in policy, decisions made during this time

7.28 During Phase 2 of the process the following key developments occurred:

- Draft CfD terms published in August 2013. This allowed prospective projects to have an early insight into the contract terms.
- The Renewables Obligation level for 2014/15 was published on 30 September 2013. The underlying analysis for this incorporated updated Renewables Obligation spend projections which enabled DECC to calculate a more accurate estimation of the residual LCF budget available for CfDs (FID Enabling for Renewables and the enduring regime).

Deciding on budget and affordability process

Overview

7.29 The budget for FID Enabling for Renewables was agreed in November 2013 and communicated to the market in Update 3 in December 2013 to manage applicants' expectations and allow applicants that were provisionally affordable within the available budget to begin due diligence on the contracts. The process followed to determine this budget is outlined in Section 8f of this report.

7.30 The down-selection methodology was clearly set out in Update 3 and gave priority to the highest ranked projects in Phase 2, using the top quartile for each technology, and enabled the highest projects to be selected across technologies. This approach was adopted to aid DECC to meet its objective to help develop a range of renewable technologies and thereby enhance industry confidence.

7.31 The key steps in the affordability and down selection methodology set out in Update 3 were as follows:

- Each project that submitted a binding application was ranked based on their Phase 2 evaluation score.
- The LCF spend required for each project was then calculated for each year taking account of:
  - Installed capacity and Target Commissioning Dates data in the binding applications
  - Strike prices from the EMR Final Delivery Plan
  - Reference price assumptions from the EMR Final Delivery Plan
  - Transmission Loss multiplier assumptions from the EMR Final Delivery Plan
  - Technology load factor assumptions from the EMR Final Delivery Plan; and
  - a conversion to 2011/12 price basis using CPI data
- The aggregate forecast LCF spend in each financial year was calculated for all projects and compared to the FID Enabling for Renewables LCF affordability envelope
- Top quartile projects for each technology were identified based on the Phase 2 scores
- The remaining projects were considered in ranking order and selected if affordable and rejected if the forecast LCF spend exceeded the affordability envelope in any financial year in the LCF settlement period.

Outcome of Phase

7.32 Of the 16 projects that met the minimum evaluation criteria in Phase 2, 10 were provisionally affordable within the available budget, based on the allocation of the LCF budget outlined in Table 4. This introduced an element of competition into the FID Enabling for Renewables process, with only the highest ranked projects being awarded an Investment Contract.

Table 4 – LCF affordability envelope for FID Enabling for Renewables project (2012 real prices)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Affordability Envelope (£m)	260	450	720	1,010	1,010	1,060

Key developments in policy, decisions made during this time

7.33 During the Phase 2 evaluation stage of the process the following activity took place:

- Draft Investment Contract terms published in December 2013.
- Energy Bill received Royal Assent in December 2013 which was required for the legal framework behind the Investment Contracts.
- The EMR Final Delivery Plan, including final administrative strike prices were published in December 2013. This allowed DECC to calculate the projects that were provisionally affordable within the available budget.
- Consultation on RO grace period[15] was published in November 2013 and came into effect in early 2014.

Binding applications and contract award and signature

Overview

7.34 Update 3 (December 2013), provided an outline of the process for submitting a binding application following the issue of final draft Investment Contracts in March 2014 (highlighting any changes since the draft Investment Contracts issued in December 2013).

7.35 The binding application process required applicants to confirm that there had been "no material change to the applicants' Qualifying Project that might have an adverse effect on either: the satisfaction of the Qualification Criteria or its score against the Evaluation Criteria."

Outcome of Phase

7.36 Following receipt of binding applications, DECC performed the affordability exercise outlined above, which resulted in 10 projects being affordable. However, two onshore wind projects subsequently withdrew because one was running ahead of schedule and it therefore made more financial sense to fund this project under RO and the other project was delayed so the Target Commissioning Date now fell outside the required timescale to be eligible for an investment contract. Based on the information provided in the binding application, Drax's Unit 3 project was disqualified because it was no longer deemed eligible. (Further details included in Section 8h of this report.) Subsequently, DECC selected the next highest ranked project that was provisionally affordable within the available budget.

[15] RO Grace periods (https://www.gov.uk/government/consultations/renewables-obligation-ro-grace-periods#history)

Key developments in policy, decisions made during this time

7.37 During the binding application stage of the process the following activity took place:

- Final Investment Contract terms were published in March 2014.

Post-signature activity

7.38 Following the signature of the eight Investment Contracts the following activity took place:

- Drax challenged DECC's decision that Unit 3 was no longer eligible. Drax challenged this decision through a Judicial Review and on 15 July 2014, the high court ruled that the decision to deem the conversion ineligible should be quashed. Subsequently, DECC appealed this decision and on the 7 August the Court of Appeal ruled in favour of DECC and dismissed Drax's challenge.
- New State aid guidelines for Energy and Environmental Aid (EEAG) were adopted by the European Commission in principle in April 2014 and were applicable from 1 July 2014. This increased the emphasis on value for money provided through price competition and enforcements of the need for certain individual project notifications where there was existing approval for a certain scheme. State aid notifications were submitted to the Commission in May-June 2014 and State aid approval was given to the five offshore wind projects and the biomass CHP project in July 2014 and January 2015 respectively. The two biomass conversion projects that were awarded Investment Contracts are still awaiting State aid approval. The Commission opened a formal investigation into one of the biomass conversion projects in February 2015.
- All contracts were signed in May 2014 and offshore wind contracts transferred to the LCCC for on-going management in August 2014.
- Between April and August 2014, the three offshore wind projects that had not received planning consent prior to being awarded an Investment Contract have subsequently had this granted.

8 Evaluation of the process

8a Introduction

8.1 In this Section we evaluate how successful the process was in relation to:

- ensuring sufficient participation to meet the objectives
- whether the qualification and evaluation criteria (including investment hiatus) were appropriate and their timing of their use in the process
- to what extent the affordability assessment and down selection processes were appropriate
- whether the modelling, forecasting and analysis used was appropriate
- ensuring transparency
- what lessons can be learned from challenges

8b Participation

Context

8.2 In this Section, we evaluate the levels of participation initially in Phase 1 and then in terms of continuing participation with the FID Enabling for Renewables process.

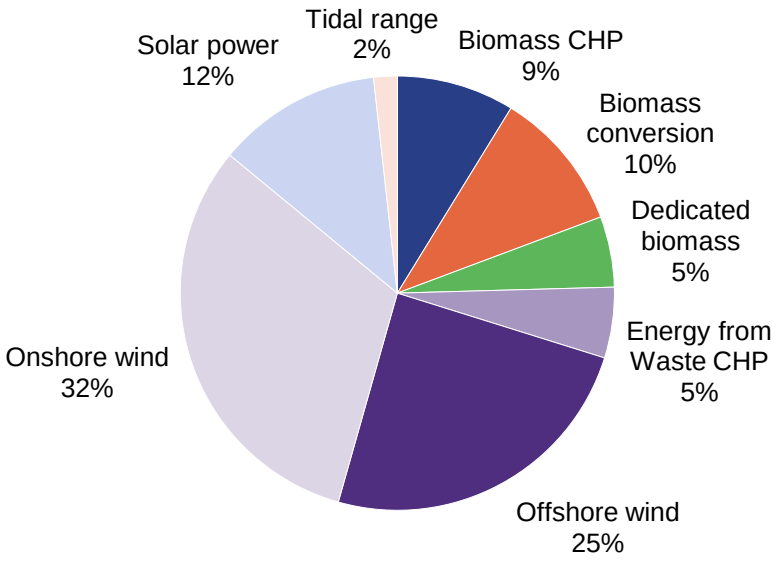
Evaluation

Phase 1 Participation

Technology

8.3 As previously mentioned, Phase 1 of the FID Enabling for Renewables process generated 57 applications across a range of technologies and therefore there is some evidence that the process encouraged wide participation. A summary of the applications received by technology type in Phase 1 is provided in Figure 10.

Figure 10 – Summary of Phase 1 applications by technology type



Generation capacity

8.4 A large range of generation capacities (49-1500MW) was demonstrated in the projects that applied in Phase 1, with an average generation capacity of 320MW. The projects which passed the first evaluation Phase and went to apply to the Phase 2, had a similar range (50-1500MW) and average (357MW).

Table 5 – Summary of Phase 1 and Phase 2 applications by capacity

Capacity (MW)	Applied in Phase 1	Applied in Phase 2
<50[16]	1	-
50-99	28	5
100-499	11	6
500-999	10	10
1000+	6	4
None given	1	-
Total	**57**	**25**

Generators

8.5 The application process appears to have attracted a wide range of developers outside the 'Big 6' utilities. Only 13 of the 57 applications (23%) received in Phase 1 were sponsored by Big 6 firms and this represented a total capacity of 4.5GW (25%). This ratio was largely retained, with 5 of the 25 applications (20%) applying for Phase 2.

Range of projects

8.6 The high volume of applications in Phase 1, gave the FID Enabling for Renewables team a picture of the range of issues faced by individual projects, particularly in relation to the investment hiatus, but this in turn introduced its own set of challenges. The range of risks faced by developers presented a challenge and made it difficult to draw like for like comparisons between individual projects and to determine a common framework against which to assess and rank applicants (for instance, how to evaluate the planning status of different projects.)

8.7 The range of projects, in terms of technology types and estimated generating capacities, that expressed an interest in the FID Enabling for Renewables process also demonstrated that the concept of an Investment Contract was attractive, although at this early stage, the detailed contract terms had not been established, and therefore only limited conclusions can be drawn from this. However, it was clear, even from this early stage in the process, that the majority of prospective generating capacity (88%) that had come forward in the biomass and offshore wind sub-sectors.

[16] The qualification criteria for the FID Enabling for Renewables required projects to be >50MW.

Table 6 – summary of Phase 1 applications by capacity by technology

Technology	GW	%
Biomass (including CHP, conversions and dedicated biomass)	6.4	35%
Offshore wind	9.6	53%
Onshore wind	1.2	7%
Solar PV	0.5	3%
Other renewable technologies	0.5	3%
Total 57 Phase 1 applications received	18.2	100%

8.8 Although 18 onshore wind projects applied under Phase 1, this represented only 7% of generation capacity, and only three of the 18 projects met the qualification criteria and went on to apply for Phase 2. It is probably unsurprising that the investment hiatus issue was appearing more prevalent in the biomass and offshore wind sub-sectors as these projects typically have longer lead times and therefore will be more affected by the regulatory uncertainty caused by the transition from RO to CfD. This raises the question of whether a more targeted technology specific solution to the investment hiatus issue could have been considered. We recognise the advantage and intention of the approach undertaken was that it allowed DECC to test the wider market and see if there were other technologies and projects affected by investment hiatus issues that had not already made individual representations to DECC. However, notwithstanding the understandable desire not to exclude anyone, it may have been more beneficial if DECC had given a clear steer on what project characteristics would be most likely to lead to a positive outcome.

Continuing participation

8.9 In total there were only three projects which withdrew from the process; one following Phase 1, and two following Phase 2. These withdrawals related to two onshore wind and one biomass conversion, with capacities ranging from 66 to 880MW.

8.10 The low level of withdrawals provides further evidence that the FID Enabling for Renewables process was attractive to applicants.

8.11 One biomass conversion project withdrew in October 2013, stating that following detailed review the poor risk return meant the project was no longer feasible and would be cancelled. This indicates that for this particular project the administrative draft strike price was insufficient. However as the other biomass conversion projects did not withdraw at this stage, this may be a result of the specific project risk profile.

8.12 There were two further withdrawals in January and March 2014, both in relation to onshore wind projects (which had been assessed as provisionally affordable). One project was running ahead of schedule and it therefore made more financial sense to fund this project under RO. This also provides some evidence that RO was a more attractive scheme than a CfD for this particular onshore wind developer. Given the fact there was only one project that this affected there is too little data to draw any overarching conclusion.

8.13 The second onshore wind project withdrew as the project was delayed and the Target Commissioning Date now fell outside the required timescale to be eligible for an Investment Contract.

8.14 From reviewing the reasons the three projects withdrew we can conclude that the process itself did not discourage projects from participating further, rather the individual circumstances of the project, for example a delay in the project timetable, led to this withdrawal.

Stakeholder analysis

8.15 One unsuccessful applicant commented that the process attracted a lot of participants and was over-subscribed and seen as a more attractive option than RO or waiting for a CfD. They had the impression that FID Enabling for Renewables was a "safe route" and they felt they got a lot of reassurance from DECC that it would provide the certainty they needed. They argued that this may have led them to participate too confidently into the process.

8.16 There was limited evidence of developers who could have participated but did not. One developer claimed to have not participated because they thought they were ineligible due to timing rules and requirements of project advancement. However, based on the projects that were successful they believe they could have participated. They expressed disappointment in FID Enabling for Renewables because they believed many developers participated in the application process who were not genuinely facing an investment hiatus. A number of stakeholders (including financiers and developers) noted that an earlier decision on RO grace periods could have affected participation in FID Enabling for Renewables. For example, one developer noted "When we initially applied, FID Enabling for Renewables or CfD might have been the only option open to us. When the grace period was announced that meant that the RO became an option again". Another noted "the decision to subsequently extend the RO could have been welcomed earlier in the process".

Messages

8.17 From our analysis so far we have noted the following key messages:

- The level of initial participation across the industry was high. Phase 1 of the FID Enabling for Renewables process generated 57 applications across a range of technologies. We note that there was a broader spread by number of projects, although the majority of prospective generating capacity (88%) that came forward in Phase 1 was in the biomass and offshore wind sub-sectors.
- The low level of subsequent withdrawals provides further evidence that the FID Enabling for Renewables process was attractive to applicants and high levels of participation (in terms of number of applicants) indicate that the process was successful in engaging the market.
- From our stakeholder research there is limited evidence of developers who could have participated but did not. A number of stakeholders noted that an earlier decision on RO grace periods could have affected participation in the FID Enabling for Renewables process, however, it is not clear what impact this market uncertainty had.

Recommendations

- Notwithstanding the understandable desire not to exclude anyone, given the end result of the process, in which Investment Contracts were awarded only to offshore wind, biomass CHP and biomass conversion projects, it may have

been more beneficial if DECC had given a clear steer upfront on what project characteristics would be most likely to lead to a positive outcome as this could have saved developers of unsuccessful projects in abortive application time and costs.

8c Qualification criteria

Context

8.18 As outlined in Section 7, Update 1 described the two 'core' qualification criteria in Phase 1; namely an over-arching 'Qualifying Technology' requirement that the technology is currently eligible under the RO, then a 'Qualifying Project' criterion, ie that:

- there are credible plans to start generating electricity within the First Delivery Plan (2014-15 to 2018-19)
- without an IC there is a significant risk that the associated electricity generation will not occur or will be significantly delayed
- the project is not already accredited under the RO
- the project has an expected nameplate capacity of 50MW or greater or, for an offshore project 100MW or greater
- the project is located in the UK

In this Section we evaluate whether the qualification criteria were appropriate and comment on the timing of their use.

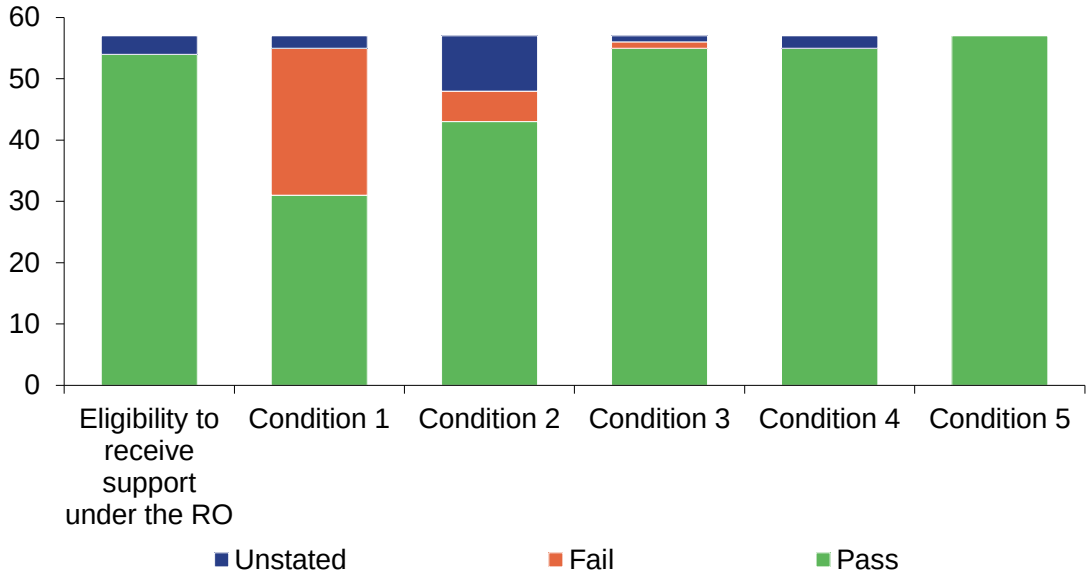
Evaluation

8.19 Conditions 1 and 2 of the 'Qualifying Project' criterion both involved judgement by DECC. The responses to these conditions were also at the greatest risk of change over time. Criteria 1 and Conditions 3 – 5 of Criteria 2 on the other hand, are matters of fact, where, other than in the case of misrepresentation or misunderstanding, there is no room for disagreement between DECC and the developer.

8.20 All five conditions of the criterion 2 and criterion 1 needed to be met for the project to pass Phase 1 of the process and be eligible for Phase 2. Unlike Phase 1, no numerical scores were given for individual conditions, rather these were marked as or 'pass' or 'fail'. In several instances, individual conditions were not evaluated as the application had already failed the 'Qualifying Project' criterion based on other conditions. In these instances the outcome has been marked as 'unstated'.

8.21 The overall level of failure at Phase 1 (31 of the 57 applications failed, 54%) suggests that the qualification criteria were successful in flushing out speculative applications at an early stage. This is evidenced by all applicants (with the exception of one) scoring reasonably on the Phase 2 'Project Deliverability' criterion. The pass and fail rates varied significantly across the individual conditions of the 'Qualifying Project' criterion and we discuss each condition of the 'Qualifying Project' criterion as presented in Figure 11.

Figure 11 – Summary of pass and fail rates for all Phase 1 qualification conditions



Qualifying Technology criterion: a type of renewable energy which is currently eligible to receive support under the RO

8.22 This criterion looked at the eligibility of the generation technology under the RO Order 2013 and intended to filter out non-renewable projects. Unsurprisingly, the success rate for this criterion was high with 54 projects (95%) meeting the minimum requirement. The scores of the remaining three applicants were unstated due to the applicants failing to explicitly state their eligibility for RO. As these applicants failed Phase 1 for other reasons, it appears that no final score for this question was determined.

8.23 A further three applications for dedicated biomass projects were included within the 57 Phase 1 applications (and shown in Figure 11). Due to a change in policy this technology was no longer supported by CfD and therefore these projects were also 'failed' following Phase 1.

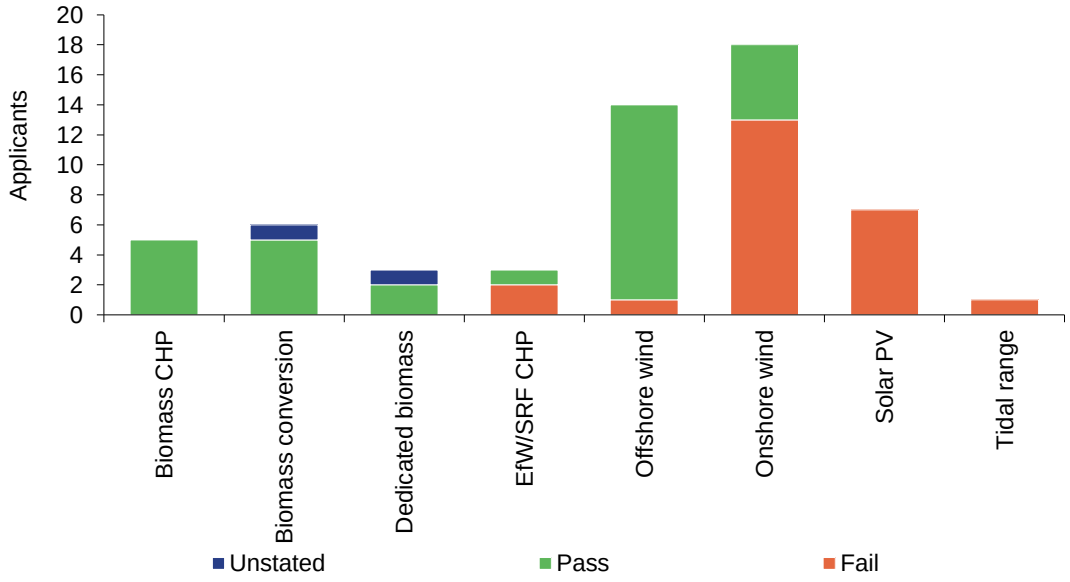
Qualifying Project criterion

Condition 1: There are credible plans in place to progress the project in order to start generating electricity within the period of the First Delivery Plan, 2014/15-2018/19

8.24 The vast majority of applications who failed the 'Qualifying Project' criterion (and thus were unsuccessful in Phase 1) failed because they could not meet the condition that there should be credible plans in place to progress the project to start electricity generation within the period of the First Delivery Plan (2014 -15 to 2018 – 19). This condition was intended to filter out projects which were unable to demonstrate that they would be able to commission within the period for which the 2013 strike prices would apply.

8.25 Twenty four of the 57 applicants (42%) failed to convince the assessors of the credibility of their plans. All of the seven solar applicants and the only tidal range applicant failed Phase 1 due to this criterion reducing the mix of technologies eligible for Phase 2.

Figure 12– Summary of Phase 1 Condition 1 pass and fail rate by technology type



8.26 In the majority of cases this was evidenced by the fact that no planning consent, grid connection or land use rights were available. With the exception of 1 project, all of the unsuccessful applicants failed this condition due to an absence of confirmed planning consent, with 17 of these projects additionally lacking a grid connection and 6 of them not having land use rights. Whilst these factors were defined as part of the Phase 2 evaluation criteria (although no minimum requirement for these was set), they were not explicit in the Phase 1 requirements communicated to applicants in Update 1.

8.27 We have also reviewed the guidance provided to both applicants and evaluators on Update 1 and the Phase 1 assessment forms and have not seen any specific mention of the expected level of planning consent, grid connection or land use rights for each technology, required to satisfy the credible plan condition.

8.28 From our discussions with the team we understand that evaluators used the matrix set out in Update 2 (which had not been published at this point) as a guideline on the expected level of planning consent etc for each technology. From review of the Phase 1 applications it appears that evaluators consistently failed projects which did not have planning consents, grid connection or land use rights (with the exception of offshore wind projects which were passed without the need for planning permission – considered further in Section 9c).

8.29 By further refining the Phase 1 evaluation criteria communicated to applicants in Update 1 (particularly in relation to planning consent and grid connection), DECC could have potentially reduced the number of speculative bids in Phase 1.

Condition 2: Without an Investment Contract there is a significant risk that the electricity generation to which the Investment Contract relates will not occur or will be significantly delayed

8.30 DECC intended this condition to limit applicants to those meeting the project's primary policy objective of preventing an investment hiatus. In particular this criteria was necessary under the requirements of Schedule 2 of the Energy Act 2013.

8.31 This condition whilst framed as an objective test, proved challenging to the process. Arguably, it could have been difficult to fail an applicant on this basis, particularly in

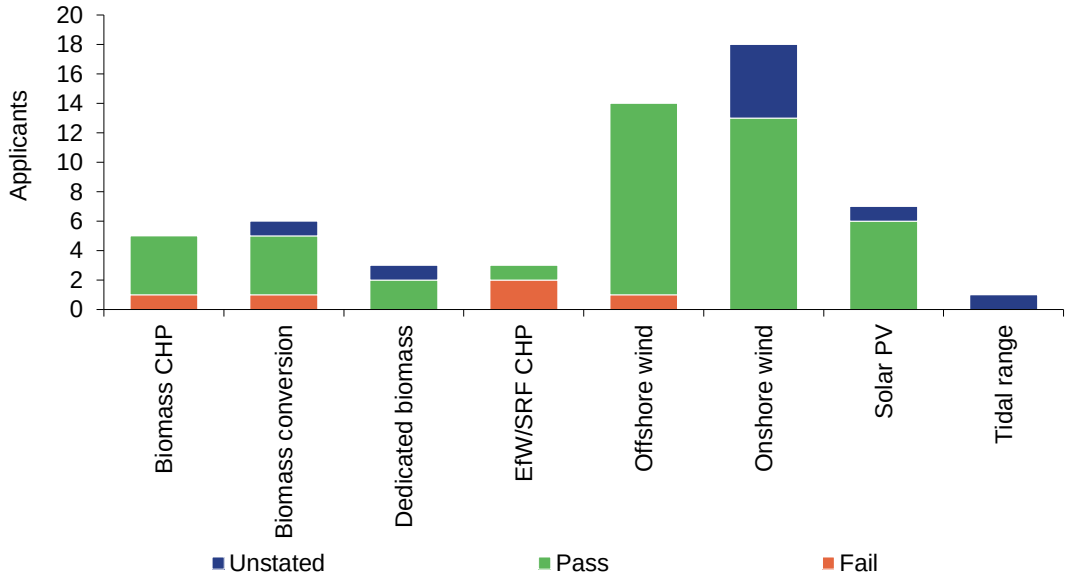
a market which is notoriously subject to delays for a wide variety of reasons and this is reflected in the high success rate. The guidance given to applicants in Update 1 asked applicants to 'state that there is a significant risk that without an Investment Contract the electricity generation to which the Investment Contract relates will not occur or will be significantly delayed, explaining the reasons for this statement and stating the extent of such delay'. The length of time that constituted a 'significant delay' was not specified.

8.32 To evaluate this condition assessors were largely reliant on applicant's assertions that the Final Investment Decisions would be delayed without the award of an investment contract. For the five projects (9%) that failed this condition, three failed to provide sufficient information and for the remaining two, assessors noted that the projects were in the final stages of construction and therefore it was deemed unlikely that investment would not go ahead. This provides evidence that assessors were evaluating the reasonableness of applicant's claims. However, it also highlights the intrinsic risk of placing reliance on applicants' assertions in relation to meeting this condition. We understand that project delivery timescales were tight and therefore there was limited time to incorporate any independent verification of applicants' claims.

8.33 The responses to this condition are also at greater risk of change with the elapse of time and with the selection process taking longer than originally expected, we understand this risk was even greater. One particular project brought a challenge on these grounds, as the developer disagreed with DECC's conclusion that this condition was no longer satisfied at the binding application phase. Further details of this are found at Section 8h.

8.34 The success rate of this condition was high, with 43 of the 57 applicants (75%) deemed to have met the investment hiatus condition, with success spread across technologies. The majority of projects within each technology passed this condition.

Figure 13– Summary of Phase 1 Condition 2 pass and fail rate by technology type

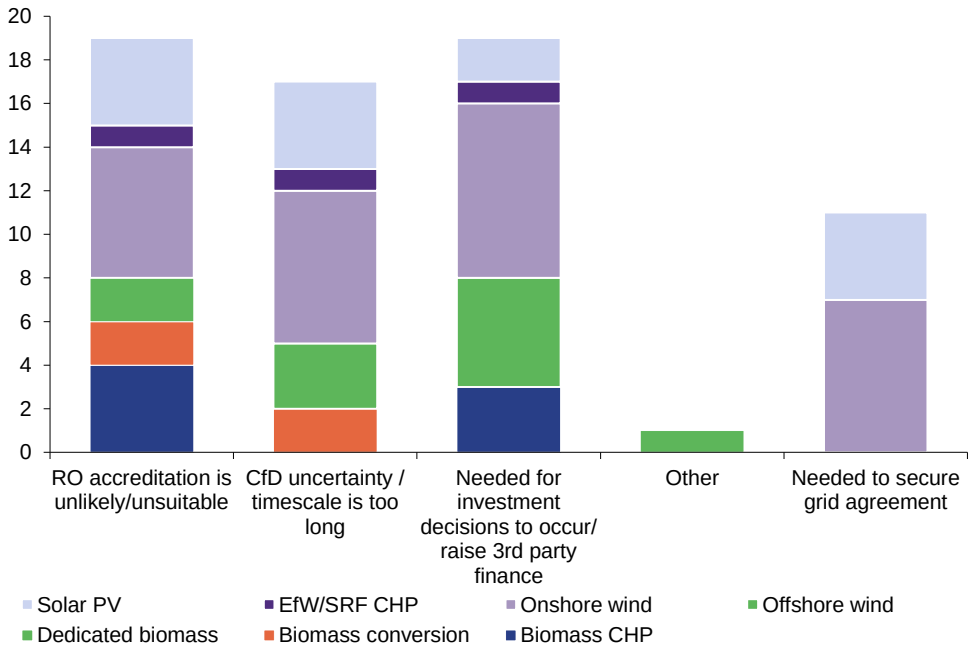


8.35 A third of applicants claimed that they faced an investment hiatus because RO accreditation was either unlikely because they were unable to commission within the RO 2017 deadline or unsuitable due to the lack of a PPA market. The uncertainty and timescale of the CfD scheme also appeared to be a similarly large

concern for applicants, with the potential for investors to wait for the CfD scheme. Other common (and related) reasons why applicants passed include claims that an Investment Contract was needed for the developer to approve the project expenditure and in order for the applicant to raise third party finance.

8.36 The majority of applicants cited multiple reasons for facing an investment hiatus. From Figure 14 we can see that the reasons provided by applicants were not technology specific. The successful Biomass CHP projects placed more emphasis on the unlikelihood and unsuitability of the RO accreditation and the need for investment decisions/to raise third party finance. Whilst the successful offshore wind projects similarly needed an Investment Contract for investment decisions to occur/to raise third party finance, the remaining successful projects were passed due to the CfD's uncertainty and timescale. Several onshore wind and solar projects claimed that an Investment Contract was needed to secure a grid agreement. However, in the majority of cases these projects failed Phase 1 overall as they failed condition 1 of the 'Qualifying Project' criterion (often in part due to the lack of grid agreement in place).

Figure 14 – Reasons for passing Phase 1 Condition 2 by technology



8.37 With no written communication from the assessors on whether the applicants finally passed or failed this condition, the scores of the remaining nine applicants (16%) were unstated. In two of these cases, it appears that assessors requested extra information from the applicants but still no final assessor's decision was noted. In the other seven cases, the assessors felt that there was insufficient evidence to warrant a pass. Whilst the assessors would have usually requested more information, because these applications failed to meet other conditions for the 'Qualifying Project' criterion, no conclusion on the investment hiatus condition was necessary. Therefore no extra information was requested for these applicants.

8.38 Our analysis suggests that the level of information required by assessors may have been unclear to applicants. For 24 (41%) of the applications, the assessor requested (or wanted to request) more information. Understandably, the way developers saw and articulated the nature of investment hiatus was project specific which meant it was difficult to compare the individual circumstances leading to the

hiatus. By providing applicants with more specific guidance on what information should be provided to meet the qualification criteria in Update 1, for example, requiring applicants to provide a detailed timeline with and without the award of an Investment Contract (explaining the impact on the project under both a CfD and RO counterfactual scenario), DECC could have enabled the Phase 1 assessors to have more comparable information and reduced the number of requests for clarification.

8.39 Only 24 applicants attempted to quantify the scale of the delay to their project, despite Update 1 requesting that applicants should "state the extent of such delay". The applicants who did provide this information indicated delays ranging from six months to a minimum of 24 months. A further 27 applicants suggested the delay would be 'significant' or that the project would not proceed at all. The remaining 6 applicants (four of which failed this condition) did not mention the scale of the delay.

Condition 3: The project is not already accredited under the RO

8.40 This condition asked applicants to demonstrate to the satisfaction of DECC that the project was not already accredited under the RO. Unsurprisingly, due to the factual nature of this condition, there was a high success rate with 55 applicants (96%) passing. It appears that the one unsuccessful applicant at this stage misunderstood the qualification condition and applied despite already being accredited under the RO. The outcome for this condition for the remaining applicant was unstated.

Condition 4: The project has an expected nameplate capacity of 50MW or greater, or in the case of an offshore project, 100MW or greater

8.41 This condition sought an appropriate confirmation that the project had a planned nameplate capacity of 50MW or greater, or in the case of an offshore project, 100MW or greater. This criteria was introduced as the investment hiatus risk was deemed to be more of a risk for larger projects and to avoid receiving significant volumes of applications from small projects. Nearly all of the projects (55) met this condition successfully. The remaining two applicants had unstated outcomes as the applications had already failed Phase 1 due to a lack of credible plans and therefore no conclusion for this condition was necessary.

Condition 5: The project is located in the UK

8.42 As might be expected, 100% of applicants met the condition of being located in the UK.

8d Evaluation criteria

Context

8.43 As outlined in Section 7 the evaluation criteria in Phase 2 fell into two broad categories; project deliverability and impact on industry development.

8.44 Unlike Phase 1, a scoring matrix was defined to allow applications to be ranked. In addition to this, minimum thresholds were set for specific requirements that had to be met for an application to 'pass'.

8.45 In this Section we evaluate whether the evaluation criteria were appropriate by:

- reviewing the outcomes of the Phase to determine whether the criteria was successful in differentiating applications and evaluate whether there is any indication of bias
- reviewing the range of scores defined by the scoring matrix
- reviewing the evidence requirements

- evaluating whether timing of the evaluation criteria in the process was appropriate.

Evaluation

Process outcome

8.46 In total 16 projects were successful in meeting the minimum evaluation criteria (based on moderated scores and excluding the biomass conversion that withdrew). There was a large range in the scores of the highest and lowest ranked project (8%-91%) although the next lowest score was 28% suggesting the 8% was something of an outlier. The range of scores suggests that the marking criteria allowed sufficient scope for applications to be differentiated.

8.47 Of the nine projects which failed the minimum evaluation criteria, five failed as they did not meet the technical deliverability criteria, two failed as they did not meet the financial deliverability criteria and two failed on the basis of not meeting both the technical and financial deliverability criteria. We note that although a minimum threshold was set for "procurement plans in place for critical long lead time items" – none of the projects failed to meet this criterion.

Table 7 – Phase 2 applications technology mix

Technology	FAIL	PASS	WITHDREW	Total	Success Rate
Biomass CHP	2	1	-	3	33%
Biomass conversion	-	6	1	7	86%
EFW CHP	1	-	-	1	0%
Offshore wind	5	7	-	12	58%
Onshore wind	1	2	-	3	67%
Total applications	9	16	1	26	62%

8.48 Particularly high success rates were seen with biomass conversion projects in Phase 2 (six out of seven applicants were successful, the remaining applicant withdrew). Whilst onshore and offshore wind both had high success rates, the two successful onshore wind projects both subsequently withdrew.

8.49 The larger projects seem to have performed better than smaller ones in Phase 2 of the process. Excluding the two onshore wind projects that later withdrew, all four applicants with installed capacities less than 200MW failed. In contrast, almost 70% of applicants with installed capacities between 400 – 700MW were successful. Whilst there does not seem to be any indication that the criteria were biased towards larger installations, this may be indicative of either a better quality of the application or of the projects themselves for the larger installations or perhaps more resource to dedicate to the process. In particular larger projects scored well on the industry development criterion, with 11 out 12 of the projects scoring over 70 for this criterion having a capacity in excess of 500MW.

8.50 Successful applicants had Target Commissioning Dates ranging from 1 September 2014 to 31 March 2019. We perhaps expected projects with an earlier Target Commissioning Date to score more highly on the project deliverability criterion as these project plans would be more developed, however this trend was not reflected in the results with a wide spread of Target Commissioning Dates scoring well.

Range of scoring

8.51 Each criterion had a range of scores that could be allocated by assessors. For most criteria the available scores were 0, 50, 80 or 100. However, for some criteria the scoring was more restrictive and only a score of 0, 80, 100 was available. This meant that for some criteria it was challenging to determine the final score. For example, in relation to the planning consent criteria, one second reviewer commented that "this project is finely balanced as to whether it should be an 80 or a zero score. The documentation is not fully comprehensive but the documents are well enough developed for an 80 score to be given. Ideally the score would be somewhere between 80 and 0."

8.52 Across the 26 applications for Phase 2, there were a large number of instances where there was a difference in the score allocated by the primary and secondary assessors for a particular criterion. In particular, offshore wind projects generated the largest number of discrepancies between primary and secondary assessor scores. However, broadly speaking, a comparable number of differences in first and second assessor scores was seen across all technologies.

8.53 If only the first assessors' scores were taken, 14 projects would have been deemed to pass the minimum evaluation criteria. Whereas, if second assessor scores are used, then only 10 projects met the minimum criteria threshold. For both the sets of scores the top three ranked projects remain unchanged, but the rest of the ranking varied significantly. For example, the project ranked 4th by the first assessor's scores is ranked 14th using the second assessor's scores. These differences highlight the subjectivity involved in assessing the applications and underline the importance of the moderation process.

Evidence requirements

8.54 From our discussions with DECC and review of the Phase 2 applications, it is clear that there was a wide range in the level of detail provided at this stage of the process. While the main body of the submission was limited to 40 pages, there was no limit to the level of supporting appendices that could be provided. In some cases, applications were unsuccessful as they failed to provide sufficient detail or evidence to satisfy certain evaluation criteria. The projects that scored lowest in Phase 2 applications generally provided limited appendices. This is reinforced by the five lowest scoring applications making fewer references to support documentation and listing fewer appendices than the highest ranking applications. The more successful projects, in general, supplied a greater level of detail. The most successful applications provided in depth and comprehensive appendices and were structured effectively to support their points. The highest scoring application had over 50 references to 41 discrete sources of information. This was supported by the opinions expressed by both successful and unsuccessful applicants in the stakeholder research interviews (see below).

8.55 More consistency in the amount of information provided by applications could have been achieved had a more comprehensive list and detailed examples of the evidence that DECC expected to see to satisfy certain evaluation criteria been set out in Update 2. In addition, this guidance would have been useful to assessors in borderline cases where there was evidence but it was perhaps not as comprehensive as desired.

8.56 In Phase 2, Update 2 made it clear that the 'compliance check' was limited to checking if a response "appears to be missing or to have been overlooked by an applicant". However, given the level of clarification process undertaken for Phase 1, some applicants may have expected any missing or additional documentation

required to be specifically requested by DECC. This was reflected in the stakeholder feedback (see below). Had a clarification process been available in Phase 2, similar to the Phase 1 applications, then it is possible that further evidence could have been provided and a larger number of participants would have been successful in Phase 2. DECC determined that this approach was necessary in order to run the process on a fair and consistent basis (and thereby reduce the risk of legal challenge).

8.57 A closed assessment process, with little dialogue with applicants, works best where there are prescriptive requirements, an agreed format for submitting application details and comparable applicants. Given the range of projects that applied for Phase 2 this was more challenging in this instance and therefore, further clarification dialogue with developers may have been useful with appropriate safeguards to ensure consistency of approach. For example, a log of clarification questions could be maintained and reviewed by Relationship Managers to ensure each applicant has been given the same opportunities. An alternative approach would be to have all clarification questions and responses published/shared among applicants to ensure all applicants have sight of the same advice and information.

Timing of the criteria

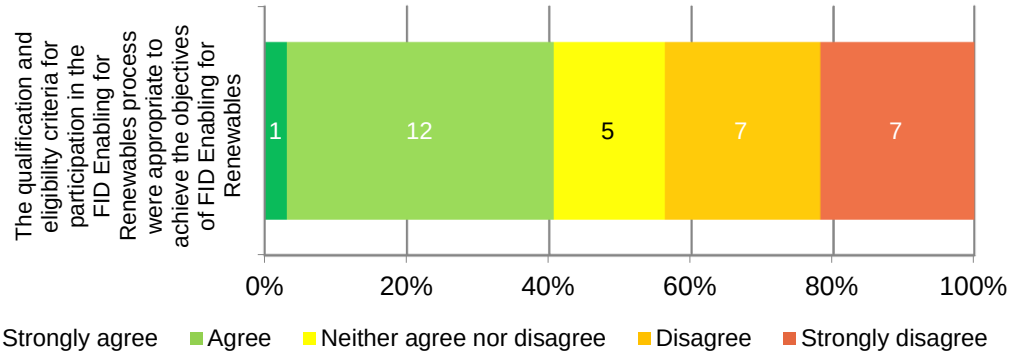
8.58 The project deliverability and impact on industry development criteria used in Phase 2, required a more detailed analysis by assessors than the qualification criteria used in Phase 1. Our assessment is that this was an efficient way to run the process, as it allowed DECC to filter out projects during Phase 1 and then dedicate resources to a more detailed analysis of projects specifics on a smaller number of applications in Phase 2.

8.59 Applicants were required to confirm that they still met the Phase 1 qualification criteria but a detailed assessment of these was not required given the close proximity to Phase 1.

Stakeholder analysis

8.60 As part of the written responses, we asked stakeholders to what extent they agreed or disagreed that "the qualification and evaluation criteria for participation in the FID Enabling for Renewables process were appropriate to achieve the objectives of FID Enabling for Renewables". Of the 32 people who responded to the question, 12 stakeholders 'agreed' (and one 'strongly agreed'). The stakeholders that agreed were made up six applicants (four successful, one unsuccessful, one that was both successful and unsuccessful), developers across a range of technologies, engineers, wind turbine suppliers and a government/regulatory body. 14 stakeholders 'disagreed'/'strongly disagreed' with the statement. This group included four unsuccessful applicants, a range of developers and consultants. The remaining five respondents answered 'neither agree nor disagree'. As might be expected, all of the successful applicants who responded agreed that the qualification and evaluation criteria for participation were appropriate to meet objectives and the majority of the unsuccessful applicants interviewed disagreed.

Figure 15 – Written responses: "the qualification and evaluation criteria for participation in the FID Enabling for Renewables process were appropriate to achieve the objectives of FID Enabling for Renewables"



8.61 The respondents who agreed, generally felt that the qualification and evaluation criteria were appropriate and clear. A number mentioned that there had been an opportunity to ask questions when things were not clear, for example around the planning and grid connections.

8.62 One unsuccessful applicant commented on a lack of consultation on the qualification and evaluation criteria. However we note that consultation on the criteria would have significantly increased the amount of time taken to deliver the FID Enabling for Renewables process and therefore would have undermined the value of undertaking the process.

8.63 An applicant with both successful and unsuccessful projects agreed with the way DECC set the criteria, particularly the investment hiatus criteria. However, they commented that the length of delay that would be deemed acceptable was subjective so further guidance would have been useful. We note that given the project specific nature of investment hiatus it would have been very difficult for DECC to have provided further guidance. There were other comments around the subjectivity of the criteria, particularly in regards to the supply chain criteria which certain applicants found challenging to prove. This raised concerns about the possibility for a misunderstanding, leaving criteria open to interpretation and influence from specific companies. One unsuccessful applicant expressed surprise at the lack of any 'due diligence' on the information provided, which might have been expected for a scheme of this value. One stakeholder mentioned that selecting projects on clear 'objective' criteria such as planning consent, commissioning date would have been more welcome than the "softer facts".

8.64 Two applicants commented on the high volume of information needed to comply, meaning that they had to spend a lot of resources to make sure the applications were good quality and detailed. An applicant with both successful and unsuccessful projects expressed that they could see the gaps in detail where their unsuccessful project/s did not meet the criteria. Whilst they found the type of information required to satisfy the criteria clear enough, they were unsure of the level of detail expected and took the approach of over-providing information. A similar strategy was used by two other successful applicants who described the FID Enabling for Renewables process as a "beauty contest" and a "shop window exercise", commenting that the quality of the application and how well information was presented was more important than quality of underlying project.

8.65 Overall, the one of the biggest concerns of stakeholders was around clarity. One successful applicant argued that the lack of clarity around evaluation criteria was

demonstrated by the fact that the Drax Unit 3 project was accepted despite their later disqualification. Another successful applicant commented that DECC could have been clearer on what the application should have looked like. A range of stakeholders believed that communication around the requirements for applicants' submissions could have been much clearer as it was not obvious exactly what sort of evidence DECC required. An unsuccessful applicant felt that it was clear what information an applicant had to submit but not necessarily clear what would cause an applicant to fail.

8.66 An applicant with both a successful and unsuccessful project complained about a lack of consistency across Phase 1 and Phase 2. They noted that although in Phase 1 DECC had asked for additional documents, this was not done in Phase 2. They expressed frustration, having asked DECC if they needed to provide all of the documents in Phase 2 and were informed that it was their judgement call. An unsuccessful applicant suggested there was a need for DECC to provide more guidance on what was needed and there should have been an opportunity to submit additional supporting evidence if required, especially considering it was indicated in Update 2 to keep the supporting documents to a minimum. They also suggested that it would have been beneficial to have had the opportunity to respond to questions that DECC may have had on the application, for instance via a clarification question round. Several applicants commented on lack of consistency with the enduring regime, noting that some of the projects that were successful would not have qualified under the enduring regime. For example, offshore wind projects were not required to have planning consent.

8.67 An applicant with both successful and unsuccessful projects believed that criteria were not consistently applied across all projects. For example, they claimed that certain developers only had to provide a couple of paragraphs demonstrating a CfD and RO counterfactual to meet the Investment Hiatus criteria, whereas others projects had to provide entire chapters. We note applications were unpublished and therefore these stakeholder views are speculative. A utilities analyst commented that quantitative scoring for the FID Enabling for Renewables projects did not appear consistent or transparent, for example, both Drax projects scored equally on procurement but some offshore wind projects did not score well despite being well advanced. This view of a lack of consistent scoring was also supported by an unsuccessful applicant.

8.68 Contrastingly, another applicant with both successful and unsuccessful projects disagreed with the view of inconsistent marking, commending DECC for their consistent review based on the information they were provided with by projects.

8.69 One unsuccessful applicant felt that the technical case was very difficult to compare for different projects because the technical design for a project does not get fixed until construction is started and the level of detail available would vary depending on the stage of the project. Another developer was disappointed that projects passed the qualification and evaluation criteria, even though many of the projects are yet to take off, when they believed projects were initially required to be in a much more advanced stage to qualify. A developer commented that the qualification and evaluation criteria would have been suitable for FID Enabling for Renewables to achieve its objectives, had the criteria included a timing requirement for FID to be taken on these projects. There seemed to be some confusion about whether the process was focussed on final investment decisions or critical investment decisions. We note that Update 1 clearly stated that FID Enabling for Renewables was to enable developers "to take final investment decisions, or other critical investment decisions", however we acknowledge that the name of the process was perhaps a misnomer. A successful applicant expressed concern that

allowing developers who were taking 'critical' investment decisions to apply made the assessment more subjective.

Messages

8.70 From our analysis we have noted the following key messages:

- Out of 57 initial applications, 26 qualified. This overall level of failure at Phase 1 indicates that the Phase 1 qualification criteria were successful in flushing out speculative or undeliverable applications at an early stage. This was further supported by the fact that nearly all applicants in Phase 2 scored reasonably on the 'Project Deliverability' criterion.
- In Phase 1, DECC sought to test whether individual developers were suffering from an investment hiatus, by asking them to state that: "Without an Investment Contract there is a significant risk that the electricity generation to which the Investment Contract relates will not occur or will be significantly delayed." (we refer to this below as 'the investment hiatus condition'). This was a critical and continuing qualifying requirement that applied to projects throughout the process, not simply as a mechanism to for filtering out projects in Phase 1.
- In assessing whether developers met this condition, DECC were largely reliant on the evidence provided by developers. Although assessors applied their own judgement when reviewing developers claims, further independent evidence was not sought to corroborate developers' claims. We note that, despite providing board warranted statements to this effect, five projects failed to meet this criterion indicating that evidence provided by developers on its own was not always sufficient to support the arguments being put forward. This supports the argument for some form of independent corroboration.
- There were mixed views from stakeholders on the consistency of scoring, with some views suggesting it was consistently applied and others the opposite.
- For certain criteria, the scoring options were restrictive which made it difficult for assessors to determine a final score. For example for some criteria used in Phase 2 only a score of 0, 80, 100 was available.
- Because of the criteria applied, there was a level of subjectivity involved in assessing the Phase 2 applications and this gave rise to a number of discrepancies between assessors' scores.
- DECC undertook a moderation process to sense check the scoring and this was key in addressing the discrepancies.
- Some stakeholders we interviewed commented on the subjectivity of the criteria, but only one stakeholder suggested more objective criteria would have been better.
- The level of evidence provided by applicants to support their case varied significantly. There was a lack of clarity around exactly what evidence needed to be provided to satisfy certain criteria and the extent to which DECC would request additional information after the application submission. A large number of stakeholders (both unsuccessful and successful) commented on a lack of clarity in the level and type of information required to satisfy criteria.

Recommendations

8.71 The qualification and evaluation criteria could, in our view, have been improved in the following areas:

- DECC could have potentially reduced the number of speculative bids in Phase 1 by further defining the qualification criteria communicated to applicants in Update 1 (particularly in relation to planning consent and grid connection). For

example, the matrix of planning consent requirements by technology type, provided in Update 2, could have been included in Update 1.

- For 41% of the Phase 1 applications, the assessor requested clarification from applicants. By providing applicants with more specific guidance on what information should be provided to meet the qualification criteria in Update 1, particularly in relation to the investment hiatus condition, DECC could have enabled the Phase 1 assessors to have more information that they could use to cross-compare projects and in turn come to a quicker decision, reducing the number of requests for clarification. For example, DECC could have required applicants to provide a detailed timeline both with and without the award of an Investment Contract.

8.72 Further clarification dialogue with developers may have been useful with appropriate safeguards to ensure consistency of approach. For example, a log of clarification questions could have been maintained and reviewed by Relationship Managers to ensure each applicant had been given the same opportunities. An alternative approach would have been to have all clarification questions and responses published/shared among applicants to ensure all applicants had sight of the same advice and information.

8.73 Should DECC promote a similar project in the future we recommend that:

- Qualification criteria that require subjective judgement should have clearly defined parameters and evidence requirements to reduce the risk of actual or perceived subjectivity. Further consideration should be given to validating claims made by developers during the application stage.
- Assessments should be completed even where the applicant has already failed to ensure full comparability between scores. The absence of complete scores makes it harder to complete an ex-post assessment of the overall pattern of responses.
- A wider range of scores would have made it easier for assessors to exercise their judgement in determining a final score and differentiate between an applicant who scores averagely and an applicant who scores highly.
- A more comprehensive list and detailed examples of the evidence required to satisfy certain criteria could be published to enable applicants to gain a better understanding of what DECC considers sufficient evidence. This guidance should also assist assessors in understanding the evidence requirements.

8e Affordability and down selection processes

Context

8.74 As outlined in Section 7, of the 16 projects that met the minimum evaluation criteria in Phase 2, 10 were provisionally affordable within the available budget, based on the allocation of the LCF budget. This affordability exercise introduced an element of competition into the FID Enabling for Renewables process, with only the highest ranked projects being awarded an Investment Contract.

8.75 The down-selection methodology was clearly set out in Update 3 and gave priority to the highest ranked projects in Phase 2, using the top quartile for each technology, and enabled the highest ranked projects to be selected across technologies. This approach was adopted to aid DECC to meet its objective to help develop a range of renewable electricity technologies and thereby enhance industry confidence. The extent to which this was achieved is assessed in Section 9f of this report.

8.76 In this Section we:

- review the design of the affordability and down selection process
- evaluate whether the process was carried out in line with published guidelines

Evaluation

Design

8.77 In principle, the top quartile down selection mechanism could have resulted in a lower ranking project receiving an Investment Contract ahead of a higher ranking project. If, for example, a particular technology only had low ranking projects. In practice, however, we note that the Phase 2 ranking meant that the same eight projects would have been selected had the top quartile approach not been adopted. This indicates that the Phase 2 evaluation criteria were not biased towards a particular technology type, and allowed a number of different technologies to obtain the highest scores.

8.78 Our assessment is that the down selection mechanism provided a simple mechanism to ensure that at least one project from each technology type that was successful in Phase 2 were invited to submit a binding application, but in practice the outcome was unaffected.

Implementation

8.79 The original affordability process resulted in a list of ten projects that were provisionally affordable within the available budget. Subsequently, two projects withdrew from the process and one was disqualified. In line with the process outlined in Update 3, DECC awarded an additional Investment Contract to the next highest scoring project.

8.80 In carrying out the affordability calculation the FID Enabling for Renewables team contacted ORED to determine whether any adjustment to the capacities stated by developers were deemed necessary. For seven contracts, ORED suggested the capacity provided by the developer should be reduced (1-20%), for example, to account for the loss of efficiency associated with burning biomass as opposed to coal. We note that the same 'lower' capacities were also used in the EMR Final Delivery Plan (December 2013). Had these capacity adjustments not been made, there would have been insufficient budget for the final project and only seven projects would have been successful in securing an Investment Contract.

8.81 From our discussions with the DECC team our understanding is that this decision was driven by desire to keep the assumptions the same as the EMR Final Delivery Plan and to mitigate the risk that projects reduced their expected capacities at a later date and thereby reduced DECC's ability to meet the 2020 renewables target (and interim targets).

8.82 The Investment Contracts are capped at the binding application Installed Capacity. Before the Milestone Date, generators can reduce their Installed Capacity Estimate (ICE) by up to 25% without losing the contract. Thereafter, generators must deliver 85% of that revised capacity (The 'Required Installed Capacity') or lose the contract. In effect, projects could reduce their installed capacity to 64% of the original capacity stated in their binding application without losing the contract, but could not increase their capacity – therefore had an incentive to apply for the top end of their expected range of capacities. To aid DECC's assessment of the likely capacity ranges, applicants could have been required to provide the expected range of installed capacity (in addition to the maximum capacity requested for the Investment Contract) outlining the risk factors affecting this range. This would have given DECC further data and information to draw from.

8.83 The revised capacity assumptions were based on the department's market understanding and experience at the time. Given the number of uncertainties faced in this sector, we can understand the rationale for adopting an approach which factored in an assumed capacity shortfall. However, the planned installed capacities of the projects will need to be carefully monitored to ensure that this is the case.

8.84 On the 19 December 2013, shortly after the publication of Update 3, DECC announced the 10 projects that were provisionally affordable within the available budget. By publishing this list DECC hoped to manage applicants expectations and allow applicants to consider the amount of due diligence they may need to undertake on the contract. However, this list could be subject to change as applicants still had to submit binding applications. As it transpired, two projects that were provisionally affordable within the available budget withdrew and one project was disqualified following the submission of a binding application. Therefore the final list of affordable projects differed to the original list. During the stakeholder research one stakeholder commented on the "confusion" created by announcing projects that were provisionally affordable within the available budget (see below). It is hard to assess whether particular projects would have behaved differently and there was very little evidence from the stakeholder research to support this. However, on balance as the process was trying to provide more certainty to developers to prevent an investment hiatus, issuing a provisionally affordable list was in line with this objective.

Stakeholder analysis

8.85 Two FID Enabling for Renewable applicants (both successful and unsuccessful) and a biomass developer expressed that it would have been helpful if the whole affordability process was set out before Update 3 so applicants were aware that top quartile projects from different technologies and affordable top ranked projects would be the only successful projects at that the point. These respondents commented on the lack of clarity on the budget before this and were also surprised by the technology based rules. The applicant with successful projects commented that by not including the affordability constraints as part of the original Update, DECC raised everyone's expectations during the process. The developer expressed concern that this rule was only devised once DECC had sight of all the successful Phase 2 applications, giving DECC discretion to influence the outcome of FID Enabling for Renewables. We recognise that DECC set up 'Chinese walls', ensuring that different team members were involved the evaluation and moderation process to the budget setting process (see Section 8f).

8.86 A trade association also commented on the confusion, particularly for unsuccessful projects during the period between DECC publishing the list of ‘potentially affordable projects’ and the list of successful projects.

Messages

8.87 Our assessment is that the down selection process was robustly designed and an appropriate mechanism to ensure that a range of technologies were funded. The key area of judgement in the process was the determination of the budget to allocate to the Investment Contracts in the first place. The allocation of this budget has been considered in the next Section.

8.88 We recognise that by using assumed capacities in the affordability calculation rather than the capacities outlined by developers in their applications, DECC was mitigating the risk of not generating enough capacity to meet the 2020 renewables target if projects subsequently reduced their installed capacities or commission later

within their Target Commissioning Window. However, this introduced a new risk of overspending of the FID Enabling for Renewables budget if projects were to deliver their the maximum contracted installed capacity. Given the number of uncertainties that projects face in this sector, we can understand the rationale for adopting an approach which factored in an assumed capacity shortfall.

8.89 Before Update 3, applicants were unaware of the affordability and down selection process. The announcement of these rules surprised a large number of stakeholders.

Recommendations

8.90 It is important that the installed capacity for each project is carefully monitored to establish whether any projects will exceed the assumed generation volumes and therefore the proportion of the LCF budget allocated for FID Enabling for Renewables projects. Equally any underspend will need careful monitoring. DECC collate information to assess this on a monthly basis as part of the 'investment tracker'. In addition to this, we recommend a periodic progress report on the eight FID Enabling for Renewables projects summarising key data including (but not limited to) the date of final investment decision, commissioning dates, load factors, and cost of supporting the projects. This data should be shown against forecasted outputs and analysed to draw out key information and any lessons that can be learnt for the enduring regime. The majority of this data is available from the LCCC as part of their monthly reporting.

8.91 If a similar project was run in the future, we recommend that the affordability methodology is set out clearly from the outset.

8f Modelling of affordability

Context

8.92 In the context of the FID Enabling for Renewables project modelling was primarily used to set the LCF cap for FID Enabling for Renewables. Modelling was also performed to set the administrative strike prices; however this process has been reviewed within our EMR report.

8.93 In this Section we:

- provide an overview of how the LCF operates and how the budget links to the LCF
- review DECC's objectives for the budget setting process
- provide an overview of the budget setting timeline
- review the budget setting approach, including input assumptions, scenarios considered and risks identified for.

Evaluation

Interaction of the LCF and CfD budgets

8.94 The budgets available for the CfD (FID Enabling for Renewables and the enduring regime) are both limited by spending caps under the Levy Control Framework (LCF).

8.95 The LCF itself is a series of annual caps on projected expenditure on policies to support low carbon electricity. The costs of these policies are assumed to be

passed on to electricity consumers by suppliers. The LCF annual caps were agreed between HM Treasury and DECC and cover the following policies[17]:

- Renewables Obligation (RO);
- the small-scale Feed-in Tariff (ssFiT);
- Contracts for Difference scheme (nuclear, CCS and renewable CfD including FID Enabling for Renewables and enduring regime); and
- Any future levy-funded electricity policy.

8.96 Table 8 show the annual spending caps for each future delivery year under the LCF to 2020/21 as detailed in the July 2013 draft EMR delivery plan[18].

Table 8 – Spending caps (2011/12 prices) for each delivery year under the LCF to 2020/21 (Draft EMR Delivery Plan, July 2013)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
LCF cap (£bn)	4.30	4.90	5.60	6.45	7.00	7.60

8.97 The maximum budget available for a CfD allocation round in any particular delivery year is that remaining after expenditure already committed (ie a plant that is already generating) and project spend on new build capacity in that delivery year has been deducted. Expenditure already committed and projected includes:

- RO and ssFiT supported operational projects - projects already operating and receiving support under the RO or ssFiT are guaranteed support for 20 years[19];
- RO and ssFiT eligible new projects - all new projects meeting the evaluation criteria for these schemes are guaranteed support, under the RO, which forms the majority of the committed budget under these two schemes, this is limited by the ending of support to new projects on 31 March 2017[20];
- projects allocated a CfD under a previous allocation round – once an allocation round under the CfD has been completed, support for successful projects has then been committed to those projects, this includes under the FID Enabling for Renewables which was effectively the first CfD allocation round.

8.98 However, calculating the maximum budget is not straight forward because spending projections are uncertain.

8.99 Table 9 summarises the uncertainties around budget spend for the low carbon support schemes under the Levy Control Framework. As all the schemes are revenue support schemes then support is paid per MWh generated. This means there are three main areas of potential uncertainty:

- total installed capacity of eligible projects – this is the total capacity by support level that is operational at any point in time during a delivery year

17 The 'warm homes discount' is also currently included but has its own separate spending target for 2015/16. Similarly the funds for the Capacity Market will sit outside of the ring-fenced limits for low carbon electricity.

18 Draft EMR Delivery Plan (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/268221/181213_2013_EMR_Delivery_Plan_FINAL.pdf)

19 The exception to this is RO projects prior to June 2008 and all biomass conversions are guaranteed support to 2027 irrespective on when they commissioned.

20 A couple of exceptions to this are solar projects over 5MW which are excluded from April 2015 and a small number of projects that meet the grace periods criteria.

- load factor – this is the average load factor for each support level; and
- support per MWh – this is the support available for a particular project eg ROC band, ssFiT tariff.

Figures that can be estimated with a reasonable level of certainty are shaded green, figures where there is notable uncertainty are shaded orange and where there is significant uncertainty are shaded red.

Table 9 – Budget uncertainties by scheme under the LCF at the time the FID Enabling for Renewables budget was set in November 2013

	Total installed Capacity	Load factor	Support per MWh
Renewables Obligation – operational	Good information	Good information but annual variance	Good information
Renewables Obligation – new	Pipeline information but uncertain how much will deploy, issue removed after April 2017	Some uncertainty eg annual weather patterns and improvements in technology	Good information
ssFiT – operational	Good information	Reasonable estimate but as heavily PV weather patterns and deterioration of load factor could play a part	Good information
ssFiT – new	Uncertain as can PV can deploy quickly, however, budget impact dampened as support reduces with higher deployment	Some uncertainty eg annual weather patterns and improvements in technology	Dependent on deployment
CfD – contract secured (including FID Enabling for Renewables)	Known upper limit of projects and capacity, but actual not known until all become operational	Annual variance and for large projects this could be site/project specific	Dependent on wholesale electricity prices
CCS CfDs - uncommitted	Uncertain given early stage of projects and uncertainty in commissioning date	Uncertain given early stage of projects	Uncertain given early stage of projects
Nuclear CfDs - uncommitted	Good information – but uncertainty in commissioning date	Good information	Good information

8.100 It is clear that there are a number of areas where committed spending can differ from the amount expected. We consider the most significant long term uncertainty to be wholesale electricity prices, particularly given this applies to all projects under the CfD.

8.101 However, in November 2013 when the FID Enabling for Renewables budget was set the other key uncertainty was the level of deployment under demand-led schemes (RO and ssFiT), particularly in light of the increased uncertainty during the transition period to the enduring regime. For future CfD rounds the RO deployment uncertainty should reduce, as the RO closes to new projects. Uncertainty over whether contracted projects make it to commissioning and at what capacity will still remain (though may lessen as experience is gained). Future load factors could also have an impact on costs under the CfD in two ways:

- Annual weather patterns could lead to a particularly high generation year putting pressure on the budget in that year; or
- New project load factors differing from historical experience, particularly for larger projects such as biomass conversions and offshore wind.

8.102 To help managed these uncertainties the rules of the LCF allow for a 20 per cent buffer, or headroom. If spending exceeds the cap in any one year (but is below the 20 per cent buffer), then there is some flexibility over whether DECC needs to take action:

- It would not be permitted to make policy changes that increase expenditure and it may be required to agree a plan with HM Treasury to bring spending back down to within the cap.
- However, if HM Treasury and DECC agree that overspend is temporary then they can jointly agree that no action is necessary eg it was a particularly windy year.

8.103 If spending exceeds the 20% buffer:

- DECC will need to agree a plan with Treasury to urgently bring spending back to the level of the cap.
- Treasury may also seek a financial contribution from DECC if a satisfactory reduction plan is not brought forward.

Setting CfD budgets over time

8.104 The CfD regime commits support to projects competitively through allocation rounds. So when a CfD budget is set, it is set for a particular allocation round (and in the case of the enduring regime, disaggregated further into delivery year and technology pot, as described in our EMR report). This means that in setting the budget for an allocation round, not only the maximum available budget under the LCF needs to be taken into account but also any spending to be retained for further allocation rounds. Optimising spending between allocation rounds is not only challenging as a result of the uncertainty in committed projects outlined in Table 9 but also due to uncertainty over the future cost and pipeline of projects. For example, is it better to spend more now and have more comfort over reaching electricity's contribution under the 2020 target, or wait until later when projects may be cheaper?

DECC's objectives for setting the FID Enabling for Renewables budget

8.105 The budget set for the FID Enabling for Renewables project is outlined in Section 7c. At the time the FID Enabling for Renewables budget was announced in early December 2013, it represented 48% of the remaining LCF budget available for renewable CfD (Investment Contracts under FID Enabling for Renewables and CfDs under the enduring regime). In setting this budget, DECC's key objectives were to strike a balance between:

- retaining sufficient budget for future allocation rounds under the enduring CfD regime to ensure sufficient participation to achieve effective competition and

ensure there is adequate budget for projects that were not eligible for FID Enabling for Renewables; and

- setting the budget high enough to help avoid an investment hiatus and support the other non-monetised benefits of the scheme including:
  - demonstrating that CfDs were viable ahead of the enduring regime
  - reducing industry costs (by supporting development of early supply chains and enabling a steady pipeline of projects)
  - minimising the risk of failing to meet the interim and final 2020 renewable targets

Budget setting timeline

8.106 It was identified that an affordability cap might be needed for the FID Enabling for Renewables as early as January 2013, however the budget was not set until November 2013. One of the findings of the NAO report (June 2014)[21] was that DECC did not identify how much capacity it was seeking from the scheme or set a budget before it launched the scheme in March 2013. There were two main reasons for this. Firstly, the draft administrative strike prices (included in the Draft Delivery Plan for EMR) were not published until July 2013. These prices allowed DECC to calculate the cost of supporting any proposed projects and model the financial impact of this. Secondly, the projected amount of the LCF budget required for RO is updated in September each year. As explained above, any changes in these projections affects the amount of residual budget left for renewables CfD (both FID Enabling for Renewables and the enduring regime). DECC decided to wait until these revised projections were published before setting the budget. The key dates relating to the budget setting process are set out in Table 10.

Table 10 – FID Enabling for Renewables budget setting timeline

Date	Event
January 2013	Recognition that a cap may be needed for the project
February 2013	EMR Executive Board decision to limit the LCF budget for the project to a specific percentage (to be determined)
March 2013	Update 1 indicated that an affordability cap may be required and therefore lower ranking applications may not receive a CfD
June 2013 – November 2013	Scenario testing
July 2013	Three options for an affordability constraint considered a)enduring regime constraints b) FID Enabling for Renewables bespoke constraints c) no constraints
July 2013	Draft Delivery Plan for EMR including draft strike prices
September 2013	Latest RO projections produced
6 September 2013	Deadline for submission of Phase 2 applications
September 2013	Modelling performed on a top down and bottom up approach
October 2013	Options considered for a technology based budget rule

[21] NAO report - early contracts for renewables energy (http://www.nao.org.uk/wp-content/uploads/2014/06/Early-contracts-for-renewable-electricity1.pdf)

Date	Event
6 November 2013	Ministers agreed an affordability cap which delivers the largest top quartile of projects for each technology in all 'realistic' scenarios based on current estimates
December 2013	Final administrative strike prices published
December 2013 (early)	Update 3 published setting out affordability cap and down selection methodology.
December 2013	Provisional affordability and down selection assessment concluding that 10 projects were provisionally affordable within the available budget
January 2014	Consultation on 'two pot' approach for CfD with no 'first come first served' round
February 2014	Updated RO and FITs projections produced
March 2014	Final affordability and down selection calculation

8.107 At the beginning of the FID Enabling for Renewables process it was intended that the first round of CfD would be on a 'first come first served' basis using administratively set strike prices. This was DECC's projections that to meet the 2020 renewables target most, if not all, renewable electricity projects in the pipeline would need to come forward and therefore there would be insufficient competitive tension to run a successful auction. However, over the course of the FID Enabling for Renewables project three key factors changed:

- The amount of budget available for CfDs was less than previously thought (predominantly due to changes in the RO projections)
- There was a far stronger pipeline of renewables projects coming forward; and
- New draft guidelines from the European Commission would require competitive allocation for at least the most mature renewables technologies.

8.108 DECC therefore initiated a consultation in January 2014 seeking views on a 'two pot' approach for CfDs, introducing competitive allocation from the outset of the enduring regime. Had the budget for FID Enabling for Renewables been set prior to September 2013, it is likely that a higher affordability cap would have been determined (as the RO projections increased in September 2013, reducing the residual amount of the LCF remaining for FID Enabling for Renewables and the enduring regime). This would have further reduced the amount of funds remaining for the enduring regime. (See further analysis of the residual budget remaining for the enduring regime in Section 9g). We therefore, believe it was prudent to delay setting the budget setting in this instance.

8.109 However, by publishing the affordability cap after projects had submitted their Phase 2 applications, DECC introduced the risk that the level of budget set might be motivated by a desire to fund particular projects. To manage this risk DECC set up 'Chinese walls', ensuring that different team members were involved the evaluation and moderation process to the budget setting process. In addition, the list of successful projects was not shared by the moderators until ministers had agreed the budget. However, despite this measure, two stakeholders expressed a concern that DECC had sight of the applications before they set the budget.

Budget setting approach

8.110 The modelling performed in October 2013 to support the budget setting process was done in two ways:

- Top down approach – calculating the residual amount of LCF budget left for CfD and then determining a percentage split between FID Enabling for Renewables and the enduring regime
- Bottom up approach – using an illustrative set of projects to determine how many projects of each technology type were affordable under various scenarios

At this point in time the updated RO projections had been produced however, the final administrative strike prices had not been determined.

Top down approach

8.111 For the top down model, DECC used their DDM model (for wholesale prices) and pipeline information from ORED to develop high, central and low scenarios, (where a 'high scenario' represents a high projected expenditure on RO, ssFiT etc and therefore a low amount of residual budget left for CfDs.) The DDM model itself, is considered in further detail in our EMR report.

8.112 This top down modelling projected the amount of residual LCF budget (for 2015/16 – 2020/21) for CfDs would be between £6.1bn and £8.7bn in 2012 price year in the 'high' and 'low' scenarios. The central scenario which underpinned the top down modelling options considered by Ministers, forecast £7.9bn residual budget for renewable CfDs. However, DECC's projection (in the Annual Energy Statement undertaken in October 2014) of £5.3bn is outside 'high' and 'low' scenario range and closer to the two additional extreme scenarios modelled which were presented as 'centrals and high plus extra RO risks' (£5bn and £3.2bn respectively). The movement in the forecast residual budget for renewable CfDs is predominantly due to an increased deployment under RO and revised wholesale prices.

8.113 Four top down scenarios were considered:

- A single project (of any technology)
- The highest cost project from each technology
- Two average cost projects from each technology
- 50:50 split between FID Enabling for Renewables and the enduring regime in each year

Bottom up approach

8.114 The bottom up model considered three different scenarios.

- Approximately 50% of LCF residual budget (starting at 70% and reducing to 40% over the six years)
- Affordability cap allowing largest quartile of all technologies (preferred option)
- Affordability cap allowing the largest tercile of all technologies

8.115 For each scenario a projected cost was calculated and this was evaluated in alongside a number of considerations to determine which option offered the most appropriate balance of risk and rewards, which led to bottom up scenario 2 becoming the preferred option. The factors considered were:

- Credibility of the FID Enabling for Renewables project – if the budget is too low this could undermine the credibility of the project.
- Credibility of enduring regime – if the budget is too high there will be insufficient budget for the enduring regime.

- State aid approval – if the budget is too high there will be an increased risk of not obtaining State aid approval.
- LCF over/under delivery – if the budget is too high there is an increased risk of overspending the budget (and vice versa).
- Value for money – Investment Contracts would offer a lower cost of support than if the project was funded under RO and industry development should lead to a fall in the strike price under the enduring regime (particularly for offshore wind projects). However, there is a risk that the administrative strike price was set too high and therefore more value for money can be derived from the enduring regime.
- Diversity of technology mix – does the budget allow sufficient technology mix to help achieve the 2020 renewables targets for Investment Contracts and the enduring regime
- Risk of legal challenge – if the budget is too low this increases the risk that applicants for an Investment Contract will challenge the outcome.

8.116 One further risk that was identified was that at least one of the biomass conversion projects, might apply for RO if they were unsuccessful in FID Enabling for Renewables. This would mean that there was even less budget left for the enduring regime.

8.117 We do not consider there would have been any value in assessing a wider range of options. However, the modelling sensitivities particularly in relation to RO deployment and wholesale electricity prices could have been highlighted more in the Ministerial Submission, 4 November 2013.

8.118 Technology mix was clearly an important factor in determining the acceptability of these options, but this in turn restrained flexibility in trying to adhere to a threshold maximum budget allocation. Given the number of factors that were being considered during this modelling process it was clear the preferred option represented a balance between competing drivers.

8.119 Both the bottom up and top down analysis performed looked at a wide range of scenarios and potential outcomes using the latest available data. However, there was no detailed analysis performed on the levels of deployment that might be expected under future CfD allocation rounds for each technology under the different scenarios (beyond the assertion that if the FID Enabling for Renewables budget was too high there would be insufficient budget for a 'first come first served' round under the enduring regime).

8.120 In the context of the CfD, a diverse technology mix is achieved by through the process of setting strike prices for each technology which ultimately aim to drive overall deployment levels of each technology. The EMR Delivery Plan also sets out a broad projected range of generation by technology, derived from National Grid modelling[22] based on the final administrative strike prices for each technology.

8.121 In the context of FID Enabling for Renewables process, in our view the administrative strike prices played a less significant role in determining the technology mix achieved for the final Investment Contracts, particularly as the draft administrative strike prices were only published in June 2013, part way through the FID Enabling for Renewables process. If administrative strike prices had been set too low, applicants may have withdrawn from the process, however there were only

[22] National Grid EMR Analytical Report (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/267614/Annex_D_-_National_Grid_EMR_Report.pdf)

three withdrawals during the process. The low level of withdrawals after the publication of the ASPs, demonstrates that these were set at levels that sufficient to maintain an interest in the process across the technology mix.

8.122 From the discussions with the team there is an implied consideration of the post 2020 renewables market when looking to achieve technology diversity. The difficulty in evaluating this is there are no targets for post 2020.

Budget decision

8.123 Taking into account the analysis performed on the top down and bottom up models, the final annual budget cap for FID Enabling for Renewables was set so as to achieve an approximate 50:50 split in the expected spend on renewables CfDs between the enduring regime and the Investment Contracts (based on the expected residual LCF balance projected by the top down model) and to allow sufficient budget to deliver the largest top quartile projects for each technology in all projected scenarios that were considered likely (the preferred bottom up scenario).

Messages

8.124 From our analysis we have noted the following key messages:

- The top down modelling performed by DECC projected the amount of residual LCF budget (for 2015/16 – 2020/21) for renewable CfDs would be between £6.1bn and £8.7bn (2011/12 prices) based on 'high', 'central' and 'low' scenarios. We note that the October 2014 projection of the residual budget based on analysis, is that the residual budget will be £5.3bn over this period ie outside of the central modelled range used and considered by Ministers. This movement is predominantly due to an increased deployment under RO and revised wholesale prices. Although extreme scenarios reflecting these variables were modelled the uncertainties and sensitivities, particularly surrounding RO deployment, could have been highlighted more clearly in the Ministerial Submission, 4 November 2013.
- The analysis performed looked at a wide range of scenarios and potential outcomes using the latest available data. However, there was no detailed analysis performed on the levels of deployment that might be expected under future CfD allocation rounds for each technology under the different scenarios (beyond the assertion that if the FID Enabling for Renewables budget was too high there would be insufficient budget for a 'first come first served' round under the enduring regime).

Recommendations

8.125 Should DECC introduce a similar project in the future we recommend that:

- The fact that the actual estimated residual budget for renewable CfDs falls outside the 'high' and 'low' range presented in the 'top down' analysis in the Ministerial Submission should be reviewed. This is not a specific FID Enabling for Renewables issue and it falls outside the scope of this report, but the unexpectedly large proportion of the overall CfD programme that FID Enabling for Renewables now constitutes should be noted. In future submissions the uncertainties and sensitivities (particularly surrounding RO deployment) should be highlighted more clearly.
- We recognise that the DECC's pipeline information and Renewable Energy Planning Database is built up from industry information and is supplement through ORED's regular dialogue with industry. However, given the levels of uncertainty surrounding RO deployment, consideration should be given as to

how to involve the industry more effectively in developing an objective analytical base to support policy implementation. For example, testing the robustness of the pipeline assumptions with industry. Appropriate controls and safeguards would need to be put in place to ensure information provided by industry is robustly analysed for any bias or gaming.

8g Transparency

Context

8.126 In this Section we consider to what extent the process for applying for an Investment Contract under FID Enabling for Renewables was transparent by:

- comparing the guidance issued to evaluators against the guidance issued to applicants to highlight any gaps or areas which could be subject to misinterpretation
- engaging with stakeholders to elicit how transparent the process was from the market's perspective.

Evaluation

Phase 1

8.127 Update 1 (March 2013) invited applicants to partake in Phase 1 of the FID Enabling for Renewables process. Aside from setting out the qualification criteria for this Phase, the document also outlined its expectations for the remainder of the process enabling applicants to have visibility of what to expect. This included:

- an indicative timetable for the remainder of process. It also confirmed that any dates provided were provisional and dependent on the progress of key elements of the main EMR project, including the publication of the draft First Delivery Plan, the form of CfD and the annual LCF settlement;
- key areas that it expected Phase 2 evaluation criteria to assess, noting that further details would be published in Update 2; and
- an indication that an affordability cap may be required and therefore lower ranking applications may not receive a CfD.

8.128 One area which was not apparent from Update 1, was that the qualification criteria would need to continue to be met throughout the process. This was made clear in Update 2 but would have been useful to outline from the outset.

8.129 As previously mentioned in Section 8c of this report, there were two conditions of the qualification criteria in particular which required qualitative assessment and were therefore open to disagreement between DECC and the developer. These were the conditions to have credible plans to progress the project within the First Delivery Plan and demonstrating that without an IC there was a significant risk that the associated electricity generation would not occur or would be significantly delayed. For these two conditions in particular further definition of these criteria and more specific guidance on what information should be provided (similar to the level of information provided in Update 2), would have helped the transparency of this Phase of the project.

8.130 Update 1 stated that "developers of multiple projects should note that projects will not be considered in aggregate: each project will be considered on its own merits and will require separate submission." However, a definition of a 'project' is not provided and this led to a variation in the treatment of biomass conversion projects with multiple units. For example, some applicants (eg Eggborough Power Limited)

submitted a single application for multiple units, whereas others (eg Drax) submitted separate applications. Whilst in practice, this did not make a difference to the outcome, it highlights an inconsistency in how projects were treated. From Phase 2 onwards, separate units were treated as separate projects requiring separate applications, however to aid consistency this requirement should have been included in Update 1.

Phase 2

8.131 Update 2 provided applicants with details of the Phase 2 application process, covering the evaluation criteria for this Phase as well as an indicative timetable for the remainder of the process. In addition, it provided details on the proposed Investment Contracts, the possible variations these might have to the final standard CfDs, and an update on strike prices.

8.132 For each evaluation criterion, Update 2 outlined the response requirement, including examples of evidence that may be provided and a scoring matrix. A detailed evaluation marking guide was also provided defining the quality of response that would achieve each score. For some criteria, for example, land availability, the evidence requirements were further broken down by technology type. Our assessment is that applicants would have found this level of information extremely useful in compiling their Phase 2 applications.

Phase 3

8.133 Update 3 (December 2013), provided a summary of the Phase 2 outcome, an indicative timetable for the award of Investment Contracts including the process for submitting a binding application and outlined the LCF cap and the down-selection process.

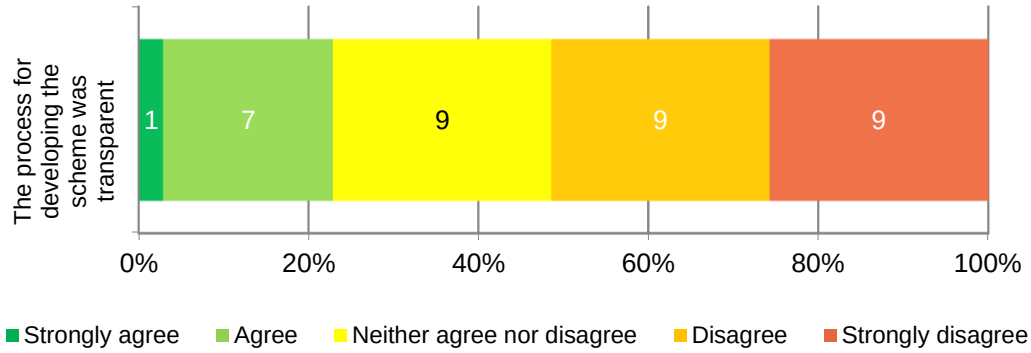
8.134 The binding application process required applicants to confirm that there had been 'no material change to the applicant's Qualifying Project that might have an adverse effect on either: the satisfaction of the Qualification Criteria or its score against the Evaluation Criteria.'

8.135 Examples of a 'material change' were provided in Update 3 (for example a change in the Installed Capacity or Target Commissioning Date of the project or a change in ownership). However, no examples were given for what might be considered a material change in the 'investment hiatus' criteria. For example, if a project owner had subsequently made a formal commitment to start the construction or refurbishment. Given the length of time between Phase 1 applications (June 2013) and the binding applications (March 2014), it is not surprising that project plans were developed and altered during this intervening period.

Stakeholder analysis

8.136 As part of the written responses, we asked stakeholders to what extent they agreed or disagreed that "the process for developing the scheme was transparent". Of the 35 people who responded to the question, seven stakeholders 'agreed' (and one 'strongly agreed') that the process for developing the FID Enabling for Renewables scheme was transparent. The stakeholders that agreed were made up four successful applicants, one applicant with both successful and unsuccessful projects and three developers from a range of technologies. There were 18 stakeholders who 'disagreed'/'strongly disagreed' with the statement. This group included a number of unsuccessful applicants, a range of developers, consultants and wind turbine suppliers. The remaining nine respondents answered 'neither agree nor disagree'.

Figure 16 – Written responses: "the process for developing the scheme was transparent"



8.137 Many stakeholders commented on the transparency of the qualification and evaluation criteria. One applicant with both successful and unsuccessful projects expressed that whilst the FID Enabling for Renewables process was mostly set out clearly and DECC generally stuck rigidly to the process, there was a lack of clarity around evaluation criteria. Similarly, a non-participant developer felt that although the process was transparent, there were a number of uncertainties, for example whether projects which were not scheduled to obtain planning consent until late 2014 should be eligible eg Hornsea and Beatrice. An applicant with both successful and unsuccessful projects commented that whilst they found the type of information required to satisfy the criteria clear enough, they were unsure of the level of detail expected. A utilities analyst commented that quantitative scoring for the FID Enabling for Renewables projects did not appear consistent or transparent, for example, both Drax projects scored equally on procurement but some offshore wind projects did not score well despite being well advanced.

8.138 A number of respondents also expressed that the introduction of the 'technology based rule' in Update 3 was not transparent and created a primary focus on technology diversity which was not explicit in the early stages of the process where the focus was on readiness and deliverability. Because of this, certain stakeholders felt that overall balance of objectives in the FID Enabling for Renewables process was not made clear at the start of the process.

8.139 A successful applicant observed a constant change in the project timing and scope creep, with another successful applicant complaining that the Phase 1 and Phase 2 timeline was not clear from the outset. A successful applicant felt that the process was transparent in that all the documentation was published on the DECC website. However, it seemed at times that the policy and detail of the scheme was being developed during the process and so next steps were not always clear. This view was held by other stakeholders who felt the "government were making it up as they went along" and "learning by doing" rather than following a clear implementation plan. For instance, Phase 2 was only announced two days before Phase 1 closed and only some technologies needed planning permission. Another example of this was given in relation to State aid approval being obtained later in the process than originally expected.

8.140 A solar PV developer who did not participate felt that the FID Enabling for Renewables process was closed and conducted between potential participants and Government officials. They recognised that whilst there may well have been consultation carried out following the normal procedures, these would be secondary to the role played by bi-lateral discussions. They felt that because there were so few potential participants, traditional consultation would probably have been

somewhat futile. Many stakeholders commented on the lack of transparency around how DECC set the level of budget for FID Enabling for Renewables.

8.141 A number of stakeholders also commented that the decision making process for choosing the successful projects was less transparent. One stakeholder complained that DECC refused to provide clarification and further details to unsuccessful applicants. However, another unsuccessful applicant claimed to successfully engage with DECC to understand why they had been marked down and were given an opportunity to provide further explanation. A successful applicant agreed, commenting on a high level feedback on the scores they had been awarded.

Messages

8.142 From our analysis we have noted the following key messages:

- In general terms, DECC put a considerable amount of resource into communicating with the market, and this was noted by a number of stakeholders whom we interviewed.
- The Phases, each with an Update document, enabled a process of structured communication to take place with the market, providing a progressively more detailed framework for the FID Enabling for Renewables application process.
- The Updates[6] struck a balance between keeping the market informed of the latest process developments and allowing DECC sufficient flexibility to amend the process later if required.
- DECC were transparent in terms of changes in the overall timetable and the underlying reasons for this. However, some stakeholders complained about the changes in project timing, commenting that the Phase 1 and Phase 2 timetables were not clear from the outset.
- According to a number of stakeholders, the next steps were not always clear. This is presumably due to the evolving nature of the project.
- There was a perceived lack of transparency around the decision making process for choosing the successful projects and what evidence applicants needed to provide to satisfy certain criteria, as well as the extent to which DECC would request additional information after the applicant submission. A number of applicants (both unsuccessful and successful) commented on a lack of clarity in the level and type of information required to satisfy criteria (see Section 8c and 8d).
- A number of stakeholders felt that the introduction of the 'technology based rule', which sought to ensure a spread of technologies in the final mix, in Update 3 was not transparent and demonstrated a lack of clarity in the balance of objectives in the process.
- There was a perceived lack of transparency around how DECC set the level of budget for FID Enabling for Renewables (see Section 8f).

Recommendations

8.143 DECC could have improved the process transparency by including further details as follows:

  - **Phase 1 –** clarity around which projects were eligible to apply. A detailed definition of evidence requirements and details around the level of detail required to satisfy the 'credible plan' and 'investment hiatus' criteria (split by technology type where applicable). Confirmation that evaluation criteria would need to be continually met throughout the process. In addition,

Update 1 should have made it clear whether separate units (or phases) of a development would be considered in aggregate or separately.

- **Phase 3 –** further examples (particularly in relation to investment hiatus) of what might constitute a 'material change' to the project which had an adverse effect on the satisfaction of either the qualification or evaluation criteria. For example, if a project owner had subsequently made a formal commitment to start the construction/refurbishment.

8.144 Should DECC introduce a similar project in the future we recommend that:

- Any qualification criteria that requires judgement to assess should have clearly defined parameters and evidence requirements to reduce the risk of actual or perceived subjectivity. These parameters should be communicated to both the participants and the evaluators to ensure consistency and transparency.
- If a similar project were to be run in the future, we recommend that the affordability and budget setting methodology is set out clearly from the outset
- In addition, we recommend that DECC make it clear from the outset whether separate applications are required for different units (or different phases) of a project.

8h Risk of challenge to the decision

Context

8.145 There was a risk that disappointed applicants might consider challenging DECC's decisions on the ranking and affordability of their contract applications. However, in practice, despite the large number of projects that applied but were ultimately unsuccessful in being awarded an Investment Contract, only one developer (Drax) challenged the final outcome.

8.146 In this Section we provide an overview of the fact history relating to the challenge made by Drax and assess the process leading up to this decision to explore whether this situation could have been avoided.

Evaluation

Fact history

8.147 In December 2013, DECC announced that both Drax Unit 1 and Unit 3 biomass conversions had been assessed as provisionally affordable within the available budget under FID Enabling for Renewables and would be eligible for an Investment Contract, subject to submitting a binding application in March 2014 (when contract terms were finalised).

8.148 Following Drax's submission of binding applications, DECC was concerned that the investment hiatus case specifically in relation to Unit 3 was not stated as strongly as the case made in Phase 1 and Phase 2 Unit 3 applications. DECC therefore invited further clarification to specific queries, pointing out that the binding application did not repeat the statements in the Phase 1 and Phase 2 applications about delay if an IC were not granted, and that there were "no alternative statements…which address the likelihood of non-occurrence or the likelihood and extent of any delay to the conversion". Following clarification, Drax confirmed that the biomass conversion would go ahead irrespective of whether an Investment Contract was awarded, therefore DECC concluded that Drax Unit 3 was no longer eligible for an Investment Contract and this was announced on 23 April 2014. We note that during this clarification process with Drax, DECC had to be mindful that this was a competitive

process and therefore this limited the extent to which DECC could provide input on Drax's application.

8.149 Drax challenged this decision through a Judicial Review and on 15 July 2014, the high court ruled that the decision to deem the conversion ineligible should be quashed. Subsequently, DECC appealed this decision and on the 7 August the Court of Appeal ruled in favour of DECC and dismissed Drax's challenge. The basis of the decision rested on the judgement of:

- the reasonableness of the decision that the 'Key Criterion' had not been satisfied, in light of the application and evidence submitted; and
- whether there was any procedural unfairness in proceeding to a decision without giving Drax the opportunity to provide further clarification on its case.

On both points the judge ruled in favour of DECC in the Court of Appeal, stating that it was 'reasonable for DECC to scrutinise the application rigorously for an explanation of why it was said that a delay in generation would nevertheless arise without an IC; and it was reasonable for DECC to take the view that a satisfactory explanation had not been provided.

Process review

8.150 The process for submitting a binding application was set out in Update 3. As mentioned in Section 8g of this report, applicants were required to confirm that there had been 'no material change to the applicant's Qualifying Project that might have an adverse effect on either: the satisfaction of the Qualification Criteria or its score against the Evaluation Criteria.'

8.151 Examples of a 'material change' were provided in Update 3 (for example a change in the Installed Capacity or Target Commissioning Date of the project or a change in ownership). However, no examples were given for what might be considered a material change in the 'investment hiatus' criteria. Given the length of time between Phase 1 applications and the binding applications, it is not unsurprising that project plans were developed and altered during this intervening period. However, given the project specific nature of the investment hiatus criteria it would have been challenging for DECC to provide further guidance and specific examples of what DECC would consider to be a 'material change'.

8.152 In addition, applicants may not have been aware which specific aspects of their original application had resulted in them passing the investment hiatus criteria in Phase 1, and therefore would be unable to gauge whether a project plan change was liable to alter DECC's assessment.

Messages

8.153 From our analysis we have noted the following key messages:

- Despite the large number of projects that applied but were ultimately unsuccessful in being awarded an Investment Contract, only one developer (Drax) challenged the final outcome. This provides evidence that the process was adequately designed to reduce the risk of challenges from applicants.
- The fact that DECC were successful in the Court of Appeal demonstrates that there was appropriate evidence in place to support DECC's decision that Drax Unit 3 was no longer eligible.
- Update 3 did make it clear that DECC reserved the right not to proceed with the application if there was a material variation in the Qualification or Evaluation Criteria. However, what might constitute a material variation from an investment hiatus point of view was not clearly outlined. We recognise that given the project

specific nature of the investment hiatus criterion, it would have been challenging for DECC to provide further guidance and specific examples of what DECC would consider to be a 'material variation'.

- Had the FID Enabling for Renewables process not been delayed, there would have been less risk of the investment hiatus circumstances changing between Phase 2 and the binding application for specific projects. Drax believed DECC had misunderstood the premise for Drax's Phase 1 and Phase 2 investment hiatus case. If Investment Contracts had been awarded in Autumn 2013 as originally envisaged, this misunderstanding might not have come to light, as Drax Unit 3 passed the Phase 2 evaluation criteria. As recommended in Section 8e further due diligence and stress testing on the investment hiatus assertions of developers in Phase 2 might have highlighted a lack of investment hiatus at an earlier stage.
- In some ways, by re-testing the investment hiatus criteria at the end of the process, DECC could have created a perverse incentive for developers not to significantly progress the projects during the process to ensure they continued to meet the hiatus criterion. To try and minimise the risk of an investment hiatus throughout the process, DECC issued status letters after Phase 1 and published a list of provisionally affordable projects. However, while these measures may have served to dissuade projects from cancelling their project during the process, on their own they were unlikely to be sufficient to give developers who were genuinely facing an investment hiatus sufficient comfort to continue investing. From our stakeholder research, two applicants mentioned that the status letters alone had no impact on investment decisions.

9 Evaluation of the process outcomes

9a Introduction

9.1 The outcomes of the FID Enabling for Renewables process have been evaluated in terms of the following cross cutting policy issues in this report:

- Averting an investment hiatus in renewables
- Transitioning to CfD
- Achieving a technology mix
- Meeting 2020 renewable targets
- Strengthening supply chain and industry development
- Magnitude of the LCF expenditure
- Impact on consumer bills

9.2 In most cases, a complete evaluation of these topics will only be possible once the impact on the enduring regime can be assessed and the funded projects are commissioned.

9b Averting an investment hiatus in renewables

Context

9.3 One of the key objectives of FID Enabling for Renewables was to avert an investment hiatus in renewable electricity generation during the transition from RO to CfD by awarding Investment Contracts to projects which otherwise would have been significantly delayed or potentially cancelled.

Evaluation

Impact on investment profile

9.4 Successful FID Enabling for Renewables projects were awarded contracts at least nine months ahead of the earliest date possible under the CfD regime. In itself this does not seem a material achievement. However, when looking into the specific projects, the direct impact on investment timeline (or cancellation) can be seen. One applicant mentioned that restructuring their project and preparing to apply for CfD would add a further delay of 6-8 months on top of the nine months. Overall in the binding applications, two projects said that they would cancel and the remaining projects claimed delays of between 1 and 2 years would occur without an investment contract. However, we note that there are two biomass projects still awaiting State aid approval so actual delays could be longer.

9.5 In nominal terms the actual investment value could be expected to be equivalent with or without FID Enabling for Renewables (with the exception of the two projects where the investment would have been cancelled). Therefore it is necessary to consider the impact on the investment profile, in a way which enables us to assess the time value lost through delay.

9.6 We have used discounting[23] to try to capture the time preference of investment in renewables, using the Green Book[24] discount rate of 3.50%, which is intended to represent social time preference. We have performed our discounting on an annual basis, which assumes that cash flows occur at the beginning of each year (April - March) and have used April 2014 as our base date in order to show the results in terms of current day

[23] Discounting is a technique used to compare cash flows that occur in different time periods and is based on a principle that, generally, people prefer to receive goods and services sooner rather than later. This is known as 'time preference'. A discount rate is used to convert all cash flows to net present values (NPVs), so that they can be compared.

[24] Green Book supplementary guidance: discounting https://www.gov.uk/government/publications/green-book-supplementary-guidance-discounting

prices. Table 11 shows the results of this discounting process which shows net present value of the FID Enabling for Renewables project of £1.3bn.

Table 11 – Net present value of the FID Enabling for Renewables project

£m Capex Investment	Nominal	Discounted (3.50%)
With FID Enabling for Renewables	13,232	11,637
Without FID Enabling for Renewables	12,408	10,353
Difference	824	1,284

Assumptions

1. DONG capex is proportional to capacity
2. The delay occurring without FID Enabling for Renewables is the minimum (or average depending on the information provided by the applicant) disclosed in the final binding applications
3. Cashflows occur at the beginning of each year
4. Discount rate for investment in renewables is equal to 3.50% p.a.
5. General inflation is constant across the period under review
6. Capex values are given in 2014/15 terms

9.7 This assessment only takes into account the impact of FID Enabling for Renewables on the investment profile for successful projects as it assumes that the projects not receiving Investment Contracts would operate in the same way, with or without the FID Enabling for Renewables project. However, it could be considered that unsuccessful FID Enabling for Renewables projects (or those that did not apply) have been impacted by the FID Enabling for Renewables project in terms of market confidence. To try to understand this effect on an unsuccessful project, we examine the impact of FID Enabling for Renewables decisions on the Drax share price in paragraph 9.16.

9.8 It should be noted that the length of delay which would occur without an Investment Contract was requested from applicants at Phase 1 and Phase 3 of the process.

We note that four projects maintained the same delay period and 4 increased their delay period by an average of nine months. Binding applications cite a variety of reasons for the increase in delay including the delay of stopping and starting development work and delays in expected State aid decisions, as a result of the FID Enabling for Renewables timeline extending. It should be remembered that these are forecast delays, and forecasts made in the context of demonstrating to DECC that award of an Investment Contract could avoid a significant investment hiatus, which could drive exaggeration of the delay. We would therefore recommend that DECC should monitor actual commissioning dates to understand if these are in line with the delays forecast during the selection process, considering other factors that may have had an impact on the length of the delays.

Gross Value Added ('GVA')

9.9 In order to try and quantify the benefits associated with avoiding investment hiatus for the projects supported under the FID Enabling for Renewables project we have performed a Gross value added ('GVA') assessment in relation to the Walney Extension. The Walney project was chosen for this exercise, as this project had the most information publicly available on the economic benefits derived from the project.

9.10 GVA can be used to calculate the expected contribution to the economy of an individual project, producer, industry or sector. Using a set of multipliers (dependent on location and sector) a GVA figure can be derived to demonstrate the direct, indirect and induced benefits of a project:

- the **direct value** of a project is generated through the job creation during the operation
- the **indirect value** represents the value generated down the supply chain; and
- the **induced value** is generated by those working directly or indirectly on the project by spending their salaries and recirculating their earnings into the economy.

9.11 Given the information available there are a number of limitations to the calculations performed. The prime limitation is the calculation of the indirect and induced benefits which is based on an industry standard multiplier.

9.12 Using the information available we have calculated a GVA of £317m based on a 25 year operational lifespan. However, in order to understand the impact of the Investment Contract it is necessary to assess the acceleration role played by the award of an Investment Contract. Using the estimated delay in the project in the absence of an Investment Contract (cited in the binding application), we have calculated an estimated economic benefit of £19m associated with averting the delay in the Walney Extension project. It should be noted that these are gross benefits as no assessment has been made of deadweight, substitution, displacement or crowding in/out (see Table 12).

Table 12 – GVA benefits of averting the expected delay in the Walney extension project

Factor	Value
Direct benefits	
Full time jobs supported annually[25]	185 jobs
GVA per job (national average – all sectors A-S)[26]	£45,713
Direct GVA benefits	£13m
Indirect/induced benefits	
Composite Multiplier effect (Regional)	1.5
Indirect/induced GVA benefits	£6m
Total gross benefits	
Total additional direct, indirect and induced benefits (from averting the expected delay)[27]	£19m

Financial close progress

9.13 In the absence of commissioning data, we have looked into financial close data to understand how well the FID Enabling for Renewables projects are progressing, which is summarised in Table 13.

9.14 The fact that FID Enabling for Renewables focused on significant investment decisions as well as final investment decisions meant that in some cases final investment decisions were not expected to be made at this stage. However, other project milestones have been met and there is evidence of investment in the supply chain as a result of the Investment Contracts, for example, the investment in the Siemens facility at Hull.

25 Walney Benefits http://www.walneyextension.co.uk/en/about-walney-extension/benefits

26 ONS Annual Business Survey, 2013 Provisional Results (http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-341896)

27 No discounting has been applied to these figures.

Table 13 – Overview of financial close data for the FID Enabling for Renewables projects

Project	Financial Close (FC) Progress	FC achieved?
Drax - Unit 1	State aid approval still outstanding.	
Statoil/Statkraft - Dudgeon	Financial close achieved 1 July 2014.[28]	Yes
MGT - Teesside	Final State aid approvals only obtained in late January 2015, so this project is unlikely to have reached financial close.	
SSE - Beatrice	The project is still subject to a positive final investment decision.	
RWE - Lynemouth	As of December 2014, progression to conversion had not been undertaken. State aid approval still outstanding.	
DONG - Walney extension	Development consent was granted 7 November, giving the company the ability to make final investment decision. Website shows preferred turbine supplier announced March 2015, with construction to commence December 2015.	
DONG - Hornsea 1	Financial close appears not to have been reached.	
DONG - Burbo Bank extension	Financial close achieved 19 December 2014.[29]	Yes

9.15 This appears to be limited progress towards financial close of these projects, with only two projects having reached financial close. Without information as to when financial close was expected (with and without an Investment Contract), it is difficult to draw any conclusions from this data.

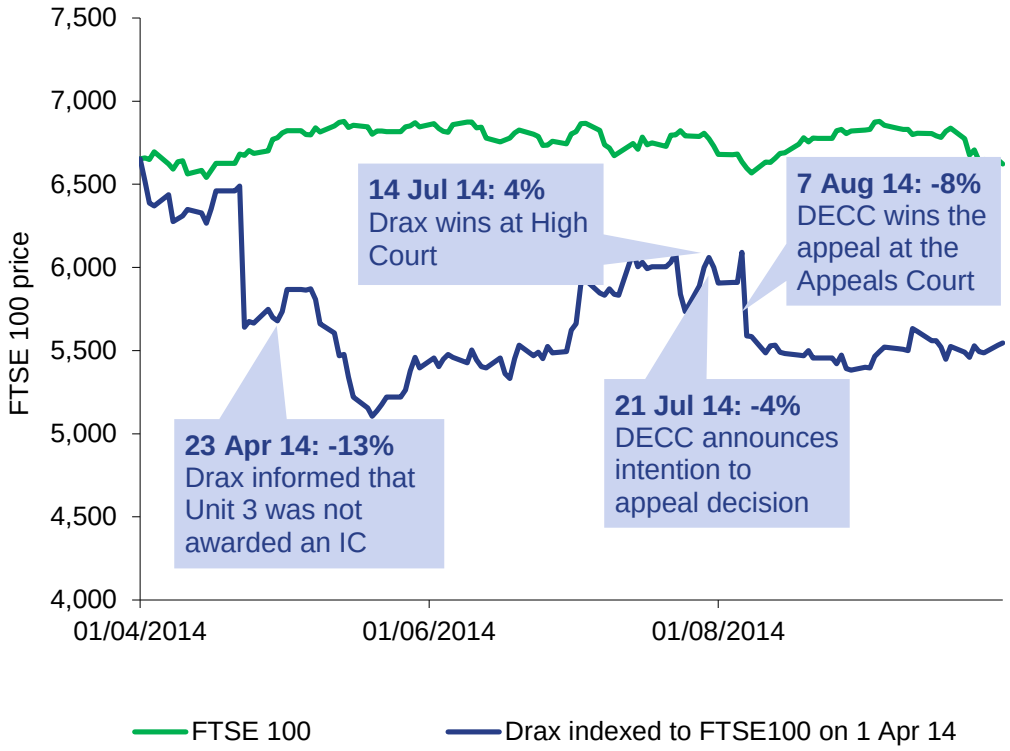
Evidence of investment hiatus – Drax share price

9.16 We look at the impact of DECC's decisions in relation to Drax Unit 3 upon Drax's share prices. When Drax was informed that Unit 3 was not awarded an Investment Contract, its share price fell by 13%. Further fluctuations in the share price occurred throughout the legal aftermath of the decision, as illustrated in Figure 17.

[28] Green light for Dudgeon Offshore Wind Farm (http://www.statkraft.com/media/press-releases/Press-releases-archive/2014/Green-light-for-Dudgeon-Offshore-Wind-Farm/)

[29] Key project dates for Burbo Bank Extension (http://www.4coffshore.com/windfarms/project-dates-for-burbo-bank-extension-uk59.html)

Figure 17 – Fluctuations in the Drax share price



9.17 Although fluctuations in the Drax share price occur as a matter of course, the variation in response to the FID Enabling for Renewables decisions is clear, with the share price falling by 14% between 23 April 2014, when Drax were informed that Unit 3 was not awarded an Investment Contract and 7 August 2014 after DECC won the appeal at the Appeals Court. This is a strong indicator that FID Enabling for Renewables was highly influential to investment decisions for this particular investor, as is reflected by market confidence in the value of the shares. However, Drax is unusual amongst FID Enabling for Renewables investors in having both a close link between corporate value and the underlying assets affected by the FID Enabling for Renewables process and being quoted on a Stock Exchange. It is not clear that a similar exercise could be undertaken to assess the impact on other FID Enabling for Renewables participants of positive or negative decisions with regard to the process.

Removal of uncertainty

9.18 When we consider whether FID Enabling for Renewables removed uncertainty in the market, we can split the impact of FID Enabling for Renewables into three main categories of stakeholders:

Successful participants

9.19 By awarding Investment Contracts to six projects (two biomass conversion projects are still awaiting State aid approval), this effectively allowed these projects to take final and critical investment decisions from the State aid decision date (January 2015 for biomass CHP and July 2014 for offshore wind) with the certainty of their revenue source. Had these same projects opted for CfD contracts and been successful in the first round, they would have needed to wait until early 2015 before the support was confirmed. In this case, any biomass project may have still needed to have been notified as individual project to the European Commission.

All participants

9.20 The high number (57) of applications in Phase 1 implies that the Phase 1 process was successful in engaging the market and giving a large number of developers clarity on the intended direction of travel for EMR. This was probably a significant proportion of the eligible projects. We explore how well the FID Enabling for Renewables project enabled the transition to CfD in Section 9c.

The wider market

9.21 In addition to the impact of the FID Enabling for Renewables project on the direct participants there will also have been an impact on non-participants, particularly on developers planning to apply for the first round of CfD allocation.

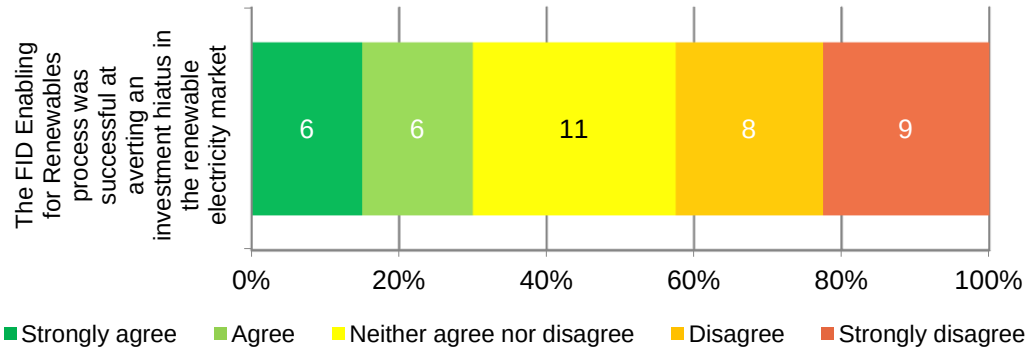
9.22 On the one hand, the FID Enabling for Renewables project may have given the market confidence in the responsiveness of DECC in addressing the industry's concerns with the investment hiatus issue. Moreover, the project had 'road tested' the acceptability of the terms of the CfD.

9.23 On the other hand, whilst we recognise that DECC were managing a number of uncertainties by allocating a high proportion of the LCF budget to the FID Enabling for Renewables projects (see Section 8f), another possibly unintended consequence was that the proportion of the LCF budget available for the enduring regime appeared correspondingly smaller. This perception may have been exacerbated as it transpired that the available residual LCF budget was smaller than may have been expected. This has been clearly noted by market participants (see below) and could act as a negative signal to developers, resulting in a scaling back or delaying of development plans.

Stakeholder analysis

9.24 As part of the written responses we asked stakeholders to what extent they agreed or disagreed that "the FID Enabling for Renewables process was successful at averting an investment hiatus in the renewable electricity market". Of the 40 people who responded to the question, 12 stakeholders 'agreed' or 'strongly agreed' that the process averted an investment hiatus. The respondents who agreed included four successful applicants, an applicant with both successful and unsuccessful projects, wave/tidal developers, trade associations, turbine suppliers and a government/regulatory body. There were 17 stakeholders who 'disagreed' or 'strongly disagreed' and this group was made up of five unsuccessful applicants, developers across a range of technologies, a test centre, a consultancy and a financier. The other 11 respondents marked 'neither agree nor disagree' and it appears overall that only a minority of stakeholders felt positively about the project's impact on averting an investment hiatus.

Figure 18 – Written responses: "the FID Enabling for Renewables process was successful at averting an investment hiatus in the renewable electricity market"



9.25 Many of the successful applicants strongly believed that FID Enabling for Renewables allowed projects to progress that otherwise would have been delayed or may not have continued at all. One commented that because investment hiatus issues were most relevant to offshore wind given long delivery times, the technologies awarded support under the FID Enabling for Renewables were appropriate to avert an investment hiatus. Another claimed that they had been considering exiting offshore wind in the UK altogether if they were not successful. However, the level of confidence in their successful project (and therefore additional funds committed) sustained their interest in the rest of their portfolio. One developer commented that the process averted an investment hiatus for more advanced, more certain projects, but not necessarily for those long-term, less certain projects. Whilst FID Enabling for Renewables allowed successful projects to continue development expenditure investment with far reduced risk, it does not guarantee all projects will proceed beyond FID. However, a number of stakeholders (with no participation in the process) expressed concern that delays due to State aid approval has led to less appetite for the renewable sector and significantly slowing down progress.

9.26 A number of solar PV developers felt particularly strongly that the FID Enabling for Renewables process did not successfully avert an investment hiatus, with a number complaining that it created a hiatus in the solar PV industry. Certain developers felt that a minimum capacity rule of 50MW prevented solar PV developers from participating in FID Enabling for Renewables. One solar PV developer commented that this alongside the closure of RO meant that an investment rush to 31 March 2015 was created and some projects had to be abandoned or severely altered. Another solar PV developer claimed that if a small part of that money had instead been allocated to onshore wind/solar/biomass then a hiatus would be averted. A similar view was held by a test centre who commented that they "have not heard anybody say that the change has done anything other than create a hiatus". A biomass developer was of the view that some projects which were not successful in the FID Enabling for Renewables process have been left in indefinite hiatus.

9.27 A financier interviewed argued that the industrial strategy for renewables is unwise and that the big challenge for the renewable energy sector is the planning process in the UK. They suggested that instead of trying to drive through an ill-advised industrial strategy for renewables with the FID Enabling for Renewables project, the government should instead focus on improving planning conditions for onshore wind to drive down the cost of deployment.

9.28 An unsuccessful applicant commented that the process has succeeded in averting an investment hiatus for the successful projects. However, for the rest of the industry it can only have helped to increase the likelihood of an investment hiatus. This is because the contracts utilised a significant amount of the LCF, without the need for competitive auctioning which the interviewee believed only served to reduce the LCF available for other cheaper projects that would have to compete for subsidy in the auctions. They commented that the FID Enabling for Renewables process allowed the lower cost small independent onshore projects to be squeezed out by large expensive offshore projects.

9.29 A trade association felt that in light of the large number of applications and therefore rejections from the scheme, it was difficult to assert that the FID Enabling for Renewables process prevented a hiatus for all projects. However, they agreed that projects securing FID Enabling for Renewables contracts facilitated investment and thus minimised the hiatus. One developer felt particularly strongly that because so many projects were rejected, the process had no effect on investment hiatus.

9.30 A range of stakeholders considered that FID Enabling for Renewables did not serve its original intended purpose of averting an investment hiatus. One biomass developer commented that whilst DECC's original intention was to award successful applicants in

Autumn 2013, as the final announcement of projects awarded an Investment Contract slipped to April 2014, there was only a nine month gap until the commencement of the first CfD allocation round (and two Investment Contracts are still awaiting State aid approval once the first CfD allocation round has been completed). They considered this an insufficient hiatus to warrant the market distortion caused by the allocation of Investment Contracts. Instead, by giving an "early financial advantage to a select group of projects", FID Enabling for Renewables served to distort the market so as to make market entry more difficult for future renewable energy projects under the enduring CfD regime. An unsuccessful applicant and a financier had similar views about the limited time between FID Enabling for Renewables and CfD, meaning that the process was unlikely to have a significant impact on preventing a hiatus. Although there was only a nine month gap between the award of Investment Contracts and the enduring regime allocation round, we recognise that projects that were provisionally affordable within the available budget were told in December 2013.This gave a degree of confidence for some progress to be made (for example Dudgeon had sufficient confidence to award contracts in early 2014 before the IC was actually signed).

9.31 Another unsuccessful applicant commented that few of the projects have made Final Investment Decisions yet and therefore the process did not accelerate much in terms of investment. They added that if there had been a requirement to make a Final Investment Decision within one year of awarding contract, the process may have successfully averted an investment hiatus.

Messages

9.32 From our analysis we have noted the following key messages:

- FID Enabling for Renewables allowed projects to hold valid contracts at least nine months ahead of the earliest date possible under the CfD regime.
- We have estimated the net present value, based on the accelerated investment expenditure that resulted from implementing the FID Enabling for Renewables project, to be £1.3bn. See Section 9b for further details.
- Based on GVA analysis of the Walney extension project we have estimated the additional GVA benefit of averting the expected delay in the project is £19mn.
- The impact of FID Enabling for Renewables decisions on the Drax share price suggests that FID Enabling for Renewables was highly influential to investment decisions and outlook in this particular case at least.
- The perception from a range of stakeholders is that the impact of FID Enabling for Renewables on averting an investment hiatus was more concentrated on certain technologies. It appears that the process has contributed towards averting an investment hiatus in offshore wind but perhaps less so in other technologies, such as solar PV. DECC should consider whether this has caused any unintended consequences, making it more challenging for certain technologies to compete. However, we recognise that this could illustrate limited investment hiatus for solar PV. This is dealt with in the EMR report.
- Whilst the process appears to have been successful in helping certain projects to avert an investment hiatus, a number of stakeholders expressed doubts about its industry-wide benefits.

Recommendations

9.33 From our analysis we highlight the following recommendations

- DECC should monitor capex spend and actual commissioning dates to understand if these are in line with those in the binding applications and to evaluate and update the net present value of the FID Enabling for Renewables project. Some of the information may be gathered by the LCCC as part of their contract management role.
- DECC should consider whether further detailed GVA assessment would be useful to help quantify the benefits associated with averting an investment hiatus under the FID Enabling for Renewables project.

9c Transitioning to CfD

Context

9.34 In its June 2011 White Paper, the UK Government made a formal commitment to make the transition to CfD using Investment Contracts by pledging to "work actively with relevant parties to enable early investment decisions to progress to timetable wherever possible, including those required ahead of implementation of the FiT CfD". As the specifics of this enabler of early investment decisions developed, it became apparent that these would be very similar to CfD contracts and therefore presented an opportunity for government to 'road test' the contractual terms and certain evaluation criteria.

Evaluation

Comparing Investment Contracts and CfD contracts

9.35 The key differences between the CfD enduring regime contracts and the Investment Contracts under FID Enabling for Renewables are summarised below in Figure 19.

Figure 19 – Differences between Investment Contracts and CfD contracts

State aid

State aid approval was a condition precedent in the FID Enabling for Renewables contracts. Two biomass projects, which are still awaiting State aid decisions, have not yet had this condition precedent fulfilled.

LCCC management

The FID Enabling for Renewables projects had a provision for the Secretary of State to be the Counterparty until the LCCC was operational. The Secretary of State hands over management of Contracts to the Counterparty (LCCC) at a later stage. This appears to have been a practical solution to the time needed to set up management and transfer arrangements within the LCCC.

Energy Act

The FID Enabling for Renewables project contracts made no mention of the specific Regulations coming from the Energy Act. This appears to be simply a timing issue for development of the Energy Act.

Sustainability provision - Biomass

Where relevant, the FID Enabling for Renewables project contracts had a holding clause for the sustainability provision for biomass, which was updated in September 2014.

Technical changes

A few technical changes were made in the enduring regime contracts, which DECC feel do not change the principles or risks within the contract.

Milestone Delivery Date

Under the enduring regime the Milestone Delivery Date ('MDD') is 12 months from the date of contract signature. However, three out of the five offshore wind projects had a longer MDD under their Investment Contracts than they would have had under a CfD (see Table 14). During our stakeholder research a number of stakeholders commented on this discrepancy. (see stakeholder analysis below). The Milestone Delivery Date under the CfD is considered in more detail in our EMR report. The rationale for extending the timeline to MDD for offshore wind sites under FID Enabling for Renewables was that the criteria for application was different, for example FID Enabling for Renewables participants were not required to have planning consent at the point of application. As such, it was considered that for FID Enabling for Renewables projects an exception would be made to allow up to 24 months.

9.36 It can be seen that these are relatively minor and so it could be said that the contracts are very similar in substance. A full review of the CfD contract terms and the balance of risk and reward between developers and the Government has been undertaken in our EMR report.

Table 14 – Milestone Delivery Dates for the FID Enabling for Renewables projects

Project	Contract Signed	Milestone Delivery Date ('MDD')	Months to MDD
Statoil/Statkraft – Dudgeon	9 May 14	9 May 15	12
SSE - Beatrice	9 May 14	31 March 16	23
DONG - Walney extension	9 May 14	1 December 15	19
DONG - Hornsea 1	9 May 14	31 March 16	23
DONG - Burbo Bank extension	9 May 14	9 May 15	12

Acceptance of contract terms

9.37 The level of interest and participation in the FID Enabling for Renewables process demonstrated the attractiveness of a CfD contract. In fact one project noted on their application a number of advantages that a private law contract under CfD offered over support under RO, stating: "the RO support mechanism is still seen as carrying significant political risk. It is a regulatory instrument that could potentially be changed, including the levels of support. It is also not a direct support mechanism, and relies on being able to sell ROCs to electricity suppliers to monetise the subsidy". The FID Enabling for Renewables therefore helped to demonstrate the attractiveness of the new CfD instrument to the market.

9.38 All eight successful participants have signed into the FID Enabling for Renewables contract terms, which with the exception of the points noted above, are essentially the same as the CfD contracts are. This precedent is likely to give confidence to CfD participants that the contracts are acceptable to peer entities, who will have undertaken thorough legal and commercial reviews of the contracts. This is likely to smooth the transition to CfD.

9.39 In terms of the potential for learning and contract development advantages to DECC, it could be said that DECC need only have given an Investment Contract to one applicant from each technology, which we can see is not the case from Section 8b. However, the boost to market confidence through a demonstration of DECC's commitment to a certain technology, and hence manufacturing investment, may increase with the number and size of projects supported. In addition, a number of projects may have needed to be funded in order to meet the overarching objective of averting an investment hiatus.

9.40 In addition to demonstrating the level of interest in the CfD instrument, the Investment Contracts gave DECC an opportunity to get some early feedback on the contract terms. Table 15 outlines the feedback from successful applicants on Investment Contract terms gathered during the stakeholder research. Further review of the CfD terms including feedback from wider stakeholder groups and subsequent recommendations is included in our EMR report.

Table 15 – Summary of feedback from successful applicants on Investment Contract terms during the stakeholder research

Topic	Stakeholder feedback
Force majeure	• One successful applicant noted that the Force Majeure clause was very limited due to the wide definition of 'Representative' which in effect could include any contractor or any employee of any contractor.
Longstop date	• One successful applicant expressed concerns with the substantial construction risk attached to the potential for termination of the CfD for a partly constructed project at the Longstop Date which could discourage certain investors and lenders. • This risk could also dissuade developers from choosing untested and innovative technology or new suppliers without a track record.
Milestone delivery date ('MDD') – offshore wind	• Three successful applicants commented that the 12 month time to MDD is inappropriate for offshore wind due to the large allocation risk and substantial spend required (at least 10% of Total Project Pre-Commissioning Cost by the MDD). It was recommended that this should be 24 months for a large offshore wind farm which could be combined with additional milestones in the period up to MDD to avoid bed-blocking. • Another successful applicant believed it would be useful to have more clarity on the definition of 'significant financial commitments' and what could be included in this (eg could grid connection costs be included). • A number of stakeholders questioned the logic of using project spend as a proxy for demonstrating progress, arguing that an efficient developer would want to back end expenditure as far as possible, thereby reducing the carry cost. This could be seen as an example of project development conditions in the offshore sub-sector shaping policy for the whole renewables sector.
Change in law clauses ('QCiL')	• One successful applicant commented that the QCiL clauses were lengthy and convoluted in their opinion. This applicant also expressed that the terms were so specific that the ability to invoke them was relatively low.
Sustainability criteria - biomass	• One successful applicant noted that the ability to insert new sustainability criteria into the biomass conversion contracts (at any stage) undermined the certainty of a private law contract.
Length of contract document	• One successful applicant suggested the contract should be streamlined and that it would have been more beneficial if it had been set up as a framework agreement with separate technology/project specific documents and clear references to existing industry codes.
Definition of facility – offshore wind	• One successful applicant said the definition of a 'facility' was very prescriptive, and it was not clear whether the OFTO is seen as part of the facility.
Financing structures	• One successful applicant noted that the Contracts may need to evolve over time to incorporate novel financing deals.
LCCC discretion	• Two successful applicants expressed concern that a lot of the terms in the contract relied on LCCC discretion and interpretation, for example in relation to termination provisions, definition of a facility and financing mechanisms. It was not clear to them whether LCCC's assessments would be in line with DECC's policy intention (See Section 10).

Final administrative strike price

9.41 The timing of the contracts allowed for the final CfD administrative strike prices to be used, which allowed for a better transition to CfD as the same terms were offered to FID Enabling for Renewables projects as would be offered to the later CfD projects. However, FID Enabling for Renewables was offered without a competitive auction and therefore it is likely that through the competitive auction process, CfD contracts will be based on the clearing price, which is likely to be lower than the administrative strike price, which was the case in the first CfD allocation round (see Table 22).

Selection process and qualification criteria

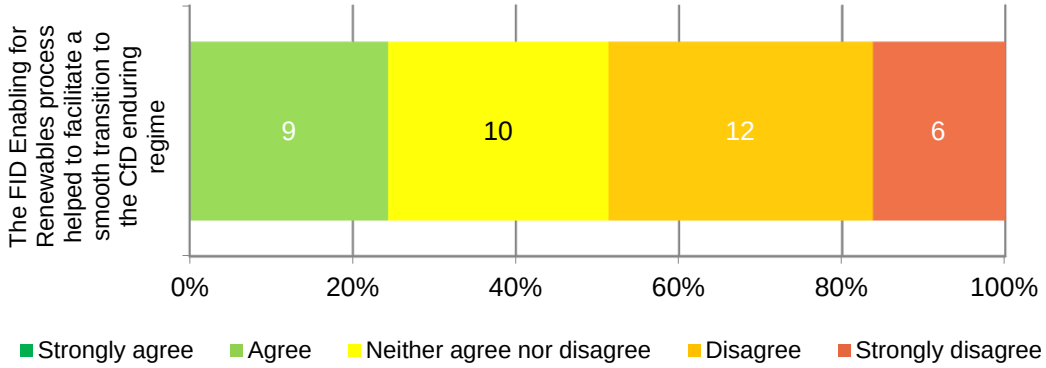
9.42 A key difference between FID Enabling for Renewables and CfD are the evaluation criteria and selection process. FID Enabling for Renewables projects were principally selected based on their deliverability, whereas CfD projects, once they have passed the initial qualification criteria are principally selected based on their price through an auction process (although at the time that the FID Enabling for Renewables process was developed, it was still envisaged that the enduring CfD regime would be done on a first come first served basis). As this selection process was so different, it could not be said that this eased the transition into CfD in this respect.

9.43 Under the qualification criteria for the enduring regime projects are required to have planning consent in place before they take part in an allocation round. However, as seen from Section 8c, offshore wind projects were not required to have planning consent to qualify under the FID Enabling for Renewables process. In fact, three projects (Hornsea, Burbo Bank and Walney extension) did not have planning consent at the point Investment Contracts were awarded. This represents an inconsistency with the enduring regime. In discussions with the team we understand that DECC decided that planning consent would not be a pre-requisite for offshore wind projects applying under FID Enabling for Renewables as there was recognition that an offshore wind project could be facing investment hiatus before it reached this milestone. In addition, the FID Enabling for Renewables application process allowed DECC to scrutinise project plans in sufficient detail to satisfy the fact that there were credible plans in place, and all three projects have subsequently received consent. Under the enduring regime the qualification criteria are objective and therefore detailed project plans are not assessed in the same level of detail. These criteria are assessed in further detail in our EMR report.

Stakeholder analysis

9.44 As part of the written responses, we asked stakeholders to what extent they agreed or disagreed that "the FID Enabling for Renewables process helped to facilitate a smooth transition to the CfD enduring regime". Of the 37 people who responded to the question, nine stakeholders 'agreed' that the process helped to facilitate a smooth transition to the CfD. The respondents who agreed included four successful applicants, an applicant with both successful and unsuccessful projects, a turbine supplier, a wave developer, engineers and a trade association. There were 18 stakeholders that 'disagreed' or 'strongly disagreed' and this group was made up of five unsuccessful applicants, developers across a range of technologies, a test centre, a utilities analyst. The other 10 respondents marked 'neither agree nor disagree'.

Figure 20 – Written response results: "the FID Enabling for Renewables process helped to facilitate a smooth transition to the CfD enduring regime"



9.45 The stakeholders who agreed with the statement generally felt that the FID Enabling for Renewables process allowed the CfDs to be examined in detail and tested in the market. One successful applicant commented that the fact that a number of companies were prepared to sign the agreements gave confidence to the rest of the market that the CfDs were bankable. Another felt that the process helped to iron out some of the issues that DECC would inevitably have to tackle with the enduring regime. They commented that because the Investment Contracts in principle are similar to the general CfD terms and conditions, it allowed for these to be tested for commercial viability and meant that market knew what they looked like. Another successful applicant agreed, commenting that this provided for a high degree of confidence in the CfD terms before the first allocations. One stakeholder believes that the offshore wind FID Enabling for Renewables contracts has built confidence in the sector which was instrumental in securing commitment from some companies in the supply chain.

9.46 A trade association commented that important lessons were learnt in the FID Enabling for Renewables process that have been ignored in the final draft of the CfD terms, highlighting that only two out of the five offshore Investment Contracts would have been acceptable in the first CfD allocation round (as three projects had not received planning consent at that time). They noted that one of the most important differences between the FID Enabling for Renewables terms and the standard CfD terms is the greater flexibility around the MDD in the Investment Contracts which was not adopted under the standard CfD. Another trade association commented that changing the MDD in CfD contracts to a year undermined the industry's confidence built by the FID Enabling for Renewables process.

9.47 A turbine supplier felt that the FID Enabling for Renewables process showed that a system such as CfDs could work and created a useful bridge to the enduring CfD regime. One applicant felt that DECC pursued the best option to avert an investment hiatus, with the process providing a bridge to the new regime when the whole market structure was changing. However, they commented that if there was a future concern under on-going market conditions then they should be addressed within the rules of the existing regime – not by a separate process.

9.48 Many stakeholders were of the view that the extent to which the FID Enabling for Renewables process helped to facilitate a smooth transition to the CfD enduring regime was limited because whilst it did facilitate the development of the CfD contract terms, there were a number of key differences between the FID Enabling for Renewables process and the final CfD model. Many felt that the fact that CfDs were price competitive but the FID Enabling process was not meant that it is unlikely to have prepared the industry for CfDs. One unsuccessful applicant expressed the view that the biggest change

between the CfD and RO was the allocation risk, which FID Enabling for Renewables did not help prepare the market for.

9.49 One developer who was not involved in the FID Enabling for Renewables process suggested that if it had been taken as a "mini-auction", it might have shed more light on the future CfD process, and helped to find likely price levels. As it was, they felt it effectively awarded a CfD in a mechanism very similar to the ROC – ie through direct application, and therefore it offered no new insight to the CfD process and did not facilitate a smooth transition to the CfD regime. They also note that because the CfD policy was very much in the development phase, many developers were not necessarily as engaged with the FID Enabling for Renewables process as they would have been if there had been better transparency of the upcoming CfD regime. It also meant that it was unclear how these contracts would compare to the final contracts. We note that at the time that the FID Enabling for Renewables process was developed, it was still envisaged that the enduring CfD regime would be done on a first come first served basis.

9.50 Whilst we recognise DECC targeted larger projects, with longer development timelines because they were more likely to be facing an investment hiatus, a solar developer complained that the fact that the minimum site capacity of 50MW, compared with the enduring regime's minimum capacity of 5MW, in effect prevented some technologies and sectors from participating in the FID Enabling for Renewables process, principally solar PV (which they argue was later further disadvantaged by the removal of the intended concurrent running of the ROC and CfD systems until 2017). Therefore they felt that the process did not provide a smooth transition to CfD for certain technologies.

Messages

9.51 From our analysis we have noted the following key messages:

Similarities

- There are few differences between the Investment Contracts and CfD standard contracts, which is likely to give confidence to CfD participants that the contractual terms are acceptable to peer entities.
- In addition to demonstrating the acceptability of the CfD instrument, the Investment Contracts gave DECC an opportunity to get some early feedback on the contract terms.
- Use of the final administrative strike price (as opposed to the draft administrative strike prices) further highlights the similarities between these contracts, but in practice this is of limited benefit as the price used for CfD contracts under the enduring regime will be determined by the clearing strike price derived through competitive auction.

Differences

- One key difference in the contract terms is that Investment Contracts had a greater flexibility in respect to Milestone Delivery Dates ('MDD'), which ranged from 12-23 months, unlike the standard 12 months specified in the enduring regime CfDs. The appropriateness of the MDD for different technologies under the enduring regime is considered further in our EMR report.
- The selection processes under FID Enabling for Renewables and CfD are materially different and therefore the FID Enabling for Renewables selection process did not help prepare the market for allocation risk (although first come first served was still envisaged for the first CfD allocation round during the FID Enabling for Renewables process. The qualification criteria under the enduring regime are different. Therefore three projects that received Investment Contracts would not have been eligible under the enduring regime as they had not received planning consent at that point in time.

Stakeholder perceptions

- Stakeholders provided mixed views on how useful the FID Enabling for Renewables process was in road testing the CfD. Some felt the process acted as a bridge, allowing contract terms to be tested and demonstrating the viability of the new regime. Others felt its usefulness as a transitioning process was undermined by the fact only a few technologies were awarded Investment Contracts and that it did not prepare the market for allocation risk under competitive allocation rounds.

9d Achieving a technology mix

Context

9.52 The key objectives of EMR, set out in the December 2013 EMR Delivery Plan, are to ensure security of electricity supply and decarbonise electricity generation whilst at the same time ensuring energy bills remain affordable. As part of ensuring a secure electricity supply the EMR Delivery Plan highlights the need for a "diverse portfolio of generation technologies".

9.53 In the context of the CfD, a diverse technology mix is achieved through the process of setting strike prices for each technology which ultimately aim to drive overall deployment levels of each technology. The EMR Delivery Plan also sets out a broad projected range of generation by technology, derived from National Grid modelling[30] based on the final administrative strike prices for each technology.

9.54 In the context of the FID Enabling for Renewables process, in our view the administrative strike prices played a less significant role in determining the technology mix achieved for the final Investment Contracts, particularly as the draft administrative strike prices were only published in June 2013, part way through the FID Enabling for Renewables process. If administrative strike prices had been set too low, applicants may have withdrawn from the process, however there were only three withdrawals during the process. As can be seen from Section 8b of this report, Phase 1 of the FID Enabling for Renewables process generated 57 applications across a range of 8 technologies, however, only three types of technology have been awarded FID Enabling for Renewables contracts, namely two biomass conversion, one biomass CHP and five offshore wind. This final technology mix is representative of the mix of technologies that were successful in passing the Phase 2 criteria (with the exception of the two onshore projects that passed Phase 2 but subsequently withdrew). This implies the Phase 1 and Phase 2 criteria were the principle drivers of the final technology mix rather than administrative strike prices or the down selection budget allocation mechanism. Looking at projects that are currently recorded on the REPD database (April 2015)[31], the majority of projects (94% in terms of number of projects) that are over 50MW represent onshore wind, offshore wind and biomass (conversion and CHP). Had onshore wind not withdrawn, FID Enabling for Renewables would have supported the technologies most likely to build over 50MW.

[30] National Grid EMR Analytical Report (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/267614/Annex_D_-_National_Grid_EMR_Report.pdf)

[31] Renewable Energy Planning Database https://www.gov.uk/government/statistics/renewable-energy-planning-database-monthly-extract

Evaluation

Timing of technology-specific allocation criteria announcements

9.55 DECC announced the nature of the technology specific allocation criteria through its final Update 3 document, which was designed to help DECC meet its objective to help develop a range of renewable electricity technologies and thereby enhance industry confidence. However, the concept of introducing a mechanism to ensure a range of technologies were supported was mentioned throughout the process in the three Updates:

- Update 1 (March 2013): "consideration will be given to including a mechanism designed to ensure that a range of different technologies benefit from Investment Contracts".
- Update 2 (June 2013): "there may be EMR budget management constraints or specific affordability constraints applied to FID Enabling for Renewables. Such constraints may be annual or in aggregate and may also be technology-specific."
- Update 3 (December 2013): "in the event that a down-selection process is required… DECC will seek to allocate Investment Contracts first to the top quartile of Qualifying Projects within each of the technology types…any remaining budget under the affordability envelope will be allocated on a technology neutral basis".

9.56 The considerations in setting the budget and in designing this down selection methodology are considered further in Section 8f of this report. The down selection mechanism provided a means of ensuring that at least one project from each technology type that was successful in Phase 2. However, an announcement regarding technology-specific allocation criteria was withheld until the final Update. This may have caused nervousness some in the market as to what these technology based rules would be. From our stakeholder research (see below), two participants expressed a concern that this rule was not part of the original Update. One respondent was concerned that this decision was made once DECC had sight of all the successful Phase 2 applications, giving DECC discretion to influence the outcome of the process. In the end, this criterion did not affect the outcome, although under certain scenarios it could have favoured projects which otherwise met DECC's criteria less fully than an unsuccessful project (see Section 8e).

9.57 We have considered the extent to which DECC achieved a technology mix both in terms of participation to the process and the overall outcome of the process.

Participation

9.58 The 57 applications were across the following eight technologies: biomass (including CHP, conversions and dedicated biomass), offshore wind, onshore wind, solar PV, tidal and Energy from Waste CHP, which appears to be wide in range. Table 3 in the EMR Final Delivery Plan, outlines 14 different technologies that can be supported under the enduring regime. The technologies that were eligible for CfD but did not participate in FID Enabling for Renewables include: Advanced Conversion Technologies (ACT), anaerobic digestion (>5MW), geothermal, hydro (>5MW), landfill gas, sewage gas and wave technology. From reviewing the Renewable Energy Planning Database[32] (March 2015), there are currently no projects from these technologies with greater than 50MW capacity that have received planning consent. (The reason the Phase 1 qualification criteria required projects to be >50MW is discussed in Section 8c). From our stakeholder research none of these technology groups (with the exception of solar) expressed a concern that the could not participate in FID Enabling for Renewables. Wave and tidal also expressed a concern that CfDs are not suited to innovative technologies, particularly

[32] REPD 2015 (https://www.gov.uk/government/statistics/renewable-energy-planning-database-monthly-extract)

due to the administrative burden for small companies and the standard contract terms, such as Milestone Delivery Dates.

9.59 Other than through engagement with potential participants or through announcements regarding technology based rules (which did not occur until Update 3) or setting qualification criteria that exclude certain technologies or by setting administrative strike prices below/above 'market level' (ie market price and level of subsidy) for certain technologies, DECC cannot necessarily significantly influence the technology mix as this will be highly influenced by the market share of these technologies and the scale of generation in a given technology type. Overall, we can conclude that there is strong evidence that the process encouraged wide participation across a range of technologies.

Outcomes

9.60 The output of the FID Enabling for Renewables process is that only three types of technology have been awarded Investment Contracts, namely biomass CHP, biomass conversion and offshore wind. This represents a relatively limited technology mix in the context of the technologies supported under the Final EMR Delivery Plan.

9.61 The technology mix was reduced from eight technology types to five during Phase 1, as many applications failed to meet the qualification criterion that there should be credible plans in place to progress the project to start electricity generation within the period of the First Delivery Plan. All of the seven solar applicants and the only tidal range applicant failed Phase 1 due to this criterion. On this basis, it could be argued that the criteria (or the application of the criteria) requiring credible plans to start generation within the First Delivery Plan could have created bias towards certain technology types, particularly as some technologies were required to have planning consents and grid connection agreements in place to satisfy this criteria, whereas other technologies (offshore wind) were not.

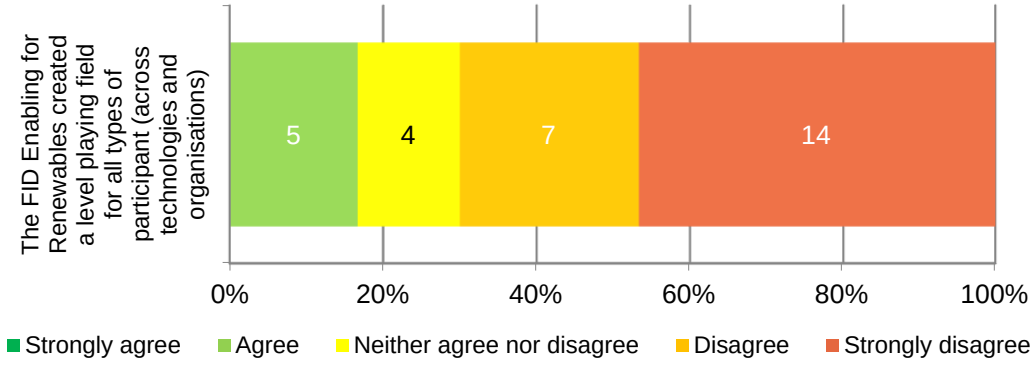
9.62 It could also be argued that the characteristics of certain technologies would lend themselves more naturally to the investment hiatus criteria that without an Investment Contract there was a significant risk that electricity generation will not occur or will be significantly delayed. Offshore wind, for example, through the size of the projects, the technological complexity and challenges, the length of development and the associated scale of 'at risk' development spend, will inevitably give rise to greater investment concerns in the event that recovery of this development spend becomes uncertain. For many developers, biomass conversion and biomass CHP projects were not deemed viable under RO due to the lack of a PPA market.

9.63 By the end of Phase 2, there were still four types of technology in the running: biomass (CHP & conversion), offshore wind, and onshore wind. The onshore wind projects which were provisionally affordable within the available budget withdrew from the process and resulted in three successful categories of technology.

Stakeholder analysis

9.64 As part of the written responses, we asked stakeholders to what extent they agreed or disagreed that "the FID Enabling for Renewables created a level playing field for all types of participant (across technologies and organisations)". Of the 30 people who responded to the question, only five agreed that the FID Enabling for Renewables scheme created a level playing field for all types of applicant. The stakeholders that agreed were made up of non-participants and successful applicants. One of these respondents commented that although they agreed with the statement, there will never be a true level playing field because of the disproportionate cost of developing a solar PV project versus an offshore wind farm.

Figure 21 – Written responses: "the FID Enabling for Renewables created a level playing field for all types of participant (across technologies and organisations"



9.65 Four stakeholders responded 'neither agree nor disagree' here, with one of these respondents expressing that more allocations are needed to understand which technologies are the true winners under the EMR. Another expressed that CfDs are unsuitable for wave and tidal developers because their risks and costs are less clearly understood, requiring a more tailored negotiation on price to support early, pioneering projects. There was a general consensus amongst the 21 stakeholders who disagreed/strongly disagreed that the scheme created a level playing field, that there was a clear bias present, preventing some technologies and SMEs from competing. Eleven of these respondents were developers with involvement in the solar PV and onshore wind industries but the group also included investors, biomass developers, wind turbine and wave/tidal technology suppliers, unsuccessful applicants and one applicant who had both successful and unsuccessful projects in the FID Enabling for Renewables process.

9.66 Many believed that preferential treatment was given to slower-deployed, more expensive technologies with longer lead times and therefore driven by a desire to support certain large offshore wind and biomass conversion projects. For example, offshore wind projects were not required to have received planning consent to participate in FID Enabling for Renewables whereas other technologies were required to already have consents. One successful applicant commented that although the Milestone Delivery Date (MDD) was one year and supposedly non-negotiable, other projects did manage to extend the MDD thus this was not applied consistently for all projects. However, this respondent argued that the selection of technologies affected by longer lead times was appropriate because they would have been most sensitive to investment hiatus issues.

9.67 Others expressed that the design of the FID Enabling for Renewables process was inherently biased. For example, a partially successful applicant said that there will not be a level playing field across technologies as long as the Government from a policy perspective wants to maintain a mix of technologies and seeks to support renewable technologies that are at different points on their development curves.

9.68 Certain developers felt that a minimum capacity rule of 50MW prevented some technologies and sectors from participating in the FID Enabling for Renewables process, principally solar PV, which at present has no projects greater than 50MW capacity in the UK32 However, we note that there were 7 solar PV applicants with capacities greater than 50MW that applied for Phase 1 of FID Enabling for Renewables. There was a feeling amongst the solar industry that by setting this minimum capacity, DECC effectively created a "pot" exclusively for the use of the large, publicly traded companies with balance sheets and cash flows large enough to develop projects over 50MW.

9.69 A range of organisations, including an offshore wind turbine manufacturer, stressed that the process favoured large developers. One unsuccessful applicant felt that the type of

evidence which DECC sought in the process favoured larger companies with greater resource and those who were not working with third party contractors.

Messages

9.70 From our analysis we have noted the following key messages:

- Evidence of high participation levels across a range of technologies supports the argument that the process encouraged wide participation.
- Only three types of technology have been awarded Investment Contracts (out of a total of eight technologies which initially applied and a total of 14 different technologies, outlined in the Final Delivery Plan, that can be supported under the enduring regime), namely biomass conversion, biomass CHP and offshore wind. Although we note two onshore wind projects that were initially deemed affordable within the original budget but subsequently withdrew before contracts were awarded. This represents a relatively limited technology mix but is probably to be expected given the overall objectives of FID Enabling for Renewables and the respective risk profiles of different renewables technologies and the fact that investment hiatus is likely to be most pronounced for technologies with the longest lead times. In terms of outcomes, the explicit requirement for a mix of technologies may have introduced unnecessary complexity into the process.

9e Meeting the 2020 renewable energy target

Context

9.71 The UK has signed up to the following renewable energy and carbon reduction targets:

- **2020** – the European Commission's Renewable Energy Directive (RED). This states that the UK must source 15% of its energy consumption from renewable sources by 2020 (the 2020 Renewable Energy Target). This includes consumption from the electricity, heat and transport sectors. The UK Government considers at least 30% of electricity from renewable sources is required to be in line with this target[7]. In addition, the UK is committed to interim targets in the period up to 2020 and is required to submit an amended national renewable energy action plan to the Commission should it fall short of these targets. The interim targets are measured as an average across a two year period and the target for 2015 and 2016 is 7.465% of energy consumption. The latest progress against the interim targets was published in December 2013[33].
- **2030** – the European Commission has an objective to source at least 27% of its energy consumption from renewable sources by 2030. This target is due to be translated into a European Directive in 2015/16. No individual Member State targets have been set, so it is not yet clear what this means for the UK.
- **2050** – The Climate Change Act 2008 which sets a binding target to reduce Greenhouse Gas (GHG) emissions in the UK by at least 80% by 2050, relative to 1990 levels.[34,35]

[33] Second progress report on the promotion and use of energy from renewable sources for the UK (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/269757/2nd_uk_progress_report_renewable_energy.pdf)

[34] The European Commission also has a similar 2050 target for the whole of the EU but the Climate Change Act 2008 is already legally binding, and UK specific, and so in practice is likely to lead UK policy.

[35] To guide progress on the 2050 target the Committee on Climate Change (CCC) publishes carbon budgets covering five year periods. The review of the latest carbon budget (Fourth Carbon Budget Review, 2013) recommends the UK government should set a carbon intensity target range from 300gCO2/kWh in 2020 to 50gCO2/kWh in 2030.

9.72 The Renewable Energy Roadmap published in 2011 set out how the government intended to reach the 2020 target and anticipated that 234TWh of renewable energy in 2020 would be required overall (including electricity, heat and transport) – equivalent to 15% of the projected energy consumption. Under DECC's current Central scenario energy consumption projection is 337TWh for 2020, meeting at least 30% of this would require 101TWh of renewable electricity[36].

9.73 In the EMR Delivery Plan, DECC set out the projected range for total capacity by technology in Great Britain. Whilst the ranges shown do not cover the full range of possible outcomes, they aim to provide a useful indication of what the National Grid modelling[30] suggests is possible given the strike prices.

Table 16 – Projected Total Capacity (GW), Great Britain, excl. small-scale deployment[7], EMR Delivery Plan

Technology	2020
Advanced Conversion Technologies (with or without CHP)	c.0.2-0.3
Anaerobic Digestion (with or without CHP) (>5MW)	c.0.3-0.4
Biomass Conversion	1.7 – 3.4
Dedicated Biomass (with CHP)	c. 0.3-0.6
Energy from Waste (with CHP)	c. 0.4
Geothermal (with or without CHP)	< 0.1
Hydro (>5MW)	c. 1.7
Landfill Gas	c. 0.9
Offshore Wind39	8 – 15
Onshore Wind (>5MW)	11-13
Sewage Gas	c. 0.2
Large-Scale Solar Photo-Voltaic (>5MW)	2.4 – 4
Tidal Stream	c. 0.1
Wave	

9.74 In this Section we consider to what extent the FID Enabling for Renewable process contributed to the 2020 renewable energy target by:

- reviewing the forecasted installed capacities and generation of the eight projects that secured an Investment Contract and analysing the key factors that might affect these figures.
- evaluating the generation expected from the eight Investment Contracts, the first round of CfD and the current pipeline of renewable energy projects against the Renewable Energy Roadmap/EMR Delivery Plan to establish their contribution to the electricity ambition and consider whether the Government is on track to reach 30% of electricity from renewables by 2020

[36] The Central figure is taken from DECC's Updated Energy Projections (UEP) 2014, the High and Low figures apply the range given under DECC's 2013 UEP projects as no range is available for 2014.

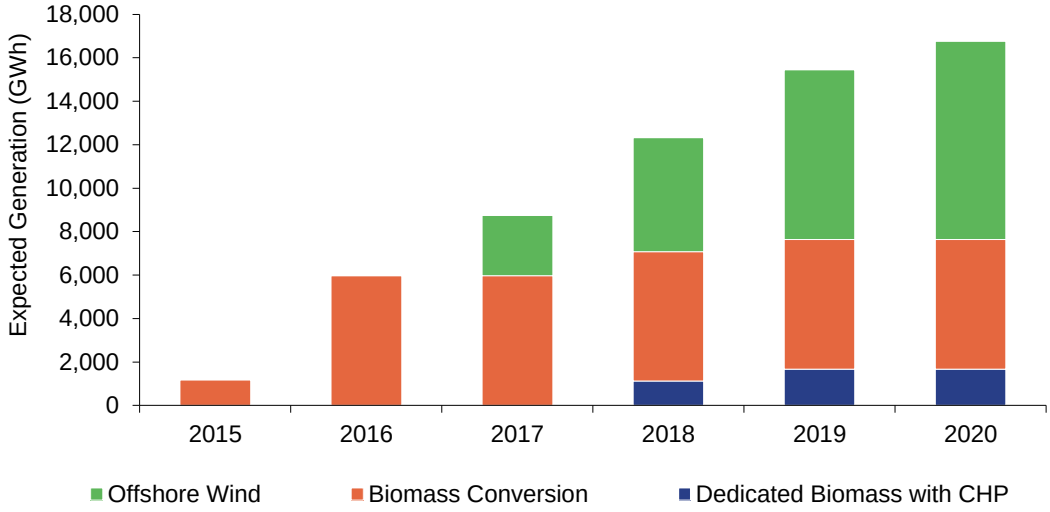
Evaluation

Installed capacities and expected generation of the eight projects

9.75 The total expected installed capacity of the eight Investment Contracts is 4,548MW based on the information provided in the binding application.

9.76 We estimate that the eight projects that were awarded an Investment Contract under FID Enabling for Renewables could contribute 16.8TWh of renewable electricity generation by 2020 (see Figure 22). This would represent 17% of the expected required renewable electricity generation (101TWh) outlined in EMR Delivery Plan (December 2013).

Figure 22 – Expected energy generation to 2020 from Investment Contracts



Assumptions

1. All projects commission on their Target Commissioning Date
2. All projects achieve the capacity stated in their binding application
3. Load factors taken from October 2014 allocation framework[37]
4. Transmission losses taken from October 2014 allocation framework

9.77 The amount of electricity that can be generated from this capacity by 2020 will depend on a number of factors including;

- whether the Target Commissioning Date is met for each project
- what the final installed capacity is for each project
- the load factor achieved by each project.

In addition to these factors, at the time of writing, the two biomass conversion projects (representing 1065GW of capacity) have not received State aid approval. Even if State aid approval is obtained for these two projects, the Commissioning Dates could be pushed back as a result of the delay in receiving this clearance.

Target Commissioning Date

9.78 The Investment Contracts allow developers to commission a project within a 'Target Commissioning Window' defined as within one year of the Target Commissioning Date. If

[37] Final Allocation Framework for the October 2014 Allocation Round (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/404405/Contract_for_Difference_Final_Allocation_Framework_for_the_October_2014_Allocation_Round.pdf)

a generator commissions after the Target Commissioning Window, the period of support under the contract is reduced. If a project is delayed beyond the 'Long Stop Date' (either one or two years after the Target Commissioning Window ends depending on technology type), the LCCC can terminate the contract without compensation. If all eight FID Enabling for Renewables projects delayed commissioning until the Long Stop Date the total generation capacity achieved by these projects in 2020 would be reduced to 12.9TWh, meaning they would only contribute 13% to the 2020 renewables target instead of the potential contribution of 17%.

Installed Capacity

9.79 Investment Contracts are capped at the binding application Installed Capacity. Before the Milestone Date, generators can reduce their Installed Capacity Estimate (ICE) by up to 25% without losing the contract. Thereafter, generators must deliver 85% of that revised capacity (The 'Required Installed Capacity') or lose the contract. In effect, projects could reduce their installed capacity to 64% of the original capacity stated in their binding application without losing the contract. If all eight FID Enabling for Renewables projects reduced their generation capacity to 64%, the total generation capacity achieved by these projects in 2020 would be significantly reduced to 10.7TWh, meaning they would only contribute 11% to the 2020 renewables target instead of the potential contribution of 17%.

Load factors

9.80 Load factors can vary significantly between projects depending on the technology type, the hours of operation and location of the project (in the case of offshore wind). For the purposes of calculating the expected generation of the projects we have used the load factors outlined in the Allocation Framework (October 2014). The exact generation contribution in 2020 will depend on the specific load factor of each project.

Contribution to the 2020 renewable target

9.81 Four scenarios were created to assess the UK's progress towards electricity's contribution to the 2020 Renewable Energy Target based on capacity committed to date ie FID Enabling for Renewables and first allocation round CfD contracted capacity alongside, RO and ssFIT supported projects and unsupported renewables. No capacity from future CfD allocation rounds has been assumed. The scenarios can be summarised as:

- **Baseline Build** –assumes all and CfD contracted capacity (including FID Enabling for Renewables contracts)[38] commissions as planned and takes our central assumptions of new build under the ssFiT/RO.
- **Central Build** – as the baseline scenario but assumes some CfD contracted capacity fails to commission.
- **High Build** – as the baseline scenario but assumes higher ssFiT/RO new build, and higher load factors for biomass conversion and large biomass with CHP.
- **Low Build** – assumes lower ssFiT/RO new build, lower biomass conversion load factors, and lower success rate of contracted CfD capacity than in the baseline and central scenarios.

9.82 We compare our scenarios to the 'NG Scenario 1' which was the base case scenario presented by National Grid as part of DECC's EMR Delivery Plan[7] previously mentioned. This scenario fulfils the criterion of supplying at least 30% of renewable electricity and therefore provides a useful comparison between expectations at the time of the Delivery Plan and following the award of CfD contracts.

[38] This includes that Lynemouth and Drax biomass conversions which are still awaiting State aid approval.

9.83 The key differences in assumptions between the scenarios is given in more detail in Table 17.

Table 17 – Summary of scenario assumptions to assess the UK's progress toward electricity's contribution to the 2020 target

	Baseline	High	Central	Low
RO capacity	• Operational capacity • Central new build assumptions	• Plus 3 large projects • Plus 20% extra new build capacity for smaller projects	• As Baseline scenario	• Less one large project • 20% less new build capacity for smaller projects
Awarded CfD contracts including FID enabling for Renewables	• All contracted capacity	• As Baseline	• Less two large projects • 95% of smaller project capacity commissions	• Less four large projects • half of smaller project capacity commissions at 75% of proposed capacity
Unsupported and small-scale FiT	• As NG Scenario 1	• 20% more new build capacity	• As Baseline scenario	• 20% less new build capacity
Biomass conversion load factors	• 87%	• 90%	• As Baseline scenario	• 70%

Detailed assumptions

1. CfD contracted capacity – LCCC's CfD Register plus the successful biomass conversions
2. CfD/FID enabling for Renewables Capacity Load factors – Final Allocation Framework, EMR Delivery Plan for biomass CHP[39]
3. RO operational capacity to March 2014 – Ofgem's Renewables and CHP register
4. Central RO new build assumptions:
   - new RO offshore wind capacity – one large project;
   - new biomass conversion capacity – no further conversion due to the consultation on changing the grandfathering policy to conversions and co-firing[40]
   - new dedicated biomass capacity – all projects on the 400MW list commission by the end of the grace period; and
   - Other new RO capacity – assume 2013/14 build rates continue except in 2016/17 where deployment falls to 50% of that level, and the RO is closed thereafter. The exceptions to this are for biomass CHP where the rate is not halved in 2016/17 due to grace periods, and also for solar PV where we assume deployment continues at the same rate as <5MW deployment in 2013/14 due to the imposed limit on projects above 5MW)
5. RO capacity load factors – 2015/16 Renewables Obligation Calculation[41]
6. Unsupported and ssFiT – the NG scenario 1 'Other renewables':
   - minus dedicated biomass without CHP (from Ofgem's Renewables and CHP Register)
   - plus unsupported Hydro (NG scenario 1 'Hydro' minus RO Hydro from Ofgem's Renewables and CHP Register)
7. Demand – Central demand figures were issued by DECC which was from the Sep 2014 UEP GB annual demand projections. The High and Low demand figures were calculated by applying the High and Low differential from the Central figures presented in the National Grid Delivery Plan report. We take the minimum contribution intended from renewable electricity as 30%.

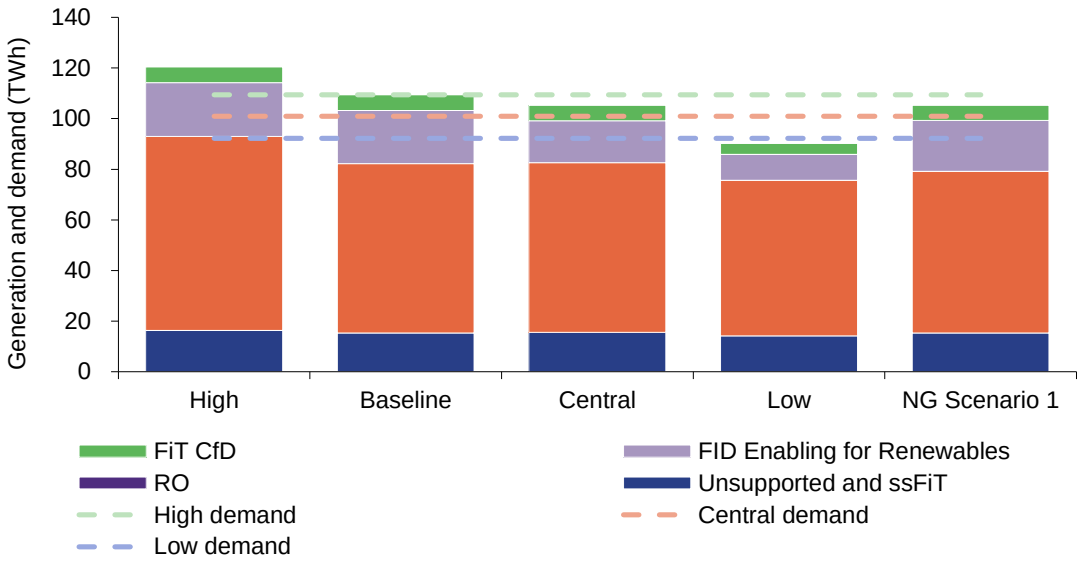
39 The EMR Delivery Plan load factor (90%) was used for biomass CHP ie Teesside rather than the Final Allocation Framework load factor (64.5%) as this is what was used to calculate the impact of FID Enabling for Renewables projects on the LCF. The load factor for offshore wind is consistent between the two documents.

40 Consultation on changes to grandfathering policy with respect to future biomass co-firing and conversion projects in the Renewables Obligation

41 Calculating the level of the Renewables Obligation for 2015/16, DECC, October 2014

9.84 Figure 23 shows how anticipated generation under our four scenarios compares to DECC's electricity demand assumptions required to meet 30% of electricity consumption.

Figure 23 – 2020 build scenarios by support scheme (TWh)

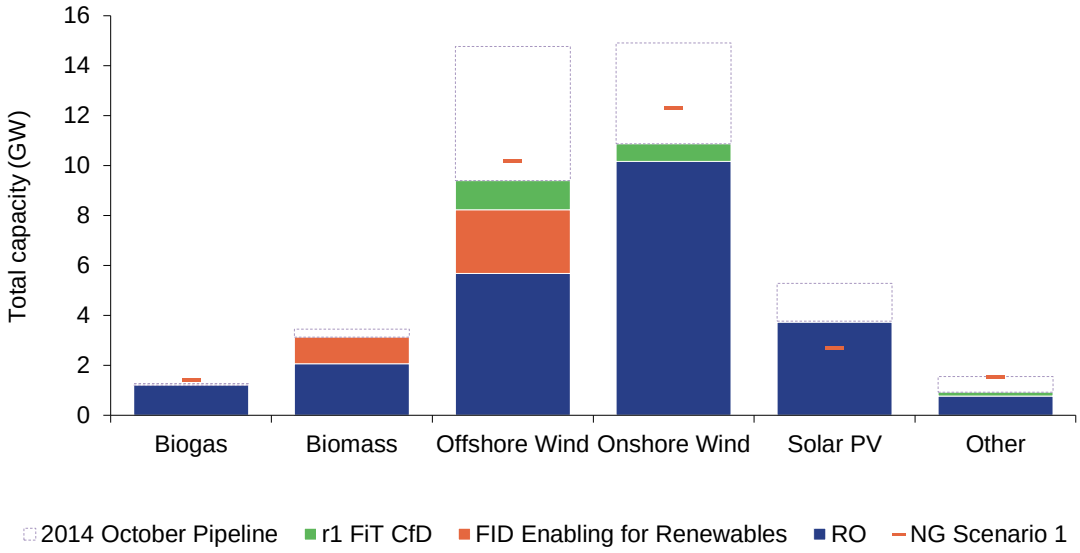


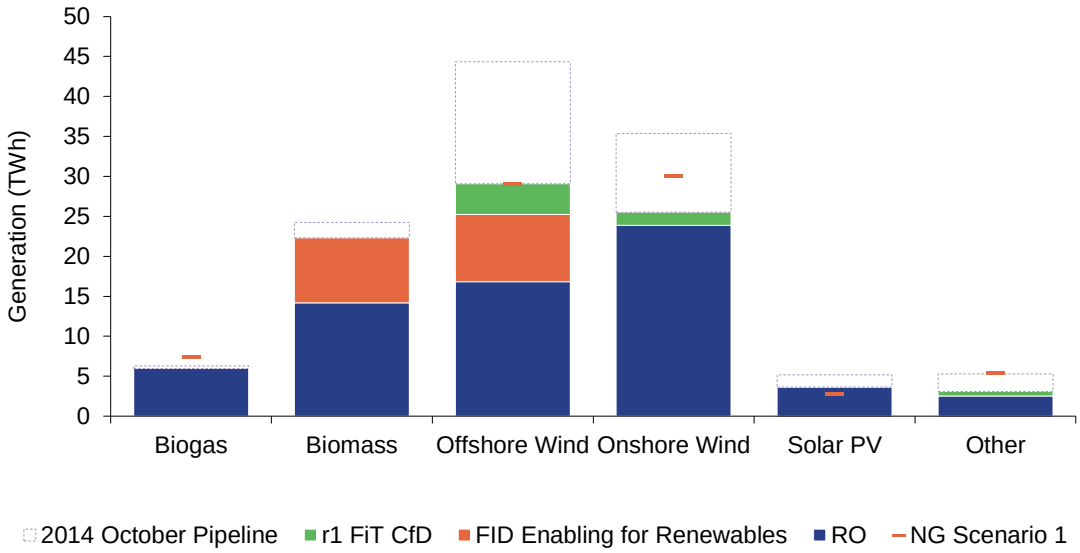
9.85 Under DECC's Central 2020 demand assumption, electricity's contribution to the 2020 targets would be met in all but the Low Build scenario even if there were no further CfD allocation rounds. Despite the strong progress towards the 2020 renewables targets we would still recommend that further CfD allocation rounds take place (See EMR report for further analysis). If demand increases to 2020 rather than falls, the target capacity secured in further CfD allocation rounds is likely to be required to ensure the target is met.

9.86 Under the Central scenario just over a fifth of generation expected to come from currently contracted CfD contracted capacity to date, with almost three quarters of that having been allocated under the FID Enabling for Renewables. Figure 23 shows our Central Build scenario by technology and support scheme against NG scenario 1. All FID Enabling for Renewables contracts were awarded to offshore wind and biomass projects. The October 2014 successful projects were primarily offshore wind and onshore wind.

9.87 The chart also shows the pipeline for each technology at the time of the October 2014 CfD allocation round (assuming no pipeline attrition). The pipeline is made up of projects that had obtained planning permission in time to compete in the first allocation round, but does not include projects that were successful in the October 2014 allocation round as these are included in the 'r1 FiT CfD' category. There is a significant volume of onshore and offshore wind in the pipeline that could be deployed in future allocation rounds if budget was made available. The potential pipeline for solar is much higher than shown in Figure 24 because of the short construction timeframe and small capacity of the typical scheme many projects that could be available for a future allocation round will not yet have planning permission. Similarly there is potential for a much higher contribution from biomass conversions in future rounds.

Figure 24 – 2020 Central Build scenario by technology: capacity (GW) and generation (TWh)





Messages

9.88 From our analysis we have noted the following key messages:

- We estimate that the eight projects that were awarded an Investment Contract under FID Enabling for Renewables could contribute 16.8TWh of renewable electricity generation by 2020. This would represent 17% of the expected required renewable electricity generation (101TWh) outlined in EMR Delivery Plan (December 2013), although this could fall to 11% or 13% under certain scenarios.
- The UK currently looks on track to meet electricity's contribution towards its 2020 targets.

Recommendations

- We understand that as part of the 'investment tracker' DECC actively review the information provided by LCCC to ensure that projects are on track to deliver/commission to the proposed timetable and ensure any shortfall in expected generation is built into future allocation rounds for the enduring regime. We consider that there are many valuable lessons that can be learnt from these Investment Contracts and would therefore recommend that in addition to the investment tracker a periodic progress report on the eight FID Enabling for Renewables projects is prepared, summarising key data including; the date of final investment decision, commissioning dates, load factors, and cost of supporting the projects. This data should be shown against forecasted outputs and analysed to draw out key information and any lessons that can be learnt for the enduring regime.

9f Strengthening supply chain and industry development

Context

9.89 The 2013 OBC outlined two objectives relating to strengthening the supply chain and aiding industry development as follows:

- To enable a steady pipeline of projects, through preventing an investment hiatus, to enable industry development and drive down costs; and
- To provide jobs and supply chain opportunities for British companies, resulting from the construction and operation of renewable electricity projects.

9.90 We understand that during the FID Enabling for Renewables process the focus became one of developing industry and strengthening the supply chain, rather than supporting jobs. This was, in part, because assessing the economics of job creation is complex and any new jobs created may just be displacement or only have a temporary impact. The focus therefore shifted to improving and expanding workforce skills and capabilities.

9.91 Update 2 required applicants to provide evidence to support whether the project was likely to support the long term growth and economic viability of renewable energy generation industries. The aim of this criterion was:

"to allocate Investment Contracts in a manner that will help develop a broad competitive and sustainable supply chain. It is expected that such development will help reduce the cost of the generation of electricity from renewable sources over the long term"

9.92 In this Section we:

- review the evidence provided by the eight successful projects in Phase 2 on expected industry development and supply chain advantages
- analyse feedback from the stakeholder research process to determine to what extent expected impacts on industry development have been realised to date and whether any other industry developments that were not envisaged have been achieved.

Evaluation

9.93 Table 18 sets out the evidence provided by the eight successful projects in Phase 2 on expected industry development and supply chain advantages.

Table 18 – Examples of expected industry development from Phase 2 applications of successful projects by technology type

Technology	Expected industry development benefits from Phase 2 applications
Offshore wind	• Use of new larger 6MW direct drive turbines and 8MW turbines for Burbo Bank • New and innovative techniques in design, including development of standardised jackets, purpose built multi-use installation vessels, deep water monopile foundation • First commercial use of FLiDAR technology that delivers highly accurate wind data thereby helping to build a track record for a new technology • Array cable optimisation project and work with industry to solve grouting issues • Commitment to improving reliability and performance through introducing a testing facility • Commitment to sharing knowledge through participation in the Offshore Wind Accelerator and ORE Catapult • Establishment of a dedicated Cost of Energy organisation to implement and monitor cost reduction initiatives
Biomass conversion and biomass CHP	• Use of innovative products and approaches across supply chain and conversion process including mitigant injection system and biomass rail wagon design (increasing capacity by 17%) patents • Collaboration with suppliers to advance use of biomass ash as a feedstock for fertiliser manufacturing processes • Sharing of non-commercial knowledge sharing through groups such as SuperGen and Sustainability Working Groups and commitment to share knowledge on how to prevent corrosion • Bilateral agreement with another coal-biomass project to share engineering and operation practices • Engagement with two large engineering companies to design and develop dedicated biomass burners to advance the technology (engineering companies will retain the intellectual property allowing them to apply developed techniques elsewhere). • Work with supplier to develop an innovative fuel handling solution that reduces dust emission and improves reliability • Boiler innovation to provide 'incremental steps' in developing larger boiler sizes capable of generating higher steam temperatures and to allow different quality of biomass to be combusted

9.94 From Table 18 we can see that the projects propose to use a number of innovative products and approaches across the supply chain to help drive industry development for both biomass and offshore wind technologies. In addition to the benefits cited above, Statkraft has informed DECC that they invested in design studies and geotechnical surveys in advance of receiving a final contract as the scheme had given them confidence that award of a contract was likely. Other benefits include a Dudgeon contract with JDR

Cables for inter-array cables and cable accessories[42] and Tekmar for cable supply[43], an extended DONG contract with Atkins for detailed offshore substation designs[44].

9.95 From our discussions with ORED, we also note the following:

- Great Yarmouth has been selected as the preferred port for the Operations and Maintenance base for the Dudgeon offshore wind farm – creating between 50-70 jobs
- Siemens Transmission & Distribution Limited, based in Manchester, were awarded the contract for the Electrical System Infrastructure for the Dudgeon Offshore Wind Farm
- Granada Material Handling Ltd have supplied over 400 marine davit cranes to the offshore wind sector and recently (April 2015) won a contract to supply two cranes to Sembmarine SLP for the Dudgeon sub-stations
- MHI Vestas are providing turbines for Burbo Bank extension – establishing blade factory on the Isle of Wight[45]
- Offshore Structures (Britain) formerly TAG Energy Solutions, based in Teesside, have secured an order from DONG for foundation transition pieces for 32 turbines for Burbo Bank[46])

9.96 However, the extent to which these projects will drive the intended industry development and innovation is unclear at this early stage. There were a number of opportunities cited for projects to share their learning more widely across the industry, for example, through groups such as SuperGen or through allowing engineering companies to retain the intellectual property. However, some of the proposed development is patented and therefore it is unclear the extent to which this lead to industry-wide development. In addition, with the introduction of price competition in the enduring regime, this may further discourage industry wide sharing going forward. To address this risk, under the enduring regime, DECC requires projects of a capacity of 300MW and over, to submit a Supply Chain Plan (SCP) for assessment. The Department retains the right to publish these plans once a CfD has been awarded in order to share information with the supply chain and support implementation. This process is considered further in our EMR report.

Table 19 – Examples of expected supply chain development from Phase 2 applications of successful projects by technology type

Technology	Expected supply chain development benefits from Phase 2 applications
Offshore wind	• Framework agreement including long term certainty and necessary volume to give Tier 1 suppliers confidence needed to invest • Open up procurement of items such as array cables outside current framework suppliers and identify opportunities for Tier 2 contractors to compete • Retaining design responsibility and associated risk to remove a significant barrier to entry for new or smaller suppliers

42 JDR wins inter array contract for the dudgeon offshore wind farm (http://jdrglobal.com/jdr-wins-inter-array-contract-for-the-dudgeon-offshore-wind-farm/)

43 Tekmar selected as dudgeon CPS supplier (http://www.tekmar.co.uk/news/item/tekmar-selected-as-dudgeon-cps-supplier)

44 Atkins and DONG Energy strengthen relationship with contract for Hornsea Project One offshore wind farm (http://www.atkinsglobal.co.uk/en-GB/media-centre/news-releases/2015/mar/2015-03-19a)

45 DONG Energy choose 8MW turbine for Walney Extension (http://www.dongenergy.co.uk/news/press-releases/articles/dong-energy-chooses-8mw-turbine-for-walney-extension)

46 DONG Energy awards foundations contract and secures production in the UK (http://www.dongenergy.co.uk/news/press-releases/articles/dong-energy-awards-foundations-contract-and-secures-production-in-the-uk)

	• Work with leading consultancy firm to support the supply chain through development of technology and improving capability • Establishment of a UK purchasing team to map the UK supply chain and participation in 'share fairs' to highlight opportunities to a wide audience • Working with Government's GROW Offshore Wind programme to identify companies that can benefit from the scheme. • Investment in fabrication and towers manufacturing to maintain capability in the sector and develop a robust supply chain • Investment in facilities at Wells Harbour and Belfast Harbour
Biomass conversion and biomass CHP	• Investment in supply chain for biomass fuel and supporting transport infrastructure, including UK's first purpose built biomass rail wagon and UK port contracts, pellet production development)

9.97 Table 19 above highlights a number of areas where the funded projects expect to contribute to the long term growth for biomass and offshore wind supply chain. In several cases, letters of support were provided by supply chain organisations alongside the project's Phase 2 application as evidence. In addition to the benefits cited above, for the NAO report on the FID Enabling for Renewables project (June 2014)[21], Siemens advised that their £160m investment decision for developing wind turbine production and installation facilities in Yorkshire was helped by the Investment Contracts provided. In March 2014, Associated British Ports also announced its intention to provide an additional £150m investment to support in this project in collaboration with Siemens.

9.98 In some cases, the supply chain development arguments provided in Phase 2 applications were contradictory and it was unclear how certain measures would interact. For example, certainty provided by framework agreements may be undermined by measures to open up supply chain opportunities to new entrants and SMEs. However, on balance, it is clear that the funding of several large scale projects will help develop supply chain and infrastructure within the biomass conversion, biomass CHP and offshore wind technologies.

9.99 The projects also listed numerous benefits that their developments would have to improve and expand the workforce skills and capabilities, in addition to supporting 8,500 jobs. These benefits included apprenticeship and graduate training schemes, professional qualifications for employees, funded PHD research and business wide training programme to up-skill employees. For example, DONG claims that Burbo Bank will create 75 potential full time jobs for the 25 year lifetime of the scheme[47].We note however, that three of the funded projects were from the same organisation (DONG) and therefore the proposed plans for expansion of the workforce capabilities were largely similar. It is therefore, not necessarily clear that training and apprenticeship plans would be scaled back if any one project was delayed.

9.100 The new innovation and industry development in the biomass and offshore wind industries should in theory help drive costs down in future years. The benefits of this industry development should therefore be reflected in the price competition in future rounds of the enduring regime. The administrative strike price for offshore wind was lower in the first allocation round (See Table 22). The Cost Reduction Monitoring Framework has concluded that the cost of offshore wind has come down from £136/MWh in 2011 to

[47] Wind Farm extension to create 75 new jobs (http://recruitingtimes.org/wind-farm-extension-create-75-new-jobs/)

£121/MWh for projects delivered or moving to construction between 2012 and 2014 which they have attributed to the industry's early adoption of larger turbines[48]. However, the impact on industry development is dependent on the existence of a visible and predictable future pipeline and therefore might not be achieved if the industry does not believe there is sufficient budget for future allocation rounds.

9.101 As outlined in Section 9b, with the exception of two projects, the remaining six projects that received an Investment Contract indicated that the project would be delayed rather than cancelled. It is therefore possible that some of the industry development benefits could have been achieved from these projects, but at a later date but it is not clear whether these would have been achieved on the same scale or in time to help meet the 2020 renewable targets and interim targets.

Stakeholder analysis

9.102 Two applicants (neither of whom were successful) interviewed were unable to comment on whether projects that were successful have contributed towards the supply chain and felt that there was a need to look at the entire industry to get the true picture, rather than a few projects.

9.103 One successful applicant noted early indications that supply chain investment has been made (at least for offshore wind). These include the Siemens facility at Hull, the MHI Vestas facility on the Isle of Wight and the investment by EEW and Bladt in the ex-TAG facility in Middlesbrough. A turbine supplier concurred with this view, arguing that without the certainty that the FID Enabling for Renewables projects offered, no projects would have progressed for up to three years without the scheme which would have prevented key investment decisions for the supply chain from occurring.

9.104 One successful applicant claimed to have established a supply chain and incorporated innovative designs. However, they argued that they were doing this under RO too.

9.105 One developer (non-participant) believed that the FID Enabling for Renewables qualification and evaluation criteria appear to have been set at the appropriate level to strengthen the supply chain given the subsequent commitments made by key supply chain companies over the period since signing. They added that process will facilitate the investment by supply chain and developers to establish the conditions necessary to drive cost reduction and support delivery of up to 4.3GW of offshore wind generation. However they suggest that a more effective and cost-effective transition might have been achieved with a somewhat higher proportion of the available funds made available through the competitive route. A turbine supplier suggested that more contracts would have been awarded via competition, had the FID Enabling for Renewables budget been lower. Overall this would have increased the volume of projects supported across the FID Enabling for Renewables (and CfD) regimes. They argue that this would have been a better outcome from a supply chain, cost reduction and emissions perspective.

Messages

9.106 From our analysis we have noted the following key messages:

- The Phase 2 applications proposed a number of ways in which the eight projects intended to drive industry development and develop the supply chain within the biomass and offshore wind sectors.
- At this early stage, there is some evidence to suggest that these benefits are being realised, for example the £310m investment by Siemens and Associated British Ports

[48] Cost Reduction Monitoring Framework (https://ore.catapult.org.uk/our-projects/-/asset_publisher/fXyYgbhgACxk/content/cost-reduction-monitoring-framework)

in wind turbine production and installation facilities in Hull, the MHI Vestas facility on the Isle of Wight and the investment by EEW and Bladt in the ex-TAG facility in Middlesbrough. There is also evidence to suggest the impact on job creation, for example, 50-70 jobs created at Great Yarmouth port for the Dudgeon offshore wind farm.

Recommendations

9.107 From our analysis we highlight the following recommendations:

- Part of the rationale for early investment in projects to support the supply chain development was that this would help drive down cost reductions in the industry. Therefore we recommend that the generation unit cost for the biomass and offshore wind technologies should be closely monitored going forward to ensure the benefits of early deployment to drive industry development are being achieved. It may be difficult to separate the impact specifically of the FID Enabling for Renewables projects from those commissioned under the enduring regime; nevertheless, there is a general point that everything possible should be done to derive the maximum amount of useful data from these projects.
- Should DECC wish to monitor the on-going benefits associated with industry and skill development as the projects progress, we recommend that DECC consider commissioning further independent analysis.

9g Magnitude of LCF expenditure

Context

9.108 The expenditure on the FID Enabling for Renewables projects will represent a significant level of expenditure under the LCF[49].

9.109 In this Section we:

- review the latest forecasts of the level of expenditure under the LCF
- consider the impact of this level of expenditure under the LCF and the potential implications for the enduring regime

Evaluation

9.110 The amount of spend on the eight FID Enabling for Renewables projects will depend on a number of factors. Where the strike price is higher than the reference price (wholesale electricity price), the counterparty pays the generator the difference between the strike price and the reference price for each unit of electricity it produces. Likewise, if the reference price is higher than the strike price, the generator pays the difference to the counterparty. The key drivers of the cost of these projects are:

- the strike prices,
- the wholesale electricity price; and
- the amount of electricity produced by each project (which in turn will depend on the commissioning date, final installed capacity and load factors achieved)

[49] DECC's October 2014 projections show that on average 71% of the remaining LCF budget for renewable CfDs to 2020-21 will be spent on FID Enabling for Renewables projects, leaving only 29% for the enduring regime. This is calculated by applying the same methodology that was used at the time the FID Enabling for Renewables budget was set (but updating for October 2014 revised wholesale prices and expected spend on all schemes)

9.111 These assumptions are therefore key to determining the overall projected cost under FID Enabling for Renewables. DECC's latest projections[68] are that these eight projects will cost £3.6bn between now and 2020/21.

9.112 At the time the FID Enabling for Renewables budget was announced in early December 2013, it represented 48% of the remaining LCF budget to 2020-21 available for renewable CfDs. However, DECC's October 2014 projections show that on average 71% of the remaining LCF budget to 2020-21 will be spent on FID Enabling for Renewables projects, leaving only 29% for the enduring regime[50]. This movement is primarily due to increased RO and CCS projections and new wholesale price assumptions. Further considerations of the challenges in setting this budget are outlined in Section 8f.

9.113 The amount of residual LCF budget remaining for the enduring regime is further restricted because:

- The amount of residual budget in each year does not always increase in the following year. Therefore, the full available funds cannot be allocated in Year 1 if there is insufficient money for the project in Year 2. For example, if a large project commissioning in Year 2 was funded, this might mean that there is insufficient budget in Year 2 for another project, resulting in unused 'pockets' of budget in Year 1.
- The budget profile for individual projects is not smooth and therefore will not necessarily fit into the available budget profile.

9.114 The end result from a market perspective is that 71% of the available LCF for renewable CfDs has in theory been allocated to FID Enabling for Renewables projects (assuming that all of the selected projects reach their projected Target Completion Dates, expected capacity and load factors). This means that the available pot for developers who did not participate in FID Enabling for Renewables is reduced and there are some indications from the stakeholder feedback that developers may look to scale back plans because they are concerned their projects will no longer be affordable (see below). However, it should also be noted that this figure may still vary for a number of reasons, including the wholesale energy price and specifically in relation to FID Enabling for Renewables projects, whether there is any project attrition or variation of capacity.

9.115 On the one hand the significant allocation under FID Enabling for Renewables allowed DECC to achieve a relatively high level of certainty around the UK Government's ability to meet its 2020 renewable targets and helped to avert an investment hiatus for projects that were awarded an Investment Contract. This may be considered particularly important in sectors such as offshore wind where a clear investment signal was needed to allow supply chains to be developed; on the other hand, the scope for price competition is reduced and if the market perception is that the available allocation is too constraining, this may discourage some participants.

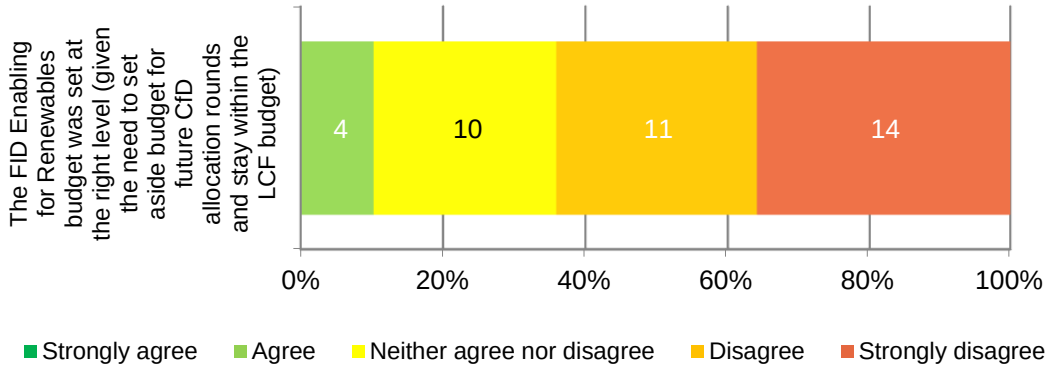
Stakeholder analysis

9.116 As part of the written responses, we asked stakeholders to what extent they agreed or disagreed that "the FID Enabling for Renewables budget was set at the right level (given the need to set aside budget for future CfD allocation rounds and stay within the LCF budget)". Of the 39 people who responded to the question, 14 stakeholders 'agreed' or 'strongly agreed' that the budget was set at the right level. The respondents who agreed included four successful applicants, an applicant with both successful and unsuccessful projects, wave/tidal/ocean developers, trade associations, turbine suppliers and a government/regulatory body. There were 25 stakeholders that 'disagreed' or 'strongly

[50] This is calculated by applying the same LCF budget assumptions that were used at the time the FID Enabling for Renewables budget was set (but updating for October 2014 revised wholesale prices and RO deployment projections)

disagreed' and this group was made up of five unsuccessful applicants, developers across a range of technologies, a test centre, a consultancy and a financier. The other 10 respondents marked 'neither agree nor disagree'.

Figure 25 – Written responses: "the FID Enabling for Renewables budget was set at the right level (given the need to set aside budget for future CfD allocation rounds and stay within the LCF budget"



9.117 The majority of the respondents who agreed that the budget had been set at the right level felt that the number of projects funded appeared to have been appropriate. An applicant with both successful and unsuccessful projects recognised that the FID Enabling for Renewables budget was always going to be a balance between encouraging early projects and keeping enough LCF in reserve for future competitive rounds and felt that DECC had struck the right balance here. One trade association commented that the decision about the budget to set aside for FID Enabling for Renewables was particularly challenging, as on the one hand the quantity of qualified applicants illustrated a real need for a large budget, whilst on the other hand there was a clear need to withhold sufficient budget for the future CfD auction rounds. They felt that the result of a constricted first CfD allocation round budget had a significant impact on the confidence of the sector in the system overall, and retrospectively it might have been better to have kept more budget back for that auction. However, they recognised that the current level of the LCF budget and with changes to fundamentals, such as the reduction of wholesale prices, as well as the complexity of projecting RO capacity, DECC's budget management decisions were very difficult. An Energy from Waste developer commented that the budget split was fine, provided the capacity all gets approved by the European Commission in relation to State aid and built. One respondent added that FID Enabling for Renewables needed to be evaluated in the context of what was happening at the time and not with the benefit of hindsight.

9.118 An unsuccessful applicant found it challenging to conclude whether the FID Enabling for Renewables budget was too large as the LCF includes other schemes, such as RO so they cannot pinpoint FID Enabling for Renewables as the sole reason for a lack of budget for the enduring regime. A unsuccessful applicant commented that whilst they were aware of how the budget setting process worked, they were too small to study it in detail. A turbine supplier commented that the funding made available was higher than industry expectations for FID projects and whilst the overall level of budget was considered appropriate, with hindsight a lower FID Enabling for Renewables budget and corresponding increase in first allocation round, may have offered the chance of greater efficiencies through larger projects in offshore wind.

9.119 One developer felt too much of the budget was given to FID Enabling for Renewables, especially as several of the successful projects have a long lead time to delivery. One successful applicant recognised that DECC was in a difficult position because offshore

wind has long lead times but can provide a lot of MWs needed to meet the 2020 renewables target.

9.120 Nearly all of the stakeholders who disagreed that the budget was set at the right level, expressed concern that the budget was set too high. Some respondents commented that this was an industry-wide concern. Many expressed concern around the level of the budget that was allocated to FID Enabling for Renewables projects, leaving little budget for CfD contracts. This concern was exacerbated by many comments that the budget was allocated to FID Enabling for Renewables contracts without price competition. They felt that this constrained the remaining budget for competitive allocation which would have represented better value for money, whilst increasing the volume of projects supported across both regimes and would have been a better outcome from a supply chain, cost reduction and emissions perspective.

9.121 A trade association also indicated that the budget allocated to FID Enabling for Renewables was possibly too generous and that arguably DECC could have achieved "more bang for their buck" with a higher proportion of the budget allocated to the enduring regime. However, they argued that it was probably necessary to have a pipeline to bridge the gap created by a shift from RO to CfDs. They welcomed the idea that any FID Enabling for Renewables unspent budget be reallocated to CfDs. A developer also agreed with this idea.

9.122 One unsuccessful applicant expressed that the size of the FID Enabling for Renewables budget can only be to the detriment of the rest of the market, unless DECC quickly change their LCF budget level, adding that this has not been in the interests of the consumer. Other respondents also expressed concern that the budget split did not take into account the best cost for consumers. A developer agreed with the view that that far too much budget was allocated to FID Enabling for Renewables. Although well intentioned, they argued that the underestimation of certain key assumptions to determine budget has meant that these contracts are likely to consume a very large part of the budget. These assumptions include price forecasts and technology load factors. They argued that this undermines the intention of the CfD, which was to deliver best value for the consumer and that it did not serve the interests of industry, as a large amount of available CfD has been awarded to relatively few developers. This drives up competition in future rounds, and ultimately delivers fewer MW for the budget. A solar PV developer commented that because FID Enabling for Renewables used up so much of the LCF budget, it gives the lie to the contention that the LCF budget was being managed to maximise renewables deployment at least cost to the consumer and to maximise job creation. They added that if this principle had been openly and transparently applied, then solar PV would have been awarded more of the LCF budget and offshore wind less. They suggest that on all three counts - job creation, cost and rate of deployability - solar PV would have been a better use of the LCF budget.

9.123 A solar, wind and anaerobic digestion developer commented that the results of the 2014 CfD auction have clearly demonstrated that the FID Enabling for Renewables contracts represent extremely poor value for money and the budget was too high. They felt that committing such a large portion of the LCF budget to schemes early in the cost reduction process is a poor use of taxpayer money. A financier felt that the future allocation rounds have demonstrated that far too little money is available for technologies that will be cheaper than the FID Enabling for Renewables projects, with another developer adding that the budget split left has left the cheapest renewable technologies fighting for a dwindling budget which they argued is already causing hiatus in development pipelines for onshore developers as the allocation uncertainty is too high.

9.124 A few developers suggested that it may have been preferable to restrict the budget for the FID Enabling for Renewables process more tightly and leave more budget available for

future CfD allocation rounds. Although this would have resulted in slower deployment, they believed this would probably have delivered better value for money. An energy asset management company felt that the disproportionate financial allocation of support towards FID Enabling for Renewables projects created a strong hiatus in funding for the enduring CfD regime, adding that it is not reasonable that the transition mechanism is more costly than the enduring regime that it will support.

9.125 One unsuccessful applicant argued that if there was going to be competitive allocation, it should applied to everyone, not just those who did not get in quickly under the FID Enabling for Renewables process. They added that if the objective of EMR is to move the market towards competitive allocation, to spend more than half of the budget on a non-competitive process seemed counter-intuitive.

Messages

9.126 From our analysis we have noted the following key messages:

- Based on DECC's October 2014 projections[51] the FID Enabling for Renewables projects are expected to represent £3.6bn of the LCF spend cumulatively to 2020/21.
- The amount of budget that will actually be used on FID Enabling projects (and by extension, the projected residual LCF budget remaining for CfDs) is dependent on a number of factors and therefore liable to change, which means that the exact proportion cannot be known for sure until the end of the period is reached. The factors that may cause the actual proportion of residual LCF budget to vary from the current projection include:
  - the reference prices (driven by wholesale electricity price)
  - Target Commissioning Date of each project
  - load factors of each project
  - final capacity of each project
  - whether the two biomass conversion projects get State aid approval from the European Commission
  - changes in RO deployment (and other elements of the LCF budget, for example, small scale FIT)
  - if a FID Enabling for Renewables project is cancelled, the LCF budget can be reallocated under the enduring regime
- Applying the same methodology that was used at the time the FID Enabling for Renewables budget was set (but updating for October 2014 revised wholesale prices and expected spend on all schemes), the FID Enabling for Renewables projects, at £3.6bn, represent 71% of the residual LCF budget for renewables CfDs. The significant allocation under FID Enabling for Renewables allowed DECC to achieve a relatively high level of certainty around the UK Government's ability to meet its 2020 renewable targets and provide the clear investment signal to allow supply chains to be developed
- The amount of price competition possible in EMR overall is reduced to the extent that the proportion of the LCF budget taken up by FID Enabling for Renewables is greater. However, competition for limited budgets under the enduring regime may drive prices down further.
- To the extent that market perception is that the available allocation is too constraining, this may discourage some participants.

[51] Annual Energy Statement 2014, Annex A, 2015/2015-2020/21 (2011/12 prices) (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/371387/43586_Cm_8945_accessible.pdf)

- At this stage, it is not possible to be definitive about how constrained budgets (driving down price) and lack of visibility on the pipeline (discouraging investment) will interact. Stakeholders interviewed have provided a mixed view on the appropriateness of the budget for FID Enabling for Renewables, with most recognising the challenges in determining the budget level and the majority – understandably, given their commercial objectives - expressed concern that the budget was too high and therefore endangered the credibility of the enduring regime.

Recommendations

9.127 From our analysis we highlight the following recommendations:

- DECC should carefully monitor the pipeline of renewable projects and the results of future allocation rounds for any evidence of developers scaling back projects as a result of limited budget remaining for the enduring regime. We consider that there are many valuable lessons that can be learnt from these Investment Contracts and would therefore recommend that periodic progress report on the eight FID Enabling for Renewables projects are prepared, summarising key data including; the date of final investment decision, commissioning dates, load factors, and cost of supporting the projects. This data should be shown against forecasted outputs and analysed to draw out key information and any lessons that can be learnt for the enduring regime. Further observations and conclusions could be drawn from the industry development driven by these projects.

9h Impact on consumer bills

Context

9.128 The cost of support of renewable energy generation under CfD (FID Enabling for Renewables and the enduring regime) is met by consumer through the Supplier Obligation (a levy on electricity suppliers). There are a number of factors that affect the cost of support. However, a key determinant in the overall cost of renewable energy generation is the cost of financing the capital required to build these projects.

9.129 One of the main arguments for introducing the CfD scheme was that it would reduce the cost of financing, particularly debt financing, by offering a stable revenue stream as generators are protected from the downside risk of wholesale electricity price fluctuations, thereby reducing the impact on consumer bills. The EMR Delivery plan[52] supported by the analysis of NERA Economic Consulting[53] suggests that the cost of capital for projects with a CfD contract would be lower than the cost of capital for projects under the RO.

9.130 DECC performs their own analysis on the cost of EMR passed onto consumers through their electricity bills[54]. In the EMR Final Delivery Plan, DECC outlined their analysis which suggested around £26 of the annual household energy bill will go towards CfD payments (real 2012 prices, excluding VAT).

[52] Electricity Market Reform Delivery Plan, DECC, December 2013

[53] Changes in Hurdle Rates for Low Carbon Generation Technologies due to the Shift from the UK Renewables Obligation to a Contracts for Difference Regime, NERA Economic Consulting, December 2013

[54] DECC website – Estimated impacts of energy and climate change policies on energy prices and bills (https://www.gov.uk/government/publications/estimated-impacts-of-energy-and-climate-change-policies-on-energy-prices-and-bills-2014)

9.131 In this Section we review:

- the projected cost of support the Government will provide under FID Enabling for Renewables and how this compares to the RO regime
- electricity company websites for evidence the impact of EMR cost to consumer bills
- the extent to which anticipated cost of capital savings are being realised by generators

Evaluation

Cost of support

9.132 We estimate that the cost of supporting these eight Investment Contracts to be £13.3bn[55] (2012 prices) over the course of their contacts, assuming all projects commission at their stated capacity on their Target Commissioning Date and achieve the projected load factors (the 'baseline case').

9.133 As mentioned in Section 9g, the cost of support for the eight FID Enabling for Renewables projects will depend on a number of factors. Where the strike price is higher than the reference price (based on the wholesale electricity price), the counterparty pays the generator the difference between the strike price for each unit of electricity it produces. Likewise, if the reference price is higher than the strike price, the generator pays the difference to the counterparty.

9.134 The key drivers of the cost of these projects and hence the overall cost of FID Enabling for Renewables are therefore:

- the strike prices;
- the wholesale electricity price (which drives the reference price); and
- the amount of electricity produced by each project (which in turn will depend on the commissioning date, final installed capacity and load factors achieved)

9.135 In this Section, we review:

- **Strike prices**
  We have evaluated whether the administrative strike prices were set at an appropriate level. This is based on the limited information available including the results of the first allocation rounds.
- **Wholesale electricity price and amount of electricity produced**
  As there is limited new information to assess these inputs against, given projects are not operational yet. Our evaluation, therefore, focuses on sensitivity analysis of the cost of support under FID Enabling for Renewables compared to the cost of support under RO for the eight projects awarded an Investment Contract. We also perform a breakeven analysis to determine how much the wholesale electricity price forecasts would need to fall by before the cost of support under RO is less than the cost of support under an Investment Contract.

Strike prices

9.136 Under FID Enabling for Renewables there is no price competition and therefore the administrative strike prices are used. The process DECC followed to set the administrative strike prices was heavily consulted and during the RO/CfD transition period (2014/15 – 2016/17) these were based on 'RO minus X' (or RO-X), where X is the expected difference in hurdle rate required by the CfD and RO. This approach is discussed in our EMR report. The administrative strike prices for the technologies that were awarded Investment Contracts are set out in Table 20.

55 Assumptions behind this calculation are shown in Figure 26 in Section 9h

Table 20 – Final administrative strike prices (£/MWh) in real 2012 prices by technology type

Strike price (£/MWh) Real 2012	2015/16	2016/17	2017/18	2018/19
Offshore wind	155	150	140	140
Biomass conversion	105	105	105	105
Biomass CHP	125	125	125	125

9.137 In the context of the FID Enabling for Renewables project there are two key risks in relation to the administrative strike prices as set out in Table 21.

Table 21 – Administrative price setting risks in relation to the FID Enabling for Renewables project

Risk	Result	Assessment
Administrative strike price is set too high	As there is no price competition under FID Enabling for Renewables this would lead to overcompensation for developers. Outcome • LCF constraints • Contracts will provide less value for money	• The clearing prices for two offshore wind projects that were successful in the first allocation round of CfD were between 14-18% lower than projects with an equivalent capacities and delivery year funded under FID Enabling for Renewables. This could indicate that the administrative price for offshore wind may have been too high, however there is insufficient data at this stage to draw any firm conclusions as there are a number of other factors to take into consideration. For example, the different projects have different characteristics, with Hornsea being103km (almost twice as far from the coast as East Anglia 1, and nearly six times as far as Neart na Gaoithe. Further consideration is given below. • There is insufficient data from the first allocation round of CfD to draw any conclusions on the administrative strike price for biomass technologies.

Risk	Result	Assessment
Administrative strike price is set too low	If prices are too low, there will be insufficient investment to meet 2020 renewable targets. Outcome • Projects are not commissioned/are delayed increasing the risk of not meeting the 2020 renewable targets	• High levels of participation in the process across technologies suggests strike prices were not too low. • All eight successful projects signed Investment Contracts and this providing evidence that the strike prices for offshore wind and biomass conversion and biomass CHP technologies were not too low. • DECC has stated that when the administrative strike prices were released in 2013 some offshore wind projects had walked away on the grounds that the strike prices had been insufficient to support their project. • Of the 26 projects that passed Phase 1, one biomass developer cancelled the project after the draft administrative strike prices were published on the basis that there was insufficient risk return.

9.138 The fact that all eight projects that were affordable signed Investment Contracts, this provides some evidence that the administrative strike prices for offshore wind, biomass conversion and biomass CHP were not too low. This is supported by the high levels of participation in the Phase 2 of the process (following announcement of the draft strike prices). One biomass conversion project withdrew after the announcement of the draft strike prices as a result of the 'poor risk return'. However, as the other biomass conversion projects did not withdraw at this stage, this may be a result of the specific project's risk profile. DECC has also stated that when the administrative strike prices were released in 2013 some offshore wind projects had walked away on the grounds that the strike prices had been insufficient to support their project. However, again this argument is countered as five other offshore projects signed Investment Contracts therefore accepting the price. In addition, strike prices were not designed to ensure all possible projects would come forward, but rather to encourage the cheapest ones, therefore the withdrawal of more expensive projects could indicate strike prices were set at an appropriate level.

9.139 For onshore wind, two projects withdrew. One project withdrew stating that timescales had changed and RO made more financial sense. The other withdrew as the project was delayed and therefore would no longer be eligible. As such, there is too little evidence at this stage to conclude whether the onshore wind administrative prices were too low.

Table 22 – Successful offshore wind projects for first allocation of CfD

Project Name	Capacity (MW)	Delivery year	Clearing Price (£/MWh)	Admin Strike Price (£/MWh)	Difference
East Anglia 1	714	2017-18	119.89	140	14%
Neart na Gaoithe	448	2018-19	114.39	140	18%

9.140 As shown in Table 22 the clearing prices for two offshore wind projects that were successful in the first allocation round of CfD were between 14-18% lower than projects with equivalent capacities and delivery year funded under FID Enabling for Renewables. This could be indicative that the administrative price for offshore wind may have been too high. Had the strike prices for offshore wind been 16% lower, we estimate that the cost of support for the eight Investment Contracts would have been £11bn over the lifetime (21% less) (2012 prices).

9.141 However, there are a number of other factors to take into consideration.

- Clearing prices will depend where on the supply curve a particular project sits. The FID Enabling for Renewables and first allocation CfD projects have different characteristics, for example Hornsea is 103km (almost twice as far from the coast as East Anglia 1, and nearly six times as far as Neart na Gaoithe. Therefore it is not clear whether the lower strike prices reflect the physical characteristics of the different projects.
- It could also be argued that these strike prices would not been achievable had FID Enabling for Renewables not provided sufficient momentum and industry confidence in the offshore wind market and supply chain prior to the allocation round.
- Sunk costs may not be included bid prices in the first allocation round and so may understate development costs – this could be a particular issue for early projects developed under the expectation of the RO.
- It has not yet been demonstrated that projects are viable at the clearing price – only once projects have been commissioned can it be certain that prices bid were viable.

At this stage there is insufficient data to draw any further conclusions on the appropriateness of the strike prices.

Wholesale electricity price and amount of electricity produced

9.142 As outlined in Table 23, we have considered a number of different scenarios which might affect the cost of support for the Investment Contracts.

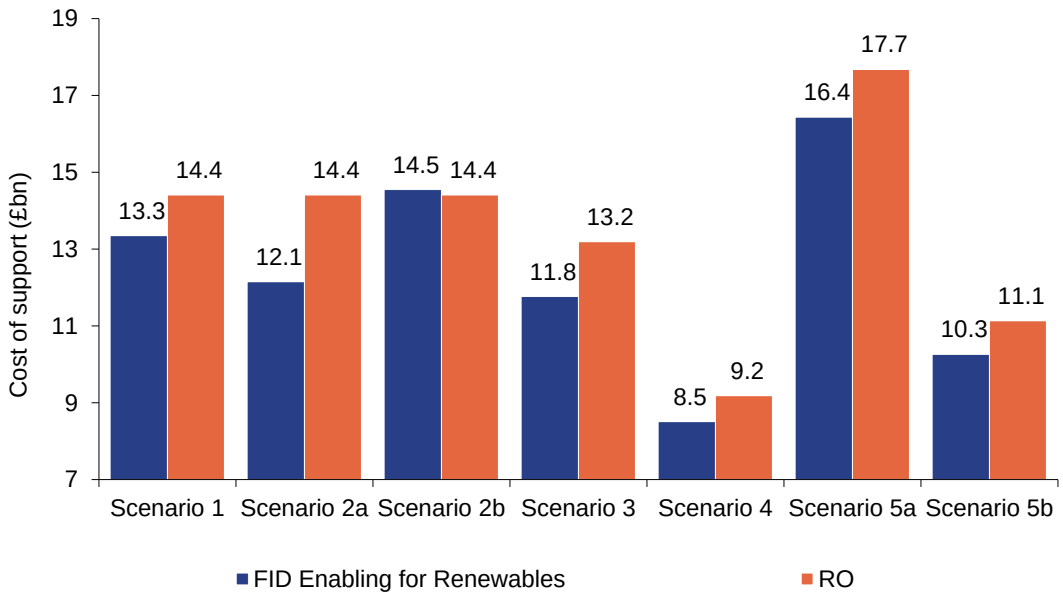
Table 23 – Scenarios considered to analyse the cost of support (£bn) in real 2012 prices for the eight Investment Contracts (discount rate of 3.5% used in all calculations)

Scenario	Assumption
1. Baseline case	All projects commission on time at their expected capacity and achieve their projected load factors
2a. Wholesale electricity prices (high)	Assume wholesale electricity prices are 13%[56] higher than DECC have projected in the Final Delivery Plan
2b. Wholesale electricity prices (low)	Assume wholesale electricity prices are 13% lower than DECC have projected in the Final Delivery Plan
3. Target Commissioning Date	Assume the Target Commissioning Date is delayed until the Long Stop Date
4. Final Installed Capacity	Projects commission at the minimum required capacity (64%)
5a. Load factors (high)	Assume load factors are 10% higher than DECC have projected in the Final Delivery Plan
5b. Load factors (low)	Assume load factors are 10% lower than DECC have projected in the Final Delivery Plan

9.143 The effect on the cost of support for the eight Investment Contracts under these different scenarios is shown in Figure 26. In each scenario considered, the cost of support for FID Enabling for Renewables is less than the cost of support under RO. In our baseline case, supporting these contracts under FID Enabling for Renewables as opposed to RO, provides a £1.1bn saving (7.4%).

[56] 13% is the average change in 2015-2020 p/kWh assumptions in UEP reports 2012-2014

Figure 26 – The cost of support for the eight Investment Contracts under FID Enabling for Renewables (15 years) and RO (20 years) for a range of scenarios.

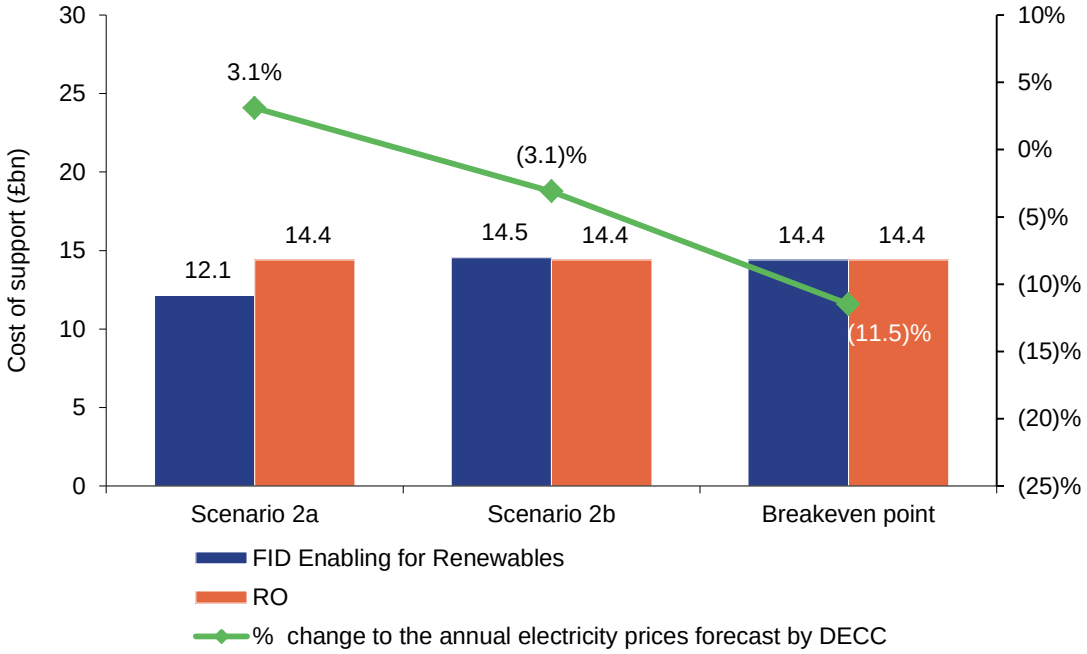


Assumptions

1. All analysis in real 2012 terms
2. Discount rate: 3.5% (Green Book)
3. Roc Value (£ real 2012): 44.78; based on the published ROC value for 2012/13 (£40.71) times 1.1
4. ROC bands for projects commissioning 2017/18 onwards, adjusted to nearest 0.1 of a ROC based on reduction in strike price from 2016/17 strike price.
5. Reference prices taken from the October 2014 allocation framework[37]. Flat price of £53.43 (Real 2012) from 2021 onwards as no better data available
6. Load factors taken from the October 2014 allocation framework)
7. Published strike prices used
8. First Year of commissioning adjusted to the proportion of the year (financial) that is expected to generate based on commissioning date

9.144 However we estimate, if the projected electricity wholesale prices decrease by more than 11.5% of DECC's October 2014 forecasts (the 'breakeven point'), then the cost of support under FID Enabling for Renewables will increase and it will become more cost efficient to support the contracts under RO as demonstrated in Figure 27.

Figure 27 – Cost of supporting the eight projects under FID Enabling for Renewables will be the same as under the RO regime if electricity prices drop by 11.5% of DECC's original forecasts



9.145 Although based on current projections the cost of support for the Investment Contracts under FID Enabling for Renewables is less than supporting the same projects under RO, this is dependent on the wholesale electricity prices. The change in wholesale electricity prices (and therefore the cost of support for the Investment Contacts) will need to be kept under review as this will determine how much residual budget there is available to support future CfD rounds.

Cost on consumer bills

9.146 The Supplier Obligation is made up of two elements. Firstly, the operational costs of the LCCC. For 2015/16 this cost is 0.004p/kWh[57]. The second element funds the actual CfD costs, calculated by the LCCC depending on the amount of low carbon electricity generated. We have reviewed 17 electricity company websites for evidence of any impact of EMR on consumer bills. From this research, information on the cost of CfDs and EMR was only available for four companies. In some cases the prices quoted related to residential customers, some related to business customers and therefore the results are not necessarily comparable. The results of this research are shown in Table 24.

[57] LCCC Supplier Obligation https://lowcarboncontracts.uk/system/files/CfD%20Supplier%20Obligation%20-%20Setting%20the%20first%20Interim%20Rate%20and%20Total%20Reserve%20Amount.pdf

Table 24 – Cost to bill payers - energy company website research (as at 15 April 2015)

Company	Website research[58]
EDF[59]	• Cost of CfDs estimated to be £2-3 a year for a residential customer from April 2015, rising to £15-30 a year by 2020.
E.ON[60]	• Cost of CfD payments estimated to be £0.00/MWh from April – June 2015 but rates may increase after. • Cost of CfD operational cost levy expected to be £0.04/MWh from 1 April 2015
Npower[61]	• CfDs are forecast to add £5-10/MWh by 2020.
Smartest Energy[62]	• Cost of CfD payments estimated to be £0.035/MWh from April – June 2015 but rates may increase after. • Cost of CfD operational cost levy expected to be £0.06/MWh for financial year 2015/16

9.147 At this early stage, when the first CfD projects are under construction there is only limited data on the cost of CfDs on consumers bills. This will need to continue to be monitored going forward.

Cost of capital

9.148 The EMR Delivery plan[7] supported by the analysis of NERA Economic Consulting[63] suggests that the cost of capital for projects with a CfD contract would be lower than the cost of capital for projects under the Renewable Obligation (RO). The reduction in cost of capital is driven by the assessment of four risks: the wholesale market, the allocation, the construction delay and the novelty premium risk. The assessment on the cost of capital by DECC fed into the analysis to determine the strike prices for the CfDs. In our EMR report we have provided an assessment of the changing risk profile shape of CfDs compared to RO and how this relates to the project lifecycle. A high level summary is provided in Figure 28 for reference. From a FID Enabling for Renewables point of view the allocation risk is less relevant as there was no auction as such and the majority of projects were balance sheet funded prior to securing an Investment Contract.

58 No information was available on the following websites: ScottishPower; SSE; British Gas; Cooperative Energy; Utilita; Ovo Energy; Good Energy; Ecotricity; Spark Energy; Utility Warehouse; iSupply; Flow Energy; and Green Energy.

59 EDF website cost of EMR http://www.edfenergy.com/for-home/electricity-market-reform

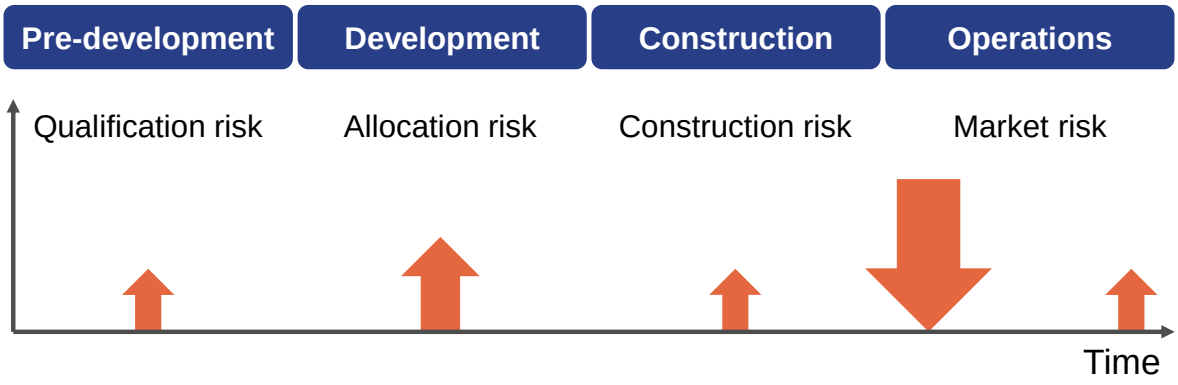
60 E.ON website cost of EMR https://www.eonenergy.com/for-your-business/large-energy-users/Understand-Energy/electricity-market-reform

61 Npower website cost of EMR http://www.npower.com/large-business/energy-news/electricity-market-reform/

62 Smartest Energy website cost of EMR http://www.smartestenergy.com/Business-Electricity/EMR-Customers.aspx

63 Changes in Hurdle Rates for Low Carbon Generation Technologies due to the Shift from the UK Renewables Obligation to a Contracts for Difference Regime, NERA Economic Consulting, December 2013

Figure 28 – Project life-cycle and risks under the CfD enduring regime compared to the extended RO



Note: direction of arrows graphically summarises how risk changes compared the extended RO, while size shows an indicative order of magnitude.

9.149 In this Section, we have reviewed the evidence available to indicate whether the expected financing/cost of capital benefits of Investment Contracts awarded under the FID Enabling for Renewables for low-carbon technologies relative to the RO are being realised.

9.150 In order to address this, we have developed an approach to assess the cost of capital for successful FID Enabling for Renewables against projects of a similar technology and size under a RO regime.

9.151 For the cost of capital for successful FID Enabling for Renewables, we have considered the following approach:

- Review of the Phase 2 applications for relevant information about the cost of capital and its variables (cost of debt, cost of equity and gearing) for:
  - Successful FID Enabling for Renewables projects (research reference 'Phase 2 application for successful projects');
  - Unsuccessful FID Enabling for Renewables projects with similar technologies and sizes as the successful ones, which could be considered as a comparable project called "comparable unsuccessful FID Enabling for Renewables" (research reference 'Phase 2 application for unsuccessful projects').
- Review of the publicly available information[64] regarding cost of capital information for the successful FID Enabling for Renewables and comparable unsuccessful FID Enabling for Renewables (research reference 'Public information on all Phase 2 FID Enabling for Renewables projects').
- Review of the publicly available information regarding cost of capital for projects which have been awarded a CfD contract which are similar to the successful FID Enabling for Renewables in terms of size and technology (research reference 'Comparable successful CfDs').
- Review of analyst reports since 2014 for listed renewable electricity generators such as Drax and SSE and utilities to collect evidence around cost of capital (research reference 'Analyst reports on generators').
- Review of analyst reports for evidence about cost of capital since 2014 mentioning specifically the successful FID Enabling for Renewables and the comparable unsuccessful FID Enabling for Renewables projects (research reference 'Analyst reports on all Phase 2 unsuccessful FID Enabling for Renewables projects').

64 Sources used: Clean Energy Pipeline and IJ Online

- Stakeholder research for FID Enabling for Renewables and CfD specific stakeholders as well as financiers and overarching stakeholders (research reference 'stakeholder research for FID Enabling for Renewables projects').

9.152 For the cost of capital for projects under the hypothetical future RO regime, we have designed the following approach:

- Review of comparable transactions (technology, sizes) over the last 12 months where information about cost of capital and its variables is publicly-available (research reference 'comparable transactions for RO projects').
- Stakeholder research for FID Enabling for Renewables and CfD specific stakeholders as well as financiers and overarching stakeholders (research reference 'stakeholder research for RO projects').

9.153 In addition, we have also engaged with stakeholders on their overall view of the change in cost of capital as a result to a switch to CfD and review analyst reports for renewable energy generators and utilities for evidence of this change in cost of capital.

9.154 Based on the approach developed above, we note the following limitations:

- For projects which have not reached financial close, cost of capital ranges or estimates publicly available or shared by stakeholders will be used as proxies.
- When looking at comparable projects, the assessment of the cost of capital or its variables is based on the primary financing and excludes refinancing considering FID Enabling for Renewables projects are about reaching primary financing.
- The hypothetical future RO regime is unknown. Therefore, precedent transactions have been considered as a proxy and the assessment of the information provided by stakeholders for the cost of capital under the RO regime would need to take this into account.
- Cost of capital information is commercially-sensitive information which tends not to be always publicly available. This means that we may rely in some instances only on information provided by stakeholders at their own discretion.

9.155 Table 25 presents the evidence found for each of the research references detailed above to gather the evidence about the cost of capital under the two scenarios, the successful FID Enabling for Renewables projects and projects under the hypothetical future RO regime.

Table 25 – Evidence about cost of capital changes under the scenario FID Enabling for Renewables and the RO scenario

Research reference	Evidence collected	Limitation
Scenario - Successful FID Enabling for Renewables projects		
1.6.1.a - Phase 2 application for successful projects	Where information about cost of capital or its variable were provided in Phase 2 applications, only gearing estimates were provided	Insufficient data to calculate the overall cost of capital
1.6.1.b - Phase 2 application for unsuccessful projects	Where information about cost of capital or its variable were provided in Phase 2 applications, only gearing estimates were provided	Insufficient data to calculate the overall cost of capital
1.6.2 - 'Public information on all Phase 2 FID Enabling for Renewables projects'	Where information about cost of capital or its variable were publicly available, only gearing estimates were provided	Insufficient data to calculate the overall cost of capital
1.6.3 - Comparable successful CfDs	Only two projects under CfD are comparable to the successful FID Enabling for Renewables projects (East Anglia Phase 1 and Neart na Gaoithe). However, no information about cost of capital was publicly available	No data publicly available about the cost of capital or its variables
1.6.4 -Analyst reports on generators	One analyst research[65] on Drax indicates a forecast of WACC of 8.0% for the coal and first biomass conversion unit (RO regime) and a 7.5% WACC for "the two biomass conversions under CfDs". This suggests a difference of 0.5% reflecting the greater revenue certainty	We note this analysis is from March 2014, which assumed that two Drax conversion units have been successful for an Investment Contract.
1.6.5 -Analyst reports on all Phase 2 unsuccessful FID Enabling for Renewables projects	No further evidence was collected in addition to the one presented in the research reference 'analyst reports on generators'	No other limitations than the one applicable to the evidence collected in the research reference 'analyst reports on generators'
1.6.6 - stakeholder research for FID Enabling for Renewables projects	Limited data available as few projects have reached financial close at this stage and most projects are balance sheet funded.	See Section about stakeholder analysis for more details

65 Source: Societe Generale Cross Asset Research, Drax, 6 March 2014

Research reference	Evidence collected	Limitation
Scenario - Hypothetical future RO regime		
1.7.1 - comparable transactions for RO projects	Identified 10 comparable transactions based on transactions up to end of December 2014 for offshore wind and biomass technology with an installed capacity over 100MW[66]. Only projects with a construction start after 2008 and operational before end of 2014 have been selected. The 10 comparable transactions are offshore wind farms Where information about cost of capital or its variable was available for these projects, only gearing estimates were provided.	Insufficient data to calculate the overall cost of capital
1.7.2 - stakeholder research for RO projects	Limited data available as few projects have reached financial close at this stage and most projects are balance sheet funded.	See Section about stakeholder analysis for more details

9.156 From Table 25 we can see that there is very limited data either from the application process or publically available to evidence the cost of capital for specific projects.

9.157 It might be expected that evidence from projects funded under FID Enabling for Renewables could provide an early indication of the expected cost of capital reduction from the CfD in general. However, although these projects were awarded contracts at an earlier date, this does not imply that these projects will reach financial close sooner. Only two FID Enabling for Renewables projects have reached financial close at the time of writing (see Section 9b).

9.158 In addition, cost of capital effects will be less transparent for projects that are balance sheet funded (rather than funded through project finance). Both of the projects that have reached financial close to date have been balance sheet funded. During our stakeholder research 3 financial institutions mentioned that they had had initial discussions with a project that was awarded an Investment Contract. One financier was in advanced discussions with an offshore wind projects for project finance. This financier noted the new regime "possibly helps a little to reduce the cost of finance" but attributed the reduction more to "macroeconomic situation" rather than policy effects.

9.159 At this early stage it is therefore necessary to examine the expected impact on the cost of capital for all CfD projects, not just the subset of projects funded under FID Enabling for Renewables. Our stakeholder analysis therefore highlights the messages from all stakeholders and is not sub-divided between FID Enabling for Renewables and the enduring regime. This report has a high level summary of the key messages, further detailed messages are included within our EMR report.

9.160 We have presented the analysis from our stakeholder research exercise in the Section below, but in order to gather more conclusive evidence, this exercise will need to take place at a later stage once more projects have started to reach financial close.

[66] Source: IJ online

Stakeholder analysis

9.161 During our stakeholder research we engaged with 10 equity investors, six banks and/or debt providers and two financial institutions. We also discussed the effect on cost of capital with a number of developers.

9.162 There are a wide range of factors that affect the cost of capital. While the financial community response in a general sense towards the elimination of commodity price risk was positive, there was scepticism as to whether this can be separated out from all the other factors affect the cost of capital. It is important to record that from our stakeholder research with the financial community we noted virtually universal acceptance of this design principle of the CfD, which in our view conveys a strong positive qualitative message, notwithstanding the difficulties in undertaking objective data based analysis in this regard. To date there have been an insufficient number of deals, so even if we could separate out affect there is not enough information for a quantitative analysis at this stage.

9.163 Based on our discussion with stakeholders, the general expectation is that the CfD regime should facilitate a lower cost of capital than under the RO, but its magnitude and timing are uncertain at this stage. A higher level of revenue certainty is expected to improve financial covenant terms (including debt service cover ratio), which should enable higher gearing in project financing packages and lower overall financing costs. There are, however, some offsetting factors that would affect commercial lenders and the cost of debt:

- Stricter delivery obligation and termination risk under the CfD regime that did not exist under the RO are currently perceived as higher risks than the re-banding uncertainty prior to accreditation under the RO.
- Lower strike prices awarded in the First CfD Round are potentially squeezing returns – this is to some extent less relevant to FID Enabling for Renewables projects. This could reduce the debt repayment capability of projects. As a result, potential for increase in project gearing may be limited. This would be anyway capped by levels achievable under PFI structures, which offer a better protection to investors.
- Yield risk, or volume risk, assumes a greater relevance than under the RO, in particular for wind assets. The relationship between low wind and high price periods used to offer a buffer for maintaining DSCR, which is now not available with the 'fixed-revenue' payments under the CfD.

9.164 It is also worth mentioning that not all industry players rely on project finance to fund their assets, so lower cost of debt may not necessarily influence the overall cost of financing of these projects. From engagement with the stakeholder community, we understand that familiarity with the provisions of the CfD varies considerably across different financing organisations. The key message that emerges is that unfamiliarity will not necessarily manifest in a quantifiable premium – this is what in the 2013 NERA report was referred to as the 'novelty premium'. It may have implications on a number of other aspects of the financing process, such as:

- Ability to actually securing debt for some technologies or projects;
- Availability of lending institutions, which are favourable to provide FOAK/early CfD projects. This will also depends on relationship developers may have established over the years, the strategic position of an individual bank in the market, the level of involvement in the CfD process the organisation may have had so far;
- Sophistication of the due diligence process;
- Requirements of the credit committees; and
- Time required to close negotiations of a debt package.

9.165 Once familiarity is achieved, it is likely that a more standardised approach to debt financing will emerge, which will facilitate competition thus downward pressure on cost of debt and the ability of obtaining debt.

9.166 Overall, we believe that the CfD regime should deliver lower cost of capital. However, it is the credit-cycle, the capital market liquidity and the availability of commercial debt that will play a bigger role in driving financing costs. The expected order of magnitude from the change in regime – everything else equivalent – is likely to be marginal when compared to macro-economic factors. Of the financiers who responded to the online questionnaire, six expect that the overall cost of capital under the CfD regime (enduring and FID Enabling for Renewables) will be lower/significantly lower compared to the cost of capital under RO (with two stakeholders expecting it to be at least 1 percentage point less and four suggesting it will be 0 and 1 percentage pointless). However, one bank felt that it would have no impact on cost of capital.

Messages

9.167 From our analysis we have noted the following key messages:

- We estimate that the cost of supporting these eight Investment Contracts to be £13.3bn[67] (2012 prices) over the course of their contacts, assuming all projects commission at their stated capacity on their Target Commissioning Date and achieve the projected load factors
- Supporting these contracts under FID Enabling for Renewables as opposed to RO, provides a £1.1bn saving (7.4%)
- The cost of support under FID Enabling for Renewables will vary depending on the wholesale electricity price (which drives the relevant market reference price) and the amount of electricity produced by each project (which in turn will depend on the commissioning date, final installed capacity and load factors achieved)
- DECC's forecasted wholesale electricity prices have dropped by 13% between the 2012 and 2014 UEP. We estimate that if the projected electricity wholesale prices decrease by more than 11.5% of DECC's October 2014 forecasts (the 'breakeven point'), then the cost of support under FID Enabling for Renewables will increase and it will become more cost efficient to support the contracts under RO.
- As there is no price competition under FID Enabling for Renewables the administrative strike prices are a key factor in determining the cost of support. The clearing prices for two offshore wind projects that were successful in the first allocation round of CfD were between 14-18% lower than projects with equivalent capacities and delivery year funded under FID Enabling for Renewables. While this could indicate that the administrative strike prices were too high, there are number of reasons why this might not be the case and there is insufficient data to draw this conclusion at this stage. For example, the two offshore projects funded in the first allocation round were significantly closer to shore than the Hornsea project funded under FID Enabling for Renewables. It also remains to be seen whether the projects can be delivered at these strike prices. There is very little data available in the public domain or from Phase 2 applications to evidence the expected reduction in cost of capital for projects funded through a CfD contract (compared to an RO counterfactual)
- Based on our discussion with stakeholders, the general expectation is that the CfD regime should facilitate a lower cost of capital than under the RO, but its magnitude and timing are uncertain at this stage. However, in their view, the credit-cycle, the capital market liquidity and the availability of commercial debt are likely to play a bigger role in driving financing costs.

[67] Assumptions behind this calculation are shown in Figure 26 in Section 9h

Recommendations

9.168 Given the inconclusive evidence and the early stage of the project, further on going analysis will be required to conclude on whether expected cost of capital and cost of support benefits have been realised.

10 Evaluation of the project management

10a Introduction

10.1 In this Section we evaluate how successful the project management of the FID Enabling for Renewables process was in relation to:

- Pre-transfer to LCCC, covering:
  - whether roles and responsibilities for delivery and management were appropriate
  - whether resources were appropriate and sufficient
  - whether systems used and document control processes were appropriate
  - whether set up costs have been in line with expectations
- Transfer to LCCC, covering:
  - whether the transition of management of Investment Contracts from DECC to LCCC was well managed

10.2 We will also review the Lessons Learned report (October 2014) and give consideration to stakeholder views of the governance structure and process management.

10.3 Prior to the formal launch of the market-facing process with Update 1: Invitation to Participate, in March 2013, there were no formal project management arrangements in place for the FID Enabling for Renewables project. This stage of the process was run within the established protocols and processes for such arrangements, with appropriate internal decision-making based on the development of a business case for the project. We do not propose to provide a detailed assessment of the governance structure for this stage of the project design.

10.4 The FBC (finalised in February 2014) notes that the FID Enabling for Renewables project forms part of the wider FID Enabling Project, which also covers CCS and nuclear (Hinkley Point C negotiation). Governance for these projects is managed separately by the Office of CCS and DECC Commercial Team. Our scope of work excludes CCS and nuclear and therefore we do not propose to commend on the governance in respect of these technologies.

10.5 The FID Enabling for Renewables project is now closed and the MPA completed its Exit Review in October 2014, giving the project a green rating.

Table 26 – Key project review and approval milestones

Date	Milestone
18- 20 July 2013	MPA review
16 July 2013	MPRG letter
3 December 2013	Investment Committee (Full Business Case approval)
21-24 January 2014	MPA PAR (FBC stage) – Amber rating
26 February 2014	MPRG
28-30 October 2014	MPA Exit Review – Green rating

10b Governance

10.6 A Project Board was established for the FID Enabling for Renewables project to provide oversight for the FID Enabling for Renewables team, which provided information to the CfD and Investment Contract Implementation Board and had a direct reporting line into the EMR Executive Board.

10.7 The FBC describes, below ministerial approval level, eight different reviews / meetings / committees / boards relevant to the governance purposes of the project. This may seem to be a significant number, but is driven by the multiple interfaces between the FID Enabling for Renewables project and the wider EMR programme and as such seems to be an inevitable consequence of what the FID Enabling for Renewables project was seeking to achieve with close alignment to the enduring regime. With such a complex governance structure, it was important to ensure that the level of authority and authorisation processes were clearly defined. From the Lessons Learned report (see Section 10h), we see that there was sometimes a lack of clarity around the level of authority of each board.

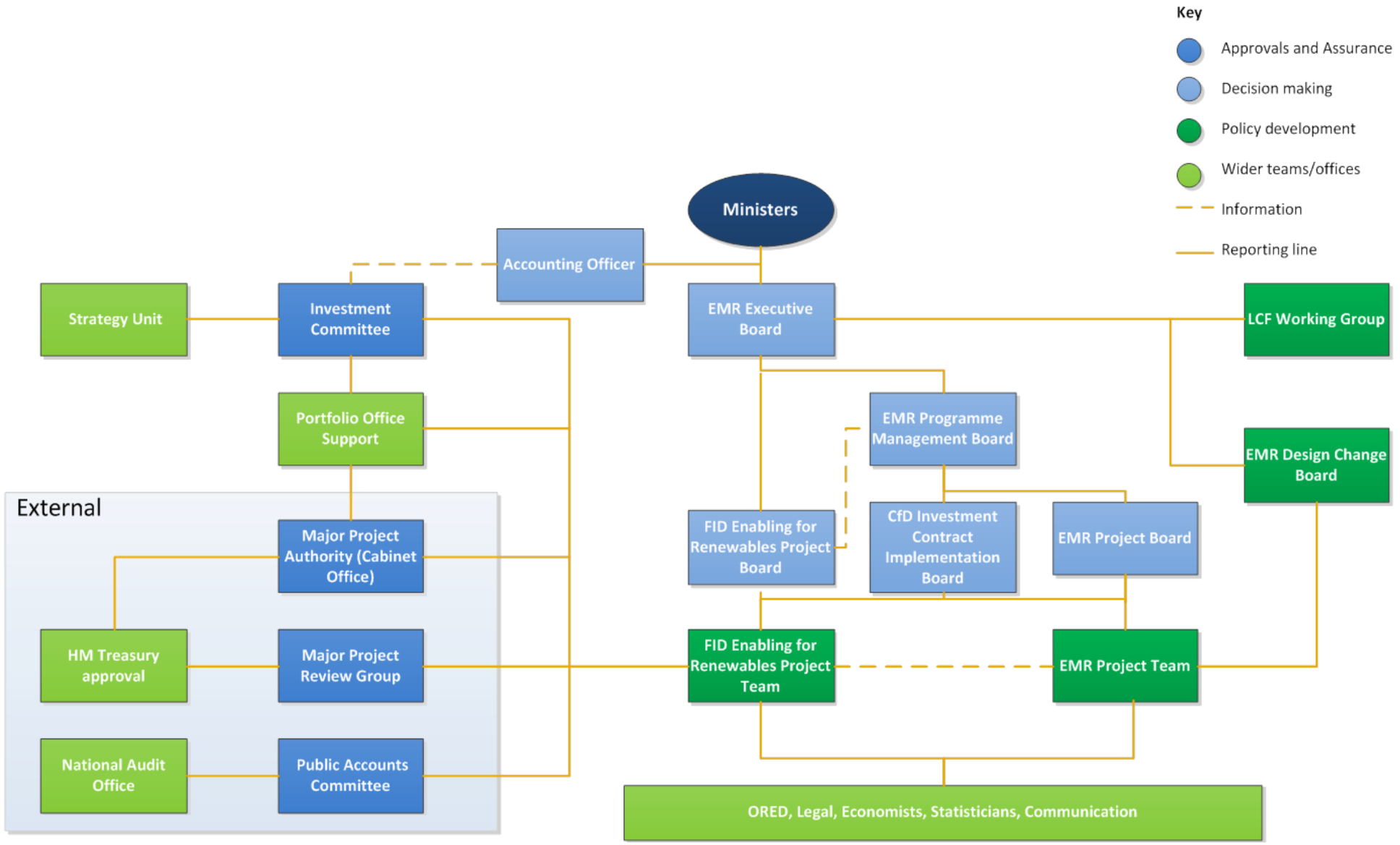
10.8 A table of key roles in the governance structure is included in Table 27 overleaf.

Table 27 – Summary of governance roles for FID Enabling for Renewables

Entity / Roles and Responsibilities FID Enabling for Renewables	Performance Management	Governing Body	Governing Documents
DECC Investment Committee • Approval body for the FID Enabling for Renewables project on behalf of the Accounting Officer. • Approves business cases at key policy decision points of the project. **Portfolio Office** • Develops and maintains the corporate Integrated Assurance and Approval Strategy(IAAS) & Integrated Assurance and Approval Plan (IAAP) guidance. • Monitors indications of significant new major projects and advises MPA about requirement/s for mandatory Starting Gate for these emerging initiatives. • Validation of IAAPs in line with corporate IAAS. **EMR Executive Board** • Formulate key policy recommendations within the EMR programme and in particular between the key strands: Contracts for Difference, Capacity mechanism, Institutional design, FID Enabling and EDR. • Resolve issues on EMR that have been escalated from PMB, EDA or by specific EMR project boards. • Manage Levy Control Framework (LCF) strategy and formulate policy recommendations	The Portfolio Office Liaises with Investment Committee to ensure their assurance and approvals requirements are considered and appropriate.	Parliament House of Commons' Energy and Climate Change Committee	• Terms of Reference • Spend is regulated by the Levy Control Framework • State aid rules (the Treaty for the Functioning of the European Union (TFEU) and the European Commission's Energy and Environmental Aid Guidelines (EEAG)).
FID Enabling for Renewables Project Board • Assurance on project delivery to the SRO and escalation of risks and issues to the EMR Executive Board.	Part of DECC		
Commercial Project Management Office function • Develops initial IAAP through consultation with stakeholders and independent and internal assurance providers. • Manages Risk and Issues Register. • Monitors and reviews execution of IAAP and updates as appropriate.	Part of DECC		
CfD / Investment Contract Implementation Board • To ensure consistency of development and coherent delivery across the enduring CfD regime, and the FID Enabling for Renewables and nuclear Investment Contracts	Part of DECC		

Entity / Roles and Responsibilities FID Enabling for Renewables	Performance Management	Governing Body	Governing Documents
LCF Working Group • To perform LCF cap setting risk assessment and task coordination	Part of DECC		
KPMG (External advisers) • To provide assurance on the development of the evaluation criteria for FID Enabling for Renewables.	Reporting to DECC	Professional Institute	Engagement Letter
Slaughter and May (External advisers) • To provide assurance on the evaluation criteria as well as the CfD and investment contract terms from a legal perspective.	Reporting to DECC	Professional Institute	Engagement Letter

Figure 29– FID Enabling for Renewables governance structure showing interaction with EMR governance



10c Roles and responsibilities

10.9 FID Enabling for Renewables had a separate Senior Responsible Officer ('SRO') from EMR and the two worked alongside one another. This distinction was there to allow for clear separation between the project governance and clear reporting lines. In discussions with the team it was noted that this structure also allowed the FID Enabling for Renewables team to ensure that the project was delivered in a timely manner and could achieve its objectives.

10.10 However, having a separate SRO for EMR and FID Enabling for Renewables could be seen to bring about opportunities for divergence in direction or misalignment. For the two SRO structure to be effective and strike the right balance between the EMR programme and the FID Enabling for Renewables project, the two SROs needed to work closely together with a clear alignment of overarching goals. Otherwise, there was a risk that the objectives of the FID Enabling project - which was more focused on short term delivery rather than the medium to long term outcomes of the enduring regime – could take precedence over the objectives of the enduring regime.

There were also a number interdependencies of the FID Enabling for Renewables project and the wider EMR programme and in some instances the FID Enabling for Renewables project was in effect trying to use EMR 'tools' (eg contract terms and administrative strike prices) before they had been developed. For example, governance challenges were noted when delays in developing the generic CfD contract impacted on the FID Enabling for Renewables timeline, which led to the set-up of the joint CfD Implementation Board. In addition, a LCF working group was set up during the process, to discuss the impact of the existing LCF commitments on the budget available for the enduring regime.

10.11 From our discussions with the team we understand that there were other examples of instances where the twin-SRO structure resulted in a reduction in coordination between the two teams. For example, there were occasions where issues were identified through industry engagement under the FID Enabling for Renewables project and although the EMR team were informed of these issues, unless they had also arisen in the EMR Working Groups, they were considered as issues for the FID Enabling for Renewables team to resolve.

10.12 There were advantages and disadvantages to having separate SROs. However, on balance the structure adopted allowed the FID Enabling for Renewables project to be delivered against a challenging timetable. If a similar exercise is run in the future, we would recommend that any dependencies of inter-related projects/programmes should be clearly identified from the outset to ensure overall programme objectives are met.

10d Resources and project management

Pre-March 2013

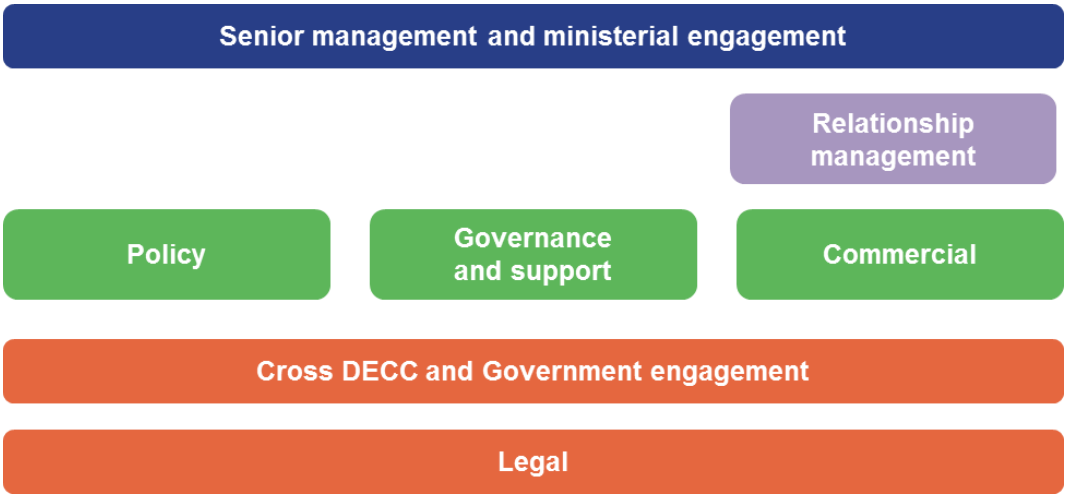
10.13 Prior to March 2013, there were no formal project management arrangements in place for the FID Enabling for Renewables project and the project management support was provided by the EMR team. An external contractor with procurement experience was appointed as the Project Lead in December 2012. The Project Lead was supported by some borrowed time to help develop the business case, including two members of the Commercial team and two members of ORED. Resource planning was not undertaken until March 2013 when a full time permanent civil servant was added to the team.

Post March 2013

Overview

10.14 The FID Enabling for Renewables project was structured into three key workstreams; policy, governance and commercial as set out in Figure 30. These worksteams were supported by senior management oversight and underpinned by legal advice and cross government engagement.

Figure 30– FID Enabling for Renewables workstreams



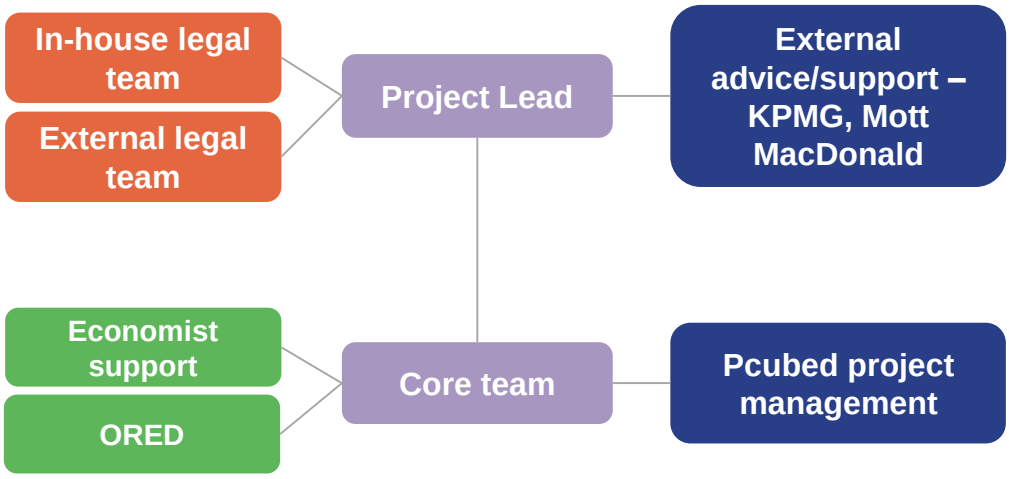
10.15 The policy workstream was responsible for managing and developing policies relating to FID Enabling for Renewables within DECC. The governance workstream ensured that a governance framework was put in place to support delivery, including planning resources and coordinating communication and reporting for the project. The commercial workstream was responsible for designing the qualification and evaluation processes as well as developing specific contract content. Each workstream had a number of work packages which were monitored throughout the project, for example 'State aid' and 'LCF budget', were work packages under the policy workstream.

10.16 Project management of the workstreams was made more complicated by the number of interdependencies affecting the project timeline. We have already noted a number of inter-dependencies with the CfD enduring regime, such as the development of the generic CfD contract terms, the development of draft and final strike prices and the set-up of the LCCC to manage payment mechanisms. Other key dependencies which represented significant delivery risks throughout the project included the Energy Bill receiving Royal Assent, ORED's policy in terms of RO grace periods and obtaining State aid approval (which is still outstanding for biomass conversions). Given the number of risks that could have significantly impact the delivery of the project, it is perhaps surprising that the overall process was only delayed by 6 months (compared to the original timeline set out in Update 1).

Team structure

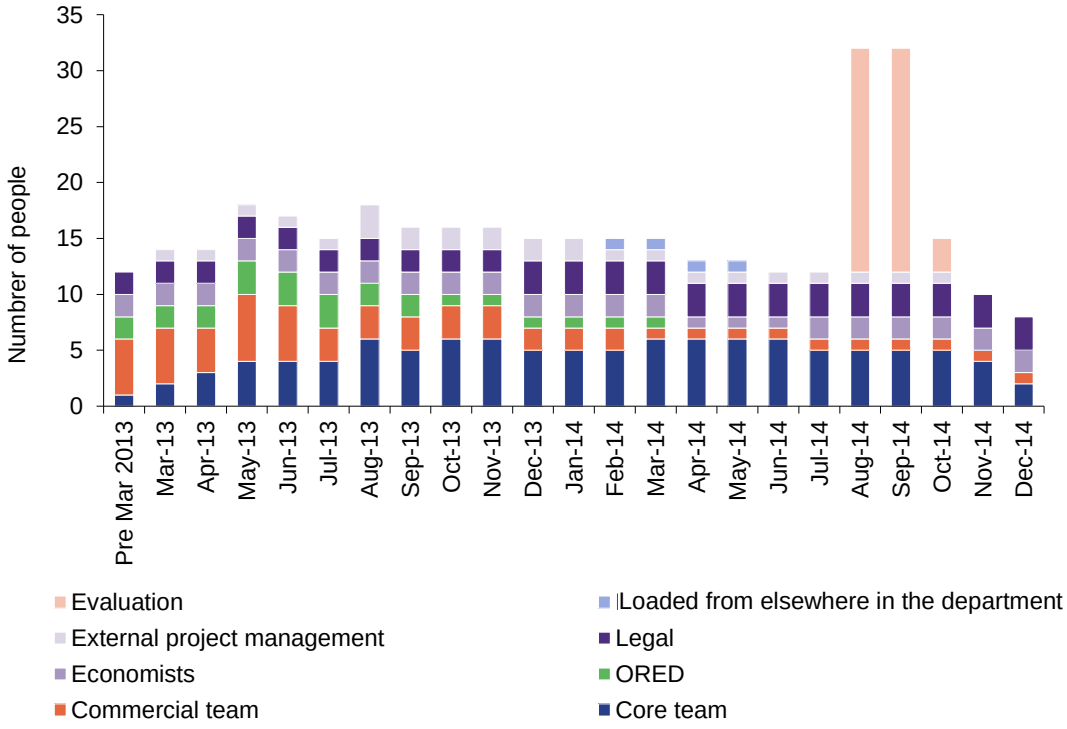
10.17 The FID Enabling for Renewables team was made up of permanent civil servants, loans from other teams across DECC and external contractors. The team structure is shown in Figure 31.

Figure 31– FID Enabling for Renewables team structure



10.18 Nine people worked in the core team over the duration of the project until end of October 2013, with more than 50 others being involved at various stages, representing a high turnover and reflecting the demand of the Phase 2 evaluation. Figure 32 shows the changing team make up over the project. Although this allowed varied input, such a fluid structure does cause continuity and knowledge transfer concerns. It appears that the planning of resource was not performed at the outset and was flexed in line with immediate resource requirements, often being filled through core team overtime. A log was kept tracking the individual project responsibilities of each team member and team meetings were organised to keep staff informed of key milestones and upcoming issues.

Figure 32– FID Enabling for Renewables team approximate composition over the project



10.19 Looking at the team structure in the FBC, we see a relatively compact team structure with staff mostly committed 100% to the project and supported by external advisers. This seems to us to be an appropriate delivery structure. However, from reviewing the various team structure documents over the course of the project, we can see that the team was continually changing and it is clear that a large number of team members were not committed full time to the project. Within the core team there was only team member who was a permanent Commercial team resource. This seems low for a project dealing with £3.6bn[68] of support for projects. All other things being equal, staff who are committed full time are preferable in terms of project support (because it is can be more difficult for individuals to manage multiple responsibilities).

10.20 From our discussions with the team we understand that resourcing was a constant issue throughout the project. As with a lot of short term projects, ensuring the project was resourced with a team of the right calibre and size throughout the delivery was a significant project risk, particularly in light of the tight timetable and the numerous project timeline dependencies. We understand that resolving resourcing shortfalls in itself took a large amount of time and effort from senior members of the Core team.

10.21 The Core team was resourced through a mix of full time staff, fixed term staff, Faststream graduates, the Strategy and Programme Office ('SPO') project pool, redeployment pool and short term loans from other teams. The heavy reliance on the redeployment pool and the SPO project pool in particular caused resourcing challenges. The 'pools' represent short term available resource within DECC

[68] Based on DECC's October 2014 forecast that the eight FID Enabling for Renewables projects will cost £3.6bn between now and 2020/21. See Section 9g.

usually due to a project coming to an end. Therefore, the available resources are not known in advance and by the time the resource had been bid for and the outcome was known there was very little time to ensure appropriate knowledge transfer. Feedback from the team suggests that these arrangements were not responsive to the needs of the team regarding both time and allocation of the right skill sets. In addition, the SPO project pool is designated resource for the MI Directorate. When the FID Enabling for Renewables project moved to being run from Corporate Services DG, this resource pool special arrangements had to be put in place to enable access to this resource to continue. This lack of flexibility across DGs further added to the resourcing challenges.

10.22 External recruitment was also found to be challenging in the context of resourcing a short term project. The team found that recruitment processes were lengthy and it often took time to ensure new joiners were up to speed with Government procedures and governance.

10.23 The Phase 2 assessment process had the highest demand on resources, which had not been factored into resource planning early enough. Had this resource planning been performed earlier in the project, accessing further external support to supplement internal resourcing could have been an option within the project timetable.

10.24 The Core team was supported by part time input from 7 staff members from the Commercial team, 2 staff from the Office for Renewable Energy Deployment, 3 economists, 5 lawyers and the evaluation team (see below). The cross department collaboration on this project helped to ensure a mixture of skillsets were maintained and from discussions with the team this was considered a strength of the project. However, this borrowed resource was likely to have a knock on impact to the other departmental teams, particularly where arrangements were informal. The team noted this to be particularly true of the economist support which was often overstretched.

10.25 We also note that an 80% FTE was provided by a consultancy firm on an interim contract basis, this included four different Project Managers and one Evaluation Manager. We understand from our discussions with the team that the quality of this resource was considered to be variable. While continuity can be a challenge for any project, it would have been preferable to have one Project Manager for the project duration.

10.26 We recognise that the design and implementation of FID Enabling for Renewables took place in a short space of time, which created challenges and makes the requirement for adequate staffing paramount. In addition, the number of applications for Phase 1 was higher than originally envisaged, creating additional resourcing challenges. We would recommend that proper resource planning should be undertaken in advance at the outset to ensure a smooth and adequately resourced project.

Evaluation of applications

10.27 The evaluation approach was clearly set out in a strategy document outlining the aim of the evaluation, the scoring mechanism, response templates and evaluation guidance. This document also set out the resourcing schedule, process maps and a detailed project timeline.

10.28 Evaluation and moderation of the project submissions were undertaken by permanent civil servants, loans from other teams (staff from ORED and BIS) and external contractors (KPMG and Mott MacDonald). Elements of the applications

requiring a qualitative assessment (and therefore exposed to higher risk of subjective scoring) were scored twice by two different assessors and then moderated. Further details of the moderation process undertaken are outlined in Section 7c.

10.29 The assessors worked in specialist teams (Technical, Commercial or Industry) within technology areas (biomass CHP, biomass conversion, offshore wind and onshore wind), to ensure that the assessors had the relevant skillsets. During our stakeholder research a number of applicants (both successful and unsuccessful) questioned whether DECC had the appropriate industry experience and skill to carry out the evaluations (see below).

10e Systems used

10.30 Tools such as risk registers, issues logs and project plans were used to keep track of progress, which we would consider to be appropriate project management systems. However, given the evolving nature of the FID Enabling for Renewables project and the number of different people involved at various stages of the project, we would recommend that the project evolution and the key decisions along with their rationale should be summarised into a single narrative to ensure corporate memory is retained.

10.31 All assessment comments for Phase 2 were recorded in the AWARD evaluation system. This system provided a common platform to ensure that all assessors comments were captured. It also provided a mechanism for assessors to highlight queries or areas of ambiguity. These could then be tracked and acted upon by the DECC team. We would consider the use of this software to be in line with best practice and helpful in ensuring an audit trail is retained and as a result, the Phase 2 assessments were much easier to follow. As this software was already used within DECC, this did not represent an additional cost to the project and are therefore we have not considered the cost of this software in our assessment.

10.32 We understand that Matrix (the Department's electronic filing system) was terminated in April 2014 for the transfer to a new IT system. This invalidated the use of shared drives, which required process amendments during the evaluation. The change of system has caused issues with document retrieval (particularly given the high turnover of staff during the project). During our evaluation we have encountered examples where the 'final' version of a document or a specific application could not be located. We would therefore recommend DECC review the controls in place to ensure key documents are readily available to the relevant team members.

10f Set up costs

10.33 The May 2013 OBC outlined the budget for the 2013-14 financial year for the costs of running the FID Enabling for Renewables project. The budgeted costs fell into two key categories. The 'external advisory' associated with legal, financial and technical advice and the 'administrative costs' including internal staff time and costs. Similarly, the budget for the 2014-15 financial year was outlined in the FBC (finalised in February 2014). These forecasts have been provided in Table 28, along with a comparison to the actual costs incurred.

Table 28 – Detailed breakdown of FID Enabling for Renewables running costs against forecast

	2013-14		2014-15		TOTAL	
£'m	**Budget**	**Actual**	**Budget**	**Actual**[69]	**Budget**	**Actual**
EXTERNAL ADVISORY						
Total external advisory (including legal advice, financial/technical consultants and cost of this evaluation)	£1.5m	£1.0m	£0.3m	£0.7m	£1.8m	£1.7m
ADMINISTRATIVE COSTS						
Internal staff costs[70]	£0.3m	£0. 4m	£0. 3m	£0.3	£0.6m	£0.7m
TOTAL COSTS	£1.8m	£1.4m	£0.6m	£1.0	£2.4m	£2. 4 m
In addition to the total costs outlined above, the team had access to a pool of people in the shared Commercial PMO resource. These costs have not been quantified.						

Analysis of costs against forecasts

10.34 Overall the financial and technical consultant costs were c.£0.9mn below the forecast cost. This was primarily owing to the fact that as a result of the time constraints in evaluating the Phase 2 assessments, the evaluation team was predominantly resourced internally and only supplemented by external consultants, as there was limited time for a procurement process. The technical advisory budgeted costs, outlined in the May 2013 OBC, were based on the assumption that four external experts would be required to assist with the evaluation assessment.

10.35 The increase of £0.08m in legal advisory costs against original forecasts is attributed to increased legal costs relating to State aid approval advice. As explained in Section 8f of this report, the State aid requirements evolved during the course of the FID Enabling for Renewables project, meaning that more work was required to satisfy State aid approval requirements than originally envisaged, particularly for biomass projects.

10.36 The administrative cost of running the scheme was primarily consists of staff costs from the Commercial and ORED team in running the process. These costs were £70k more than the original forecast. This increase is mainly attributable to the increase in internal staff resource as a result of reduced external resource for the evaluation of applications, in addition to the extended project timeline. We note the internal costs associated with staff from the Commercial PMO resource have not been quantified as they were outside the FID Enabling for Renewables team.

69 Best available information as of 11 May 2015

70 FID Enabling for Renewables staff plus ORED/Other DECC/BIS staff work on assessing the applications

Benchmarking

10.37 While the total costs of the FID Enabling for Renewables project are in line with the original budgets, they could be considered low when compared to projects of a similar scale run by other government departments. We recognise that no two projects are alike and therefore this benchmarking exercise is for illustrative purposes only and we would recommend a wider benchmarking exercise to compare costs of procurement.

10.38 The following data shows indicative costs for a government procurement process run over two years. To avoid disclosing commercially sensitive information, summarised information is provided and specific details have been removed. A summary of this information is provided in Table 29.

Table 29 – Summary of FID Enabling for Renewables running costs against benchmark data

	FID Enabling for Renewables	Benchmark data
Internal project running costs	£2.4m	£10m
Estimate of contract value secured by project	>£3.6bn	£2.5bn
Running costs as a % of benefits	<0.07%	0.40%

10.39 The project costs for our comparative case are estimated to be up to £10m (although these will vary depending on the size of the contract awarded). These costs would typically comprise £1.5m for each of technical, legal and financial advisers with the balance reflecting the internal costs. Contract values secured from this process can be measured in terms of subsidy from government to applicants and typically range from £1bn-£2.5bn.

10.40 The FID Enabling for Renewables affordability envelope up until 2021 (within the LCF period) forecasts FID Enabling for Renewables projects receiving a total of £3.6bn[71] under the LCF envelope (up until 2021). The actual value of receipts will vary depending on the movement of wholesale prices. In addition, the projects will continue to receive support beyond this period, (until 2027 for biomass conversions and 15 year each for other projects) however, revised projections of this support have not yet been published. Whilst there are a large number of variables that could affect the final value of support received by the FID Enabling for Renewables projects, it is likely that the total value will be significantly higher than £2.5bn. The NAO report published in June 2014, estimated that the eight projects would be £16.6bn assuming all projects commissioned on time and at their full capacity (2013-14 prices undiscounted). We have estimated the cost of support to be £13.3bn (See Section 9h).

10.41 In light of the fact the value of the Investment Contracts significantly exceeds the contract values in our comparative case, it is perhaps surprising that the internal costs of running the project are significantly lower. The total costs associated with FID Enabling for Renewables project were £2.4m, compared to the comparative figure of £10m. Minimising the internal running costs is obviously important to protect the taxpayer from excessive costs, however, this needs to be balanced with

[71] Based on DECC's October 2014 forecast that the eight FID Enabling for Renewables projects will cost £3.6bn between now and 2020/21. See Section 9g.

the need to ensure sufficient resource is spent in appropriately allocating the Investment Contracts and thereby minimising the cost to the taxpayer in the longer term. For example, as mentioned previously in the case of the FID Enabling for Renewables project, an increased budget could have been used to independently corroborate the existence and evaluate the nature of an investment hiatus at the time the FID Enabling for Renewables policy was being developed (as mentioned in Section 6d). Likewise further external consultancy services/internal resources could have been used to scrutinise the claims made by applicants in their applications and thereby providing further assurance over the eligibility of projects (as referred to in Section 8d).

10g Transfer to LCCC

10.42 The LCCC has been established to act as the counterparty for CfD and for Investment Contracts which, from the point of their transfer to the LCCC, are treated in the same way as other CfDs. At this point, therefore, the governance arrangements for FID Enabling for Renewables are effectively the same as those of the CfD.

10.43 Up to the point that the Investment Contracts were transferred to the LCCC, responsibility for benefits management was taken forward by the FID Enabling for Renewables team. Resource was allocated to do this. At the point of transfer of the contracts, we understand that responsibility for evaluation and delivery of benefits fell to the Commercial Directorate in the interim and by April 2015 this responsibility will transfer to the PMO team for EMR.

10.44 At the time of writing, the biomass CHP project and the five offshore wind Investment Contracts have been transferred to the LCCC, the remaining two biomass conversion projects are still being managed the DECC team until State aid approval is obtained.

10.45 From our discussions with LCCC, we understand the handover process of Investment Contracts went smoothly and they had no concerns with this process. The external contractor appointed as the Head of the Set Up team (within DECC) had a legal background and was involved in drafting and finalising the contracts, as well as attending the relevant industry workshops. The Head of Set Up team also worked within LCCC between August - December 2014 allowing continuity of knowledge. In our view this appears to be an appropriate approach for future contract negotiations.

10.46 The LCCC is at an early stage of its development, but good governance has clearly been central to its design principles from the outset. Without quoting exhaustively from the LCCC Framework Document (dated 1 August 2014), it is clear that careful consideration has been given to the central role LCCC will play in ensuring effective implementation going forward.

10.47 In addition to its central purpose of acting as counterparty for CfDs and Investment Contracts (and associated activities), LCCC also has the function of providing advice and information about certain aspects of the workings of EMR, including acting as Implementation Coordinator, which involves acting as coordinator for the systems and processes of the different organisations responsible for CfD implementation and working closely with industry participants to enable successful implementation of CfDs. LCCC has a Guiding Principle that, in carrying out its activities, it "…shall seek to maintain investor confidence in the CfD regime and minimise costs to consumers".

10.48 LCCC's governance framework is driven by compliance with the UK's Corporate Governance Code and with the spirit and principles of the Corporate Governance in Central Government Departments Code of Good Practice.

10.49 DECC intends that LCCC has day to day operational independence from Government, whilst reserving a number of decisions around matters such as:

- material amendments to a CfD or Investment Contract;
- matters that fall outside the framework intent or principles by which LCCC was set up, or which entail additional financial liabilities for DECC;
- various operational matters that relate to funding for LCCC or changes to LCCC's name, location and type of business.

10.50 LCCC's Board is to consist of no less than two and no more than twelve members, including a senior independent non-executive director and other non-executives, which, together, must constitute at least half of the board. This ensures that the structure complies with the corporate governance code's requirement that half the Board should be independent. The Cabinet Office requirements ensure that DECC can only appoint a minority of the Board, including the Chair and the Senior Independent Director and up to two suitably qualified representatives. Five industry experts were added as non-executive directors to the Board in mid-November 2014.

10.51 This is a significant number of board members and it will be interesting to see how LCCC manages to get the best out of the expertise around the board table as well as ensuring decisions are taken in a timely and effective manner.

10.52 The following committees have also been constituted:

- Audit & Risk
- Remuneration
- Nominations

10.53 The information flows between LCCC and the Shareholder (the Secretary of State) will include the following:

- monthly financial report
- quarterly shareholder meetings
- any information likely to have a material adverse effect on the LCCC's purpose or its ability to meet its financial obligations
- monthly cash forecasts
- reports of annual CfD expenditure
- projected CfD expenditure
- a three year business plan
- an annual operational budget

10.54 The DECC Shareholder team, represents the Shareholder (the Secretary of State) on the matters listed above, eg receiving monthly financial information and setting the operational budget. The Shareholder team's purpose is to: "represent the Secretary of State’s interest in the publicly funded EMR companies (as sole shareholder) ensuring that:

- the companies are performing in line with their obligations in legislation and their governance documents, the corporate governance of the companies is effective and conforms to best practice;
- financial risks to DECC arising from their operations are proactively managed and minimised and appropriate working capital is provided to the companies;

- there are no reputational or proprietary issues for DECC arising from their activities, particularly with regard to the use, spending or collection of public money; and
- it (the Shareholder team) represents the companies effectively within Government as appropriate, and supports the companies in their Government (and other stakeholder) interactions as relevant and appropriate."

10.55 We understand that the Shareholder team is part of the CfD Design and Governance team, which feeds into the EMR Project Board to the EMR Programme Management Board. At this point LCCC's operational responsibilities joins together with LCCC's role on the Design Authority for the CfD. The EMR Programme Management Board reports to the EMR Executive Board which reports to DECC's Executive Committee. This illustrates the inherent complexity in the governance structure at a project level.

10h Key document review

Lessons Learned report (October 2014)

10.56 The FID Enabling for Renewables team undertook two 'lessons learned' workshops in May and September 2014. The findings from these workshops were collated with any written feedback from former members of the team along with the results from questionnaires shared with external contractors and non-DECC participants into a Lessons Learned report produced in October 2014. The scope of these workshops included; the design and delivery of the project, the resourcing and skills, the governance arrangements and the project communication. We have summarised the key findings from this report relating to governance of the project below.

10.57 The EMR Executive Board, set up as the senior official level decision-making policy board for EMR and related projects was thought to have worked well in terms of managing and solving the tensions between the different areas of the programme. However, an issue was identified around the number of complex policy decisions taken at a high level which should have been delegated. In some cases this was recognised (eg on the LCF) and working level boards were set up.

10.58 Since then, the SPO within the Markets and Infrastructures (MI) Directorate has assumed the official role of managing overlapping between inter-dependent projects/programmes. Understanding and managing these interdependencies is clearly critical to successfully implementing the overall programme.

10.59 Below the Executive Board there was a complex governance structure with a number of boards (project, corporate and management) interested in the delivery of the FID Enabling for Renewables project.

10.60 Some feedback suggested that whilst the boards supported a robust assurance process, sometimes there was a lack of clarity on the level of authority of each board.

10.61 The inter-related nature of the CfD and Investment Contracts appears to have presented challenges and in retrospect there appears to be a recognition that this could have been identified earlier, although once the decision had been made that FID Enabling for Renewables would in effect be early CfD contracts, it is difficult to see how this could have been mitigated in terms of programme delivery.

10.62 Once the impact on milestones became clear, the EMR programme and FID Enabling for Renewables teams were quick to set up the joint CfD Implementation Board, although there is still a sense from the Lessons Learned report that "broader

tensions between FID Enabling and EMR were not addressed in a sufficiently timely manner".

10.63 In retrospect, it should be recognised that the FID Enabling for Renewables team were looking to deliver a project in a relatively compressed timescale under a complex governance structure that resulted from the interdependencies between FID Enabling for Renewables and the broader EMR programme.

10.64 The key recommendations going forward in the Lessons Learned report seem sensible. We summarise these below:

- Establish the interdependencies between the project and the wider programme from the outset
- Where a project is part of a programme, set up an intermediary team between project teams and decision-making board to help with the decision-making process
- Create a responsibility matrix clearly defining not only the function but also the level of authority of the governance structure

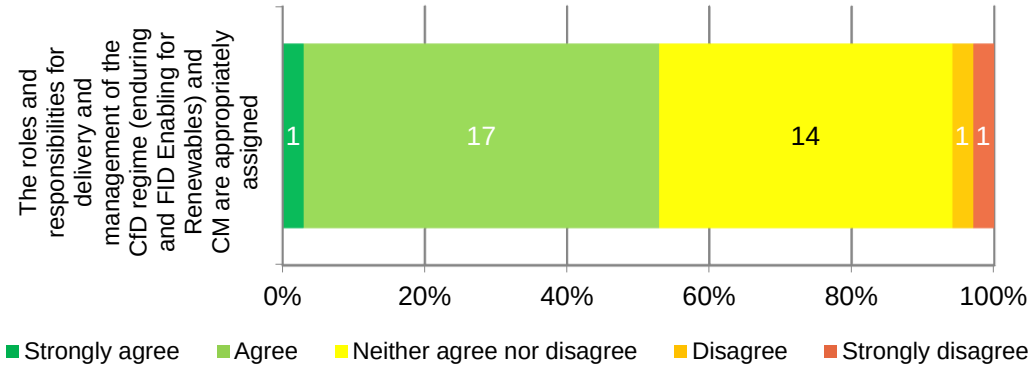
10.65 It seems to us that the overarching themes here are resource planning, clarity of roles and purpose and effective delegation of responsibilities. There will continue to be complex interrelationships between different elements of EMR going forward, and these will need to be managed flexibly and transparently.

10.66 It might be tempting to see FID Enabling for Renewables as something of a 'one off' in policy terms, where a concrete project needs to be rapidly spun out of a broad ranging programme in order to act as a transition. However, as policy evolves, particularly post-2020, it is possible that another investment hiatus may emerge that needs to be addressed or that other specific resolutions to issues need to be developed that can learn from the way FID Enabling for Renewables was managed.

10i Stakeholder analysis

10.67 As part of the written responses, we asked stakeholders to what extent they agreed or disagreed that "the roles and responsibilities for delivery and management of the CfD regime (enduring and FID Enabling for Renewables) are appropriately assigned". Of the 34 people who responded to the question, 17 stakeholders 'agreed' (and one 'strongly agreed') that the roles and responsibilities were appropriately assigned. The respondents who agreed were made up of a range of organisations across a range of technologies. Only two stakeholders 'disagreed'/'strongly disagreed' and the other 14 respondents marked 'neither agree nor disagree'. Ten of the respondents had participated in the FID Enabling for Renewables process. We have captured the key points relating to roles and responsibilities in relation to the FID Enabling for Renewables project specifically below. Wider roles and responsibilities messages from the stakeholder research are captured in our EMR report.

Figure 33 – Written responses: "the roles and responsibilities for delivery and management of the CfD regime (enduring and FID Enabling for Renewables) are appropriately assigned"



Governance structure and project management

10.68 A number of stakeholders commented that there was a good level of dialogue with the Commercial team who approached applicants with questions. An unsuccessful applicant commented that it was difficult sometimes to understand how the different teams at DECC were actually interacting and for them to establish whether there was an overlap in their liaisons with the different teams. They were also unsure which team they were supposed to speak to, commenting that it would have been useful to have one main point of contact and to have more transparency around the roles and interaction of the teams. They also noted that the different DECC teams sometimes had different approaches or rules and this caused some confusion, for example, the rules on phasing were different for FID Enabling for Renewables and the enduring regime. There was also a concern that staff changes within the Commercial team halfway through the process were challenging, particularly when individuals with a good level of personal engagement and a detailed understanding of applicants' project left the DECC team.

Evaluation process

10.69 One applicant who had both successful and unsuccessful projects in the FID Enabling for Renewables process questioned whether the DECC team had enough commercial experience to appreciate what was involved in making a final investment decision. Another unsuccessful applicant questioned whether DECC had the expertise to assess applications that required detailed industry knowledge. Similarly, a further unsuccessful applicant suggested that there was a lack of realism from DECC on the mechanics of large capital investment projects, for example regarding requirements for grid application dates.

10.70 One applicant suggested that it would have been helpful to have the assessment of eligibility carried out by an independent organisation from DECC. However, they appreciated that FID Enabling for Renewables was set up so quickly this may not have been possible within the timescale. Another unsuccessful applicant commented that DECC should have made it clearer they were using external advice because this would have countered the industry perception that DECC were picking winners.

LCCC

10.71 During the stakeholder research process, two successful applicants commented that it was not always sufficiently clear how the policy intent of DECC would be

executed in practice by the LCCC. They felt there was uncertainty around how and to what extent the LCCC could use the discretion available in the contract and argued that there should have been more detailed guidance from the LCCC as to how they would manage the contract process and their interpretation of the contract terms. For example, one applicant felt there was a lack of clarity regarding whether grid deposits could be included in the 10% of the Total Project Pre-Commissioning Costs to satisfy the MDD. They argued that the LCCC guidance on this does not provide adequate certainty to developers, despite DECC's original policy intention for such costs to be included in scope. The other applicant stated that it would be helpful if the government provided a clear, public, written guidance on very specific areas, for example, the need and desire to bring in third party finance to the CfDs and the flexibility in transactional structures needed to do this.

10.72 LCCC indicated that they believed the terms of the Investment Contract terms were sufficiently clear and their responsibility was to ensure that these terms were implemented. Their view was that further policy intent guidance would only serve to provide further ambiguity and therefore undermine the contractual certainty that the private law contract provides. In their opinion, any changes to the contract (that cannot be addressed though the 'minor and necessary change' procedures[72]) can be managed by DECC thorough consultations with industry to consider whether any major contractual changes are needed to ensure that contract terms are in line with policy intention. However, LCCC also underlined the importance of not implementing too many changes during these early stages when the market is still trying to gain familiarity with a new instrument. LCCC recognised the need for contract terms to evolve over time, for example, to accommodate new technologies. They suggested that they should be party to the strategic discussion regarding any such changes so they can ensure that lessons learned to date in contract management are taken on board and also highlight any associated implementation impacts.

10.73 Two stakeholders commented that it is too early to comment on the roles and responsibilities yet (particularly for the LCCC).

10j Key messages

10.74 We note the following key messages:

Governance and resourcing

- A number of stakeholders commented on the difficulty in understanding how the different teams within DECC interacted. The complexity of the governance structure is driven by the multiple interfaces between the FID Enabling for Renewables project and the wider EMR programme and as such seems to be an inevitable consequence of what the project was seeking to achieve.
- Having separate FID Enabling for Renewables and EMR Senior Responsible Officers ('SROs') provided clear separation of governance and roles but opened the project to the risk of divergence from the wider EMR programme. There is some evidence of divergence; for example, the different length of Milestone Delivery Dates for offshore wind projects under FID Enabling for Renewables from those adopted under the CfD mechanism.

[72] LCCC 'Minor and necessary change procedure' (https://lowcarboncontracts.uk/system/files/20140926%20Minor%20and%20Necessary%20Guidance_1.pdf)

- The team structure indicated in the FBC shows a relatively compact team, with staff mostly committed 100% to the project and supported by external advisers, which would seem to us to be an appropriate delivery structure. However, the team was continually changing throughout the course of the project and there were a large number of fractional FTE allocations. It appears that the right level of resource had not been planned and the project was not adequately staffed from the beginning. This might have led to the confusions in the external process and perhaps worsened the staff turnover issue. Although this allowed varied input from a wide range of employees, such a fluid structure does cause continuity and knowledge transfer concerns. Although two SROs underlined the significance of FID Enabling for Renewables, this was not necessarily consistently reflected in the way the project was resourced. Concern over the level of staff turnover was reflected in the stakeholder feedback.

Project management

- Evaluation and moderation of the project submissions was undertaken by permanent civil servants, loans from other teams (staff from ORED and BIS) and external contractors. However, a number of stakeholders questioned whether the teams within DECC had sufficient industry experience to assess some of the criteria.
- Systems used appear appropriate to retain an audit trail of decisions made, however, the project was inconvenienced by a change in IT system, meaning that some documentation was not available and we have not seen some data during our evaluation.
- Key to ensuring the knowledge is not lost on closure of the project, is ensuring that the project documentation supporting the evolution of the project is organised to allow a clear narrative and logic flow to be developed, facilitating an understanding of the decisions made at each stage. We have also commented on this in Section 6e.
- We would echo the key findings in the 'Lessons Learned' report. Ensuring clarity of roles and purpose will be important going forward as there will continue to be complex interrelationships between the different elements of EMR going forward. These will need to be managed flexibly and transparently.

Costs

- The costs for running the FID Enabling for Renewables project were in line with the original budget, with increases in legal and internal staffing costs, offset by savings made against technical and financial consultancy costs. There is, therefore, evidence that the costs were appropriately managed to ensure the project was delivered within the original budget.
- However, these project costs appear low when compared to benchmark data of other government department running costs for similar procurement exercises, particularly in view of the value of Investment Contracts secured by the FID Enabling for Renewables project. We therefore consider that further budget could have been justified for this project and that the project may have been under-resourced. For example, further external consultancy services could have been secured to confirm the existence and evaluate the extent of an investment hiatus at the point when DECC were evaluating their policy options and to scrutinise and provide assurance over the claims made by applicants in their Phase 2 applications.

- We note that the internal cost of the resources used from the shared pool of people in the Commercial PMO team has not been quantified. Our assessment therefore excludes any costs associated with this.

LCCC

- The LCCC is at an early stage of its development, but good governance has clearly been central to its design principles from the outset.
- It will be important for the 6 LCCC board members[73] to leverage the experience without diluting the timeliness and effectiveness of the decision making process
- The governance structure in place appears to give the LCCC's executive sufficient flexibility to carry out their role. There was some concern from stakeholders over the level of discretion that LCCC may choose to use and whether this will be in line with DECC's original policy intent, such as how LCCC will enforce non-delivery disincentives, for example the requirement to spend at least 10% of total project's pre-commission cost by the MDD.
- There is an inherent complexity in the governance structure in relation to the interaction with DECC with a significant number of different reviews/meetings/committees/boards relevant to the governance purposes of the project. Whilst this was driven by the multiple interfaces between the FID Enabling for Renewables project and the wider EMR programme, this increases the risk of roles and responsibilities being misunderstood.

10k Recommendations

10.75 We make the following recommendations:

- Resource planning should have been undertaken prior to the project to avoid stretched resource or hurried internal/external appointments. This should have been organised to minimise the level of FTE fractions and staff discontinuity. Where part time/borrowed support is used, formal arrangements should be put in place to ensure adequate time can be dedicated to split responsibilities.
- Further consideration should have been given to securing more external resource to aid with the evaluation process. In addition, the use of external experts should have been highlighted to applicants to provide assurance over the objectivity of this process.
- If a similar exercise is run in the future, we would recommend that DECC should review the projected internal costs in light of our findings and consider whether an increased budget can be justified. We also recommend a wider benchmarking exercise to compare costs of procurement.
- To ensure all documentation is available, the FID Enabling for Renewables team should capture the detail of the FID Enabling for Renewables process, ensuring that the documentation supporting the evolution of the project is organised to allow a clear narrative and logic flow to be developed, facilitating an understanding of the decisions made at each stage.
- We recommend DECC review the processes and controls in place to ensure key documents are readily available to the relevant team members.
- Roles and responsibilities of all team members and governance bodies should be captured, which should include level of authority and delegation structure.

[73] At time of writing there were 6 LCCC board members: https://lowcarboncontracts.uk/content/about-us)

- Lessons learned from setting up the FID Enabling for Renewables process should be used to inform management of any future hiatus risks (or other similar issues) which may occur.
- We also recommend that DECC review its procedures for capturing and reporting internal staffing costs in relation to pooled resource, to ensure that an accurate picture of internal costs can be reviewed.

11 Recommendations

Recommendations

11.1 As a result of our evaluation we have made a number of recommendations within the report which can be categorised between:

- those that would apply if DECC were to undertake similar large scale projects, including how the project could have been improved; and
- those that are about ensuring the FID Enabling for Renewables project outcomes are effectively monitored and the intended benefits realised.

11.2 These recommendations are set out in Table 30

Table 30 – FID Enabling for Renewables recommendations

Recommendation	Future projects/ monitoring
Policy background, evolution and rationale	
Assessing and collating papers that provide the narrative for the project has proved a time consuming process. If it is not practical to reflect the rationale for all key decisions within the business case narrative, consideration should be given to an alternative means of providing an accessible and clear audit trail of the policy rationale and development. We recommend that steps and processes are put in place to ensure a more robust business case structure is put in place for future projects or that suitable alternative mechanisms are considered which can provide an effective and comprehensive audit trail of all key decisions underpinning policy rationale. Refer to Section 6 for further details.	Future projects
Evaluation of the process	
Notwithstanding the understandable desire not to exclude anyone, given the end result of the process, in which Investment Contracts were awarded only to offshore wind, biomass CHP and biomass conversion projects, it may have been more beneficial if DECC had given a clear steer upfront on what project characteristics would be most likely to lead to a positive outcome as this could have saved developers of unsuccessful projects in abortive application time and costs.	Future projects
DECC could have potentially reduced the number of applications in Phase 1 by further defining the qualification criteria communicated to applicants in Update 1 (particularly in relation to planning consent and grid connection). For example, the matrix of planning consent requirements by technology type, provided in Update 2, could have been included in Update 1. For future projects, qualification criteria that require subjective judgement should have clearly defined parameters and evidence requirements to reduce the risk of actual or perceived subjectivity. These parameters should be communicated to both the participants and the evaluators to ensure consistency and transparency. Further consideration should be given to validating claims made by developers during the application stage.	Future projects

Recommendation	Future projects/ monitoring
For 41% of the Phase 1 applications, the assessor requested clarification from applicants. By providing applicants with more specific guidance on what information should be provided to meet the qualification criteria in Update 1, particularly in relation to the investment hiatus condition, DECC could have enabled the Phase 1 assessors to have more information that they could use to cross compare projects and in turn come to a quicker decision, reducing the number of requests for clarification. For example, DECC could have required applicants to provide a detailed timeline both with and without the award of an Investment Contract. A more comprehensive list and detailed examples of the evidence required to satisfy certain criteria could be published to enable applicants to gain a better understanding of what DECC considers sufficient evidence. This guidance should also assist assessors in understanding the evidence requirements. Further clarification dialogue with developers may have been useful with appropriate safeguards to ensure consistency of approach. For example, a log of clarification questions could have been maintained and reviewed by Relationship Managers to ensure each applicant had been given the same opportunities. An alternative approach would have been to have all clarification questions and responses published/shared among applicants to ensure all applicants had sight of the same advice and information.	Future projects
Assessments should be completed even where the applicant has already failed to ensure full comparability between scores. The absence of complete scores makes it harder to complete an ex-post assessment of the overall pattern of responses.	Future projects
A wider range of scores would have made it easier for assessors to exercise their judgement in determining a final score and differentiate between an applicant who scores averagely and an applicant who scores highly.	Future projects
The fact that the actual estimated residual budget for renewable CfDs falls outside the 'high' and 'low' range presented in the 'top down' analysis in the Ministerial Submission should be reviewed. This is not a specific FID Enabling for Renewables issue and it falls outside the scope of this report, but the unexpectedly large proportion of the overall CfD programme that FID Enabling for Renewables now constitutes should be noted. In future submissions the uncertainties and sensitivities (particularly surrounding RO deployment) should be highlighted more clearly.	Future projects
We recognise that the DECC's pipeline information and Renewable Energy Planning Database is built up from industry information and is supplement through ORED's regular dialogue with industry. However, given the levels of uncertainty surrounding RO deployment, consideration should be given as to how to involve the industry more effectively in developing an objective analytical base to support policy implementation. For example, testing the robustness of the pipeline assumptions with industry. Appropriate controls and safeguards would need to be put in place to ensure information provided by industry is robustly analysed for any bias or gaming.	Monitoring
If a similar project were to be run in the future, we recommend that the affordability and budget setting methodology is set out clearly from the outset.	Future projects

Recommendation	Future projects/ monitoring
Evaluation of the process outcomes	
It is important that the installed capacity for each project is carefully monitored to establish whether any projects will exceed the assumed generation volumes and therefore the proportion of the LCF budget allocated for FID Enabling for Renewables projects. Equally any underspend will need careful monitoring. DECC collate information to assess this on a monthly basis as part of the 'investment tracker'. In addition to this, we recommend a periodic progress report on the eight FID Enabling for Renewables projects summarising key data including (but not limited to) the date of final investment decision, commissioning dates, load factors, and cost of supporting the projects. This data should be shown against forecasted outputs and analysed to draw out key information and any lessons that can be learnt for the enduring regime. The majority of this data is available from the LCCC as part of their monthly reporting.	Monitoring
DECC should monitor capex spend and actual commissioning dates to understand if these are in line with those in the binding applications and to evaluate and update the net present value of the FID Enabling for Renewables project. Some of the information may be gathered by the LCCC as part of their contract management role.	Monitoring
DECC should consider whether further detailed GVA assessment would be useful to help quantify the benefits associated with averting an investment hiatus under the FID Enabling for Renewables project.	Monitoring
Part of the rationale for early investment in projects to support the supply chain development was that this would help drive down cost reductions in the industry. Therefore we recommend that the generation unit cost for the biomass and offshore wind technologies should be closely monitored going forward to ensure the benefits of early deployment to drive industry development are being achieved. It may be difficult to separate the impact specifically of the FID Enabling for Renewables projects from those commissioned under the enduring regime; nevertheless, there is a general point that everything possible should be done to derive the maximum amount of useful data from these projects.	Monitoring
Should DECC wish to monitor the on-going benefits associated with industry and skill development as the projects progress, we recommend that DECC consider commissioning further independent analysis.	Monitoring
DECC should carefully monitor the pipeline of renewable projects and the results of future allocation rounds for any evidence of developers scaling back projects as a result of limited budget remaining for the enduring regime.	Monitoring
Evaluation of the project management	
Resource planning should have been undertaken prior to the project to avoid stretched resource or hurried internal/external appointments. This should have been organised to minimise the level of FTE fractions and staff discontinuity. Where part time/borrowed support is used, formal arrangements should be put in place to ensure adequate time can be dedicated to split responsibilities.	Future projects

Recommendation	Future projects/ monitoring
Further consideration should have been given to securing more external resource to aid with the evaluation process. In addition, the use of external experts should have been highlighted to applicants to provide assurance over the objectivity of this process. This should be considered for future projects.	Future projects
If a similar exercise is run in the future, we would recommend that DECC should review the projected internal costs in light of our findings and consider whether an increased budget can be justified. We also recommend a wider benchmarking exercise to compare costs of procurement.	Future projects
Roles and responsibilities of all team members and governance bodies should be captured, which should include level of authority and delegation structure.	Future projects
Lessons learned from setting up the FID Enabling for Renewables process (as highlighted in the lessons learned report, prepared by DECC) should be used to inform management of any future hiatus risks (or other similar issues) which may occur.	Future projects
We recommend that DECC review its procedures for capturing and reporting internal staffing costs in relation to pooled resource, to ensure that an accurate picture of internal costs can be reviewed.	Future projects

A Glossary

Term	Description
ACT	Advanced Conversion Technologies
ASP	Administrative Strike Price
BIS	The Department for Business, Innovation and Skills
BNEF	Bloomberg New Energy Finance
Capex	Capital Expenditure
CCS	Carbon Capture & Storage
CEO	Chief Executive Officer
CfD	Contracts for Difference
CFO	Chief Financial Officer
CHP	Combined heat and power
CM	Capacity Market
CSC	Critical Success Criteria
DDM	Dynamic Dispatch Model
DECC	Department of Energy & Climate Change
DSCR	Debt Service Coverage Ratio
EDA	Electrical Distributors Association
EDR	Electricity Demand Reduction
EfW	Energy from Waste
EMR	Electricity Market Reform
EU	European Union
ESC	Electricity Settlements Company
EY	Ernst & Young
FBC	Full Business Case
FDP	First Delivery Plan
FID	Final Investment Decision
FIDeR	Final Investment Decision Enabling for Renewables
FiT	Feed in Tariff
FOAK	First of a Kind
FTE	Full Time Equivalent
GFCC	Global Financial Credit Crisis
GIB	Green Investment Bank
GVA	Gross Value Added Assessment

Term	Description
HMG	Her Majesty's Government
IAAP	Integrated Assurance and Approval Plan
IAAS	Integrated Assurance and Approval Strategy
IC	Investment Contract
ICE	Installed Capacity Estimate
LCCC	Low Carbon Contracts Company
LCF	Levy Control Framework
MDD	Milestone Delivery Date
MI Directorate	Markets and Infrastructures Directorate
MPA	Major Projects Authority
NAO	National Audit Office
NPV	Net Present Value
OBC	Outline Business Case
OFTO	Offshore Transmission Owners
ORE	Offshore Renewable Energy
ORED	Office for Renewable Energy Deployment
PAR	Project Assessment Review
PFI	Private Finance Initiative
PID	Project Initiation Document
PMB	Programme Management Board
PMO	Project Management Office
PPA	Power Purchase Agreement
PPP	Public Private Partnership
PV	Photovoltaic
RO	Renewable Obligation
ROC	Renewable Obligation Certificate
SCP	Supply Chain Plan
SME	Small Medium Enterprise
SO	Supplier Obligation
SOC	Strategic Outline Case
SofS	Secretary of State
SPO	Strategy and Programme Office
SRO	Senior Responsible Officer

Term	Description
ssFiT	small - scale Feed-in Tariff
TCD	Target Commissioning Date
UEP	Updated Energy Projections
VFM	Value for Money
WACC	Weighted Average Cost of Capital

B Sources of information

Document name	Author	Section cross reference
FID Enabling for Renewables Strategic Outline Case Oct 2011	DECC	6e
FID Enabling Outline Business Case in February 2012	DECC	6e
FID Enabling for Renewables Outline Business Case May 2013	DECC	6e, 6f, 9f, 10f
FID Enabling for Renewables Impact Assessment May 2013	DECC	6
FID Enabling for Renewables Full Business Case February 2014	DECC	5, 6e, 7b, 6f, 10a, 10b, 10d, 10f, 10h, 10j
Ministerial Submissions –29 October 2012, 13 November 2012, 13 June 2013, 11, September 2013, 4 November 2013, 18 December 2013, 8 April 2014	DECC	6e
Executive Board Meeting Minutes (04-11-2013 - FIDeR cap submission FINAL, 11-09-2013 - LCF submission v2, 18-12-2013 - Submission FIDeR Initial Affordability Assessment, 26-11-2013 - FIDeR Affordability and CfD payments start date submission – FINAL,2013-02-1 Exec Board paper on FIDe Renewables Strategy 6 Feb 2013, EB8, EB14, EB17, EB19, EB20, EB33, EB35, EB37, EB38, EB39)	DECC	6e, 6f
DECC Highlight Reports – FID Enabling for Renewables (March, April, May, June, July, August, September 2014)	DECC	10d
FID Enabling for Renewables Update 1 : Invitation to Participate	DECC	6e, 6f, 7b, 7c, 8c, 8d, 8g, 9d, 10a, 10d
FID Enabling for Renewables Update 2: Investment Contract Allocation	DECC	7c, 8c, 8d, 8g, 9d, 9f
FID Enabling for Renewables Update 3: Contract Award Process	DECC	7b, 7c, 8e, 8f, 8g, 8h, 9d
FID Enabling for Renewables Phase 1 Applications (NB. 3 Phase 1 applications were not seen during the evaluation)	Various	7c, 8b, 8c
FID Enabling for Renewables Phase 1 Assessments	DECC	6e, 8c, 8d, 10d
FID Enabling for Renewables Phase 2 Applications	Various	7c, 8b, 8c, 8d
FID Enabling for Renewables Phase 2 Assessments	DECC	8c, 8d, 10d
FID Enabling for Renewables Binding Applications	Various	8e, 9b, 9e, 9g
EMR Draft Delivery Plan	DECC	8f

Document name	Author	Section cross reference
EMR Final Delivery Plan	DECC	7c, 8e, 9d, 9h
Initial Affordability Assessment Model	DECC	8e
Final Affordability Assessment Model v2.0.0	DECC	8e
FID Enabling for Renewables Investment Contracts	DECC	9c
Lessons learned report – October 2014	DECC	10a, 10b, 10h
Major Projects Authority Project Assessment Review (PAR)	MPA	10h
Early Contracts for Renewable Electricity – National Audit Office, June 2014	National Audit Office	8f, 9f, 10f
NERA Report Assessment of Change In Hurdle Rates – FINAL	NERA Economic Consulting	9h
Annual Energy Statement 2014	DECC	9e, 10f

C Stakeholder research methodology

Stakeholder research

C.1 The purpose of this Section is to clearly set out the methodology implemented for the stakeholder research element of this evaluation alongside a high level overview of the level of engagement achieved. This methodology covers the stakeholder research undertaken for Capacity Market, Contracts for Difference and FID Enabling for Renewables. From the outset of the project it has been clear that the stakeholder research was to play a critical evidence generating role and as such it is essential that there is confidence in the robustness of the approach adopted and the results generated.

Key methodological considerations

C.2 Before providing the detail on the methodology it is important to set out the main methodological issues and challenges that were identified at the outset and which have ultimately shaped our approach. It is also worth emphasising at the outset that these issues are common to many other evaluations and the evaluation literature recognises that there is no ‘silver bullet’ for them.

Bias

C.3 Throughout the evaluation we have been cognisant of two main types of bias. The first is in relation to non-responses from certain stakeholder groups, or elements within particular stakeholder groups. The second type relates to the responses to questions given by individual stakeholders. This could be positive in the sense of saying what they think DECC want to hear. Or negative as the evaluation process is used to 'lobby' or put forward particular view-points.

C.4 In order to help mitigate the negative impact of this bias as part of our analysis we have reflected on the variance in and between stakeholder groups. Alongside this we have also tested the level of weight that can be place on each finding. This has enabled us to identify any vested interests or viewpoints put forward with a particular agenda in mind.

C.5 In conclusion, we believe that our approach has helped us to minimise the negative impact of bias. Where we have identified a particular technology view we have ensured that this is presented as such and alongside responses from a wider cross section of stakeholders. Where we believe a view is the result of an application being unsuccessful/successful we have been transparent in identifying this.

Reach and engagement

C.6 Linked to the issue of non-response bias it was important that the evaluation reached the full range of stakeholders and did not just engage with the 'usual suspects'. Reaching those parts of the market that do not normally engage or who have not engaged is a challenge but it is one that we have sought to proactively manage. As such, our approach focused more on the breadth of different stakeholder groups and sub-groups at the expense – in part – of the level of depth that we went into with a particular sub-group.

Stakeholder fatigue/burden

C.7 It was essential that the evaluation was mindful of stakeholder fatigue and over burdening those willing to participate. For many of the stakeholder groups time needed to be given up to the evaluation which is simply not part of the 'day job'. As such it was important that this time was used most effectively. Alongside this for a number of the stakeholders the request to engage in the evaluation formed another

in a long list. In order to manage stakeholder fatigue and burden we implemented three measures:

- Ensuring that we were aware of other requests for information/communications from DECC and others.
- Being very clear from the outset how much time we expect the in-depth interview to take and sticking rigidly to this – unless of course the participant was willing to extend it.
- Deploying a range of methods for gathering evidence in order to make the best use of time and resources. We provided the stakeholders some degree of choice about which method we use in order to do as much as we can to facilitate positive engagement. All respondents were also given the opportunity to respond in writing.

C.8 These measures helped management of the risk of stakeholder fatigue and across the work there was a general willingness to engage.

Anonymisation of findings

C.9 It was agreed at the outset that all results would be anonymised and that none of the raw data would be passed on to DECC. This decision was made on the basis of both the desire to enable and encourage respondents to speak openly as well as not wanting to limit potential engagement.

Identifying and mapping the stakeholder universe

C.10 At the outset of the evaluation time was spent on trying to understand both who the key stakeholders groups are and their value to and level of interest/engagement in the evaluation. In total 13 different stakeholder groups were identified. The stakeholder universe was developed using a combination of sources including: analysis of previous DECC consultations, feedback from the DECC teams and our own team's market knowledge and networks.

Table 31 – Overview of stakeholder universe

Stakeholder group	Nature of the stakeholder group	Size of the stakeholder universe
Big 6 Utilities	All big 6 utility companies – looked at from both a generation and supply perspective	6
Power Generators/ Utilities	All power generating companies including biomass, energy from waste, renewables, solar and wind developers, developing projects of a scale to be impacted by CfD	100+
Power Suppliers	Covers both domestic and industrial suppliers	10-20
Major Contractors	Major construction / services contractors	10-20
Supply Chain	Tier 1 and 2 technology providers active in the energy space and who are not major contractors plus feedstock suppliers	100+
Banks and Other Debt	Commercial funders providing debt finance to UK energy projects	50-99
Equity Investors	Private equity, equity funds investing in UK equity projects	50-99

Stakeholder group	Nature of the stakeholder group	Size of the stakeholder universe
Financial Institutions	Financial institutions providing finance to UK energy projects	20-50
Consumer Groups	Consumer groups focussed on domestic and industry energy consumers	10-20
Government and Regulators	Relevant Government and regulatory bodies across the UK	10-20
NGOs	Primarily environmental groups	10-20
Sector Associations	Trade associations specifically linked to different parts of the energy and renewables sector	10-20
Non-Sector Trade Associations	Trade associations linked to sectors / industries that are affected by the energy / renewables market	<10

C.11 These groups formed the foundation of our sampling framework and evaluation methodology.

Sampling framework

C.12 The approach taken to sampling was relatively simple and was based around two key parameters: ensuring the we achieve the breadth of coverage required within individual stakeholder groups; and segmenting across a small number of variables which we believed were likely to result in differences of opinion or view.

C.13 Given the emerging nature of the sector and the relatively small number of organisations involved a purposive sampling method was adopted on the basis that it is the most practical and effective method. This approach enabled us to effectively engage stakeholders who have diverse and varied levels of engagement with and understanding of EMR. For example it gave us the scope to engage both those who have had significant engagement to date as well as those that have not engaged – a key factor for this evaluation. We believed that while this purposive approach did introduce a degree of selection bias a more structured sampling approach would have removed our ability to: get the most from our market knowledge; engage effectively with the sector; and target resources appropriately.

C.14 Alongside this, given the qualitative nature of the evaluation and the fact that we are not looking to 'gross up' responses to be representative of the whole stakeholder group we expected the impact of any selection bias to be minimal and unlikely to have any bearing on the findings of the evaluation.

Evaluation methodology

C.15 The evaluation method adopted revolved around three main types of engagement:

- In-depth qualitative interviews – these semi structured interviews were based around a detailed topic guide and undertaken by senior and experienced members of the evaluation team, principally the relevant workstream lead. These team members had a good understanding of the policy and its associated issues and worked closely with the relevant teams in DECC.
  Given the exploratory nature of this evaluation coupled with the diverse experiences and engagement of the stakeholders in EMR it was felt that the use

of semi-structured interviews provided the required flexibility. The topic guides are structured around seven primary topics: role and relationship to CfD and FID Enabling for Renewables; design and parameters; management of the process; achieving objectives; outcomes; lessons learned; and AOB. Below each of these topics there were a series of questions that focus on a range of relevant issues. The interviewers covered each of the primary topics during the interview but the specific questions asked varied depending on the interviewers judgment of what the interviewee has most to contribute on. This was based on both the role and involvement in the EMR process of the interviewee and the interviewee's specific interests. This approach enabled the interviewers to extract the most value out of the interview by focusing on the most pertinent and relevant issues.

- Stakeholder round tables – these round tables brought together a number of stakeholders within a particular group and were structured around a series of key topics. The workshops were facilitated by senior and experienced members of the evaluation team, again primarily the workstream leads. The use of workshops was guided by the views of key industry representatives as to their effectiveness as a means of engagement with particular members. For example we worked with various Renewable Trade Associations to effectively engage their members. These workshops covered the same seven primary topics in the interview topic guide.
- Written responses – all stakeholders regardless of whether they are in our sampling frame or not were invited to respond to a short email survey. These written responses contained a mixture of open and closed questions structured around the seven primary topics. The use of closed questions in the written responses had the added advantage of helping to identify and manage any response bias that may exist.

Level of engagement

C.16 Through the stakeholder research process just under 150 stakeholders responded through the three different engagement modes: 60 stakeholders participated in an in-depth qualitative interview; 44 provided written responses (with an additional 29 of those interviewed also providing a written response); and 43 participated in the various round-tables[74].

C.17 These stakeholders were engaged in a short time window with all activity taking place between mid-March and mid-April. For the CfD and FID Enabling for Renewables workstreams the engagement took place between 9 March 2015 and 14 April 2015. The reason for this contracted engagement window was that we wanted to avoid contamination by engaging stakeholders who were actively participating in the allocation round.

C.18 Across the three different workstreams we interviewed 13 stakeholders in relation to CM and 21 in relation to CfD and FID Enabling for Renewables[75]. In addition to this we also interviewed 18 financial stakeholders covering both equity and debt and 10 overarching stakeholders from a range of government and trade bodies.

[74] It should be noted that a small number of the stakeholders that were interviewed also participated in the round-tables. In our analysis we ensured these views were only 'counted' once.

[75] For the large majority of the organisations interviewed the same individual(s) was identified as the primary contact for both CfD and FID Enabling for Renewables and as such these interviews were done jointly.

Table 32 – Overview of stakeholder groups engaged in the stakeholder research

Stakeholder Group	Size of the stakeholder universe	Level of response	Notes
Power Generators and/or Developers	100+	56	A range of different sized organisations, ranging from UK (including Big 6 and non-Big 6), based in the UK and worldwide
Power Suppliers	10-20	2	
Major Contractors	10-20	3	
Supply Chain	100+	4	A range of different sized organisations
Banks and Other Debt	50+	6	A range of different sized organisations, based in the UK and worldwide
Equity Investors	50+	10	A range of different sized organisations, based in the UK and worldwide
Financial Institutions	20-50	2	
Consumer Groups	10-20	-	
Government and Regulators	10-20	6	
NGOs	10-20	2	
Sector Associations	10-20	6	
Non-Sector Trade Associations	<10	1	
Consultants/Lawyers	20+	12	A range of different sized organisations, based in the UK and worldwide
Other		11	Including a test centre, utilities analyst, demand-side response
Unspecified		1	

C.19 The data coming through these interviews along with that coming from the roundtables and the written responses has provided a rich vein of evidence to be analysed and synthesised.

Stakeholder coverage – CfD

C.20 Across FID Enabling for Renewables and the enduring CfD regime we undertook over 40 interviews. These interviews covered the following technologies: ACT, Anaerobic Digestion, biomass CHP, biomass conversion, Energy from Waste, solar PV, offshore wind, onshore wind and wave & tidal. We also ensured coverage across successful, unsuccessful and non-participants (of both FID Enabling for Renewables and the enduring regime).

C.21 We also undertook 5 workshops/roundtables as follows:

- RUK Economics and Markets Group – onshore and offshore wind
- REA Renewable Power Group/Bioenergy Group – Biomass CHP, ACT
- REA/RUK – Wave & Tidal
- REA/STA – solar PV
- Scottish Renewables – onshore and offshore wind

C.22 We received written responses from 46 developers (including 9 entities that we also interviewed). 7 financiers (including 5 entities that we also interviewed) and 2 overarching stakeholders.

Stakeholder coverage – FID Enabling for Renewables

C.23 Of the CfD interviews undertaken 10 included participants in the FID Enabling for Renewables process. From the written responses 12 respondents had participated in FID Enabling for Renewables, including 4 successful participants, 1 participant with both successful and unsuccessful projects, 5 unsuccessful participants, 1 that withdrew and 1 project that considered participating. Across all forms of interaction undertaken during our stakeholder research we interacted with 36 of the 57 projects that applied for Phase 1 of the FID Enabling for Renewables process.

Analysis and synthesis

C.24 In analysing and synthesising the results and findings from the stakeholder research process four key elements were considered.

Synthesis

C.25 To synthesise the range of different types of evidence emerging from the interviews, round tables and open questions from the online questionnaires a straightforward matrix was developed to identify key findings. Where appropriate some responses were summarised in terms of simple scores. This approach provided a clear overview of the evidence and enabled the identification of recurrent themes and patterns in the data as well as any major variance between groups (see below). It also enabled us to assess a sense of scale around the findings.

Triangulation

C.26 In synthesising the results continually looked to triangulate the findings both between different stakeholder groups and between different sources of evidence. For example, did the findings from the quantitative questions back up or support the opinions emerging from the stakeholder interviews; are the views about an investment hiatus from the over-arching stakeholders backed up by the views of those at the coal face – the developers and financiers; or are particular findings consistent across all stakeholder groups? The greater the levels of triangulation, the more weight we were able to place on the evidence.

C.27 In addition to triangulating the findings between different stakeholder groups and sources of evidence, we also continually looked to set the findings in the context of other knowledge about EMR and/or the context in which it was delivered.

Variance

C.28 Alongside the process of triangulation, we also reflected on the level of variance within particular stakeholder groups and across the whole sample. Variance is not necessarily a positive or a negative but it does need to be acknowledged, either in highlighting strong consensus or caveating findings. It also helped to identify any outliers.

Quality

C.29 Throughout our analysis we also actively considered the 'weight' that can be placed on each finding. This assessment was made on the basis of the following criteria:

- Transparency – was there a vested interest in making a particular point?
- Accuracy – is what we have been told well grounded?
- Corroboration – are other stakeholders saying similar things?
- Relevance – was the point made in relation to this specific line of enquiry?
- Credibility – how well placed is the respondent to comment?

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