



## Annex E

# EMR delivery plan: decision-making process for Contracts for Difference and the Capacity Market

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# Executive summary

As part of Electricity Market Reform (EMR) a clear and transparent decision-making process is vital to ensuring Contracts for Difference (CfD) and the Capacity Market are delivered effectively. The documents published in May 2012 alongside the draft Energy Bill<sup>1</sup> described a process through which the Government would take key decisions on these mechanisms, informed by evidence and analysis provided by the EMR delivery body, the System Operator (National Grid).

The Government's decisions will be published in an EMR delivery plan every five years, with annual updates. The delivery plans will set out the Government's objectives, key decisions on the mechanisms, and the expected impacts of those decisions on the objectives. The annual updates will provide information on delivery, confirm any further decisions (for example, the capacity to contract for in a Capacity Market auction; future CfD strike prices for renewables<sup>2</sup>; or auction volumes) and signpost the timing of those further decisions.

This document provides an update on the process for the first delivery plan and formally commissions National Grid (the System Operator and the EMR delivery body) to provide analysis to inform the first EMR delivery plan.

The first EMR delivery plan will be published in draft for consultation in July 2013, with the final EMR delivery plan published by the end of 2013, subject to Royal Assent of the 2012 Energy Bill. This document sets out the process for the first delivery plan, including:

- Government commissioning the System Operator to carry out analysis to inform the EMR delivery plan (the Commission is at the Appendix of this document);
- the process for the System Operator carrying out the analysis, including the role of an Analytical Steering Group;
- the role of a Panel of Technical Experts, to be appointed by Government, in scrutinising the analysis; and
- the Devolved Administrations being involved through a Consultation Group which will feed in to the Analytical Steering Group. The System Operator Northern Ireland (SONI) may also provide analysis to ensure that particular characteristics of the market in Northern Ireland are appropriately considered.

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<sup>1</sup> <http://www.decc.gov.uk/en/content/cms/legislation/energybill2012/energybill2012.aspx>

<sup>2</sup> The Government's approach to setting strike prices for other low carbon technologies are explained in Annex A.

**Table 1: Summary of key aspects of the EMR delivery plan process**

Design area	Current position
<b>Content of EMR delivery plans and annual updates</b>	<ul style="list-style-type: none"> <li>EMR delivery plans will contain Government's objectives, decisions and supporting analysis. Annual updates will contain further decisions (for example, to support the Capacity Market if initiated) and supporting analysis.</li> <li>The purpose of these documents is to provide long-term clarity and certainty whilst maintaining flexibility to accommodate more regular decisions that are required, for example in relation to a Capacity Market auction.</li> </ul>
<b>Process for producing EMR delivery plans and annual updates</b>	<ul style="list-style-type: none"> <li>EMR delivery plans will be published every five years with the first in December 2013, subject to Royal Assent of the 2012 Energy Bill.</li> <li>The System Operator will develop analysis to inform the Government's decisions. A Panel of Technical Experts will be appointed by the Government to scrutinise the analysis, to ensure that it is robust.</li> <li>Ofgem will oversee the performance of the System Operator's delivery body role, which includes overseeing delivery of this analytical role. Ofgem will also have a role in the delivery plan process as an independent advisor as necessary.</li> <li>The process for the first EMR delivery plan is underway. National Grid has already issued a Call for Evidence on renewable technology costs and hurdle rates and the Government's Commission to the System Operator for the analysis is contained in the Appendix to this document.</li> </ul>
<b>Setting up the Panel of Technical Experts</b>	<ul style="list-style-type: none"> <li>The Government will appoint the Panel of Technical Experts.</li> <li>The tender for the interim Panel was published on 6 November 2012. Panel members will be appointed in January 2013 and be in place for the duration of the first delivery plan process.</li> <li>Longer term, the Panel will be appointed as an ad-hoc advisory group in January 2014.</li> </ul>
<b>The role of the Devolved Administrations</b>	<ul style="list-style-type: none"> <li>The Government will consult with the Devolved Administrations (DAs) on the CfD aspects of the EMR delivery plan process and seek consent from Northern Ireland Ministers on CfD strike prices for renewables.</li> <li>For the first delivery plan, the Government will engage formally with the DAs through a consultation group.</li> </ul>

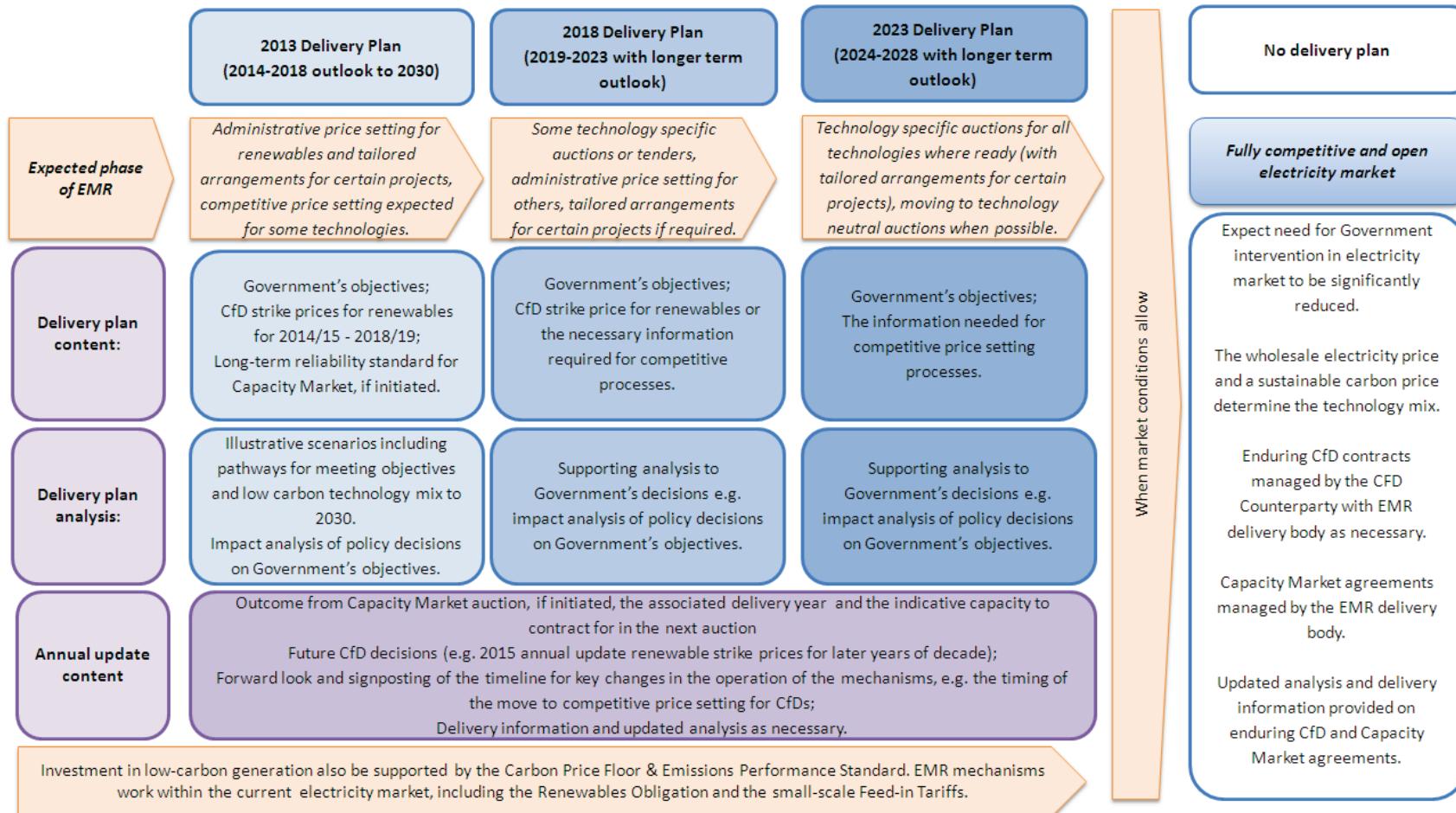
# EMR delivery plans and annual updates

## Content

1. The Government decisions that will be set out in delivery plans and annual updates include: CfD strike prices for renewables while these are administratively set (or the information needed to support future competitive CfD award processes); the reliability standard for the Capacity Market; and the capacity to contract for through the Capacity Market. Delivery plans and annual updates will reflect the spending envelope established by the Government as it applies to the mechanisms, set through the Levy Control Framework. The Government will amend the Energy Bill during its passage to take powers to enable a decarbonisation target range for the power sector in 2030 to be set through secondary legislation in future. This power will not be exercised until the fifth carbon budget has been set in 2016. Any decarbonisation target range that is agreed will be reflected in the EMR delivery plans and annual updates.
2. The EMR delivery plan, to be published by Government every five years, will set out the Government's objectives for EMR and the decisions taken in that period to support delivery of the objectives. The analysis that informed those decisions will also be included. Government will consult on draft delivery plans before final decisions are taken and published.
3. The annual updates to delivery plans will contain: information related to delivery of the mechanisms (likely to include the type of contracts or agreements signed including capacity in MW); updated analysis to reflect that information; and any new decisions taken in that period. These decisions will include the Government's decision on how much capacity to contract in a Capacity Market auction if initiated. The annual update to be published in 2015 is likely to include the CfD strike prices for renewables for later years of this decade (2018-19), as it would be difficult to set those strike prices accurately in the first delivery plan given the limited data available to Government this first time around. The annual updates will also, where possible, signpost the timeline for any changes in the operation of the CfD or the Capacity Market, including, for example, the timing of the move to competitive price setting for CfDs.

4. Figure 1 shows how the content of delivery plans and annual updates will evolve through the different phases of EMR.

**Figure 1: The EMR delivery plan in different phases of EMR**



## Process

5. To inform the Government's decisions on CfDs and the Capacity Market, the System Operator will provide evidence and analysis to the Government. The System Operator's electricity market knowledge and expertise will help to ensure that the analysis and evidence that inform Government's decisions are robust. The System Operator already has technical expertise and modelling, commercial and financial capabilities and skills; it is expanding its capacity in these areas to take on this task. In order to carry out the analysis for the Single Electricity Market in Northern Ireland effectively, the System Operator will work with the System Operator Northern Ireland (SONI).
6. Government will appoint a Panel of Technical Experts to scrutinise the System Operator's analysis. The Panel will be made up of experts with knowledge across sectors of the electricity market and have analytical and technical modelling skills, but the members will be independent of particular viewpoints and thus provide impartial advice. The Panel will provide the Government with confidence that the analysis is robust and fit for purpose. It will not comment on the Government's objectives, policy approach or decisions. The Panel will report to the Government and will be supported by a small secretariat within DECC. The Panel will have a chair who will be responsible for ensuring the views of all Panel members are heard and impartiality is maintained. The Panel's reports will be published alongside the draft and final delivery plans.
7. The Government will work closely with the Devolved Administrations in Scotland, Wales and Northern Ireland on the CfD sections of the delivery plan. The roles of the Devolved Administrations, in line with the devolution agreements and as set out in the Energy Bill, will be as follows:
  - **Scottish Ministers** will be consulted throughout the delivery plan process on the CfD aspects of the analysis and on the decisions related to the CfD
  - **Welsh Ministers** will be consulted throughout the delivery plan process on the CfD aspects of the analysis and on the decisions related to the CfD
  - **Northern Ireland Ministers** will be asked to consent to the CfD strike prices proposed for Northern Ireland. The Secretary of State will make provision in secondary legislation enabling Northern Ireland Ministers to set strike prices at a different level if they cannot consent to those proposed, but any additional costs would not be socialised across the UK. Strike prices in Northern Ireland may be different to those in GB to reflect any differences in the market<sup>3</sup>. We will work with SONI throughout the analytical process, will consult Northern Ireland Ministers at key points.
8. These principles for engaging with the Devolved Administrations will last throughout the life of EMR. The detailed role of the Devolved Administrations in the first delivery plan process is

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<sup>3</sup> Note that CfDs will be available in Northern Ireland for projects commissioning from 2016. The first delivery plan will contain UK wide strike prices for renewables and is expected to give an indication of the strike prices in Northern Ireland, whilst strike prices for Northern Ireland will be in the 2015 annual update and could vary from the strike prices in the rest of the UK if there are any differences in the markets.

set out later in this document. We need to ensure that the role of the Devolved Administrations following legislation is also clear and certain. Therefore we will set out, in a Memorandum of Understanding or similar document in early 2013, the enduring ways of working between the Government and the Devolved Administrations in the delivery planning process from Royal Assent of the 2012 Energy Bill.

9. The Government is committed to the ongoing role of the Committee on Climate Change (CCC) in advising the Government on the impact of its policies on the carbon budgets. The CCC will be involved in the delivery plan process as facilitated by its existing remit. Government will also involve Ofgem as appropriate, and is continuing to work with Ofgem to identify and agree their suitable role in the process.
10. When taking decisions, the Government will consider, as appropriate, the potential wider economic and environmental impacts. It will do this by using the relevant available evidence, for example on biomass sustainability or generation plant CO<sub>2</sub> emissions, or by working with other bodies.

### **Setting up the Panel of Technical Experts**

11. We intend to set up the Panel in two phases. Firstly, an interim Panel will be in place in 2013 for the first delivery plan process. The appointment process for the interim Panel is underway. The interim Panel will be in place for the duration of the first delivery plan period, which will conclude at the end of 2013 (subject to Royal Assent of the 2012 Energy Bill).
12. Secondly, we will appoint the Panel for the longer term as an ad-hoc advisory group. We will make these appointments by January 2014 so they are in place following Royal Assent to enable the Panel to scrutinise the analysis for the 2014 annual update. We intend to run an open, fair and competitive appointment procedure. We will evaluate and learn lessons from the work and process of the interim Panel to inform this recruitment process and establish the appropriate points at which to review the Panel's role.

### **The EMR delivery plan through the life of EMR**

13. The principles and roles of the key players set out above will last through the life of EMR and future delivery plan processes. However, the practical working arrangements are likely to develop over time as the content of future delivery plans and annual updates evolves with the phases of EMR (see Figure 1). In particular, this evolution is likely to affect the analytical requirements, the detail of how the analysis will be developed and the ways of working between the System Operator and the Government. The 'What happens next?' section of this document explains that we will set out the precise details for the enduring arrangements for the EMR delivery plan and annual updates in July 2013, alongside the draft delivery plan.

# The first EMR delivery plan (2014-18)

14. The first EMR delivery plan will span the period 2014-2018 with an outlook to 2030. It will be published in draft by the Government in July 2013 for consultation, with the final version published by the end of 2013, subject to Royal Assent of the 2012 Energy Bill. The Appendix to this document contains the Government's Commission to National Grid, as System Operator and the EMR delivery body, for the analysis that will inform the first delivery plan.
15. The key policy decisions to be set out in the first EMR delivery plan include:
  - CfD strike prices for renewables for 2014/15 – 2018/19,
  - a reliability standard for the Capacity Market<sup>4</sup>, and;
  - an indicative volume of capacity to contract for in the Capacity Market auction (which Government is minded to run in 2014 for delivery in the year beginning in the winter of 2018/19).
16. The Government's approach to setting strike prices for other low carbon technologies is explained in Annex A to the EMR Overview document.
17. The Government recognises the importance of providing clear long-term signals on the likely low-carbon generation capacity requirements to enable further investment in renewables, CCS and nuclear projects - ensuring that Government's long-term decarbonisation and security of supply objectives can be met while minimising the costs. Accordingly, the Commission to National Grid for analysis to inform the first EMR delivery plan (which is contained in the Appendix to this document) asks National Grid to consider the implications of different scenarios on low-carbon generation capacity to 2030 using the Government's existing policy objectives and constraints. The Government's decisions on CfD strike prices and the amount of capacity to contract for will be informed by this analysis. The Government will provide guidance to National Grid during the course of the analytical process on the range of decarbonisation scenarios to model.
18. The first delivery plan will be informed by evidence and analysis including:
  - Government's objectives and constraints;
  - evidence gathered and analysis provided by the System Operator (described in the Commission in the Appendix to this document);
  - Ofgem's statutory Electricity Capacity Assessments for 2012 and 2013;
  - any further analysis that may be commissioned by Government to inform its decisions on a reliability standard, and;
  - other evidence and analysis deemed appropriate.

19. The delivery plan will also reflect any other agreements that Government concludes to bring forward projects before 2020 for CCS or nuclear.
20. The three main stages for producing the first delivery plan and their intended timings are summarised in Figure 2.

**Figure 2: Process for producing the first EMR delivery plan<sup>5 6 7</sup>**

Stage	1: Evidence gathering and commissioning	2: Development of analysis	3: Decision-making and publication
Timings	May – December 2012	January 2013 – Spring 2013	Spring 2013 – December 2013
What's included	<ul style="list-style-type: none"> <li>• Capability building by the System Operator</li> <li>• Data sharing between Government and the System Operator<sup>5</sup></li> <li>• Call for evidence by the System Operator<sup>6</sup></li> <li>• Commission from Government to the System Operator<sup>7</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Development of analysis; assumptions, models and scenarios</li> <li>• Scrutiny by the Panel of Technical Experts</li> <li>• Ongoing consultation on CfDs with the Devolved Administrations</li> <li>• Reporting by the System Operator and Panel of Technical Experts to Government</li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing analytical work (iterations and verification) and scrutiny by the Panel of Technical Experts</li> <li>• Structured consultation on CfDs with the Devolved Administrations</li> <li>• Public consultation on the draft delivery plan by Government (<i>mid 2013</i>)</li> <li>• Publication of final delivery plan by Government (<i>end 2013</i>)</li> </ul>

### Commissioning the System Operator's analysis

21. In the Appendix to this document, the Government sets out its Commission of the System Operator (National Grid) for the analysis that will inform the first EMR delivery plan. It describes the ways in which the System Operator will work with Government, the Devolved Administrations, the Panel of Technical Experts and wider stakeholders.
22. A key aim of the analysis is to help the Government understand how different scenarios would impact on its objectives, so that it can take informed decisions. The Commission accordingly sets out the Government's objectives for EMR, as well as a description of the analysis that will be carried out, including the data, assumptions, models and scenarios to be

<sup>4</sup> A reliability standard is an objective for the level of reliability we seek to achieve in the GB market. For more, see Annex B.

<sup>5</sup> Data sharing to date included sharing the published data used for the Renewables Obligation.

<sup>6</sup> The call for evidence was published on 9 October 2012 by the System Operator to gather data to inform their analysis of CfD strike prices which will be used alongside the Renewables Obligation data

<http://www.nationalgrid.com/uk/Electricity/Electricity+Market+Reform/index.htm>

<sup>7</sup> See Appendix to this document

used or developed. The Government will provide guidance to National Grid during the course of the analytical process on the range of decarbonisation scenarios to model.

23. The Government and the System Operator have agreed a set of principles which will guide the development of the analysis to underpin the first EMR delivery plan. These are to:

- use the System Operator's independent expertise;
- build on existing evidence and capability and avoid duplication;
- use DECC's central assumptions for the base case, with the System Operator running additional scenarios and sensitivities to test possible divergences so that Government can benefit from its independent view;
- install transparent processes to facilitate scrutiny by the Panel of Technical Experts, which will enable the timescale for the first delivery plan to be met;
- carry out meaningful consultation with the Devolved Administrations on the CfD, and seek consent from Northern Ireland Ministers before setting strike prices in Northern Ireland, and;
- involve third parties as necessary (for example the System Operator in Northern Ireland).

### **Ways of working between the Government and the System Operator**

24. To ensure the principles and requirements for the first delivery plan can be met, the Government and the System Operator have determined a process, in consultation with the Devolved Administrations, that will enable the System Operator to provide the necessary evidence and analysis to inform Government's decisions in the first EMR delivery plan. The detailed arrangements for the first process are summarised and explained in the Commission published in the Appendix to this document.
25. An Analytical Steering Group will be established and jointly chaired and resourced by the Government and the System Operator. The group will be responsible for developing the analysis, for example the assumptions to be used and the scenarios to be modelled. It will be supported by specialist sub groups and a Devolved Administrations Consultation Group.

This process draws on the existing knowledge and expertise of both the Government and the System Operator, using existing evidence, assumptions and models where available. The agreed ways of working will ensure there are clear governance arrangements and escalation procedures for analytical decisions relating to the EMR delivery plan, which will facilitate effective and timely development of the analysis.

### **The Panel of Technical Experts**

26. As set out above, the purpose of the Panel of Technical Experts is to scrutinise the technical details in the System Operator's analysis on an impartial basis. Panel members will be

independent, and the Panel will comment only on the technical robustness of the analysis and the process followed, not on the policy objectives or constraints that the Government has set.

27. The recruitment process for the interim Panel is underway and we intend to appoint in early 2013. The tender for consultants for the interim Panel members and Chair closed on 27<sup>th</sup> November. The interim Panel of Technical Experts will be in place for the duration of the first delivery plan process, intended to run until the end of 2013, subject to Royal Assent of the 2012 Energy Bill.
28. In this first process, the Panel will be invited to review the models used and process followed, and to comment on the technical assumptions, the modelling approach, the assumptions underpinning the scenarios and outputs including interpretation of the analysis from the models. The Panel's input will inform the discussions of the Analytical Steering Group as the analysis is developed. Any differences of opinion either within the Panel or between it and the System Operator or the Government will be reported, escalated if necessary and accompanied by a clear explanation of the impact on the analysis.
29. The Panel's reports will be published with the draft and final delivery plans to ensure that the process is transparent.
30. One of the members of the Panel will be appointed through the selection process as Chair. We expect the Chair to be able to demonstrate past experience of similar roles to ensure that the full expertise of the group is harnessed; that the Panel's impartiality is maintained; and that the Panel scrutinises and provides challenge effectively and appropriately.
31. The range of knowledge and expertise expected of the Panel includes:
  - experience of analysis and modelling of electricity markets, including BETTA and SEM;
  - knowledge of low carbon generation technologies and operations;
  - professional skills including economics, engineering and finance and investment analysis;
  - past experience in the electricity industry and experience of strategic decision-making in energy markets; and
  - clear communication skills and, for the Chair, proven skills in chairing panels.
32. The Panel will be supported by a secretariat in DECC. The functions of the secretariat will include agreeing agendas and the scrutiny schedule with the Panel, and assisting with the production of reports. The secretariat for the Panel will ensure that the Panel has access to all the relevant analysis and evidence it needs to scrutinise effectively and for ensuring the Devolved Administrations are sighted on informal and formal reports that are sent to the Analytical Steering Group.

## Role of the Devolved Administrations

33. The Devolved Administrations will be involved at each stage of the CfD analysis and CfD decision-making process for the EMR delivery plan, to enable the CfD to work effectively across the UK and to support renewable generation in all regions. Accordingly, the Government will consult with the Devolved Administrations so that their views can be properly taken into account throughout the process before decisions on the CfD strike prices for renewables are taken.
34. The UK Government and the DAs have agreed to work together in the following way. There will be ongoing working level engagement throughout the process, for example regular meetings to share CfD parts of the analysis (e.g. explain assumptions, share scenarios) for comment, both as the analysis is developed and also when decisions are being taken. The Panel of Technical Experts' report will also be shared with the Devolved Administrations. This engagement will be mainly through a Devolved Administrations Consultation Group, which will focus on issues relevant to the Devolved Administrations, with membership from the Scottish Government, the Welsh Government and the Northern Ireland Executive.
35. The views of the Devolved Administrations gathered through the Consultation Group will be fed into the Analytical Steering Group (see Figure 2 in the Appendix), where the Government will have responsibility for ensuring that the DAs' views are presented and the outcomes of the discussions are reported to the Devolved Administrations. Senior official and Ministerial engagement will continue as currently, with these acting as an escalation route if required.
36. Before final decisions on CfD strike prices for renewables are taken, Ministers of the Devolved Administrations will be consulted through an exchange of letters, which will be the formal step at the end of this joint working process. For Northern Ireland, this exchange of letters will ask Northern Ireland Ministers to give consent to the proposed CfD strike prices or, if they do not consent, to suggest either alternative strike prices or the next steps for determining CfD strike prices in Northern Ireland.
37. As well as a role in the analysis and decision-making processes for CfDs, the Devolved Administrations also have a role in the set up of the Panel of Technical Experts. They have been consulted on the role of the Panel and the skills and expertise required. The Devolved Administrations were consulted on the tender for the interim Panel of Technical Experts which was published earlier in November 2012.

## Stakeholder engagement

38. The Government recognises the importance of industry engagement in the delivery plan process in order to give clarity on the analysis and confidence in the decisions that the analysis informs. The Commission in the Appendix to this document sets out the stakeholder

engagement that we expect the System Operator to undertake as part of the delivery plan process.

## Next steps

39. Once the analysis for the first delivery plan has been formally commissioned from the System Operator, through the Commission published in the Appendix to this document, we will enter the ‘development of analysis’ stage, as set out in Figure 2 above. This involves the Government working with the System Operator and consulting with the Devolved Administrations in the ways described and putting in place the Panel of Technical Experts, ensuring it can provide effective scrutiny.
40. From spring 2013, we will enter the decision-making phase, during which Government will take decisions on CfD strike prices for renewables, the draft EMR delivery plan will be published for consultation in July 2013, and the final delivery plan will be published by December 2013, subject to Royal Assent of the 2012 Energy Bill.
41. In July 2013, we will also set out arrangements for the enduring regime in more detail, alongside the draft delivery plan. This work will include defining the analytical requirements for the System Operator, the content and process for the annual updates, ways of working between the key players (including the Devolved Administrations and Ofgem) in these processes, and appointing the Panel of Technical Experts to be in place from January 2014.

# Appendix - Commission to National Grid for analysis for the first EMR delivery plan

## Purpose of the Commission

1. This Commission asks National Grid, in its role as the Electricity Market Reform (EMR) delivery body, to carry out analysis for the first EMR delivery plan. The aim of this Commission is to set out clearly the required analysis and the process that National Grid should follow to produce it.
2. This Commission sets out the Government's objectives for EMR, and a description of the analysis that will be carried out including assumptions, models and scenarios. It also describes the process we expect National Grid to follow, including how it will work with Government in producing the analysis, with stakeholders, with the Panel of Technical Experts providing scrutiny, and with the Devolved Administrations. This process is distinct from Government's policy-making process. All analysis will be developed using existing policy objectives and constraints. Government will provide guidance to National Grid during the course of the analytical process on the range of decarbonisation scenarios to model.
3. The analysis produced by National Grid will be used by the Government to inform the first delivery plan, including the Government's decisions on strike prices for Contracts for Difference (CfDs) for renewable technologies.

## Timings

4. The first EMR delivery plan will be published by the Government in draft in July 2013 for consultation, and the final delivery plan will be published in December 2013, subject to Royal Assent of the 2012 Energy Bill. National Grid will provide its analysis to Government in spring 2013 to inform initial decisions for the draft delivery plan. Following this and following the public consultation, National Grid will work with DECC to identify any further analysis required. National Grid will provide further updates to the analysis as necessary before the Government publishes the final delivery plan in December 2013, subject to Royal Assent of the 2012 Energy Bill. The three stages for producing the first EMR delivery plan are summarised in Figure 1.

**Figure 1: Process for producing the first EMR delivery plan**

Stage	1: Evidence gathering and commissioning	2: Development of analysis	3: Decision-making and publication
Timings	May – December 2012	January 2013 – Spring 2013	Spring 2013 – December 2013
What's included	<ul style="list-style-type: none"> <li>• Capability building by the System Operator</li> <li>• Data sharing between Government and the System Operator</li> <li>• Call for evidence by the System Operator</li> <li>• Commission from Government to the System Operator</li> </ul>	<ul style="list-style-type: none"> <li>• Development of analysis; assumptions, models and scenarios</li> <li>• Scrutiny by the Panel of Technical Experts</li> <li>• Ongoing consultation on CfDs with the Devolved Administrations</li> <li>• Reporting by the System Operator and Panel of Technical Experts to Government</li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing analytical work (iterations and verification) and scrutiny by the Panel of Technical Experts</li> <li>• Structured consultation on CfDs with the Devolved Administrations</li> <li>• Public consultation on the draft delivery plan by Government (<i>mid 2013</i>)</li> <li>• Publication of final delivery plan by Government (<i>end 2013</i>)</li> </ul>

## Confidentiality

5. National Grid will conduct this work within the framework of agreements currently in place between the Government and National Grid. These include a Memorandum of Understanding and a legally binding agreement on the management of information (Confidentiality Agreement) which places an obligation on National Grid to keep information related to the EMR programme confidential. It also sets out the safeguards that National Grid will need to establish as part of its EMR delivery role. These can be accessed on the DECC website<sup>8</sup>.

## Future work

6. While the broad roles and processes described in this Commission should endure throughout future EMR delivery planning processes, the precise details of how the analysis will be developed and ways of working between National Grid and the Government may develop over time as the content of future delivery plans and annual updates evolves. The roles of the Devolved Administrations and the Panel of Technical Experts will similarly

<sup>8</sup> [http://www.decc.gov.uk/en/content/cms/news/nat\\_grid\\_mou/nat\\_grid\\_mou.aspx](http://www.decc.gov.uk/en/content/cms/news/nat_grid_mou/nat_grid_mou.aspx)

continue in line with the principles set out in this document, however the details may change as the delivery plan evolves with the phases of EMR.

7. Therefore, National Grid will work with the Government to determine the detailed arrangements for future delivery plans and annual updates. This includes determining the analytical requirements from National Grid and the ways of working with the Government. This work may include, for example, determining whether National Grid's delivery role includes them taking a lead in monitoring, tracking, reviewing and updating some of the assumptions underpinning the analysis on an enduring basis

## **The analysis from National Grid to inform the first EMR delivery plan**

### **Principles**

8. To produce the analysis to inform the first EMR delivery plan, DECC and National Grid will adhere to the following principles to ensure that the outputs from the analysis meet the desired objectives of facilitating robust decisions by the Government informed by independent expertise and scrutiny:
  - using the System Operator's independent expertise;
  - building on existing evidence and capability and avoiding duplication;
  - using DECC's central assumptions for the base case but the System Operator running additional scenarios and sensitivities to test possible divergences;
  - enabling transparent processes to facilitate scrutiny by the Panel of Technical Experts;
  - carrying out meaningful consultation with the Devolved Administrations on the CfD, and Government seeking consent from Northern Ireland Ministers before setting strike prices in Northern Ireland; and
  - involving third parties as necessary (for example the System Operator in Northern Ireland).

### **Government's objectives to frame the analysis**

9. The overarching purpose of this analysis is to help the Government to understand the likely impacts of its decisions on its objectives (described in this Appendix) and therefore to determine how best to balance them. The analysis should demonstrate how the Government's objectives are expected to be met or could be met. National Grid's analysis must also project the potential impacts on the spending envelope for DECC's levy-funded policies, as set through the Levy Control Framework.
10. The Government's objectives for Electricity Market Reform are to ensure that:

- the UK is on a pathway to reduce its greenhouse gas emissions by at least 80% by 2050 and meet its carbon budgets;
- there is sufficient investment in sustainable low carbon technologies to accelerate deployment and put the UK on the path to achieving existing legally binding targets including the 2020 renewables target, and the 2050 economy wide emissions reduction target, while driving down the cost of energy over time;
- there is a secure electricity supply with sufficient investment in reliable capacity to minimise the risk of blackouts; and
- the EMR policies are implemented in a manner that maximises the benefit and minimises the cost and other potential negative impacts of the mechanisms to consumers.

## Geographical coverage

11. The delivery plan will have a UK-wide coverage and so will the analysis . For example, it should show the impacts across the whole of the UK of CfD strike prices for renewables. The analysis must ensure that separate markets within the UK are appropriately modelled and impacts clearly understood when analysing CfD strike prices for renewables across the UK.
12. To ensure any market differences between Great Britain and Northern Ireland are analysed and modelled, National Grid will need to work with the System Operator Northern Ireland (SONI). It may do this by requesting either new or existing detailed modelling and analysis.

## Data

13. National Grid will use the data gathered for the 2012 Renewables Obligation Banding Review which set the Renewables Obligation Certificate Bands up to 2016/17. This data was published as part of the Government's response to the Renewables Obligation consultation<sup>9</sup>. Any additional evidence gathered by DECC through its subsequent calls for evidence (for example, on onshore wind), which is used to review the Renewables Obligation data, may also be used by National Grid to inform its analysis. National Grid may also use other relevant data, for example levelised costs of electricity generation prepared by Parsons Brinkerhoff on behalf of DECC.
14. National Grid launched a call for evidence<sup>10</sup> on 9 October to review technology cost and deployment potential assumptions and to ensure that the most up to date data for the projects commissioning towards the end of the Renewables Obligation (due to close to new projects on 1st April 2017) and beyond are taken into account. The call for evidence will

<sup>9</sup> [http://www.decc.gov.uk/en/content/cms/consultations/cons\\_ro\\_review/cons\\_ro\\_review.aspx](http://www.decc.gov.uk/en/content/cms/consultations/cons_ro_review/cons_ro_review.aspx)

<sup>10</sup> <http://www.nationalgrid.com/uk/Electricity/Electricity+Market+Reform/index.htm>

- also help to understand the differences in investment decisions under the Renewables Obligation and CfDs, and how choices will be made between the two mechanisms.
15. National Grid may use other data and evidence where it has existing knowledge or particular expertise.

## Models

16. National Grid will use a comprehensive fully integrated power market model for the analysis. The model will enable analysis of electricity dispatch from power generators, and investment decisions in generating capacity to at least 2030. It will consider electricity demand and supply on a half hourly basis either for a sample of days or it will model all half hours in the year. Investment decisions will be based on projected revenue and cash flows allowing for policy impacts and changes in the generation mix and interconnection capacity. The full lifecycle of power generation plant will be modelled through to decommissioning, and allow for the risk and uncertainty involved in investment decisions.
17. For the first delivery plan, DECC is planning to make available its Dynamic Dispatch and Project Finance Models for National Grid to use. DECC and National Grid will determine the other existing models held within DECC and National Grid that meet the remaining requirements for this analysis, and how models may need to be developed. For example, it is anticipated that National Grid may call upon other third party organisations to provide data, tools or analysis to contribute to the analysis for the delivery plan. This is likely to include requests to the System Operator Northern Ireland (SONI) to provide detailed modelling and analysis to ensure the separate market in Northern Ireland is appropriately modelled and impacts understood.
18. National Grid will provide DECC with copies of all models being used for the EMR Delivery Plan. National Grid and DECC are developing an Intellectual Property Agreement to provide the basis for sharing models.

## Assumptions

19. National Grid will use some of DECC's assumptions (used for the DECC Updated Energy and Emission Projections (UEP)) to inform their base case. National Grid will run additional sensitivities to test possible divergences where appropriate.
20. These assumptions are important inputs in modelling and other analysis used to inform policy development in DECC and in other Government Departments. They are published following analytical reviews across Government, from some external parties and including

the Devolved Administrations. The Office for Budget Responsibility's (OBR) macroeconomic forecast is an input into the electricity demand projection.

21. In general DECC will provide National Grid with the base case assumptions, summaries of the evidence and analysis underpinning them, and if requested the detailed evidence and analysis underpinning them, where confidentiality conditions allow. Where National Grid's assessment differs significantly from those assumptions or where National Grid considers there is a case for considering a wider range of uncertainty, there will be a process for National Grid and the Government to decide whether to vary the assumptions or whether additional sensitivity analysis using variant assumptions is required.
22. The assumptions to be provided by the Government to National Grid for the base case include:
  - fossil fuel prices;
  - generation costs;
  - carbon prices; and
  - electricity demand.
23. Other assumptions may also be needed, for example on network costs and capacity. Where DECC assumptions are not currently available or National Grid has particular expertise in the area, National Grid will propose assumptions and they will be reviewed and decided according to the process described below. Other electricity assumptions include:
  - daily load curves;
  - the technical characteristics of existing generation plants;
  - deployment potential by technology for new build;
  - small-scale FIT supported deployment and generation;
  - embedded capacity and generation;
  - interconnector capacity and flow; and
  - price setting (mark-ups on system marginal cost).

## Scenarios

24. National Grid will provide analytical scenarios to Government. The scenarios will be developed through the process described below, with scrutiny from the Panel of Technical Experts on the technical parameters, and in consultation with the Devolved Administrations. The scenarios will be analytical and will be used by Government to inform policy. The analysis will be developed using existing policy objectives and constraints. The scenarios will show how different assumptions and policy decisions will impact on the Government's policy objectives, for example, the implications of CfD strike prices for renewable deployment. The scenarios will also need to encompass uncertainties over

future electricity demand, fossil fuel prices, costs, hurdle rates, and the potential deployment of generation technologies.

25. Given that there will need to be a number of policy assumptions and central assumptions carry uncertainties, a range of sensitivities and / or scenarios will be tested to reflect these 'alternative states of world'. To provide a reference point there will be a base case consistent with DECC's central assumptions and DECC's publications including the Gas Generation Strategy and Energy & Emissions Projections, which use the assumptions described above.

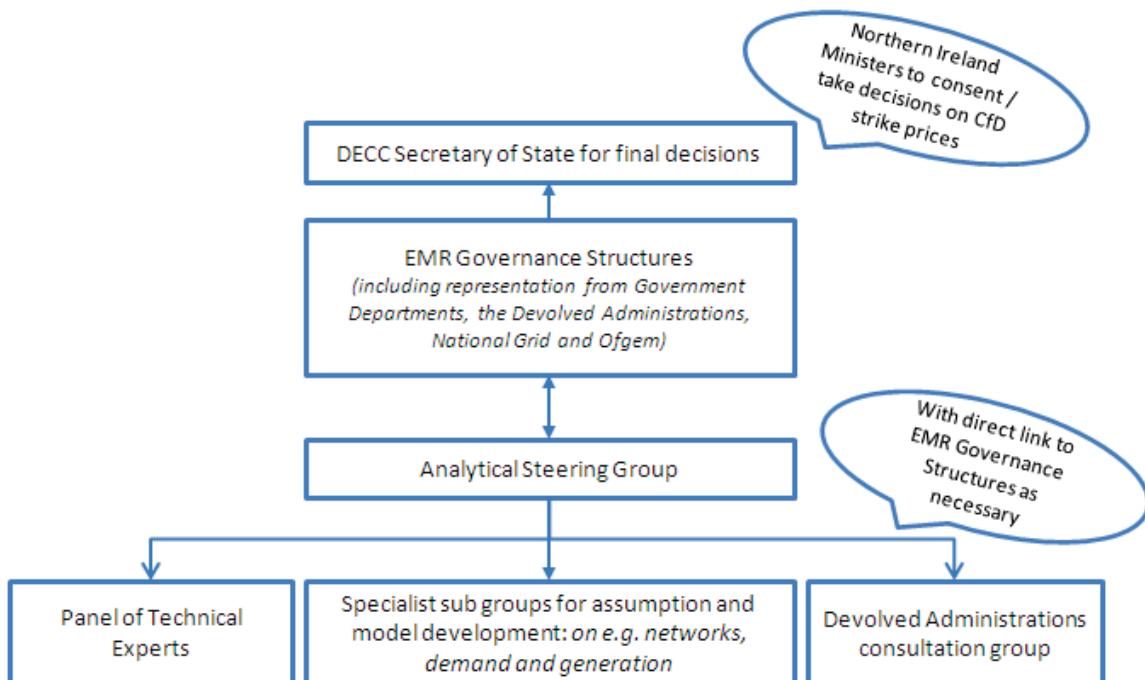
## Outputs

26. National Grid's analysis will include the impact of different policy decisions and assumptions on a range of modelled outputs. These outputs will typically include the generation mix, capacity, costs, security of electricity supply metrics (for example, capacity margins and/or energy unserved) and carbon emissions (carbon intensity of electricity generation). Other analysis and data from the modelling may also be requested by the Government. By understanding how different decisions and scenarios are likely to affect the Government's objectives in different ways, the Government will be able to make informed decisions with a full understanding of the likely impacts.

## Ways of working for the first delivery plan

27. This section describes how National Grid will work with the Government and others, including the Panel of Technical Experts and the Devolved Administrations, during the first delivery plan process. These governance arrangements are summarised in Figure 2.

**Figure 2: Governance arrangements for the first EMR delivery plan:**



### With the Government

28. To meet the principles and requirements for the first delivery plan , the Government and National Grid, in consultation with the Devolved Administrations, have determined the process through which the analysis for the first delivery plan will be developed. The process may be modified to reflect any changes necessary in light of future analytical requirements beyond the first delivery plan.
29. The Government will ensure the Devolved Administrations are appropriately engaged and consulted in this process, including at a senior level through existing governance arrangements.
30. National Grid will jointly chair an Analytical Steering Group with DECC and have representation on that and the sub-groups. The Devolved Administrations Consultation Group will also feed into the Analytical Steering Group.

31. DECC and National Grid will manage a series of sub-groups that report to the Analytical Steering Group. These will be created around areas of the modelling landscape, for example, generation, demand and networks. These groups will develop the assumptions, models and scenarios for each component and will be resourced jointly by DECC and National Grid. The sub-groups' work will include reviewing the central/base case assumptions provided by DECC, assessing the extent to which existing DECC and National Grid models meet the analytical requirements for the first delivery plan, and agreeing how model development to fill any gaps will be taken forward.
32. The sub-groups will be responsible for providing recommendations and options to the Analytical Steering Group on assumptions, models and scenarios in their areas, on which the Steering Group will be asked to agree. If the Analytical Steering Group cannot agree the recommendations or decide on the options they will be escalated to DECC's Chief Economist and National Grid's Executive Director UK for discussion and decision. Before escalation, the Analytical Steering Group will report to the EMR Governance structure, which includes representation from Government Departments (for example, HM Treasury), the Devolved Administrations and Ofgem. National Grid also sits on one EMR governance board.
33. National Grid will provide support to the secretariat of the Analytical Steering Group which will be jointly chaired with DECC. The secretariat's functions will include preparing agendas for Analytical Steering Group meetings; reviewing and circulating papers provided for the Analytical Steering Group; and agreeing the detailed specification for analysis commissioned by the Analytical Steering Group.

### **With the Panel of Technical Experts**

34. The Government will appoint a Panel of Technical Experts to scrutinise the analysis provided by National Grid for the first delivery plan, including scrutinising the assumptions, the modelling approach, and outputs from the analysis. The Panel will conduct this scrutiny throughout the process, once appointed, and provide updates to Government at key stages throughout the process, including formal reports to inform the draft and final delivery plans.
35. National Grid will engage with the Panel, for the first delivery plan process, in a way that is consistent with the analytical process described and enables the principles to be met.
36. National Grid will engage with the Panel efficiently and provide the information required for effective scrutiny (subject to confidentiality requirements). It will work with the Panel both directly where appropriate and through the Panel's secretariat, resourced by Government. The secretariat will ensure the Panel's Terms of Reference are clear and adhered to.

## With the Devolved Administrations

37. As set out in Annex E the Government will consult with the Devolved Administrations so that their views can be properly taken into account throughout the process before decisions on the CfD strike prices for renewables are taken, to enable the CfD to work effectively across the UK and support low carbon generation in all regions. This engagement will be done through a Devolved Administrations Consultation Group managed by the Government. National Grid will engage with this consultation group as appropriate to ensure the relevant information is provided to the Devolved Administrations.
38. It is important that the analysis to inform decisions on the CfD is UK wide and can effectively reflect differences in the GB and Northern Ireland markets. National Grid will work with the System Operator Northern Ireland (SONI) throughout the process to draw on evidence from Northern Ireland and their existing analytical capabilities. National Grid will invite SONI to any relevant meetings of the Analytical Steering Group where parts of their analysis and evidence are to be discussed. The Department of Enterprise, Trade and Investment (DETI) will also be invited to the meetings of the Analytical Steering Group where decisions relating to Northern Ireland are being taken, this will help to inform Northern Ireland Ministers when asked to consent to CfD strike prices in Northern Ireland.

## With Ofgem

39. National Grid will work with Ofgem as required, for example, in relation to the 2013 Electricity Capacity Assessment and how it relates to the EMR delivery plan. This is likely to involve Ofgem joining discussions of the Analytical Steering Group as an independent advisor when necessary.

## With third parties

40. National Grid may additionally call upon other third party organisations to provide data, tools or analysis to contribute to completion of the full delivery plan. All relevant third parties will be required to be bound by confidentiality arrangements and conditions so that any sensitive information is appropriately protected and handled.

## With wider stakeholders

41. As part of this role, National Grid will engage with UK stakeholders from the electricity market at the appropriate points of this process. The main purposes of this engagement will be:
  - to provide clarity and transparency to stakeholders over the analytical process being followed;

- to gather and share information at times when it is most meaningful to do so, to avoid the provision of misleading information;
- to help stakeholders understand the formation of the analysis which will be used to inform the EMR delivery plan in 2013;
- to facilitate effective engagement from stakeholders in Government's public consultation on the analysis informing the draft delivery plan in July 2013; and
- to share only the appropriate information, namely information that is not sensitive or confidential for any parties involved (including industry, Government or National Grid).

42. We expect that National Grid will engage with stakeholders to:

- keep them up to date on the process;
- verify data collected through the call for evidence; and
- explain the approach taken to supporting elements of the analysis such as assumptions and models.

43. Engagement will be conducted in different ways appropriate for the task. For example, data verification will be conducted, where required, bilaterally with the respondents to the call for evidence providing the data. There will be direct engagement on the modelling process with Industry participants and trade associations; and some engagement through more public media for example open seminars. Stakeholders will be engaged widely on the outputs from the modelling through the public consultation to be run by Government on the draft delivery plan.

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