



Department
of Energy &
Climate Change

Annex A: Developing the Modelling and Analysis for the Delivery Plan

Providing Ministers with evidence to inform their decisions

December 2013

1. The System Operator (National Grid), in its role as the delivery body for Electricity Market Reform (EMR), was appointed to produce analysis and evidence for the Government to inform decisions on Contracts for Difference (CfD) strike prices for renewables and the Capacity Market reliability standard.
2. These strike prices and the reliability standard are set out in the Delivery Plan 2013. In reaching these decisions Ministers have been informed by analysis from the System Operator.
3. The Government commissioned the System Operator in November 2012 to undertake the analysis for the Delivery Plan. Government also set up an independent Panel of Technical Experts to scrutinise the analysis from the System Operator.
4. The process for producing the analysis and feeding this into decision making can be divided into three stages (as shown below).

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"> • Capability building by the System Operator • Data sharing between Government and the System Operator • Call for evidence by the System Operator • Commission from Government to the System Operator 	<ul style="list-style-type: none"> • Development of analysis; assumptions, models and scenarios • Scrutiny by the Panel of Technical Experts • Ongoing consultation on CfDs with the Devolved Administrations • Reporting by the System Operator and Panel of Technical Experts to Government 	<ul style="list-style-type: none"> • Ongoing analytical work (iterations and verification) and scrutiny by the Panel of Technical Experts • Structured consultation on CfDs with the Devolved Administrations • Public consultation on the draft delivery plan by Government (<i>mid 2013</i>) • Publication of final delivery plan by Government (<i>end 2013</i>)

5. **In the first stage (May-December 2012)** the System Operator gathered evidence on generation costs through a call for evidence, and the Government published its commission to the System Operator.

- a. In November 2012, the Government published its Commission to the System Operator, in its role as the EMR delivery body, to carry out analysis for the first EMR delivery plan¹.
 - b. The Commission set out the required analysis to inform the draft Delivery Plan and the process that the System Operator should follow to produce this analysis. It also set out how the System Operator should work with the Government and others, including the Panel of Technical Experts and Devolved Administrations.
 - c. The Government's EMR Devolved Administration Consultation Group was set up to share and discuss analysis underpinning the CfD strike prices.
 - d. A senior Analytical Steering Group was set up, jointly chaired by DECC and the System Operator, and attended by Ofgem. This was supported by a number of working-level Analytical Working Groups.
6. **In the second stage (Jan 2013 – Spring 2013) the System Operator put together a suite of modelling tools (including the Dynamic Dispatch Model (DDM) from DECC) and gathered from DECC the full range of assumptions needed for the analysis. The Government selected an independent Panel of Technical Experts who began their work of scrutinising the analysis that informed the draft delivery plan in July 2013. The Devolved Administrations Consultation Group continued to meet to discuss the assumptions and the modelling approach.**
- a. The Government and the System Operator worked jointly to ensure that the modelling tools were adequate for the task of producing the analysis for the Delivery Plan. The System Operator was able to add valuable further functionality to the Dynamic Dispatch Model enabling it to show network, balancing and inertia costs.
 - b. The Government finalised its suite of assumptions for the Delivery Plan consultation – including by establishing a Levelised Cost Board to approve cost assumptions. The assumptions provided to National Grid include levelised cost assumptions, which are described further in the publication 'Electricity Generation Costs 2013'.² Further information on assumptions is provided in the report from the System Operator at Annex D to the Delivery Plan.
 - c. The input assumptions were scrutinised by an Analytical Steering Group jointly chaired by DECC and the System Operator and attended by Ofgem, as well as by the Panel of Technical Experts.
 - d. The Panel of Technical Experts informally reported to the Analytical Steering Group, making some suggestions for the Government and the System Operator to consider.

¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65639/7081-electricity-market-reform-annex-e.pdf

² <https://www.gov.uk/government/publications/electricity-generation-costs>

7. **In the third stage (Spring 2013 – December 2013) the System Operator delivered analysis and a report to the Government. The Government consulted on CfD strike prices for renewables and the capacity market reliability standard (from 17 July to 25 September) and then commissioned further analysis from the System Operator. The System Operator Northern Ireland (SONI) provided additional analysis for Northern Ireland. The Panel of Technical Experts delivered their reports on both the National Grid analysis for the Delivery Plan consultation (July 2013) and on the National Grid analysis for the Delivery Plan (December 2013). Discussions continued with the Devolved Administrations Consultation Group.**
- a. The Government received analysis from the System Operator (for both the July draft Delivery Plan and the December Delivery Plan) showing:
 - i. The range of policy choices Ministers had on renewable strike prices and the reliability standard in order to meet the Government's objectives on renewable energy, decarbonisation and affordable energy for consumers. The analysis received from the System Operator was set out in the draft delivery Plan in July 2013; and
 - ii. The impact of real world uncertainty (e.g. technology costs, fossil fuel prices) on the Government's objectives. With a given set of policy choices this analysis shows the uncertainty around for example deployment and cost.
 - b. Detailed discussions continued with the Devolved Administrations Consultation Group about the methodology for setting strike prices, and the underpinning analysis.
 - c. Having scrutinised the analysis by the System Operator, the reliability standard methodology and other inputs (such as levelised cost assumptions), the Panel of Technical Experts submitted their final report to the Government. This Report is provided at Annex E to the EMR Delivery Plan.
 - d. The Government considered the responses to the consultation and amended some of its modelling assumptions (see Annex H). The Government also considered the further analysis by the System Operator, the assessment by the Panel of Technical Experts and the views raised by the Devolved Administrations and all other relevant information before making decisions about the CfD strike prices and the capacity market reliability standard as set out in the December 2013 Delivery Plan.

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