DRAFT DELIVERY PLAN – KEY FACTS

- The draft EMR Delivery Plan sets out the detail of how the Government will drive investment in renewables while securing electricity supplies at lower cost to consumers.

- The biggest shakeup of the electricity market since privatisation, Electricity Market Reform will save an estimated 9% (or £62) per year on average annual household bills over the period 2016-2030 and make the UK market one of the most attractive for clean energy developers.

- The draft Delivery Plan provides the detail on strike prices for renewables under Contracts for Difference (CfDs) commissioning in the period 2014/15-2018/19. Due to be introduced in 2014, CfDs are the new long-term contracts to provide stable and predictable incentives for companies to invest in low-carbon electricity generation.

- The document sets out the robust methodology and analysis which provided the basis for the draft CfD strike prices announced in June 2013. The analysis was undertaken by the System Operator, National Grid, on behalf of DECC.

- The Delivery Plan also sets out the proposed reliability standard for the capacity market to ensure that the UK has security of supply and sufficient capacity to keep the lights on.

- The publication in July marked the beginning of the ten-week consultation in which stakeholder views are being sought on the both the reliability standard and the proposed strike prices for renewable technologies.

- The Consultation on the draft Electricity Market Reform Delivery Plan officially closed on 25 September. All responses are currently being reviewed and on the basis of the evidence gathered, further analysis on the strike prices will then be undertaken and scrutinised by the independent Panel of Technical Experts. The Devolved Administrations will also be involved through a Devolved Administrations Consultation Group.

- Following the analysis, the Government will make a final decision as to the reliability standard, and the level that strike prices will be set at in order to bring forward maximum deployment at least cost to consumers. These final details will be outlined in the Delivery Plan, which is scheduled for publication in December 2013 subject to Royal Assent.

- The timetable has been designed to give developers up to a year's visibility on intended strike prices before they come into force in 2014 and enable final investment decisions to be made ahead of the full EMR regime going live where appropriate.

- The July publication signalled that, following two years of intense preparation, working with industry, investors, consumers and many other stakeholders, EMR is now at the implementation stage in preparation for introduction in 2014.

KEY CONSULTATION Q&A

LCF

1. **What precautions are you taking to ensure that the Levy Control Framework limits are not exceeded?**

The strike prices proposed within the draft Delivery Plan have been set such that levy spend will be below the limits established by the Levy Control Framework under central assumptions, effectively creating a buffer zone between projected spend and the Levy Control Framework limits. As laid out in National Grid's annex to the draft Delivery Plan, projected levy spend in 2020/21 is only expected to be around £6.9bn, compared to the limit of £7.6bn.

DECC will establish a process of budgetary monitoring and management for the Levy Control Framework with the ability to restrict additional CfD allocation if needed to maintain levy spend within the Levy Control Framework limits.

2. **Why have such a large buffer?**
   What will Government do if the renewables target is unlikely to be met?
   As we get closer to 2020 will excess buffer be released?

The buffer equates to just 10% which is reasonable and practical. If indications show that the renewable target is not being met we would expect Government to re-assess the limit

3. **How do you use LCF to input into setting the strike prices? You can't set the price and quantity if it doesn't relate to the underlying economics?**

Ministers looked at decarbonisation, security of supply and other Government objectives when setting LCF. The analysis suggests that reaching 32% will only require £7.6bn. One of National Grid's scenarios illustrated an achievement of 35% renewables for expenditure of £7.6bn

4. **Is there a need to round to the nearest £5, should we not be more precise?**

Strike prices have been set using the RO-X methodology – to be consistent with incentives currently offered to investors under the RO. ROC bands are set in 0.1 increments – worth approximately £5/MWh – hence the decision to round strike prices to the nearest £5.

5. **How will constrained allocation work?**

Detailed arrangements for allocation will be set out in future publications, including any caps or floors for individual technologies or groups of technologies. We do not expect to set caps or floors for individual technologies as a general rule, as it is intended that the Government sets support levels and then technologies compete.

However, there may be a case to have a small number of caps and floors within the detailed allocation process, either to ensure deployment of technologies which are still at an early stage of development, and are valuable for the overall technology-mix, or to manage overall deployment of the most competitive technologies.

6. **LCF does not fit in with the way the investment community works**

We have already seen clear commitments and investments in low carbon electricity, particularly renewables, with the LCF in place. It is important that we protect the interests of both consumers and investors and this is why we have the LCF in place, to keep overall control of costs.

7. Concerned about the impact of new nuclear plants on the LCF

The agreed Levy Control Framework to 2020 is designed to enable us to meet our renewable target and deliver new nuclear and CCS commitments. The £7.6bn total (in real 2011/12 prices) is fully compatible with our commitments to increase in the amount of electricity from renewable sources for 11% today to over 30% by 2030, as well as fund our programme for new nuclear and Carbon Capture and Storage.

8. What happens if the LCF is breached?

We intend to support us much investment as is possible without exceeding the limits agreed as part of the Levy Control Framework. Unintentional overspends are considered within the Framework, and require a credible plan to return levy spend to levels at or below the agreed limit.

9. What are the plans for introducing LCF in Northern Ireland?

We remain committed to introducing the CfD into Northern Ireland in 2017, ensuring that Northern Irish projects will have equal access to apply for CfDs as all other projects in UK. We are currently working on eligibility criteria and contract mechanics to ensure that the CfD will work in Northern Ireland. We recognise that Northern Ireland developers could be disadvantaged if a substantial amount of the LCF budget is allocated before 2017. We are considering a number of options that could provide for a way forward on this matter and will continue to work with Department of Enterprise, Trade and Investment officials to identify a satisfactory solution.

10. How have the strike prices been developed?

The draft strike prices were developed through a large evidence gathering process, followed by modelling analysis of the potential impacts of different strike price options on renewables deployment, and Government objectives (climate change, security of electricity supplies and minimising costs to consumers). On the basis of this advice Government set the draft level strike prices at a level designed to bring forward maximum deployment at least cost to consumers, mindful of wider Government objectives.

The draft strike prices were published for 10 week consultation in the draft Delivery Plan in July. Following the close of consultation on 25 September all responses are currently being reviewed. On the basis of the evidence gathered, further analysis on the strike prices will then be undertaken and scrutinised by the independent Panel of Technical Experts. The Devolved Administrations will also be involved through a Devolved Administrations Consultation Group. Following the analysis, the Government will make a final decision as to the reliability standard, and the level that strike prices will be set at in order to bring forward maximum deployment at least cost to consumers. These final details will be outlined in the Delivery Plan, which is scheduled for publication in December 2013 subject to Royal Assent.

11. When figuring out the headroom figure of 20% on the LCF, did DECC perform an analysis of which modelled scenarios fall below, or indeed above the headroom? Or combination of scenarios? And did these scenarios "make sense" (i.e., unlikely to be realised etc and therefore

20% is a reasonable margin)? Can any probabilities be derived for exceeding the headroom from the analysis?

The 20% headroom figure was agreed in March 2011 at when the Levy Control Framework was first agreed between DECC and the Treasury, so before the Delivery Plan was conceived. The headroom is designed to account for exogenous factors or updated analysis resulting in forecast or actual spend above the agreed cap but must not be used as a result of policy changes. See here for more details: http://webarchive.nationalarchives.gov.uk/20130129110402/http://www.hm-treasury.gov.uk/d/control_framework_decc250311.pdf

All of the scenarios modelled by National Grid fall within the £7.6bn cap in 2020/21 and do not enter headroom. These can be found in Annex E of the Delivery Plan: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223655/emr_consultation_annex_e.pdf

Decarbonisation

12. What range do you support for decarbonisation by 2030?

The Government is committed to meeting the UK's legally binding Carbon Budgets and to reducing greenhouse gas emissions by 80% on 1990 levels by 2050.

A power to set a decarbonisation target range for 2030 has been added to the Energy Bill. The target will be set in 2016 once the Government has received advice from the Committee on Climate Change on the level of the 5th Carbon Budget.

The Delivery Plan sets out three scenarios for decarbonisation of the power sector to 2030, showing the level of deployment of different technologies required to decarbonise the power sector to 50g/kWh, 100g/kWh and 200g/kWh. This is consistent with the approach used in previous EMR publications and in the Gas Generation Strategy.

13. Why won't you choose a range for decarbonisation?

The scenarios outlined in the Delivery Plan are not targets. The exact generation mix will be influenced by how individual technologies develop in the coming decade.

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A power to set a decarbonisation target range for 2030 has been added to the Energy Bill. The target will be set 2016 once the Government has received advice from the Committee on Climate Change on the level of the 5th Carbon Budget.

The Government is committed to decarbonising the power sector but doing so in a way that maximises value-for-money for consumers by moving to a competitive price discovery process for all low-carbon technologies as soon as is practicable.

Strike Prices

14. How do you calculate the cost of a CfD and what happens if you get that wrong?

Strike prices are based on the premise that generators will receive the same net total discounted cash flows under CfDs as they would have done under the RO arrangements. The modelling methodology is the same for all technologies examined.

The methodology employed involves first calculating, for each technology in each year, an 'RO supply curve' based on plant capital, operating, fuel and financing cost estimates. These are then combined with revenue assumptions to determine the highest point on our supply curve, where the discounted Net Present Value (NPV) is equal to zero. This point on the supply curve then gives us the level of new build incentivised under the RO.

We then calculate a 'CfD supply curve' based on the same cost assumptions, except for lower financing costs. These are combined with revenue assumptions under the new EMR arrangements to calculate what CfD strike would be required to make the NPV equal to zero at the point on the supply curve where the RO NPV is equal to zero. This leaves the marginal investor indifferent between the RO and CfDs, given the lower cost of capital assumed for CfDs.

15. **What engagement has there been with the Devolved Administrations in setting the strike prices**?

EMR will benefit consumers in all parts of the UK – delivering green growth and jobs, reliable supplies of electricity and at least cost. It will provide a consistent and integrated framework for investors, which is essential if we are to attract the private capital we need.

The analysis that underpins the draft strike prices published for consultation has been shared and discussed with the Devolved Administrations and we will continue this engagement before the strike prices are set in the final Delivery Plan.

16. As LCF is to 2019/20 why are strike prices not set to 2019/20?

We are committed to reducing investor uncertainty and supporting low-carbon investment. Therefore the Delivery Plan will set strike prices for the next 5 years – to 31 March 2019. These annual strike prices to 2018/19 will set out the strike price that a generator signing a contract that year can expect to receive over the 15 year lifetime of their project (with an additional CPI adjustment). For example, an offshore wind farm commissioning in 2016/17 can expect to receive £150/MWh generated over the 15 year contract period (with an adjustment for CPI).

The CfD therefore provides for greater stability of revenue streams by providing a fixed strike price, which gives developers long-term revenue certainty. This means that investors in low carbon plant are protected from wholesale price volatility and should therefore reduce the cost of capital, making the development of low carbon generation cheaper for both investors and consumers.

17. How will you support projects that come online in stages or are phased, (i.e. some wind turbines built in the first year and more in a second year)?

In principle we support an approach to contract design that reflects the realities of procurement, financing and construction for generators who can show their projects have a single final investment decision but will be built in phases. We are currently developing the details for such a solution.

18. Your onshore wind costs are wrong/far too high/far too low.

The evidence collected as part of the Onshore Wind Call for Evidence was based on a wide and robust data set from developers who submitted actual costs data for around 70 projects, which represented a good mixture of sizes and location.

19. Offshore wind strike price - is it ambitious enough?

We have set the draft strike prices at a level which we consider will bring forward generation AND which reflect the expectation that the cost of offshore wind will fall by the end of the decade. We have set up an industry led Offshore Wind Programme Board to bring together different parts of the offshore wind industry to drive the work on reducing costs.

20. How did you work with National Grid?

National Grid, the System Operator, was commissioned to conduct analysis, and examined the data collected during a call for evidence to assess the impact of different strike prices on renewables deployment and Government objectives.

National Grid is in a unique position at the heart of the electricity system, making it best suited to undertake analysis to inform Government's key decisions on EMR. Its current work balancing the electricity transmission system means it understands the implications for the electricity system of different technology mixes brought on by contracts for difference.

We signed a Memorandum of Understanding with National Grid and put in place a legally-binding agreement on management of information. This requires National Grid, and all employees, consultants and other individuals working for the company on EMR, to protect confidential information. It also requires National Grid to maintain a level of separation between the Electricity Market Reform project team and other businesses within National Grid.

21. How much thinking has been done around targets? Is 32% sufficient?

The strike prices we have set to 2018/19 are those we consider best meet the Government's objectives – including ensuring that the electricity sector is on track to make an appropriate contribution to the Government's renewable energy targets. We anticipate the strike prices will bring forward significant deployment of renewable electricity – around 32% of all electricity in 2020 – which will make a significant contribution to putting the UK on track for its the long-term goal of reducing greenhouse gas emissions by 80% on 1990 levels by 2050.

22. How does that interact with heat / transport targets and budget allocation?

The Renewable Energy Directive does not specify how the UK's 15% target for renewables should be split between heat, transport and electricity. In setting out an approach for meeting this overall target, the Government has only provided indicative shares for each sector of the economy. The level ultimately required from electricity will depend on future policy and the achievement in each other sector or changes in total energy demand; however, the budget set through the levy control framework will allow an electricity contribution that is proportionate to its potential and the potential of other parts of the economy. Further information on how the three sectors work together can be found in the 2009 Renewable Energy Strategy, or the annually published Renewable energy Roadmap, all available on the gov.uk website.

Analysis

23. In terms of the RO-X' calculation method, is the Capacity Market is applied? When you calculate the revenue of a power plant, even if the power plant is using 'non-reliable' technologies such as wind turbine?

The modelling assumes specific capacity derating factors for each technology, which determine how much of the nameplate capacity counts towards peak capacity in the modelling of the capacity market. The derating factors reflect unplanned outages. Onshore and offshore wind are assumed to have a current derating factor of 22%, implying that 22% of wind nameplate capacity counts towards the capacity margin. This is based on analysis undertaken by Ofgem (https://www.ofgem.gov.uk/ofgem-publications/75232/electricity-capacity-assessment-report-2013.pdf). As 22% of wind nameplate capacity is assumed to count towards the capacity margin, wind generators bid into the capacity market once their CfD support payments have ended until the end of their technical life.

24. Surprised that Basis Risk is included with PPA discount. More visibility on the assumption here would be useful.

The PPA discount is assumed to encompass all route to market costs for the relevant generators: balancing / basis risk, forecasting, trading, change in law, etc. We have not attempted to estimate the relevant contribution of different risks or costs to this discount. Instead, it was estimated by reference to discounts available in the market for RO generators today, adjusted to reflect likely changes in the market following the move to CfDs. Further details are given on pages 30-31 of the Draft Delivery Plan and section 7.7 of the System Operator (National Grid) report (Annex E to the Draft Delivery Plan).

25. PPA discount is different under the CfD. Why? Explain.

We have estimated potential discounts for renewable generators by reference to discounts available in the market for RO generators today, adjusted to reflect likely changes in the market following the move to CfDs. The process was as follows:

a. The estimate for discounts for current RO plant is based on the evidence underpinning the RO Banding Review together with evidence provided by market participants through a call for evidence over the summer of 2012 and research carried out on behalf of DECC by Baringa in March-April 2013 on the state of the PPA market currently and in the recent past.
b. This was then adjusted to reflect the likely changes in the market as a result of the move from the RO to CfDs reflecting the changing risk landscape:
    i. Removal of price risk through guaranteed top-up payment against reference price
    ii. Removal of exposure to ROC price volatility
    iii. Removal of risk of carrying ROCs
    iv. Application of discounts to wholesale price only, rather than the entire revenue stream.

The discount used for this analysis assumes a reasonably competitive PPA market and efficient pricing of imbalance risk and route to market costs – there is ongoing work within the department on route to market issues including consideration of intervention options if required to promote competition in the PPA market.

26. Given that investors use PPA last resort terms as the basis for their investment will you revisit the modelling/re-run these numbers?

The discount used for this analysis assumes a reasonably competitive PPA market and efficient pricing of imbalance risk and route to market costs – there is ongoing work within the department on route to market issues including consideration of an offtaker of last resort (OLR) if required to promote competition in the PPA market.

We are not expecting investors to base their investment on the last resort terms. Investors will need to find a route to market for their power, and we have used the adjusted PPA discount assumptions from the RO as a basis for the cost of route to market. The proposed offtaker of last resort mechanism should enable developers to use a greater diversity of routes to market (for example, a greater range of PPA counterparties and shorter term PPAs), and should therefore reduce route to market costs.

27. Clarity sought on how renewable contact of fuels in handled in the CfD/strike price

The strike price will be paid on the fraction of the plant's electrical output that is renewable. This will take into account the renewable content of the fuel.

28. If the carbon floor rises significantly in years 10-25 and thereby increasing wholesale power prices, how will this affect strike prices for that 5 year period? If upwards you would expect this to lead to a delay in deployment in years 5-10 in order to capitalise on the increased price.

The announced trajectory for the carbon price floor has been included in the analysis. In general the carbon price floor has no impact on strike prices. The impact of the carbon price floor on wholesale price is taken into account in the RO-X calculation, but this only defines strike prices up to 2016/17.

29. What is the process for CCS and nulear?

The Delivery Plan is not setting strike prices for Nuclear or CCS. These will be agreed through a separate process. The Government is negotiating the terms of a potential investment contract with EDF for the Hinkley Point C nuclear power plant. The discussions are focussed on achieving a fair agreement that represents good value for money. Should an agreement be successfully concluded, the Government will lay the contract before Parliament, including details of the strike price.

30. CCL is assumed to be at current levels for next 20 years

We project that LECs will continue to have value beyond 2023. LEC revenue is available to plants supported under CfDs, as it is to plants supported under the RO. This means that the impact of assumptions about future LEC values on the calculation of RO-X strike prices is limited.

31. **In terms of the sensitivity of RO-X, which sensitivities did you look at?**

Variation in capex and wholesale prices and fossil fuel prices

32. Is there anywhere an explanation of why DECC chose to vary capex when finding the marginal investor in the RO-X method?

DECC use capital costs to model variation across siting and technology size for each technology. This is based on the methodology used for the Renewables Obligation Banding Review and the data was developed with this intention. For most technologies, capital costs (along with fuel costs) are the

most significant driver of costs. While other factors may lead to a further variation, the range of capital costs should in general capture this variation.

33. Were the capex assumptions used taken from a round 2 offshore site? And would this disadvantage round 3 sites given the distance from shore etc?

Current policy is for one strike price for offshore. It should also be noted that some of the early Round 3 sites are not significantly further from shore or in significantly deeper water than some of the Round 2 projects and Round 2 extension projects. If we need more deployment and round 3 costs have still not fallen sufficiently we may consider the evidence for a different band but that isn't the case at present.

34. **You state that you have low, medium and high cost scenarios and use them to calculate supply curve. How does this work in practice?**

In the RO-X strike price calculation, the low medium and high capital costs are used to define a 20 point supply curve. Levelised revenues under the RO are used to determine the marginal point on this supply curve. The CfD strike price is set so that the NPV of this marginal point is the same under CfDs and the RO.

In the DDM modelling, build limits for different technologies are combined with the generic assumptions on plant sizes to calculate the maximum number of plants of a particular technology that can be built in a particular year. This defines the number of points on the supply curve, with points spaced evenly between low and medium costs, and between medium and high costs.

35. How wedded are you to the idea that strike prices need to be rounded to £5/MWH as that seems high? Rounding up to £5/MWh - is that every year?

ROC bands have been set in 0.1 ROC increments, with 0.1 ROC indicating a difference in support of around £5/MWh. All strike prices are therefore rounded to the nearest £5 (2012 prices), to be consistent with this convention. The actual strike price paid to generators will be uprated in line with CPI inflation. Further detail on the mechanics of strike price inflation indexation was set out in August, when drafts of key CfD terms were published.

36. Is 5 £/MWh really equivalent to 0.1 ROC under the RO, hence the reason for the CfD rounding? Is this under all combinations of inputs to the RO-X methodology or just those tested?

The comparison between £5/MWh and 0.1 ROC was not intended to be precise, but as a rule of thumb to allow stakeholders to make a high level comparison between CfDs and ROCs. We assume that the value of ROCs is the buyout price + 10%, which was £40.71+10% = £44.78 in 2012/13. So 0.1 ROCs would have been worth £4.48. While strike prices will be indexed to CPI, the ROC price is indexed to RPI, so over time the value of ROCs is expected to get closer to and eventually surpass £5 (in 2012 prices).

37. Is there anywhere an explanation of why an investor with perfect foresight for 5 years and then imperfect foresight after that is used in the model? And perhaps more importantly, what is the impact on results for different perceptions of the future? For example for an investor with shorter/longer perfect foresight and/or a higher/lower wholesale revenue projection than "reality" (e.g., an investor with a lower expectation after 2020 leads to a lower CfD price for an equivalent marginal RO investor)?

This is same level of foresight as assumed in the Renewables Obligation Banding Review, described in https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42844/3482-ro-banding-levels-cons-ia.pdf

38. It would be good to see an example of RO-X for all CfD technology classes I is this available anywhere?

Examples of the form you have seen for onshore and offshore wind are not currently available for other technologies.

39. To what extent will you evaluate cost of capital from moving from RO given that we now know more about (real underlying costs?) Impact on contract terms of cost of capital?

DECC is seeking to further understand evidence on the financing costs of renewable electricity generation. On 3 September 2013 DECC issued a tender for a supplier or suppliers to review and build on existing evidence on the costs of financing low carbon generation under Contracts for Difference (CfDs).

40. What was the model used for Northern Ireland?

The System Operator for Northern Ireland (SONI) was tasked with modelling the likely build and dispatch of low carbon technologies in Northern Ireland in response to CfDs.

SONI has used strike prices consistent with those assumed by National Grid. A detailed market model representing the SEM has been developed to project generation volumes and wholesale price, used to calculate the reference price. Capacity assumptions have been developed using the most credible public sources available, and kept consistent with the scenarios modelled by National Grid. Strike prices have been used exogenously to calculate difference payments to low carbon generators.

41. Does DECC provide anywhere a detailed list of who has peer reviewed the RO-X CfD methodology?

The RO-X CfD calculations were quality assured by both the EMR modelling team and DECC's head of modelling. The methodology itself was reviewed by analysts on behalf of DECC's Chief Economist.

42. What further analysis will be carried out as a result of the questions raised at the event?

We are reviewing evidence received during the consultation and where the evidence is strong we may model updated assumptions and scenarios

Risk

43. Draft strike prices seem quite severe compared to the ROC regime. More risks with a CfD; a new instrument creates uncertainty

Does the CfD increase risk for generators compared with the RO?

Impact on contract terms and cost of capital makes CfD less attractive than the RO

CfDs do not provide sufficient certainty to get a contract at the right price

It is self-evident that there are certain differences between the RO and CfD – not least contract length and basis of indexation. However, a lengthy and robust methodological process has been undertaken to calculate the draft strike prices. The reduction in length from 20 to 15 years and change from RPI to CPI has been reflected in making adjustments in the RO-X the strike price setting process.

On the whole we believe there are very clear benefits to the CfD vs. the RO:

a. Earlier certainty: Certainty of financial support comes earlier under the CfD than under the RO, because it is allocated before a project developer takes their final investment decision, rather than on commissioning. This will reduce the risk premia associated with development and early stage capital expenditure

b. Revenue stability: The CfD provides a stable revenue stream providing generators with long term price stability through the removal of wholesale price risk. This has the potential to reduce the cost of capital, and to attract investors who were uncertain about taking wholesale power price volatility under the RO system.

c. Contract framework: The CfD will be a private law contract with associated rights and protections in a familiar framework for investors and developers with clear routes for resolution of disputes and transparent, contract based, benefits, obligations and rights;

d. Credit strength: The CfD will be underpinned by legally sound levy raising powers to raise sums from the financially strong UK supplier market, and further supported by collateral, mutualisation and regulatory backstops.

e. Durability: The CfD is flexible and in particular will provide protection against certain changes in law. With the LCF framework now agreed, there is also a sustainable budgetary agreement that will underpin the allocation of CfDs in a durable fashion.

44. Do/How do you model imbalance risks in setting strike prices?

Imbalance risks faced by generators occur when the generator delivers more (or less) electricity than they had been contracted for in any given period. These imbalances can lead to exposure to "cash out" prices through National Grid's balancing mechanism, or costs associated with buying (or selling) electricity on the within-day market to make up for the shortfall (surplus) of electricity they have generated in the specified period.

Market participants seek to manage these risks through their power trading strategies. However, some projects, particularly independent generators, rely on long-term offtake contracts, known as Power Purchase Agreements (PPAs) for their route to market and risk management. PPA terms vary, but typically the offtaker agrees to buy power at a discount to the prevailing wholesale price.

The discount reflects the risks that the offtaker will manage (in particular, imbalance risk) on behalf of the generator. This 'PPA Discount' is included in the calculations that we have used to set strike prices. Therefore strike prices have been set a rate to compensate generators for the costs they face in indirectly managing imbalance costs.

45. Do/How do you model basis risk in setting strike prices?

Basis risk is the risk that the wholesale price that generators receive may be less than the reference price - meaning their total revenues are less than the strike price. Unlike under Fixed Payments, CfDs do not reduce basis risk faced by generators – and our modelling is consistent with this[1].

[1] Please see page 45 of the Redpoint report: Electricity Market Reform: Analysis of policy options https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42638/1043-emr-analysis-policy-options.pdf

However, under the new arrangements, intermittent generators should be able to minimise their basis risk by trading on the 'day-ahead auction' from which the reference price is set. This should mean that the wholesale price they receive for their electricity is the same as the reference price.

The reference price received by baseload generators will be based on an average of trading prices over a pre-defined period, and therefore generators will face a degree of basis risk under the new arrangements, but we believe this should be manageable through normal trading strategies.

46. Do/how to you model volume risks in setting strike prices?

Volume risk is the risk that lifetime generation proves insufficient to cover lifetime investment and operating costs. We did not model volume risks in setting RO bands, and we have taken the same approach in setting strike prices.

Wholesale prices

47. We need to understand wholesale revenue assumptions - have these been published?

Wholesale price projections up to 2030 are contained in Annex E (table and chart data) published alongside the Draft Delivery Plan (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/230441/NG_Report_Data_2020_for_website.xlsx)

48. In terms of the wholesale price and the projections used, why weren't the Updated Energy Projections (UEPs), published annually by the Government, used?

The UEP is published every autumn so we didn't want to use this for a July analysis. We used a wholesale price projection which incorporates updated fuel price figures.

Offshore wind

49. Q: Strike price is too low

We have set the draft strike prices at a level that is both intended to bring forward generation and reflect the expectation that the cost of offshore wind will fall by the end of the decade. We have set up an industry led Offshore Wind Programme Board to bring together different parts of the offshore wind industry to drive the work on reducing costs.

DECC has recently held a number ofmeetings with the industry to discuss these issues – the first meeting was led by Michael Fallon and the second by the Director of EMR Jonathan Mills

50. Your projected deployment level in 2020 is a change of position - surely this will not be enough to generate a competitive UK supply chain by then?

This represents a substantial expansion of the sector and will offer significant opportunities for the UK supply chain. [In any case it is noted that the projected deployment levels are not an upper or lower limit.]

51. Rates of degression are too high; the time cycle is 6-7 years
How do you know costs of offshore wind will fall by 2020?

The proposed strike prices take account of our expectation that a CfD will provide the developer with greater revenue certainty than Renewables Obligation support, which we expect to be reflected in lower costs of capital. They have also been adjusted to take into account the different contract length and the benefit of the CfD in reducing a developer's cost of capital.

The strike prices for new technologies come down over time showing that as technology costs come down, consumers will be paying less.

The industry led Cost Reduction Task Force concluded that a reduction to £100/MWh by 2020 was very challenging but achievable. We are working with industry, through the Offshore Wind Programme Board, to help drive down costs.

52. Lack of policy certainty from HMG has stalled investment in the offshore wind market in the UK

We are committed to bringing forward investment in affordable low-carbon electricity generation to ensure that it is an attractive investment opportunity and that the UK electricity sector can deliver a secure, affordable supply to consumers.

We are aware the concerns of some industry stakeholders in relation to offshore wind strike prices and have recently held a number of meetings with the sector. These concerns are not held unanimously across the sector. We have indeed received a large number of FIDe applications on the strength of the offshore wind strike prices.

53. What about supply chain benefit for the UK? Are jobs just going abroad?

We want to develop a broad, competitive and high quality UK based supply chain and increase levels of UK content in offshore wind projects. This will help to drive cost reductions – new entrants means greater competition and more innovation.

Offshore Wind Developers have a stated vision of a competitive UK supply chain providing over half of the content of offshore wind farm projects in UK waters comes from UK suppliers. We are developing an offshore wind sector strategy in partnership with industry that will set out a "Vision" for the sector and how we can build a successful industry in the UK.

54. What about low levels of UK content?

We want to see more UK content in offshore wind projects. We are working with industry to deliver this.

55. Why don't you use the CfDs to require higher levels of UK content?

Requiring mandatory levels of UK content is not likely to be compatible with the rules of the Single Market.

Onshore wind

56. **You are cutting the amount of support for onshore wind**

Onshore wind is one of the lowest cost large-scale renewable technologies, and we remain committed to supporting its deployment on appropriate sites. The Government has an obligation to ensure that support for renewable technologies are affordable and offer good value for money for bill payers. That is why, based on the evidence, we cut the support rate for onshore wind by 10% to 0.9 ROCS in April 2013. As we are aware that the costs of generating can fall faster or slower than expected, we recently used the Onshore Wind Call for Evidence (launched in Autumn 2012) to gather more evidence about the costs of onshore wind.

The evidence collected as part of the Onshore Wind Call for Evidence was based on a wide and robust data set from developers who submitted actual costs data for around 70 projects, representing a good mixture of sizes and locations. This data showed that the costs had not changed significantly since the 2012 banding review, which is why we decided not to change support rates again and are maintaining support for onshore wind at 0.9 ROCs. The strike prices published on 27 June are fully equivalent to the reduced level of Renewables Obligation support announced in April.

57. Your onshore wind costs are wrong

The evidence collected as part of the Onshore Wind Call for Evidence was based on a wide and robust data set from developers who submitted actual costs data for around 70 projects, which represented a good mixture of sizes and location.

58. The guarantee of £100/MWH for onshore wind is simply too high and does nothing to encourage wind farm operators to offer a better deal

Financial support for onshore wind from 2013-17 was reduced by 10% from April 2013. The proposed support levels included in the draft Delivery Plan for consultation do not represent an increase in support over the Renewables Obligation. In addition, under Contracts for Difference (CfDs), renewables will only receive support for up to 15 years, rather than 20. We have set support levels so that CfDs are no more generous than RO during the period when both schemes are in operation.

59. Value of property close to wind farms should be protected before a community further away is cajoled into supporting a wind farm which has negligible impact on them

We have taken action so that onshore wind planning applications will only be accepted where the impacts are, or can be made, acceptable. Updated planning practice guidance on will help ensure that proper weight is given to factors such as heritage sites and visual impact and we have announced measures to give communities a greater say over onshore wind developments. Developers will be legally required to engage with local people at an earlier stage to ensure their views are properly taken into account.

Hurdle rates

60. Sensitivities to hurdle rates - how do they look?

The hurdle rates have been derived by estimating the impact of market risk on the cost of equity, cost of debt and gearing of the project – all of which affect investors' overall costs of borrowing. Further information on the modelling of hurdle rates can be found on page 129 of Electricity Market Reform – Analysis of Policy Options by Redpoint Consulting

(https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42638/1043-emr-analysis-policy-options.pdf)

Advanced Conversion Technologies

61. What is ACT?
Advanced Conversion Technology is a low energy process for converting non-recyclable, non hazardous materials into renewable energy. Examples of ACTs include gasification and pyrolysis.

62. **Why does the strike price for ACT degress so quickly? – All planned projects will cease.**
For advanced conversion, as for other technologies, strike prices are based on the premise that generators will receive the same total discounted cash flows under CfDs as they would have done under the RO arrangements. It represents one of the highest levels of support offered to renewables technologies under the CfD scheme.

We see an important role for gasification and pyrolysis technologies as part of our commitment to delivering low carbon and affordable energy. The Technology Innovation Needs Assessment showed significant potential for cost reduction, so the strike prices have been matched to the marginal renewable technology, offshore wind.

63. Why is there no additional support for more advanced technologies?
More advanced technologies encompass innovation which is important for the future direction of the sector, and we support the development of these projects. However, at present, the cost data does not support a separate strike price for standard and advanced gasification technologies. We will continue to monitor the progress of standard and advanced conversion to determine whether a change in future policy may be needed.

64. **Why are the assumptions used to determine strike prices for ACTs not transparent?**
The assumptions used to determine the strike prices for EMR were the same as under the Renewables Obligation.

Reliability Standard

65. How does the proposed standard compare to the US and other standards?
Our proposed reliability standard is comparable to those of our interconnected neighbours.
The reliability standard used in France is a Loss of Load Expectation of 3 hours per year. In the Netherlands it is 4 hours per year. Ireland has a somewhat less secure reliability standard of around 8 hours per year.

In most US markets with Capacity Markets, we see reliability standards of 1 day in 10 years. Although this is not universally translated into hours per year, the most common translation is that this equates to a Loss of Load expectation of 2.4 years.

66. Is VOLL different by customer?
We commissioned joint advice with Ofgem to underpin our assumptions on Value of Lost Load. For domestic customers and SMEs the approach used a choice experiment which involves surveying customers. For large scale commercial and industrial customers the approach involved looking at their electricity consumption and the gross valued added.

67. Will embedded plant and licence exempt plant still be eligible for the capacity market?

As long as they are not receiving another subsidy then they will be eligible and de minimis size criteria

68. The assumption for cost of new entry into the Capacity Market is too low

The draft Delivery Plan opened consultation into the proposed reliability standard for the capacity market to ensure that the UK has security of electricity supply and sufficient capacity to keep the lights on. Stakeholders submitted responses to a range of questions on parameters of the Capacity Market, including the cost of new plant entry. All evidence is currently being reviewed prior to publication of final figures in the Delivery Plan, due by the end of the year.

Islands

69. What is happening in terms of the islands consultation?

We propose to set the strike price at £115 per MWh for onshore wind developments on the Scottish Islands of Orkney, Shetland, and the Western Isles, reflecting their unique circumstances and potential.

Tailored strike prices will help to unlock the Scottish Islands renewable energy potential as cost effectively as possible. The proposed strike price is sufficient to being on the more cost-effective of the projects on the Scottish islands. Bringing on all potential projects on the Scottish islands would not be value for money. The consultation on strike prices will last for six weeks.

70. How has the strike price of £115 per MWh been calculated?

We have developed the strike price based on the cost information provided by the independent Baringa/TNEI report, which has been reviewed by DECC analysts against data collected for the Renewables Obligation (RO) banding review and other evidence. The proposed strike price has been developed so that it would allow the most cost effective projects to come forward. This was the basis for setting support levels under the RO, which are proposed to be carried forward into the CfD strike prices.

66. How does this differ from the existing strike process for onshore wind?

The prices in the consultation are £100 per MW/h falling to £95 per MW/h in 2017/18 and 2018/19.

67. Could different strike prices not be set for different islands?

A differentiated strike price that set different levels for individual island groups would not deliver value for money.

68. In view of your aim to move to low carbon energy sources, should the strike price not have been set at a level to enable all renewable generation?

One of the aims of the support mechanism is to bring on renewable generation at the lowest possible cost. We recognise that this level of support may not bring on all of the potential projects, and therefore may not provide sufficient support for all potential transmission links. However this is the case for all technologies. Setting the strike price at a level that would bring on all eligible projects would result in significant overcompensation of the cheaper projects and would lead to higher costs overall.

69. Why has a strike price not been set for marine technologies?

The technology is in the early stage of development so there is considerable uncertainty around the appropriate strike price for marine and the effect of location in remote islands. Further, we do not expect that there will be any commercial scale projects deployed during the lifetime of the first EMR delivery plan. Therefore we do not propose to set island specific strike prices for wave and tidal energy as part of the first delivery plan. We would intend to consider again in detail whether Scottish Island-specific measures should be put in place, and at what level, as part of the second Delivery Plan period.

70. Why have strike prices not been set for other technologies?

At this stage there are no proposals to develop any other renewable technologies. If there are any future proposals we will discuss strike prices with the developers.

71. When will CfDs for islands renewable generation become available?

Subject to the consultation, we propose that level of the island onshore wind strike price should be set at £115 per MWh from 2017/18, when the first projects are predicted to be able to begin generating.

72. When will the final strike price be published?

Consultation on the options to additional support for island projects will last for six weeks. The outcome of this will be published at the end of the year to allow implementation as part of the EMR Delivery Plan.

73. What is the potential of Scottish Island Renewables / Is it cost effective?

The recently published independent report shows that while there are significant potential benefits to developing renewables on the Scottish islands, there are also considerable costs that need to be overcome. The Government has considered the report and has developed a proposal for consultation having taken account of a range of criteria including; legality; practicality; value for money for UK consumers; and consistency with the planned Electricity Market Reforms.

74. Is the Scottish Government involved/ why was this not a joint announcement with the Scottish Government?

The independent analysis by Baringa/TNEI, commissioned by the UK Government and the Scottish Government published in May was assisted by a Steering Group with representatives from the Scottish Government; Highlands and Islands Enterprise, the island councils; and grid operators and owners.

75. How is EMR devolved to Scotland in relation to strike prices and CfDs?

All of the policies in EMR extend to Scotland with energy, generation and supply classed as reserved matters.

The draft strike prices published for consultation are underpinned by analysis conducted by DECC, National Grid and the System Operator Northern Ireland (SONI), and analysis has been shared and discussed with the Devolved Administrations through the Devolved Administration Consultation Group. We will continue to develop this engagement before the strike prices are set in the final Delivery Plan.

We will also be seeking to agree a Memorandum of Understanding on how the UK Government and Devolved Administrations will work together on EMR on an ongoing basis.

Renewable Energy Trading

76. Why have you not set support for projects (e.g. Ireland) that could contribute to the UK's goals through renewables trading?

We are continuing to develop a policy solution that could let projects import renewable electricity to the UK, and export from the UK to elsewhere. We will confirm at the end of this year whether and how we see such projects going ahead.

We have also published our response to a Government Call for Evidence on Renewable Energy Trading. We received 36 responses from a range of project developers and other stakeholders, and are working on the issues they raised.

It is clear [from responses] that importing physical electricity from abroad could be a very attractive opportunity with much potential; the statistical trading of 'virtual' renewable credit looks much less attractive, however, and Government is not performing work on this option.

We are working hard on making trading projects possible, and to ensure they offer value to the UK. For example, officials are meeting bimonthly with developers and monthly with the Irish Government to work through the obstacles.

Response to CfD contract

77. Has DECC had any feedback from banks and financiers on contract wording?

DECC has had feedback from a range of stakeholders in relation to the CfD contract. Stakeholders have raised a number of queries ranging including:

- View that change in law clauses do not provide sufficient cover
- Welcoming the removal of a number of termination events
- Intellectual Property rights – considered to be too much in the CfD Counterparty's favour.

DECC is in the process of considering the issues raised.