



Department  
of Energy &  
Climate Change

# Government response to consultation on changes to grandfathering policy with respect to future biomass co-firing and conversion projects in the Renewables Obligation

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# Chapter 1 –Executive Summary

## Introduction and purpose of consultation

1. The renewable electricity programme aims to deliver at least 30% of the UK's electricity demand from renewables by 2020. We are on course to achieve this objective. Renewables already make up almost 20% of our electricity generation<sup>1</sup> and there is a strong pipeline to deliver the rest.
2. As we decarbonise it is imperative that we manage the costs to consumers. Although renewable energy costs have been coming down, subsidies still form part of people's energy bills and as the share of renewables in the mix grows, the impact gets proportionally larger.
3. On 12 December 2014 DECC published a consultation<sup>2</sup> outlining proposals that the support rate under the Renewables Obligation (RO) for future biomass co-firing and conversion projects should no longer be covered by Government's grandfathering policy. This change would apply to station or combustion units that move into the mid-range, high-range co-firing or biomass conversion bands for the first time under the RO, from the date of the publication of the consultation document.
4. This action was triggered by evidence collected through the biomass conversion and co-firing voluntary cost control mechanism and other market intelligence. It suggested that deployment of these projects would be higher than the middle of the ranges used to set budgets under the Levy Control Framework (LCF) – which limits the impact of low carbon schemes on consumer bills.
5. The scale of some of the combustion units that might be used for co-firing or conversion to biomass is potentially significant for the RO. In some cases, big changes in the levels of biomass generation in a combustion unit can be made relatively quickly without the need for any formal prior notification where the generating station is already accredited under the RO. Any unexpected deployment potential represents a significant risk to affordability.
6. This document sets out the Government's decisions on the consultation.

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<sup>1</sup> Provisional figure for 2014 is 19.1% - source 'Energy Trends' (June 2015) at : <https://www.gov.uk/government/statistics/energy-trends-section-6-renewables>

<sup>2</sup> Changes to grandfathering policy with respect to future biomass co-firing and conversion projects in the Renewables Obligation (December 2014) at: <https://www.gov.uk/government/consultations/changes-to-grandfathering-policy-with-respect-to-future-biomass-co-firing-and-conversion-projects-in-the-renewables-obligation>

## LCF cost control

7. Expenditure on policies to support renewable and low carbon electricity generation is governed by the Levy Control Framework (LCF), covering the period up to 2020/21<sup>3</sup>. In addition to the RO, the schemes included comprise the Feed-in Tariff scheme (FITs), Contracts for Difference (CFDs), including Investment Contracts under the FID Enabling for Renewables process (i.e. early CFDs), and the Warm Home Discount.
8. The LCF allows Government to control public expenditure paid for through consumers' energy bills, and reflects the importance Government places both on keeping bills affordable and supporting renewable and low carbon electricity generation.
9. Through the LCF we have provided significant financial support to the renewable sector, helping new and innovative technologies while increasing the amount of low-carbon electricity that powers homes and businesses across the UK.
10. However, in real terms (2011/12 prices) current forecasts of projected costs have increased to £9.1bn compared with a cap of £7.6bn.<sup>4</sup> It should be noted that this represents the Government's best assessment of future expenditure. This is based on commercial intelligence on potential renewables deployment, and DECC's modelling outputs drawing on latest projections of electricity demand and fossil fuel prices. The future is inherently uncertain and no model is able to forecast the future perfectly. This is particularly true when models seek to understand novel and/or complex areas.
11. It is therefore necessary for Government to take action to control costs. The RO was closed to large-scale solar PV on 1 April 2015 as a result of faster than expected deployment. Government also announced on 18 June 2015 that it will be introducing primary legislation to close the RO in Great Britain to new onshore wind from 1st April 2016 – a year earlier than planned<sup>5</sup>. We are also publishing alongside this document, consultations on controlling spending on solar PV projects of 5MW and below under the RO and changes to the preliminary accreditation under FITs.

## Responses to the consultation

12. The consultation was opened on 12 December 2014 and closed on 26 January 2015. In total there were 30 responses received from across industry including electricity companies, independent generators, wood pellet producers, financial institutions and trade associations. A full list of respondents can be found at **Annex A**.
13. The following is a summary of the consultation responses received. More detailed comments in response to each of the four questions asked are set out in Chapter 3. Although every contribution we received was taken into account in the decision making process and in the writing of this document, it is not possible to present them individually below. We would like to thank all those who took the time to respond to the consultation.

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<sup>3</sup> The LCF annual limits to 2020/21 were set out in Annex D of the draft EMR Delivery Plan. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/223654/emr\\_consultation\\_annex\\_d.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223654/emr_consultation_annex_d.pdf)

<sup>4</sup> See Office for Budget Responsibility Economic and Fiscal Outlook (July 2015) at : <http://cdn.budgetresponsibility.independent.gov.uk/July-2015-EFO-234224.pdf>

<sup>5</sup> See DECC website at: <https://www.gov.uk/government/news/changes-to-onshore-wind-subsidies-protect-investment-and-get-the-best-deal-for-bill-payers>

14. A total of 10 respondents (33%) supported the proposals to withdraw grandfathering from 12 December 2014, although several stated that the specific circumstances outlined in the consultation were the only ones under which they would support such a change. The 10 respondents who supported the changes were also content with the grace periods as defined. These 10 respondents disagreed the proposed grace periods and a small number suggested amendments. Little evidence was provided for these amendments, or in quantifying the impact of the changes. A total of 19 respondents (63 %) disagreed with the proposals and expressed concern that they would, if implemented, have a detrimental impact on investor confidence across the renewables and wider energy sector, both in the long and short-term. They suggested that the proposals represented retrospective changes and were at odds with previous policy statements about protecting significant existing investments and not making retrospective changes. A few generators suggested alternative options for controlling costs based on capacity or supplier caps and/or proposed changes to the exemption criteria.

## Decisions

15. The evidence and opinions from the consultation responders suggests that there is strong likelihood that additional biomass conversion and co-firing units not previously accounted in the medium estimates to set CFD budgets for would convert under the RO. This risk has increased since the publication of the consultation because more biomass conversion projects than expected have indicated that they could deploy under the RO.

16. Following the publication of the consultation we are also projecting increased pressure overall on the LCF. It is the Government's priority to bring about the transition to low carbon generation as cost effectively and securely as possible. We have therefore decided that in order to control costs under the LCF, protect consumer bills and retain options for spend under the CFD system, the following changes will apply to grandfathering policy for biomass co-firing and conversions under the RO:

- **the support rate under the RO for new biomass conversion and co-firing stations and combustion units should no longer be covered by Government's grandfathering policy. This policy change will also apply to generating stations or combustion units that are already receiving support under the RO and move for the first time into the mid-range co-firing , high-range co-firing or biomass conversion bands;**
- **the changes to grandfathering policy will take effect from the date of the publication of the consultation document (12 December 2014).**
- **exceptions will apply to:**
  - **any station or combustion unit that is the subject of an investment contract awarded through the Final Investment Decision Enabling for Renewables (FIDeR) process and is awaiting State Aid clearance; or**
  - **any station or combustion unit which has moved into the mid- or high-range co-firing bands and generated electricity eligible for ROCs under these bands in any month before 12 December 2014. Stations or units which have previously moved into the mid or high range band would have**

until 12 December 2015 to move to full conversion and retain grandfathering policy at that band.

- the length of the grace period for the exception relating to stations or units which terminate FIDeR investment contracts for state aid reasons should be extended from the date of the termination of the contract (as proposed in the consultation) to the closure of the RO on 31 March 2017. This will ensure that a generators position is not worse than the day on which they signed the investment contract with the state aid risk prevailing.

## Impacts

17. Analysis of the economic impact of the policy decisions set out in this document is at **Annex C**. Evidence from the voluntary notification mechanism and market intelligence prior to the consultation, and from the consultation responses, suggested that additional biomass conversion plants could deploy, over and above those included in the medium estimate used to set CfD budgets, which would take total conversion deployment up to 4.6GW. We estimate that the cost of this additional deployment, that is the 4.6GW less the central estimate used to set CfD budgets, would be around £500m in 2020/21 (in £2011/12 prices). The cost of this additional unbudgeted spend if not offset by cuts elsewhere in the LCF budget could mean that average household energy bills in 2020 would be around £6 higher than they would otherwise be.
18. If all of the additional projects, over and above those included in the medium estimate used to set CfD budgets, came forward, we estimate that there would be approximately 4.6GW deployed, exceeding the upper point of the EMR delivery range (1.7-3.4GW) by 1.2GW.

## Territorial extent

19. The decisions in this document apply to the RO in relation to England and Wales. Decisions regarding grandfathering policy in Scotland and Northern Ireland are for the Scottish Government and Department of Enterprise, Trade and Investment in Northern Ireland respectively.

## Next Steps

20. Grandfathering is a statement of policy intent and the decisions set out in the Government response do not need to be implemented through the legislative process unless a decision is taken in future, following consultation, to change the bands for biomass co-firing and conversion stations and units.
21. Whilst the decisions set out in this document should improve budgetary control, they might not be sufficient on their own, especially when taking into account (but not limited to) the higher levels of stability that may be needed in the RO once it is closed to new entrants in 2017. Therefore, we may develop and consult on further mechanisms to increase stability and predictability across the RO biomass co-firing and conversion bands in the future.

## Contact Details

22. If you have any questions regarding this response, please contact:

Chapter 1 –Executive Summary

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# Chapter 2- Background

## The role of biomass co-firing and conversions in the UK energy mix

1. Renewable energy is helping the UK to decarbonise our energy system, increase energy security and bring growth to all parts of the UK. Our support for sustainable, low carbon biomass is part of our wider ambition for a mix of renewable energy sources. Biomass has played a central, transitional role in decarbonising the electricity grid and in keeping costs down for consumers.
2. The 2012 UK Bioenergy Strategy<sup>6</sup> set out four principles which inform UK biomass policy. These included that biomass use achieves real greenhouse gas savings and that it is cost effective. The Strategy also identified those lower risk biomass heat and power technologies that could be supported to contribute to the UK's renewable energy goals. In particular it identified coal-to-biomass conversions and co-firing as a quick, cost-effective, transitional means of decarbonising the electricity grid, by replacing coal used in existing UK power plants. A significant amount of biomass conversion (and co-firing) has already taken place.
3. Whilst biomass conversion and co-firing are cheaper means of producing renewable electricity compared to new-build generation, the Bioenergy Strategy indicated that they should only be seen as a transitional technology. This is because such plants have a lower efficiency than new-build generation and are unlikely to be able to generate combined heat and power (CHP).

## Support under the RO and grandfathering for biomass co-firing and conversion bands

4. The RO has been the main financial mechanism since 2002 for incentivising the deployment of large-scale renewable electricity generation in the UK, including biomass co-firing and conversion plants. As part of the UK's Electricity Market Reform, the RO will close to new capacity in 2017 as we transition to the CFD scheme, which is intended to provide support for large-scale renewables in a more cost effective way.
5. In 2009 bands of support were introduced into the RO to allow varied support levels by technology. Reviews of those banding levels were set for every four years although 'emergency' reviews of all or individual technologies can be carried out at any time if certain legislative conditions are met (e.g. evidence of cost reductions).
6. Following the last comprehensive review of support levels under the RO, a number of new bands were created to support the full or partial conversion of coal-fired power stations to generate renewable electricity from biomass – these are set out in **Annex B**. Generating stations may consist of one or more separate combustion units and these might change

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<sup>6</sup> UK Bioenergy Strategy (April 2012) <https://www.gov.uk/government/publications/uk-bioenergy-strategy>

bands from month to month, depending on the proportion of biomass used in the month in each unit. In this document, this is described as moving between the co-firing or conversion bands.

## How has grandfathering worked

7. Grandfathering is a policy which allows that once a generating station is accredited and receiving support under the RO, the level of support that it receives<sup>7</sup> would not change for the lifetime of its support under that scheme. In the case of additional capacity, grandfathering applies to the level of support at the time that the additional capacity is added to the station. Originally grandfathering policy did not apply to biomass at all, and it still does not apply to combustion units generating within the low-range co-firing band.
8. In April 2013 grandfathering policy was extended to the biomass conversion and mid-range co-firing bands, and subsequently from April 2014 to the high-range co-firing band. For these bands, however, the grandfathering policy operated in a different way: it applied on a unit-by-unit basis (not a station-wide basis unless the station comprises just one unit)<sup>8</sup>. Once the generating station had been accredited under the RO, grandfathering applied to the level of support at the date that the combustion unit moved into the mid-range, high-range or biomass conversion band. Grandfathering then applied for as long as the combustion unit remained in the same band, and ceased to apply as soon as the combustion unit moved into another band. For example, a combustion unit moving from mid-range co-firing to high-range co-firing would no longer have had its mid-range co-firing support levels grandfathered. It would, instead, have had its high-range co-firing support levels grandfathered at the level applying on the date that the unit moved to high-range co-firing.
9. A combustion unit is treated as moving into a new band from the moment it starts generating electricity in respect of which ROCs under that new band are issued. Full details of how the grandfathering policy applied to the mid-range, high-range and biomass conversion bands are set out in DECC's July 2012 Fact Sheet on grandfathering and cost control for biomass conversions<sup>9</sup>.

## DECC's illustrative scenarios for biomass conversions

10. DECC's scenarios at the time of the final Electricity Market Reform Delivery Plan set out illustrative deployment scenarios for biomass conversions ranging from 1.7GW to 3.4GW of deployment of biomass conversions and co-firing by the end of the decade. These scenarios were for illustration only, and were not exhaustive. The allocation of budget to the three CFD pots in October 2014 assumed that LCF expenditure was in line with our central estimates of expenditure. The central estimates made assumptions about deployment of different technologies under the RO, as well as spend estimates under FITs, the FID Enabling for Renewables process and from the first allocation round of CFDs. There is currently around 2.3 GW of biomass conversion capacity deployed under the RO or holding investment contracts awaiting state aid approval. We are aware of a number of

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<sup>7</sup> In terms of ROCs per MWh

<sup>8</sup> The biomass conversion bands are referred to in the RO legislation as "unit conversion" and "station conversion" depending on whether or not all of the combustion units at the generating station have been fully converted to biomass

<sup>9</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/65543/6598-fact-sheet-grandfathering-and-cost-control-for-bi.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65543/6598-fact-sheet-grandfathering-and-cost-control-for-bi.pdf)

additional conversion projects in the pipeline and if all of these were to come forward as well there would be approximately 4.6GW deployed in 2020.21, exceeding the upper point of the EMR delivery range by 1.2GW.

## The need for monitoring and tight cost control

11. The scale of some of the stations and combustion units that might be used for co-firing or conversion to biomass is potentially significant for the RO. Biomass conversions represent very large amounts of renewable generating capacity (some units could potentially reach around 0.5GW of generating capacity – a significant proportion of the projected deployment range). In some cases, big changes in the levels of biomass generation in a combustion unit can be made relatively quickly<sup>10</sup> and if the generating station is already accredited under the RO, there is no need for any formal prior notification if a unit wishes to move between the co-firing bands or become a full conversion. The size of some combustion units means that generation at the mid-range or high-range co-firing bands would also represent a lot of additional biomass generating capacity, and could still have an impact on expenditure under the LCF.
12. To increase the visibility and predictability of future generation from biomass co-firing and conversion, a voluntary cost control mechanism has been introduced. Under this mechanism operators of co-firing stations and biomass conversions are asked to pre-notify DECC of their generating intentions in advance of each obligation period. The voluntary mechanism allows us to monitor the rate of likely deployment and, if necessary, take action to control spend.
13. DECC has flagged the risks around biomass cost control on several occasions over the past 3 years and made clear that further action to control costs could be needed. Following the 2012 consultation on biomass affordability<sup>11</sup>, it was decided that the ROC rates for standard co-firing and co-firing of regular bioliquids with and without CHP should be reduced to control the risk of additional RO spend. More recently, the Government Response on the 'Renewables Obligation Transition and on Grace Periods', published on 12 March 2014<sup>12</sup>, stated that a mechanism would be required to increase stability across the biomass co-firing and conversion bands to ensure budgetary predictability and control within the RO.

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<sup>10</sup> Feedback from stakeholders has suggested that the necessary changes to a combustion unit to move from low co-firing to full biomass conversion can be completed within a few weeks if necessary, although this would not allow for full performance testing..

<sup>11</sup> Renewables Obligation Banding Review for the period 1 April 2013 to 31 March 2017: Government response to further consultations on solar PV support, biomass affordability and retaining the minimum calorific value requirement in the Renewables Obligation (December 2012) see: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/66516/7328-renewables-obligation-banding-review-for-the-perio.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/66516/7328-renewables-obligation-banding-review-for-the-perio.pdf)

<sup>12</sup> Government Response to Renewables Obligation Transition and Grace Periods (March 2014) at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/289078/Transition\\_and\\_Grace\\_Periods\\_Government\\_Response\\_-\\_12\\_Mar\\_2014.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289078/Transition_and_Grace_Periods_Government_Response_-_12_Mar_2014.pdf)

## Chapter 3 -Proposed changes to grandfathering policy with respect to future biomass co-firing and conversion projects in the RO

### Question 1 asked for views on the proposal that certain projects will not be covered by Government's grandfathering policy.

1. The rationale for the consultation indicated that the deployment of biomass conversions under the RO will be higher than the medium estimates that were used to set the CFD budgets. Depending on the number of stations or units converting, this could result in deployment exceeding the range set out in the Electricity Market Reform (EMR) Delivery Plan and expenditure very close to the LCF upper limits later this decade. The consultation also raised the concern that additional levels of co-firing or biomass conversions may lead to there being less budget than expected available for future CFD allocations, which are designed to contribute more to longer-term decarbonisation and have greater cost reduction potential.
2. In order to reduce the likelihood of future biomass conversions from taking place under the RO and future movements up the RO biomass co- firing bands, it was proposed that the support rate under the RO for new biomass conversion stations or units or units that move to the medium of higher co-firing support bands for the first time, should no longer be covered by grandfathering policy. .

#### Main messages from respondents

Q1 Responses	
Agreed	10
Disagreed	19
No comment	1

3. Approximately one-third of respondents agreed with our proposals on the basis that the changes were a proportionate and necessary action to control expenditure under the RO in order to protect the LCF. There was concern that a failure to protect the LCF would adversely impact funding to other technologies under the CFD regime. However, many of the respondents that were in agreement with our proposals also stressed that the circumstances for biomass conversions were exceptional and that a similar change should not be proposed for other technologies. They also emphasised that the proposals could have a negative impact on investor confidence for renewables and energy infrastructure more generally, which would require appropriate handling by DECC.

4. The impact on investor confidence was the main rationale for those respondents that disagreed with the proposals. They cited concerns that such changes could set a precedent for similar proposals affecting other technologies, and the negative impact of a fluid regulatory regime. They judged that the proposals would raise wider questions about investment in the UK energy industry more generally, which would be to the detriment of consumer costs and energy industry growth.
5. There was also general concern that the consultation proposals would harm some developers that had already made plans and invested in conversions which did not meet the proposed grace period criteria. This again would have a negative impact on future investment.
6. One respondent suggested that only the third and subsequent units converted at a power station site should be excluded from grandfathering, reflecting their view that cost reductions are likely to be realised from the conversion of the third unit onwards and that investors will require guaranteed support for a minimum of two units cost in this way.
7. Finally, some respondents judged that the proposals signalled that the UK Government is no longer supportive of biomass generally, to the detriment of continued investment and industry growth.

#### Post-consultation decision

8. We have considered the consultation responses very carefully. Our assessment remains that in the absence of intervention, there is a very high risk that additional biomass combustion units will convert under the RO, over and above those included in the medium estimates used to set CFD budgets, resulting in deployment above the upper range set out in the EMR Delivery Plan. It would impact on Government's ability to manage the LCF budget effectively and control the costs of our low carbon policies on consumers. A mechanism is needed to allow Government greater flexibility to control LCF spend. As such **Government has decided that, subject to the exceptions outlined in paragraphs 43 – 47 below, the support rates under the RO for new biomass conversion and co-firing projects should no longer be covered by Government's grandfathering policy. This policy change will also apply to generating stations or combustion units that are already receiving support under the RO and move for the first time into the mid-range co-firing, high-range co-firing or biomass conversion bands. The withdrawal of grandfathering policy in all of these cases will apply from the date of the consultation i.e. 12 December 2014. Should generating stations or combustion units move up the RO biomass bands in the future, then this decision will improve our ability to further manage the budgetary impact, for example by changing support levels should the conditions be met for a banding review.**
9. Since the consultation was issued, the rationale for this decision to withdraw grandfathering has strengthened by the additional number of consultation respondents that expressed a desire to convert under the RO, over and above those of which we were already aware from our voluntary notification system and market intelligence gathering. If all of these additional projects were to come forward under the RO, DECC analysis suggests that there would be approximately 4.6GW deployed, exceeding the upper point of the EMR delivery range. The total annual costs of the additional projects under the RO would be around £500m (2011/12 prices).
10. The size of some combustion units means that generation at the mid-range or high-range co-firing bands would still represent a lot of additional biomass generating capacity, and could still have an impact on expenditure under the LCF.

11. While it is not certain that every project that expressed a desire to convert would have the means to do so, the risk of over deployment, and placing greater pressure on the LCF budget and reducing optionality for other technologies to deploy, is now greater than at the time of the consultation launch in December 2014.
12. Any deployment of a technology under the RO that is higher than the medium estimates assumed at the time of CFD budget allocations is potentially putting a greater pressure on the LCF budget. Increased pressure on the LCF budget to cover the costs of the additional levels of co-firing or biomass conversion means that the proportion of the budget which is available for deployment of other technologies under CFDs would be reduced.
13. The cost of the LCF is kept under review and we update our modelling and assumptions as things change, reflecting the challenges in making long-term forecasts in a changing and very active energy market. With such uncertainty Government cannot accept the additional risk on budget of biomass co-firing and conversion under the RO on the LCF budget.
14. The decisions in this document, whilst protecting those projects that have already made significant investments will play an important part in contributing to our cost control strategy and ensuring that no new spend materialises. Since signalling our intent to remove grandfathering, we have seen no further biomass conversion units accredit under the RO.
15. We have noted the concerns of investors and other respondents that investor confidence in the UK biomass, and UK renewables, sector has been affected by these proposals. As highlighted in the introduction to this document, we can confirm that Government remains committed to sustainable biomass generation, which is an important part of the UK's energy mix and plays a central, transitional role in our strategy to decarbonise the electricity grid.
16. However, DECC had previously signalled to stakeholders its expectation that it would need to take action to control the budgetary impact of increased deployment of biomass conversions and indicated in the Government Response on RO Transition, published on 12 March<sup>13</sup>, that a mechanism would be required to increase stability across the biomass co-firing and conversion bands to ensure budgetary predictability within the RO.
17. Biomass conversions are eligible to bid for support under CFDs should funding be made available in future for a Pot 3 allocation round. We remain of the view that the CFDs present a more cost effective mechanism in the medium to long term than the RO, in almost all circumstances. The CFD provides for earlier certainty of support levels than the RO and greater stability of revenue streams by providing a fixed strike price. This means that investors are protected from wholesale price volatility and should therefore benefit from a reduced cost of capital, making the development of low carbon generator cheaper for both investors and consumers. Decisions on any further CFD allocations will be taken in due course.
18. Biomass co- firing and conversion stations and units are also eligible to bid for support under the capacity market mechanism<sup>14</sup> which will begin running in 2018/19. The first CM agreements were signed in January 2015 and include several biomass co- firing units.

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<sup>13</sup> Government Response to Renewables Obligation Transition and Grace Periods (March 2014) at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/289078/Transition\\_and\\_Grace\\_Periods\\_Government\\_Response\\_-\\_12\\_Mar\\_2014.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289078/Transition_and_Grace_Periods_Government_Response_-_12_Mar_2014.pdf)

<sup>14</sup> For information on Capacity Market Mechanism see DECC website at : <https://www.gov.uk/government/collections/electricity-market-reform-capacity-market>

Under the RO transition arrangements<sup>15</sup> operators of a biomass conversion or co-firing stations/units which has been receiving support under the RO has a one-off choice between remaining within the RO, and bidding in to the CM. This choice will apply at the point at which a bid for the CM is successful. At that point, the operator of the co-firing station or unit/s will be required to inform Ofgem of the successful bid, and to advise Ofgem of the point at which it will leave the RO and begin participation in the CM (the CM participation date). The station or unit/s will then continue to be entitled to the RO for the renewable generation resulting from co-firing, until the last day prior to the CM participation date. At that point, the station or unit/s will no longer be eligible to receive ROCs. Once the period for which a capacity agreement is held is over, the station or unit/s will not be entitled to return to the RO. However, the operator will have the option of bidding for further CM participation in future years, subject to the terms of CM participation.

### How will the new policy work in practice?

19. Subject to the exceptions outlined in paragraphs 43-47, generating stations or combustion units which take any of the following actions, for the first time on or after 12 December 2014, will no longer be covered by our grandfathering policy and could have their support rates changed in future, should there be a banding review. Generating stations or combustion units would not regain the benefit of grandfathering policy if they subsequently moved back down the biomass bands at a later date;

- (a) accrediting as new biomass co-firing stations or conversions under the RO; or,
- (b) moving from the low-range co-firing band into the mid- or high-range co-firing or biomass conversion bands under the RO; or,
- (c) moving from the mid-range co-firing band into the high-range co-firing or biomass conversion bands under the RO; or,
- (d) moving from high-range co-firing band to a biomass conversion band under the RO.
- (e) accrediting and / or receiving ROCs as a biomass co-firing or conversion combined heat and power (CHP) stations or unit – although these would use some of their input energy to generate heat which could receive separate support, their electricity output is still likely to be significant. In practice there have been no claims against these bands to date and we consider it very unlikely that any of the existing stations/ units plant would be able to generate combined heat and power (CHP) before closure of the RO in March 2017).

20. The following conditions would also apply :

- (a) a station or combustion unit is treated as moving into a new band from the moment it starts generating electricity in respect of which ROCs under that new band are issued.
- (b) Where additional capacity is added to any accredited generating station which is already covered by the previous grandfathering policy (original capacity), it is our intention that the additional capacity will not benefit from grandfathering. It will receive the support rate in place for the relevant band at the time that it begins claiming ROCs and this rate may be subject to change should the conditions be met

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<sup>15</sup> Government Response to Renewables Obligation Transition and Grace Periods (March 2014) at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/289078/Transition\\_and\\_Grace\\_Periods\\_Government\\_Response\\_-\\_12\\_Mar\\_2014.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289078/Transition_and_Grace_Periods_Government_Response_-_12_Mar_2014.pdf)

for a banding review in the future. The original capacity will retain its grandfathering rights.

- (c) Where a station or combustion unit which benefits from the grandfathering policy is combined with a station or unit which does not benefit from grandfathering to create an enlarged station or unit the total combined capacity of the new enlarged unit will no longer benefit from grandfathering.

21. A banding review for biomass co-firing or conversion could be carried out if certain conditions were met, for example, if the Government was satisfied that costs had fallen significantly. The removal of grandfathering would mean that, if the Government reduced the level of support under the RO for biomass co-firing or conversion as a result of a banding review, those stations or units not covered by grandfathering as outlined in the categories above, would have their support rates changed.

### Exclusions

22. The changes to grandfathering policy will not apply to :

- dedicated biomass with or without CHP. In the case of dedicated biomass without CHP, accredited after August 2013 our policy is to only allow grandfathered support for 400MW of new build under the RO<sup>16</sup>;
- all other biomass technologies where these technologies deploy at a significantly smaller scale and so pose less risk to the LCF; Energy from Waste, Advanced Conversion Technologies, Anaerobic Digestion, Sewage Gas and Landfill Gas, co-firing of bioliquids, bioliquids with CHP, application of the energy crop uplift, stations and combustion units which have already received RO support under the biomass conversion bands before 12 December 2014 (the date of the consultation);
- any stations or combustion units which have already received RO support under the mid-range or high-range bands before the date of this consultation - they would only be affected if they were to move to a higher band after the date of publication of this consultation, and were not covered by the exceptions in paragraphs 43 to 47 below; and
- grandfathering policy on biomass sustainability which is set out in the Government response to the consultation on proposals to enhance the sustainability criteria for the use of biomass feedstocks under the (RO)<sup>17</sup>.

23. We recognise that all plants must, at some time, stop generating in order to carry out works associated with the conversion process or re-permitting process, routine maintenance or repairs, in the case of an unplanned outage. Provided that a combustion unit does not submit a ROC claim for generating at a different RO band, then it will retain its grandfathered status.

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<sup>16</sup> For information on 400MW dedicated biomass cap see <https://www.gov.uk/government/publications/applying-for-a-place-within-the-400mw-cap-on-new-build-dedicated-biomass-projects-renewables-obligation>

<sup>17</sup> Government Response to the consultation on proposals to enhance the sustainability criteria for the use of biomass feedstocks under the Renewables Obligation (RO)- Chapter 3 page 15 at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/231102/RO\\_Biomass\\_Sustainability\\_consultation\\_-\\_Government\\_Response\\_22\\_August\\_2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/231102/RO_Biomass_Sustainability_consultation_-_Government_Response_22_August_2013.pdf)



24. We realise that there may also be cases where a conversion or mid or high co-firing station or unit which benefits from grandfathering, accidentally uses more fossil fuel than intended, and generates at a lower co-firing band. In this case the station or unit would no longer be covered by our grandfathering policy and will be eligible for support under the relevant co-firing band at the date that it moves into that band. If the unit later moves back up into the original mid, high or conversion band, it would become covered by grandfathering policy again, but at the rate which applies as at the date of the move back into that band.

#### Dedicated biomass plant

25. A dedicated biomass station that has its support grandfathered will not be affected by this policy if it uses more fossil fuel than intended in a particular month and falls into one of the co-firing bands. In this case, the station will receive the ROC rate appropriate to the co-firing band at that time (i.e. it could not claim grandfathering rights for the co-firing band) and will retain its grandfathering rights for dedicated biomass when it returns to operation as a dedicated biomass project under the cap.

#### Relevant Fossil Fuel Generating stations

26. If an accredited dedicated biomass station were to use more than 15% fossil fuel in any six month period it may then fall into the definition of Relevant Fossil Fuel Generating Station (RFFGS). In this case the station would receive the ROC rate for the relevant biomass conversion or co-firing band in place at that time.)<sup>18</sup> Given that this station would not in these circumstances represent new generating capacity under the RO, the station would be entitled to benefit from grandfathering of the biomass conversion or co-firing rate in place at the time when it becomes an RFFGS.

### Question 2 asked whether the withdrawal of grandfathering as proposed should apply from the date of the publication of this consultation document.

27. The consultation proposed that, subject to exceptions, support levels would not be grandfathered for any generating stations or combustion units accrediting or moving between co-firing bands from the date the consultation was published (i.e. 12 December 2014.) This was to provide clarity, and to ensure that any developers that made investment decisions after 12 December 2014 could do so in the knowledge that there is a risk that if the proposal is adopted projects would not be covered by our grandfathering policy and support levels could be changed in future, should there be a banding review.

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<sup>18</sup> See Paragraphs 2.74 and 2.75 of Ofgem guidance to generators at : [https://www.ofgem.gov.uk/sites/default/files/docs/2015/04/renewables\\_obligation\\_-\\_guidance\\_for\\_generators\\_13\\_april\\_2015\\_v2.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2015/04/renewables_obligation_-_guidance_for_generators_13_april_2015_v2.pdf)

### Main messages from the respondents

Q2 Responses	
Agreed	8
Disagreed	11
No comment	11

28. Out of those that commented, several respondents disagreed with the proposed date, stating that many investment decisions will already have been made and money spent and that to apply this date would effectively render the proposals retrospective. There was support for any changes to be implemented from a future date that could be planned for.
29. A few respondents proposed an alternative approach, under which a grace period would apply to any plant which can achieve accreditation within a reasonable timeframe. Some respondents proposed that units with Investment Contracts should be grandfathered as of 4 June 2014; the date at which Investment Contracts entered into law.
30. Those respondents who agreed with the proposals to remove grandfathering were inclined to agree to the proposed date, with some noting that it is consistent with the approach used in respect of the decision to close the RO for solar PV projects above 5MW<sup>19</sup>. Another respondent noted that DECC had been transparent in its intentions, having signposted in the government response to the RO transition consultation and the Explanatory Note to the CfD Budget notice published in October 2014 suggested that measures to increase stability of costs across biomass co-firing and conversion bands may be introduced.

### Post-consultation decision

31. We have considered whether we could delay the application date for the withdrawal of grandfathering, as suggested by several respondents. Given the need to take urgent action to control LCF spend, the date as proposed together with the exceptions need to be rigorous, and are intended to ensure that only projects where existing significant investments had been made could still come forward under the RO and benefit from grandfathering. These measures are not intended to allow new projects at an earlier stage of development to reach final investment decisions.
32. We have analysed the responses to the consultation, pipeline data and other market evidence and concluded that it is highly likely that moving forward the application date for the withdrawal of grandfathering would result in some projects deploying under the RO that might otherwise have planned to come forward at a later date under CFDs. Were all of these additional projects to come forward under the RO our analysis suggests that there would be approximately 4.6GW deployed, exceeding the upper point of the EMR delivery range. We estimate that the total combined annual costs of these additional projects; that is, the 4.6GW less the central estimate used for CFD budget setting, under the RO would

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<sup>19</sup> Government Response to consultation on changes to solar PV (October 2014) at : [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/360280/Government\\_response\\_RO-FIT\\_changes\\_to\\_Solar\\_PV\\_-\\_FINAL\\_2014-10-02.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/360280/Government_response_RO-FIT_changes_to_Solar_PV_-_FINAL_2014-10-02.pdf)

be up to £500m in 2020/21 (in 2011/12 prices). This would significantly increase pressure on the LCF as a whole and have value for money implications given that CFDs present a more cost effective mechanism in the medium to long term than the RO. **For this reason we have decided that the withdrawal of grandfathering for biomass co-firing and conversions stations and units as set out above, shall apply from 12 December 2014 – the date the consultation was published.**

### Question 3 asked for views on the exceptions proposed in the consultation

33. The consultation proposed exceptions and grace periods for stations and combustion units that had demonstrated sufficient intent to convert before the consultation was launched. Two criteria were proposed to qualify for the grace periods:
- if the unit is the subject of an investment contract awarded through the FID enabling for Renewables process, where that contract is terminated under the State aid condition in the contract because of a negative or conditional State aid decision, or a delay in a State aid decision being obtained; or,
  - if the unit has in any month before the publication of the consultation document moved into the mid-range or high-range co-firing bands.
34. Generating stations or units meeting either of these criteria would have 12 months from 12 December 2014 (i.e. up until 12 December 2015) to move to full conversion and be covered by grandfathering policy at that band.
35. The rationale for setting the criteria as above was to ensure that those projects that had made significant investments were protected.

#### Main messages from respondents

Q3 Responses	
Agreed	10
Disagreed	10
No comment	10

36. Where respondents agreed with the overarching aim of the proposals i.e. to control biomass costs- there was broad support for the proposed exceptions for units that had already received investment contracts.
37. Several respondents from amongst those who agreed and disagreed with the proposals suggested further criteria that would enable units to remain covered by the grandfathering policy. These included:
- any company that had taken a final investment decision before 1 June 2014;
  - all units already under the high-range co-firing band have the option to move to conversion station during the grace period;
  - that any company that has made significant progress towards accrediting projects under the mid-range, high range or conversions before the consultation publication date should be offered a grace period appropriate to the necessary construction period, It was

suggested that this would be consistent with the precedents set in respect of the closure of the RO to large scale solar and notification process for new build dedicated biomass projects within the 400MW cap (August 2013)<sup>20</sup>;

- that an exemption is made for smaller units for example with a Declared Net Capacity (DNC) of below 150MW or where the total plant capacity does not exceed 500MW. and/or that an exemption is made for plant which can demonstrate that it has been formally closed and then subsequently sold to a third party which is a completely separate legal entity unrelated to the previous owner.
38. Several respondents suggested amendments to the proposal that stations or combustion units that meet the criteria have 12 months to move to full conversion. These included:
- high-firing plants should be given the opportunity to convert, regardless of the amount of time since moving into the high-range band;
  - that grace periods for projects with Investment Contracts should be set by the earlier of the long stop date in the Investment Contract and 31st March 2017, this being the latest date conversion projects can be accredited under the RO.
39. Some of the generators who responded suggested more fundamental departures to the exception and grace period proposals, including the introduction of a capacity cap along the lines of that introduced in 2013 for dedicated biomass and /or introduction of a supplier cap which would constrain the amount of Renewables Obligation Certificates (ROCs) that a supplier could present to Ofgem when attempting to meet their obligation.

### Post-consultation analysis

40. We have considered the consultation responses carefully and carried out some further analysis, on the alternative exemptions and capacity constraint mechanisms proposed by some stakeholders. In order to be fair, any option would need to be universally available to any station or unit that could meet the criteria and not tailored to specific projects. This ruled out some of the suggested alternatives from respondents, for example those relating to specific limits on project capacity or changes in company ownership.
41. We note that one industry respondent suggested that projects which qualified for the FID Enabling for Renewables process should be treated to the same grace periods as units awarded an Investment Contract. This would include projects which met the minimum threshold evaluation criteria but were not ranked high enough to be affordable within the available budget to be offered a contract. However, the reasons these projects were not awarded an Investment Contract was that they were considered to be too expensive. Given the current pressure on the LCF budget, including an exception for these projects would run counter to the rationale for constraining spend.
42. We also looked in particular at the following options for alternative constraint mechanisms proposed by respondents :
- (a) **A bilateral contract between DECC and a specific generator, which sets out how much capacity could convert under the RO** – we judge that this option would be

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<sup>20</sup> See DECC website at : <https://www.gov.uk/government/publications/applying-for-a-place-within-the-400mw-cap-on-new-build-dedicated-biomass-projects-renewables-obligation>

unfair as any bilateral contract would be between DECC and one generator, whereas we have several that have expressed an interest in conversion. It would be very difficult to allocate budget fairly and take time to negotiate any agreement. Given the now increased pressure on the LCF, the relatively large capacity of biomass conversion projects, there is no longer sufficient funding under the RO to support a meaningful contract for even one generator.

- (b) **A generator capacity cap** – Some respondents suggested we adopt a similar mechanism to the 400MW cap for dedicated biomass under the RO introduced in 2013. However, it is our view that the context and rationale for each situation is different. The dedicated biomass cap typically applies to much smaller projects (100MW and below) and was introduced to help encourage the diversion of biomass feedstock to use in CHP or more efficient advanced conversion technologies in order to meet future carbon budgets. It was not intended to control LCF costs. Given the much larger size of conversion projects it would be difficult for us to decide fairly which generator could be entitled to the cap for some or all of their unit, given that we could not enable all interested parties or indeed all parts of a unit to convert. This would involve the generator having to split units between ‘grandfathered’ and ‘non-grandfathered capacity’ which could make this option unviable for investors.

Even if we were able to allocate fairly, the now increased pressure on the LCF, means that any additional spend on biomass conversion capacity not included in our central scenarios will impact on our ability to protect consumer bills and retain options for spend under CfDs.

- (c) **A supplier cap** – This would involve allowing units to convert, but under a mechanism that would constrain the amount of Renewables Obligation Certificates (ROCs) that could be redeemed against the Obligation. It was suggested that this cap should apply until 2019/20 (with generation unconstrained thereafter). The rationale being that if there was insufficient LCF headroom for DECC to feel comfortable in allowing full conversion under the RO, then perhaps there would be sufficient budget for constrained capacity to convert under the RO for a limited time.

Again, any allocation of budget through a supplier cap would increase pressure on the already overcommitted LCF and would impact on our ability to protect consumer bills and retain options for spend under CfDs.

There are other practical problems with a supplier cap mechanism. This option would be complex and expensive to administer and would create a constrained market for selling new biomass ROCs, depressing their value and affecting the economics of biomass projects. It would place independent generators at a disadvantage as they would have to negotiate on discounted terms with a supplier to sell their ROCs.

- (d) **Exceptions for projects operating in the low co-firing band -** We also looked at the option of providing an additional exception for projects operating in the low co-firing band which may have been planning to move to full conversion at some point in the future. Our analysis of the pipeline of co-firing projects indicates that such an exemption could potentially allow a number of projects not covered in our LCF projections to come forward under the RO which would significantly impact on our ability to control spend under the LCF.

The grace period protecting mid and high band co-firing and conversions has been targeted at those likely to have made the most significant investment in terms of higher capital costs, and securing regular long term biomass supply. Under the current RO policy low co- firing bands are not covered by grandfathering policy, as co - firing at this rate is relatively low cost and low risk. A typical coal plant can be upgraded at a relatively modest cost to co-fire low volumes of biomass. The amount of biomass used – ranging from zero up to an operating maximum of typically between 10% and 20% biomass content – can be quickly adjusted in response to changing prices for electricity, coal and biomass feedstocks.

The main expenditure involved in converting to using higher range co-firing or full conversion relates to the cost of biomass fuel rather than capital expenditure so any assessment of significant investment in the low co-firing band would need to be based on fuel expenditure. We consider that it would be difficult to verify evidence of expenditure. The process could also be open to gaming as a developer could potentially buy a feedstock contract on the spot market to qualify for a grace period and then sell it on, whilst setting in place a longer term and potentially lower cost contract.

43. We concluded that all of the above alternative options would be highly likely to result in additional deployment of mid and high range co-firing and full conversions which would add to the pressure on the LCF, impacting on consumer bills and our ability to retain options for spend under CFDs.

### Post consultation decision

43 In light of the above, **Government has decided that, as proposed in the consultation document, exceptions from our decision to remove grandfathered support for mid and high range co-firing and biomass conversion will apply to:**

- (i) any generating station or combustion unit that is the subject of an Investment Contract awarded through the FID Enabling for Renewables process and is awaiting State aid clearance at the time of the consultation (12 December 2014)** Following further analysis and discussion with stakeholders, **we have decided to extend the length of the grace period for the exception criteria relating to units with Investment Contracts, up to the point of closure of the RO on 31 March 2017; or**
- (ii) had moved into the mid- or high-range co- firing bands in any month before the date of the consultation (12 December 2014). These stations/units will have until 12 December 2015 to move to full conversion and retain grandfathering policy at that band.**

44. For stations or units subject to Investment Contracts, the commitment to convert has already been made and was factored into our planning. A grace period would mean that these generating stations or combustion units would not lose grandfathering merely because of delays to their conversion caused by the State aid process. They would have up to closure of the RO on 31 March 2017 to terminate their Investment Contract (in accordance with the conditions attached to that contract), convert under the RO and benefit from grandfathering policy. We originally proposed that units that met the exemption criteria would have one year from termination of the contract to move to full conversion. Lengthening the grace period will ensure that a generators position is not worse than the day on which they signed the Investment Contract with the state aid risk prevailing.

45. We consider that these exceptions and grace period arrangements will provide a proportionate level of protection to those projects which had made significant investment on 12 December 2014 and had a high probability of deploying under the RO, whilst at the same time enabling us to control spend under the LCF.
46. We recognise that operators of some projects not covered by the exceptions, may have taken various steps towards conversion and have incurred some sunk costs. However, we do not judge from the consultation evidence received, and through further discussions with stakeholders, that any project not covered by the exception criteria was close to completing conversion on 12 December 2014. Moreover, we do not judge that any of the units that have expressed an interest in converting during the consultation period have spent a significant percentage of the total project costs. This is because unlike some technologies, such as solar PV, the highest proportion of project costs for biomass conversions occurs at the operational, rather than construction phase which occurs later in the project development ‘journey’.

### How will the exceptions and grace periods work in practice?

#### FID Enabling for Renewables investment contract exception

47. To benefit from grandfathering an operator with an Investment Contract would have up to closure of the RO on 31 March 2017 to terminate their investment contract (in accordance with the conditions attached to that contract) and convert under the RO. An operator will be required to provide Ofgem with a written declaration that it intends to make use of this grace period when after having terminated its Investment Contract it seeks to obtain ROCs as a biomass conversion station or unit. This process ties in with the notification arrangements in the RO Order 2009, Article 58 paragraph 3<sup>21</sup> which provides for ROCs to be issued where an Investment Contract has been terminated for a permitted termination event. The definition of “permitted termination event” includes the scenario where:
- (a) there is a delay in the approval of the investment contract by the European Commission, and
  - (b) a refusal by the European Commission to approve the investment contract,
  - (c) a condition attached by the European Commission to its approval of the investment contract which the generator is not willing to accept
- (See Ofgem guidance on RO transition arrangements for further guidance on this process<sup>22</sup> )

### Question 4 asked if there were any other comments on the subject matter of the consultation

48. Several respondents took the opportunity to make more general comments about the proposals and Government’s wider policy on for supporting biomass and renewable energy. These included:
- Questions about why different approaches were taken in this and the recent consultation on changes to financial support for solar PV which proposed closing the

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<sup>21</sup> The Renewables Obligation Order 2009. See: <https://www.gov.uk/government/publications/renewables-obligation-order-2009-as-amended-by-the-renewables-obligation-amendment-order-2011--2>

<sup>22</sup> Ofgem guidance on Transition Period and Closure RO (October 2014) at : <https://www.ofgem.gov.uk/ofgem-publications/90795/finalroguidanceonthetransitionperiodandclosureofthero16oct14-pdf>

scheme to new entrants rather than removing grandfathered support levels. Some suggested that closure was preferable as it provided a clearer position to investors.

- A few respondents commented on the absence of an Impact Assessment with the consultation and requested the financial impacts of the proposals. They also suggested that more visibility was required around future CFD budgets for each technology grouping to avoid investment hiatus. It was suggested that the scheduled budget notice in July 2015 should include budget forecasts for each technology grouping up to the 2020/21 delivery period;
- Concern was also raised by one trade association about the timing of the 2015 CFD allocation round and the conflict with decisions plant operators will need to make regarding the Industrial Emissions Directive (IED). They suggested that CFD auction results for the second allocation should be published prior to the date operators needing to make their IED decisions.

## Government's response

### Alternative options considered.

49. We analysed several options for improving our ability to manage the budgetary impact of additional deployment of biomass under the RO before issuing the consultation. As far as closing the RO to new applications was concerned, this was considered less preferable than grandfathering because it would require us to make changes to the RO legislation and therefore take longer-around 6 – 9 months from the launch of the consultation-to bring into effect. This is important because it may be possible for some combustion units to convert in a very short period of time.
50. Not only would this undermine the implementation of any action to control costs, but it may also have an impact on security of supply. Electricity generation capacity would be reduced in the short term because the early conversion of a unit or units would require taking the unit(s) offline, reducing the volume of capacity on the system until the conversion works were completed and the converted unit or units were once again generating at full capacity. For these reasons, closure of the RO to new applicants and other alternative options requiring amendments to the RO legislation were discounted.
51. It is worth noting that the proposal to withdraw grandfathering has resulted in no new biomass conversions or mid or high range co-firing stations or units coming forward under the RO since the consultation was launched on 12 December 2014.

### The impacts of the decision to withdraw grandfathering

52. The impacts of the decisions announced in this document is at **Annex C**.

### Transparency and timing around future CFD budgets

53. We recognise the need for clarity relating to future CFD allocations and will set these out in due course.



## Annex A: List of respondents to consultation

Organisation
Doosan Babcock
Drax
ecoFUELS
EDF
Eggborough
Energy UK
Eniva
EON
Fram Renewable Fuels
Infinis
Investco Perpetual
Lynemouth
M&G Investment
Ofgem
Old Mutual Global Investors
Orbis
Renewable Energy Association
RenewableUK
RWE
Scottish Power
Shroder Investment Management Ltd
Smartest Energy

The Earth Partners
US Industrial Pellet Association
Uskmouth
Vattenfall
Westervelt
Wood Panel Industries Federation
Wood Pellet Association of Canada
Woodford Investment Management

# Annex B –Biomass support levels under the RO

1. Following the last comprehensive review of support levels under the RO, a number of new bands were created to support the full or partial conversion of coal-fired power stations to generate renewable electricity from biomass. A unit-by-unit approach was also adopted for these new bands, recognising that generating stations with more than one combustion unit might decide to fully or partially convert each unit on an individual basis.

2. The new bands were as follows:

<b>Band</b>	<b>Description*</b>	<b>Support level (ROC/MWh)</b>
Low-range co-firing of biomass	Less than 50% biomass co-fired in a unit	0.5 from April 2015
Mid-range co-firing of biomass (other than bioliquids)	50% - less than 85% biomass co-fired in a unit	0.6
High-range co-firing of biomass (other than bioliquids)	85% - less than 100% biomass co-fired in a unit	0.9 from April 2014
Biomass conversion unit or station	Electricity generated by a unit using 100% biomass	1.0

\* In each case up to 10% fossil fuel can be used in a unit for permitted ancillary purposes without affecting the eligibility of that unit for the band

3. Co-firing at lower percentages involves lower risk and lower investment requirements than co-firing at higher percentages or full conversion. This was reflected in the banding. The bands may also be used as stepping stones to higher levels of co-firing or conversion. The bands are based on the percentage of biomass used in the combustion unit in each month. This means that a combustion unit might change bands from month to month depending on the proportion of biomass used in the month

## Annex C: Economic impacts

The impacts of the proposal will depend on the investment decisions of biomass co-firing and conversion plants. Evidence from the voluntary notification mechanism and market intelligence prior to the consultation, and from the consultation responses, suggested that additional biomass conversion plants could deploy, over and above those included in the medium estimate used to set CFD budgets, which would take total conversion deployment up to 4.6GW. We estimate that the total combined annual costs of these additional projects; that is, the 4.6GW less the central estimate used for CFD budget setting, under the RO would be up to £500m in 2020/21 (in 2011/12 prices). The cost of this additional unbudgeted spend if not offset by cuts elsewhere in the LCF budget could mean that average household energy bills<sup>23</sup> in 2020 would be around £6 higher than they would otherwise be<sup>24</sup>.

The final EMR Delivery Plan, published in December 2013, set out deployment scenarios for biomass conversions under the RO, CFDs and FIDeR ranging from 1.7 to 3.4GW by 2020. Were all of the additional projects, over and above those included in the medium estimate used to set CFD budgets, to come forward, we estimate that this would exceed the upper point of the EMR delivery range by 1.2GW.

Biomass conversions are eligible to bid for support under the enduring CFD regime. We remain of the view that the CfDs present a more cost effective mechanism in the medium to long term than the RO, in almost all circumstances. The CFD provides for earlier certainty of support levels than the RO and greater stability of revenue streams by providing a fixed strike price, which means that investors are protected from wholesale price volatility and should therefore benefit from a reduced cost of capital, making the development of low carbon generation cheaper for both investors and consumers. Co-firing of biomass is not eligible for support under the CFD.

The decision is not expected to impact on short-term security of supply. Whilst conversion to biomass can extend the economic life of coal plant beyond that were it to continue using coal, it does not have an impact on the security of supply over the medium to longer-term. Moreover, it is worth noting that the conversion process itself can take a plant off line for several months and has its own risks, so could itself be contributory to tighter margins. National Grid also has tools to procure capacity for this winter and is about to launch a consultation on putting in place tools for the rest of the period up until 2018/19. Furthermore, from 2018/19, the Capacity Market will ensure a sufficient level of capacity to meet the reliability standard, making sure we get the most of our existing capacity and incentivising new capacity where doing so would be of value for money to the consumer.

The UK has a legally-binding target to meet 15% of our energy consumption from renewable sources by 2020 (across covering electricity, heat and transport). The 2009 Renewable Energy Strategy set out an ambition for the electricity sector to achieve a 30% share of electricity consumption from renewable sources by 2020 to contribute to this target. It is expected that

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<sup>23</sup> This figure is derived by assuming that the costs are spread evenly across all electricity sales to estimate a £/MWh figure which is then combined with estimated average household consumption to derive the average household bill figure.

<sup>24</sup> Based on average annual household consumption of 3.6MWh (in 2015/16) and total electricity sales (304m MWh in 2015/16)

even with the withdrawal of grandfathering, deployment of biomass conversion and co-firing plants will be within the range set out in the EMR Delivery Plan, while overall LCF spend pressures indicate a strong pipeline for renewable projects more generally.

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