



Department for
Business, Energy
& Industrial Strategy

GOVERNMENT RESPONSE TO CONSULTATION ON CONTROLLING THE COSTS OF BIOMASS CONVERSION AND CO-FIRING UNDER THE RENEWABLES OBLIGATION

January 2018

THE GOVERNMENT RESPONSE TO THE CONSULTATION ON CONTROLLING THE COSTS OF BIOMASS CONVERSION AND CO-FIRING UNDER THE RENEWABLES OBLIGATION

The consultation and Impact Assessment can be found at:

<https://www.gov.uk/government/consultations/controlling-the-costs-of-biomass-conversion-and-co-firing-under-the-renewables-obligation>.

The Government response to the consultation on controlling the costs of biomass conversion and co-firing under the Renewables Obligation

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General information

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Territorial extent:

This Government response is for England and Wales only, issued by the Department for Business, Energy and Industrial Strategy (BEIS).

Decisions regarding biomass conversion and co-firing policy in Scotland and Northern Ireland are for the Scottish Government and Department of Economy in Northern Ireland respectively.

Confidentiality and data protection

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information legislation (primarily the Freedom of Information Act 2000, the Data Protection Act 1998 and the Environmental Information Regulations 2004).

This Government response summarises all responses. It includes a list of names or organisations that responded but not people's personal names, addresses or other contact details.

Quality assurance

This consultation has been carried out in accordance with the [Government's Consultation Principles](#). If you have any complaints about the consultation process (as opposed to comments about the issues which are the subject of the consultation) please address them to:

Email: consultation.coordinator@beis.gov.uk

Overview

Government is committed to keeping energy bills as low as possible for consumers, in conjunction with cutting greenhouse gas emissions and supporting economic growth. In September 2017 we asked for views on how best to control the costs of biomass conversion and co-firing under the Renewables Obligation.

Context

- 1.1. The Industrial Strategy set out four Grand Challenges to put the UK at the forefront of the industries of the future.¹ One of these Grand Challenges is maximising the advantages for UK industry from the global shift to clean growth. The framework for achieving clean growth and affordable energy for businesses and households was set out in the recent Clean Growth Strategy² and sits at the heart of the Industrial Strategy.
- 1.2. In 2011 Government introduced the Levy Control Framework (LCF) to govern the budget for low carbon electricity schemes, including the Renewables Obligation (RO), which are paid for through consumer bills.
- 1.3. The Government has been clear in successive publications that biomass conversions play an important transitional role in decarbonising the grid. A significant amount of biomass conversion has already taken place, helping meet carbon targets.
- 1.4. In 2014, Government became aware of a strong likelihood that deployment of biomass conversion and co-firing units would be higher than the middle of the ranges used to set budgets under the LCF. In order to control costs under the LCF and protect consumer bills, the Government stated in July 2015, following consultation, that 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.³
- 1.5. Despite the changes to grandfathering policy, earlier in 2017 evidence suggested that significant unforecast deployment of biomass conversion and co-firing under

¹ <https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future>

² <https://www.gov.uk/government/publications/clean-growth-strategy>

³ Grandfathering is a policy that once a generating station is accredited and receiving support under the RO, the level of support that it receives will not change for the lifetime of its support under that scheme. For changes to grandfathering policy see:

<https://www.gov.uk/government/consultations/changes-to-grandfathering-policy-with-respect-to-future-biomass-co-firing-and-conversion-projects-in-the-renewables-obligation>

the RO could result in additional costs of around £110m to £195m per annum (central estimate).⁴ In order to protect bill payers, we consulted on controlling the costs of biomass conversion and co-firing under the RO.

- 1.6. The Autumn Budget 2017 announced the Control for Low Carbon Levies, which sets out that the Government will not introduce new low carbon electricity levies until the burden of such costs is falling.⁵ On the basis of the current forecast, this means there will be no new low carbon electricity levies until 2025.⁶ The Government will continue to monitor spend against the original LCF budget until 2020/21.
- 1.7. We have consulted on ending unabated coal generation⁷ and on 18 September 2017 the Prime Minister confirmed our commitment to phasing out unabated coal by 2025. A Government response to that consultation was published on 5 January 2018⁸. The expected impacts of the RO cost control options discussed in this Government response have been considered in the context of unabated coal closure.

The consultation

- 1.8. The *Consultation on controlling the costs of biomass conversion and co-firing under the Renewables Obligation*⁹ was published on 15 September 2017 and closed on 26 October 2017. It set out two possible options, a generator cap or a re-banding of support levels, and asked for any alternative proposals for limiting additional unforecast LCF spend in a fair way.
- 1.9. We received responses to the consultation from 22 stakeholders. These included affected generators, energy companies, non-governmental organisations, companies in the biomass supply and distribution chain and one individual. All responses received as part of the consultation were considered in developing the final policy positions. A list of respondents is included in Annex A.
- 1.10. The following sections summarise the responses received to the consultation questions, issues raised by stakeholders and the Government's final decisions on implementing cost controls for biomass conversion and co-firing under the RO.
- 1.11. Biomass conversion and co-firing projects fall within the definition of Relevant Fossil Fuel Stations as set out in the Renewables Obligation Order 2015 (RO

⁴ All values in 2011/12 prices.

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/660986/Control_for_Low_Carbon_Levies_web.pdf

⁶ All existing contracts and commitments will be respected, including up to £557 million for further Contracts for Difference. The Government will continue to support low carbon electricity as it becomes more cost competitive.

⁷ <https://www.gov.uk/government/consultations/coal-generation-in-great-britain-the-pathway-to-a-low-carbon-future>

⁸ <https://www.gov.uk/government/consultations/coal-generation-in-great-britain-the-pathway-to-a-low-carbon-future>

⁹ <https://www.gov.uk/government/consultations/controlling-the-costs-of-biomass-conversion-and-co-firing-under-the-renewables-obligation>

Order 2015). These are stations that have generated electricity from more than 15% fossil fuel during a six month period.¹⁰

Decisions taken following consultation

- 1.12. Following the consultation BEIS has considered the responses carefully, noting that neither of the proposed options commanded broad support but that one variant put forward demonstrated how the policy objectives could be met while mitigating some of the concerns raised by stakeholders and providing wider benefits.
- 1.13. We have decided to control costs by implementing an amended version of the generator cap which provides increased flexibility and wider system benefits and addresses some of the concerns of operators. This will enable affected units to run on biomass rather than unabated coal while still keeping costs low for consumers; the spend impact falls within the range of estimates for the cost control options consulted on (up to £25m per year).
- 1.14. For Relevant Fossil Fuel Stations that comprise only non-grandfathered units, the cap mechanism will operate as follows:
 - A station cap of **125,000 ROCs per Obligation year¹¹ per RO-eligible unit¹² will be applied to generation eligible for ROCs at the biomass conversion and co-firing bands, including ‘Co-firing of regular bioliquid and ‘Low-range co-firing of relevant energy crops’.**
 - **Stations will be able to optimise generation across units and decide whether they use a single unit or more than one unit to generate up to the level of their station cap.**
- 1.15. For Relevant Fossil Fuel Stations that comprise both grandfathered and non-grandfathered units, the cap mechanism will operate as follows:
 - At the time of setting the Obligation each year, BEIS will publish a ‘grandfathered unit forecast’ (see Annex B), stating the number of Renewable Obligation Certificates (ROCs) expected to be issued to grandfathered units at these stations in the upcoming obligation year. BEIS is already required to estimate the number of ROCs that are likely to be issued in the upcoming Obligation year in order to set the Obligation.¹³
 - The station will have a ‘non-grandfathered unit allowance’ of **125,000 ROCs per RO-eligible non-grandfathered unit¹⁴ per Obligation year for generation eligible for ROCs at the biomass conversion and co-firing bands, including ‘Co-firing of regular bioliquid and ‘Low-range co-firing of relevant energy**

¹⁰ See full definition in Schedule 5 Part 1 of the RO Order 2015.

¹¹ Each obligation year runs from 1 April to 31 March.

¹² Any units that form excluded capacity (as defined in Article 45 of the RO Order 2015) will not be included in the calculation of the cap.

¹³ See Article 11 of the RO Order 2015, ‘Calculation B’.

¹⁴ Any units that form excluded capacity (as defined in Article 45 of the RO Order 2015) will not be included in the calculation of the allowance.

crops'. The level of this allowance is consistent with the cap for stations only comprising non-grandfathered units.

- A station forecast will be calculated as follows:

Station forecast = grandfathered unit forecast + non-grandfathered unit allowance.

- **If and to the extent that the number of ROCs issued to grandfathered units in the Obligation year is lower than the grandfathered unit forecast, non-grandfathered units will have flexibility to receive ROCs over the level of the non-grandfathered unit allowance. In this case, the number of ROCs issued to the station in the Obligation year will not exceed the station forecast.**
 - Alternatively, operators may choose to maximise generation at grandfathered units such that the number of ROCs issued to grandfathered units in the Obligation year exceeds the grandfathered unit forecast. In such circumstances, non-grandfathered unit(s) will not be issued ROCs above the level of the non-grandfathered unit allowance.
- 1.16. **Support rates for eligible generation – i.e. up to the level permitted by the cap mechanism – will remain at current levels as set out in Annex C and in the RO Order 2015.** While the cap mechanism will limit the amount of RO support affected stations can receive each year, generation which is not eligible for support (because the level permitted by the cap mechanism has been reached) will not be prevented from selling into the wholesale market.
- 1.17. **As consulted on, we will revise grandfathering policy so that grandfathered biomass conversion units and dedicated biomass stations that temporarily drop down the bands will remain grandfathered and not be subject to the cap on support for non-grandfathered units (see 'Scope and proposed exceptions').**
- 1.18. Grandfathered biomass conversion units and dedicated biomass stations will only lose their grandfathered status if they use more than 15% fossil fuel averaged across a six month period.¹⁵ In such circumstances they will become subject to the cap on generation eligible for ROCs at the biomass conversion and co-firing bands.

Next steps

- 1.19. We will implement the cost control measures through changes to the RO Order 2015. Subject to Parliamentary approval, we intend the cost controls to come into force in 2018/19.
- 1.20. The cap will **not be pro-rated**. Assuming that legislation comes into force in 2018/19, the cap mechanism described above will be applied in that Obligation year in the following way:
- The station cap for stations comprising only non-grandfathered units will be set at 125,000 ROCs per RO-eligible unit for the remainder of the Obligation year;

¹⁵ When assessing whether this threshold has been met, no account will be taken of any fossil fuel used for permitted ancillary purposes (as defined in Part 1 of the RO Order 2015).

- For stations comprising both grandfathered and non-grandfathered units, the station forecast will be calculated by adding the grandfathered unit forecast for the full Obligation year to the non-grandfathered unit allowance of 125,000 ROCs per non-grandfathered unit.

Detailed responses to consultation questions

Option A: A generator cap

In this chapter of the consultation document we set out the methodology behind the generator cap proposal and the details of how it would be implemented.

We set out the option of limiting unforecast LCF spend by introducing an annual cap of 105,000 ROCs per year on the total number of biomass conversion or biomass co-firing ROCs that could be issued to each biomass conversion or co-firing station in respect of generation at its non-grandfathered units. We sought stakeholders' views on the methodology for setting the cap, how it would be implemented if introduced after the start of the obligation year and the likely impacts.

Question 1

| Consultation Question | 9 Responses |
|-----------------------|-------------|
|-----------------------|-------------|

Do you agree that the cap on the total number of ROCs that can be issued to each biomass conversion or co-firing station in respect of generation from all its non-grandfathered units should be based on the highest number of ROCs issued to the non-grandfathered units of any affected station in any year prior to 2017/18? This would equate to a cap of 105,000 ROCs a year.

If not, how would you recommend setting the level of the cap and why?

| | | | |
|--|------------------------------|----|--|
| | Agree | 5 | |
| | Disagree | 4 | |
| | Don't know / Did not respond | 13 | |

See consultation document, 'Option A: Generator cap' (pp. 14-17).

Consultation position

- 2.1. We proposed an annual cap of 105,000 ROCs applied to each biomass conversion or co-firing station in respect of generation from all of its non-grandfathered units.

This reflected the maximum annual historic performance of any affected generator. Setting the cap at 105,000 ROCs would therefore allow generators to continue generating in line with the levels of deployment at the co-firing bands recorded in previous years.

Summary of responses

- 2.2. Several respondents agreed with the proposed approach for setting the cap should this option be selected. It was noted that this was preferable to setting an individual cap based on historic performance for each plant, which could effectively end RO accreditation for some plants and would be more complex to administer.
- 2.3. Some respondents disagreed with the proposal for setting the level of the cap and suggested alternatives for further restricting biomass conversion and co-firing. For instance, one respondent suggested that the cap should be set based on individual unit history and that units that have not historically co-fired should lose the ability to do so in the future.
- 2.4. Two respondents agreed that a cap should be imposed but were concerned that the proposed level of the cap represented a low proportion of the potential number of ROCs that units could claim over the course of a year and did not take into account investment decisions currently underway.
- 2.5. One respondent proposed instead that the cap should be based on the maximum number of ROCs a station could claim generating in the low-range co-firing band, to deter generation with higher proportions of biomass (which would have higher LCF impact). It was suggested that security of supply, local investment and job creation benefits of allowing co-firing plans to proceed should be considered in addition to the impact on consumer bills.
- 2.6. An alternative proposal suggested the following main amendments to the generator cap option:
 - A non-grandfathered unit fixed allowance allocated on a per unit rather than per station basis; and
 - Flexibility to optimise generation across non-grandfathered units and, where applicable, grandfathered units within a station.
- 2.7. It was suggested that such an approach would have a number of benefits including:
 - supporting the further conversion of coal units, with associated carbon-saving benefits;
 - allowing greater flexibility to provide valuable grid support to the System Operator; and
 - not exceeding the maximum LCF impact of the re-banding option as set out in our consultation-stage Impact Assessment.
- 2.8. Another respondent suggested setting the cap monthly and increasing its level in the summer to encourage generation profiles to match demand profiles.

Government response

- 2.9. We do not agree that units that have not historically co-fired should lose the ability to do so in the future. Effectively ending RO support for accredited plants that have not yet co-fired but may do so in future would not be fair.
- 2.10. We also decided not to set the cap monthly as this would add unnecessary complexity; operators are already incentivised by the pricing system to increase generation at times of the year when demand is higher.
- 2.11. We noted concerns that the proposed methodology for setting the cap would not accommodate generator plans for biomass conversion and co-firing and the wider system, economic and carbon-saving benefits these could have.
- 2.12. We considered in detail other methodologies proposed for setting and implementing the cap and their likely impacts. We recognised that through adapting the cap slightly to offer increased flexibility, it would be possible to achieve wider system benefits and address some of the concerns of operators. This will allow affected units to run on biomass rather than unabated coal while still keeping costs low for consumers; the spend impact falls within the range of estimates for the cost control options consulted on (up to £25m per year).
- 2.13. **We have therefore decided to implement an amended version of the generator cap that allows operators to optimise generation across non-grandfathered units and, where applicable, grandfathered units within a station.**

How the cap mechanism will work for Relevant Fossil Fuel Stations comprising only non-grandfathered units

- 2.14. Relevant Fossil Fuel Stations comprising only non-grandfathered units will be subject to a station cap applied to generation eligible for ROCs at the biomass conversion and co-firing bands of **125,000 ROCs per obligation year per RO-eligible unit**. This figure has been chosen as, based on stakeholder responses, 125,000 ROCs would allow accredited stations to maximise the value of their existing accreditation whilst restricting additional costs to a level we are prepared to tolerate in the interests of consumers.
- 2.15. **Stations will be able to optimise generation across units** and decide whether they use a single unit or more than one unit to generate up to the level of their station cap.
- 2.16. While the cap will limit the amount of RO support affected stations can receive each year, generation beyond the point at which the cap has been reached will not be prevented from selling into the wholesale market.

How the cap mechanism will work for Relevant Fossil Fuel Stations that comprise both grandfathered and non-grandfathered units

- 2.17. We recognise that stations comprising both grandfathered and non-grandfathered units have already made substantial investment in biomass conversion and co-firing. We have decided to allow such stations flexibility to optimise generation

across their grandfathered and non-grandfathered units in a way that ensures that additional LCF impact is controlled.

- 2.18. At the time of setting the Obligation each year, BEIS will publish a ‘grandfathered unit forecast’, stating the number of ROCs expected to be issued to grandfathered units at relevant stations in the upcoming Obligation year. Operators of relevant stations will be asked to supply details of planned outages and their assessment of unplanned outage rates to BEIS in order to assist with this process. For further details of how this forecast will be set, see Annex B.
- 2.19. The station will have a ‘non-grandfathered unit allowance’ of **125,000 ROCs per RO-eligible non-grandfathered unit per obligation year**. This allowance is consistent with the cap for stations only comprising non-grandfathered units.
- 2.20. A station forecast will be calculated by adding together the grandfathered unit forecast and the non-grandfathered unit allowance.
- 2.21. If and to the extent that the number of ROCs issued to grandfathered units in the Obligation year is lower than the grandfathered unit forecast, non-grandfathered units will have flexibility to receive ROCs over the level of the non-grandfathered unit allowance. In these circumstances, no more ROCs will be issued to the station once the total number of ROCs issued to the station in the obligation year has reached the station forecast. See Fig. 1, Scenario 1.
- 2.22. Operators may exceed the station forecast in circumstances where the number of ROCs issued to grandfathered units in the obligation year exceeds the grandfathered unit forecast and where the cap for non-grandfathered unit(s) has not been exceeded. As the costs of grandfathered units are already accounted for in RO spend forecasts, there will be no additional LCF impact attributable to the grandfathered units. **However, in such circumstances, non-grandfathered unit(s) will not have flexibility to be issued ROCs above the level of the non-grandfathered unit allowance.** See Fig. 1, Scenario 2.

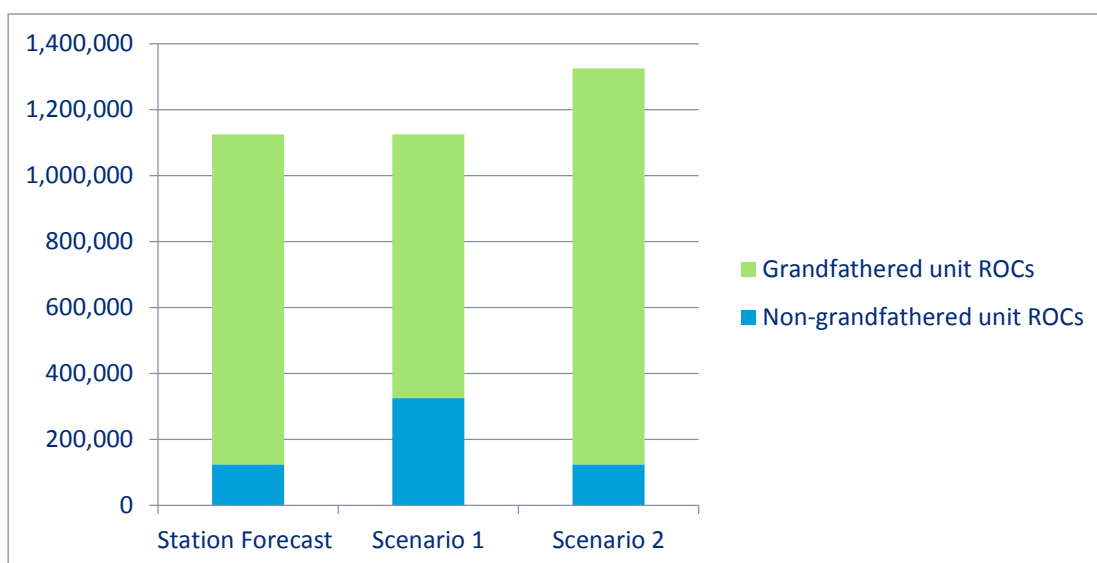


Figure 1: Operation of the cap for stations comprising grandfathered and non-grandfathered units. Figures on y-axis indicative only.

- 2.23. We considered alternative methods for ensuring compliance with the cap mechanism, including revoking ROCs in circumstances where both the non-grandfathered unit allowance and the station forecast are exceeded. However, such revocation of ROCs would add complexity and could have unintended consequences for the ROC market. We expect that any operator choosing to utilise flexibility to optimise generation across grandfathered and non-grandfathered units would be able to manage its generation within the station forecast.
- 2.24. As stated in paragraph 1.16 above, there will be no restrictions preventing stations from selling generation into the wholesale market.

Benefits of this approach

- 2.25. The flexibility provided by this approach will allow units to operate more when most required by the system and prices are higher, i.e. at times of high system demand and low intermittent renewable output. It should also allow operators more commercial flexibility to provide competitive capacity in other areas such as the balancing mechanism and the ancillary services market.
- 2.26. Supporting operators' biomass conversion and co-firing plans to proceed in a controlled way, through these amendments to the generator cap option, may bring forward the end of some unabated coal generation earlier than 2025. This will allow biomass conversion and co-firing to continue to play a transitional role in reducing carbon emissions compared to the coal counterfactual and meeting UK renewable energy targets.
- 2.27. This approach may also support local investment and direct and indirect job creation.
- 2.28. We consider that these benefits taken together outweigh the slightly higher spend impact of this option compared to our original proposal for a generator cap (see response to Question 3 for further information).

Question 2

| Consultation Question | 9 Responses |
|-----------------------|-------------|
|-----------------------|-------------|

Do you agree with the proposed approach of pro-rating the level of the generator cap in the event that its introduction is delayed?

If not, how would you recommend applying the cap in circumstances where it is introduced after the start of an obligation year and why?

| | |
|------------------------------|----|
| Agree | 7 |
| Disagree | 2 |
| Don't know / Did not respond | 13 |

See consultation document, 'Option A: Generator cap' (pp. 14-17).

Consultation position

2.29. We proposed that if this option were selected, it would be our intention to legislate so that the generator cap would take effect from 1 April 2018. In the case of some unforeseen delay to the legislation, the cap would be applied to stations on a pro-rated basis. For instance, if the legislation entered into force three months after the start of the obligation year, the cap applied would be set at three-quarters of 105,000 (78,750 ROCs) for the rest of that year. Stations would be subject to the full cap of 105,000 ROCs in subsequent years.

Summary of responses

- 2.30. Respondents to this question mostly supported our proposal for pro-rating the level of the cap should a generator cap be opted for.
- 2.31. Among respondents who disagreed with the proposal, reasons stated included that as the Obligation for 2018/19 has already been set, there would be no additional cost for consumers if the cap were not pro-rated. It was also noted that pro-rating on the assumption that generation was even throughout the year was not appropriate; operators might generate less in summer and more in winter.
- 2.32. One respondent suggested that the additional administration costs associated with pro-rating the cap for the first year of introduction might not be proportionate as such pro-rating was likely to have very limited benefit for the LCF.

Government response

- 2.33. We have considered carefully and taken on board comments that pro-rating the cap would be based on an incorrect assumption about generation being evenly distributed throughout the year, and would be disproportionately costly to administer given the limited LCF benefits it would achieve.
- 2.34. Not pro-rating should also give stakeholders increased certainty as the level of the cap will not vary depending on when it is introduced. This should help affected generators prepare for and adapt to the cap mechanism during its first year of introduction.
- 2.35. **We have therefore decided not to pro-rate the cap.** This will not increase RO costs for 2018/19 as these have already been determined through the RO setting process.

Question 3

| Consultation Question | 8 Responses |
|-----------------------|-------------|
|-----------------------|-------------|

What are your views on the likely impacts of the proposed generator cap, particularly on the annual generation and fuel mix of affected generators?

Please provide evidence to support your answer.

See consultation document, 'Option A: Generator cap' (pp. 14-17).

Consultation position

- 2.36. In the consultation document and accompanying Impact Assessment, we estimated that the proposed generator cap would limit additional LCF spend to around £5m to £10m a year.¹⁶ This option would also offer certainty about maximum potential additional spend attributed to biomass conversions and co-firers, and increase certainty when setting the Obligation.
- 2.37. We noted uncertainty around the effect of the proposed generator cap on the total annual generation and fuel mix of affected generators, due to a lack of robust evidence on the specific financial positions of individual generators and the strategic responses their operators might take. In light of this uncertainty our preliminary Impact Assessment assumed that if RO support were restricted, generators might still choose to continue to use increased levels of biomass (as selling into the wholesale market would not be prevented). However, we recognised a possibility that restricting RO support might lead to non-grandfathered co-firing units that might otherwise operate as biomass conversions burning coal instead, with potential consequences for greenhouse gas emissions, air quality and energy resource costs.

Summary of responses

- 2.38. Two respondents were concerned by the substantial reduction in support proposed under the generator cap option. They commented that this would prevent them from operating at the biomass conversion or co-firing bands and in certain circumstances result in them burning coal for as long as it was economically viable ahead of the planned coal closure in 2025. It was estimated that this could lead to the emission

¹⁶ Additional to LCF forecasts published in March 2017.

of around 2 metric tons of carbon dioxide per year, costed at around £40m based on 2016 carbon price assumptions.

- 2.39. On the other hand one respondent claimed that current market indicators (including the higher competitiveness of gas-fired generation and imported electricity) suggested that a significant increase in coal-fired generation was unlikely.
- 2.40. A dedicated biomass generator noted that their capacity and fuel mix was such that their generation would not be impacted by the proposed cap.
- 2.41. A number of respondents opposed to the burning of biomass were concerned that the implementation of the cap could cause some units to increase their use of biomass beneath the cap, including at the low-range co-firing level.

Government response

- 2.42. We were concerned by evidence that the generator cap as proposed in the consultation document could lead to increased coal generation ahead of the 2025 end date for unabated coal, compared to the 'do nothing' scenario. By comparison, the amended generator cap option that we have instead decided to implement is expected to reduce carbon emissions compared to a coal counterfactual by bringing forward the end of some unabated coal generation earlier than 2025, while limiting additional costs to consumers. For additional benefits to this approach, see Government response to Question 1.
- 2.43. Based on evidence received during the consultation, the estimated RO spend impact of the amended generator cap option is £20m per year. While this is slightly higher than the spend impact of the generator cap option consulted on (£5m to £10m per year), it is still far lower than under the updated 'do nothing' scenario (£135m to £240m per year, central estimate).
- 2.44. For more detailed analysis of the expected impacts of our final policy, see the accompanying Impact Assessment.¹⁷

¹⁷ <https://www.gov.uk/government/consultations/controlling-the-costs-of-biomass-conversion-and-co-firing-under-the-renewables-obligation>

Option B: Re-banding of support levels

In this chapter of the consultation document we explained the option of a re-banding of support levels and the reasons for the new level of support proposed.

We set out the option of limiting unforecast LCF spend by carrying out a banding review and revising the support levels to 0.1 ROC/MWh for non-grandfathered biomass conversion and biomass co-firing.¹⁸ We sought stakeholders' views on the proposed support levels and their likely impacts.

Question 4

| Consultation Question | 9 Responses |
|-----------------------|-------------|
|-----------------------|-------------|

Do you agree with the proposed level of support of 0.1 ROC/MWh for all biomass conversion and biomass co-firing bands?

Please give reasons and provide evidence to support your answer.

| | | | |
|--|------------------------------|----|--|
| | Agree | 5 | |
| | Disagree | 4 | |
| | Don't know / Did not respond | 13 | |

See consultation document, 'Option B: Re-banding of support levels' (pp. 18-25).

Consultation position

- 3.1. Under this option, after consideration of all the statutory matters relevant to an RO banding review, we proposed reducing support rates to 0.1 ROC/MWh for all biomass conversion and biomass co-firing bands, excluding the 'Co-firing of regular bioliqumid' and 'Low-range co-firing of relevant energy crops' bands.

¹⁸ Current support levels are set out in Annex C.

Summary of responses

- 3.2. A number of respondents generally agreed with the proposed re-banding of support levels to clearly disincentivise the burning of biomass to generate electricity, while some expressed a preference for setting the support levels lower or to zero.
- 3.3. A number of other respondents also supported the proposed re-banding of support levels, on grounds that this would control LCF spend and limit costs for consumers.
- 3.4. On the other hand, some respondents opposed the proposed support levels, citing a departure from the previous approach of re-banding following extensive consultation and rigorous analysis of any changes in costs and the support levels needed to bring forward deployment. They claimed that conversion and co-firing would not be economically viable with the proposed support levels in place.
- 3.5. One dedicated biomass generator claimed that the proposed revisions of support levels for co-firing would create significant uncertainty of support for operators who do not have a fuel of controllable quality and occasionally fall from the dedicated biomass band into one of the co-firing bands. This would make them less likely to operate.

Government response

- 3.6. Based on evidence from consultation responses and a fuller assessment of the relative merits of both the generator cap and re-banding options (see Question 5), **we have decided not to carry out a re-banding of support levels.**
- 3.7. Up until a station has reached its cap, the number of ROCs issued per MWh of electricity generated will remain as set out in the Renewables Obligation Order 2015 and in Annex C.

Question 5

| Consultation Question | 10 Responses |
|-----------------------|--------------|
|-----------------------|--------------|

What are your views on the likely impacts of the proposed re-banding to 0.1 ROC/MWh for all biomass conversion and biomass co-firing bands, particularly on the annual generation and fuel mix of affected generators?

Please provide evidence to support your answer.

See consultation document, 'Option B: Re-banding of support levels' (pp. 18-25).

Consultation position

- 3.8. In the consultation document and accompanying Impact Assessment, we estimated that the proposed re-banding of support levels would limit additional LCF spend to up to £5m to £25m a year.¹⁹
- 3.9. We noted uncertainty around the effect of the proposed re-banding of support levels on the total annual generation and fuel mix of affected generators, due to a lack of robust evidence on the specific financial positions of individual generators and the strategic responses their operators might take. In light of this uncertainty our preliminary Impact Assessment assumed that if RO support were restricted, generators might still choose to continue to use increased levels of biomass (as selling into the wholesale market would not be prevented). However, we recognised a possibility that restricting RO support might lead to non-grandfathered co-firing units that might otherwise operate as biomass conversions burning coal instead, with potential consequences for greenhouse gas emissions, air quality and energy resource costs.

Summary of responses

- 3.10. A number of respondents suggested that the proposed re-banding of support levels would be a more certain means of restricting the use of biomass for co-firing and conversion and controlling costs, compared to a generator cap that could allow some plants to increase their use of biomass up to the level of the cap.
- 3.11. It was also suggested that the proposed re-banding would be fairer than the generator cap option, as it would treat every megawatt hour of generation at each plant the same.
- 3.12. Some respondents suggested that neither the generator cap nor the re-banding would significantly change the amount of coal burned compared to the do-nothing scenario. There were also recommendations for action by Government to ensure that any re-banding would not incentivise greater coal use, such as phasing out coal from support in the Capacity Market by excluding it from T-4 auctions.
- 3.13. Other respondents commented that the proposed re-banding of support levels would end all generation from biomass conversion or co-firing at non-grandfathered units. Some suggested that this could negatively impact security of supply or in certain circumstances result in generators burning coal for as long as it was economically viable ahead of the planned coal closure in 2025. It was estimated that this could lead to the emission of around 2 metric tons of carbon dioxide per year, costed at around £40m based on 2016 carbon price assumptions.
- 3.14. It was also noted that a re-banding approach would not provide the degree of LCF cost control offered by the generator cap option, and that it might adversely affect the quantity of renewable generation at dedicated biomass plants not intended to be captured by the proposals (see paragraph 3.5 above).

¹⁹ Additional to LCF forecasts published in March 2017.

Government response

- 3.15. We were concerned by evidence that the proposed re-banding of support levels could lead to increased coal generation ahead of the 2025 end date for unabated coal, compared to the 'do nothing' scenario. By comparison, the amended generator cap option that we have instead decided to implement is expected to reduce carbon emissions by bringing forward the end of some unabated coal generation earlier than 2025, while limiting additional costs to consumers. See Government response to Question 1 for details.
- 3.16. For analysis of the expected impacts of our final policy, see the accompanying Impact Assessment.²⁰

²⁰ <https://www.gov.uk/government/consultations/controlling-the-costs-of-biomass-conversion-and-co-firing-under-the-renewables-obligation>

Scope and Proposed Exceptions

In this chapter of the consultation document we outlined which generating stations and units the proposals were intended to affect and the exceptions that we proposed to apply.

We stated that the proposed policy options were intended to apply only to non-grandfathered units or stations in England and Wales operating under the biomass conversion or biomass co-firing bands.²¹ We outlined that our position on grandfathering with respect to biomass conversions and co-firing was as set out in the 2015 “Government response on changes to grandfathering policy with respect to future biomass co-firing and conversion projects in the Renewables Obligation”,²² subject to certain revisions.

Question 6

| Consultation Question | 7 Responses |
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Do you agree with our proposed approach of including only non-grandfathered units or stations in England and Wales operating under the biomass conversion or biomass co-firing bands in the scope of our proposals? Do you think the proposed exceptions, particularly for generation at the ‘Co-firing of regular bioliquid’ and ‘Low-range co-firing of relevant energy crops’ bands, could have any unintended consequences?

Please give reasons to support your answer.

See consultation document, ‘Scope and proposed exceptions’ (pp. 26-30).

²¹ Grandfathering under the RO has reflected a policy intent that the rate of support that a generating station or unit receives at the time of its accreditation will remain fixed (meaning the station or unit would not be affected by a subsequent banding review). We stated our intention that if the generator cap were introduced, grandfathered units should also retain their right to receive ROCs for all eligible generation (i.e. the cap would not apply to them).

²² <https://www.gov.uk/government/consultations/changes-to-grandfathering-policy-with-respect-to-future-biomass-co-firing-and-conversion-projects-in-the-renewables-obligation>

Consultation position

- 4.1. We proposed including only non-grandfathered units or stations in England and Wales operating under the biomass conversion or biomass co-firing bands in the scope of our proposals.
- 4.2. We considered that the 'Co-firing of regular bioliquid' and 'Low-range co-firing of relevant energy crops' bands did not present a risk to the LCF. Only a very small number of generators have claimed ROCs at these bands and we did not expect ROCs to be claimed at either of these bands after the 2017/18 Obligation year.

Summary of responses

- 4.3. A number of respondents opposed to biomass electricity generation believed that grandfathered units should also be included in the scope of the proposals, as they claimed that the environmental, climate and cost impacts of biomass subsidies applied to grandfathered and non-grandfathered units alike.
- 4.4. On the other hand, a number of respondents supported the inclusion of only non-grandfathered units in the scope of the proposals. They stressed the importance of maintaining the principle of grandfathering; departing from this could set a worrying precedent for other accredited technologies receiving grandfathered support under the RO.
- 4.5. Some respondents said they were not aware of any evidence that the 'Co-firing of regular bioliquid' and 'Low-range co-firing of relevant energy crops' bands presented a risk to the LCF.
- 4.6. However, a number of respondents were concerned that exempting these bands from the scope of the proposals posed a risk of perversely causing a rapid, large scale switch to co-firing with bioliquids or relevant energy crops. They claimed that such a switch would be difficult to predict, citing how deployment of biomass co-firing and conversion has been higher than forecast. They suggested that including the 'Co-firing of regular bioliquid' and 'Low-range co-firing of relevant energy crops' bands within the scope of the proposals was needed to remove the risk of increasing demand for these feedstocks. It was also noted that if co-firing with such feedstocks was not currently being done at scale, then including them in the policy scope now and forestalling damaging levels of development would not adversely impact anyone.

Government response

- 4.7. We have considered carefully and taken on board comments about possible unintended consequences of excluding the 'Co-firing of regular bioliquid' and 'Low-range co-firing of relevant energy crops' bands from the scope of our cost control measures. It is not our intention to encourage co-firing at these bands, which could have an adverse impact on RO spend.
- 4.8. **We have therefore decided to include the 'Co-firing of regular bioliquid' and 'Low-range co-firing of relevant energy crops' bands (with and without CHP) in the scope of the generator cap.** The cap will apply to generation by non-grandfathered units eligible for ROCs at any of the biomass conversion and co-firing bands, including 'Co-firing of regular bioliquid' and 'Low-range co-firing of relevant energy crops' (with and without CHP).

Question 7

| Consultation Question | 7 Responses |
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We propose to change the position outlined in the 2015 Government Response on changes to grandfathering policy so that grandfathered stations or units that temporarily drop down the bands are exempted from our proposals. Do you agree with this approach? Are there any other clarifications required to our grandfathering policy?

Please give reasons to support your answer.

See consultation document, 'Scope and proposed exceptions' (pp. 26-30).

Consultation position

- 4.9. We proposed certain revisions to our position on grandfathering with respect to biomass conversions and co-firing as set out in the 2015 Government response on changes to grandfathering policy with respect to future biomass co-firing and conversion projects in the Renewables Obligation.²³ These were intended to exempt grandfathered stations or units that occasionally use more fossil fuel than intended and temporarily fall into one of the co-firing bands from cost controls.
- 4.10. Under the proposed revisions, if a grandfathered biomass conversion unit or a grandfathered dedicated biomass station (with or without CHP) fell into one of the co-firing bands in a particular month, it would not be affected by our cost control proposals providing it did not exceed a threshold of 15% fossil fuel averaged across a six month period.²⁴

Summary of responses

- 4.11. The majority of the respondents who answered this question agreed with the proposed revisions to grandfathering policy. One respondent suggested it was important to apply the revision only to those stations that temporarily drop down the bands.
- 4.12. One respondent was concerned that despite our proposed revisions, unforeseen circumstances might still result in grandfathered units losing their grandfathered status and becoming uneconomic to operate.
- 4.13. A few other respondents were opposed to the proposed approach to grandfathering on the basis that grandfathered units or stations should also have their support reduced or removed.

²³ <https://www.gov.uk/government/consultations/changes-to-grandfathering-policy-with-respect-to-future-biomass-co-firing-and-conversion-projects-in-the-renewables-obligation>

²⁴ This is the same threshold as used when defining Relevant Fossil Fuel Stations; see Schedule 5 Part 1 of the RO Order 2015.

- 4.14. One respondent recommended clarification of whether the proposed changes apply to any grandfathered mid- or high-range co-firing stations that might drop down to a lower co-firing band.

Government response

- 4.15. Following consideration of all consultation responses, we have decided to introduce the revisions to grandfathering policy consulted on. Grandfathered biomass conversion units and dedicated biomass stations that temporarily drop down the bands will remain grandfathered and not fall subject to the support cap for non-grandfathered units. This should ensure that generators that use more fossil fuel than normal for a short period of time will not have their support capped.
- 4.16. **Grandfathered biomass conversion units and dedicated biomass stations will only lose their grandfathered status and become subject to the support cap for non-grandfathered units if they use more than 15% fossil fuel averaged across a six month period.** When assessing whether this threshold has been met, no account will be taken of any fossil fuel used for permitted ancillary purposes.²⁵
- 4.17. This should prevent generators from varying their biomass levels for sustained periods, which could have a negative impact on our ability to meet renewable energy targets and set the obligation accurately. We received no evidence during the consultation of circumstances under which it might be necessary for generators to use more than 15% fossil fuel averaged across a six month period. Grandfathered generators should monitor their use of fossil fuel to ensure that this threshold is not exceeded.

Other aspects of grandfathering policy

- 4.18. Apart from the revisions described above, we are not proposing further changes to the grandfathering policy as set out in the 2015 Government Response on changes to grandfathering policy.²⁶ The relevant aspects are summarised in the following paragraphs.
- 4.19. Generating stations or combustion units are non-grandfathered if they co-fire at the low-range co-firing band or took any of the following actions for the first time on or after 12 December 2014:
- a) accredited as a new fuelled station under the RO and received ROCs under one of the biomass co-firing or conversion bands; or
 - b) moved from the low-range co-firing band into the mid- or high-range co-firing or biomass conversion bands under the RO; or
 - c) moved from the mid-range co-firing band into the high-range co-firing or biomass conversion bands under the RO; or
 - d) moved from the high-range co-firing band to a biomass conversion band under the RO; or

²⁵ As defined in Part 1 of the RO Order 2015.

²⁶ <https://www.gov.uk/government/consultations/changes-to-grandfathering-policy-with-respect-to-future-biomass-co-firing-and-conversion-projects-in-the-renewables-obligation>

- e) received ROCs under one of the biomass co-firing with Combined Heat and Power (CHP) or conversion with CHP bands.
- 4.20. Units that received ROCs under the mid-range co-firing, high-range co-firing or conversion band before 12 December 2014 are grandfathered, providing that subsequent to that date, they do not move up the bands or move down the bands for a sustained period as set out in paragraph 4.16 above. In practice there are no grandfathered mid- or high-range co-firing stations.
- 4.21. The following conditions 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 comprising units already covered by the previous grandfathering policy, the additional capacity will not benefit from grandfathering;
 - 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.
- 4.22. Certain stations may have previously operated as a dedicated biomass project and then become a Relevant Fossil Fuel Station due to using more than 15% fossil fuel across a six month period. Any such station that generated at a conversion or co-firing band before the implementation of the cap mechanism is able to benefit from grandfathering of the support for that band in place at the time when it became an Relevant Fossil Fuel Station. Such stations will not be affected by the cap mechanism.

Alternative options considered

In this chapter of the consultation document we outlined alternative cost control mechanisms considered but not pursued and invited suggestions of other possible options.

We set out the following alternatives and our reasons for considering that they were not appropriate: taking no action; some combination of the generator cap and re-banding of support levels; a cap on the proportion of ROCs from non-grandfathered biomass co-firing and conversion units that suppliers could use to meet their obligations under the RO and constraining other technologies or schemes under the LCF.

Question 8

| Consultation Question | 5 Responses |
|-----------------------|-------------|
|-----------------------|-------------|

Apart from the proposed options of a generator cap or re-banding of support levels, do you have any other suggestions for limiting additional unforecast LCF spend in a way that is fair to generators? Please give as much detail as possible.

See consultation document, 'Alternative options considered' (p.31).

Summary of responses

- 5.1. A number of respondents suggested amendments to the generator cap option (considered at Question 1).
- 5.2. Other suggestions included:
 - Phasing out all subsidies for biomass or biomass conversions entirely; and
 - Introducing a prior notification system for biomass conversion and co-firing, in combination with a re-banding of support levels, in order to make forecasting of RO spend impact easier.

Government response

- 5.3. Ending all subsidies for existing biomass or biomass conversion projects would be disproportionate to the policy objective of limiting *additional* LCF spend, and could have an adverse effect on investor confidence.
- 5.4. We have decided to implement an amended version of the generator cap (see Government response to Question 1). This will make forecasting of RO spend impact easier. We therefore consider a prior notification system unnecessary.

Preferred option and additional comments

In the ‘Summary and next steps’ chapter of the consultation document, we summarised the generator cap and re-banding options and asked respondents which they preferred. We also gave respondents an opportunity to submit any additional comments.

Question 9

| Consultation Question | 11 Responses |
|-----------------------|--------------|
|-----------------------|--------------|

Between Option A (generator cap of 105,000 ROCs per year applied to each biomass conversion or co-firing station in respect of generation at its non-grandfathered units) and Option B (re-banding to 0.1 ROC/MWh for all non-grandfathered biomass conversion and co-firing units), which option do you think is preferable for limiting additional unforecast LCF spend in a way that is fair to generators?

Please give reasons to support your answer.

| | | | |
|--|-------------------------------|---|--|
| | Option A or a variation on it | 5 | |
| | Option B | 6 | |

Summary of responses

- 6.1. Respondents who expressed a preference were fairly evenly split between Option A (or a variation on it) and Option B.
- 6.2. Reasons given by respondents who favoured Option A, the generator cap, included:
 - Guaranteed lower costs for consumers;
 - Greater certainty over spend impact, reducing administrative costs for suppliers;
 - Flexible enough to accommodate a range of business models; would not impact the operation of smaller stations whilst giving some units the opportunity to increase generation.
- 6.3. Reasons given by respondents who favoured Option B, the re-banding of support levels, included:
 - Fairer, having the same impact on each MWh of generation at all stations;

- More established approach;
 - Sends a clearer market signal, acting as a stronger deterrent against increasing biomass generation;
 - Better carbon savings than the generator cap.
- 6.4. Some respondents found both options as proposed suboptimal but recommended variations on the generator cap option (see Question 1).

Government response

- 6.5. We recognise that Options A and B both have merits. However, based on stakeholder feedback and evidence from this consultation, we believe there is a more effective alternative that achieves the policy objective of limiting additional costs to consumers while also benefiting the electricity system and wider economy and helping to meet renewable energy targets. See Government response to Question 1 for details of implementation and further explanation of the expected benefits.

Question 10

| Consultation Question | 9 Responses |
|-----------------------|-------------|
|-----------------------|-------------|

Do you have any other comments on the subject matter of this consultation?

Summary of responses

- 6.6. Several respondents reaffirmed the importance of effective cost controls for protecting consumers. One respondent commented on the negative impact of high energy costs on UK manufacturing.
- 6.7. A number of respondents highlighted throughout their responses their opposition to the burning of biomass for electricity generation. Complaints included that it was inefficient, driving biodiversity loss and could result in carbon dioxide emissions equal to or higher than coal. They argued that other renewable technologies such as offshore wind were more cost-competitive and cleaner than biomass co-firing and conversion.
- 6.8. Some respondents commented on the benefits of biomass conversions for providing secure and controllable low carbon electricity, supporting grid stability and reducing the system integration cost of intermittent renewable technologies. It was argued that conversions had demonstrated the ability of bioenergy to deliver genuine carbon savings and meet the UK's sustainability requirements.
- 6.9. One respondent highlighted that any future conversions should be part of a sustained transition to a larger, more effective bioenergy sector focused on delivering negative emissions and decarbonising otherwise expensive to decarbonise industrial processes, in order to meet the UK's 2050 emissions target.

- 6.10. A number of respondents emphasised the importance of the biomass supply chain to the UK and while recognising the need to control costs, asked that any solution recognise the important contribution of biomass generation not just to the power sector but also to the transport sector.

Government response

- 6.11. Energy costs: These cost control measures form part of wider Government action to keep bills as low as possible, including by publishing a draft Bill to cap energy prices, investing in energy efficiency, and minimising policy costs for the most energy intensive industries. We are currently considering Professor Dieter Helm's findings on the state of the energy market and seeking other contributions to the debate, including through a call for evidence open until 5 January 2018.²⁷
- 6.12. Role of biomass: We have been clear in Government documents, including the recent Clean Growth Strategy²⁸, that biomass conversions play an important transitional role in decarbonising the grid. A significant amount of biomass conversion has already taken place, helping meet carbon targets.
- 6.13. We also outlined in the Clean Growth Strategy our intention to develop our understanding of the role of greenhouse gas removal technologies, including bioenergy with carbon capture and storage.
- 6.14. Biomass supply chain: We recognise the contribution of the biomass supply chain to the UK economy and do not expect that our final policy will have any adverse effects on companies within that supply chain.

²⁷ <https://www.gov.uk/government/consultations/cost-of-energy-review-call-for-evidence>

²⁸ <https://www.gov.uk/government/publications/clean-growth-strategy>

Annex A: List of respondents

Biofuelwatch

DB Cargo

Drax

EDF Energy

Energy Technologies Institute

First Utility

GB Railfreight

Natural Resources Defense Council,
Southern Environmental Law Center,
Dogwood Alliance and ClientEarth (joint
response)

Ofgem

Partnership for Policy Integrity

Peel Ports

Port of Tyne

Scottish Power

Simec

SSE

Thames Water Utilities Ltd

The Royal Society for the Protection of
Birds

UK Without Incineration

United States Industrial Pellet Association

World Wildlife Fund

Zystur Ltd

One private individual

Annex B: Setting the grandfathered unit forecast

1. At the time of setting the Obligation each year, BEIS will publish a grandfathered unit forecast, stating the number of ROCs expected to be issued to grandfathered unit(s) at relevant stations comprising both grandfathered and non-grandfathered units in the coming Obligation year. BEIS is already required to estimate the number of ROCs that are likely to be issued in the upcoming Obligation year in order to set the Obligation.²⁹
2. When calculating the forecast we will take into account the technical availability of each grandfathered unit, making deductions for planned and unplanned outages using our assessment of the available evidence.
3. Operators will be asked to provide details of planned outage schedules and unplanned outage rates to assist with this process. BEIS may also take into account the assessments of internal commercial and engineering experts when setting the grandfathered unit forecast.
4. If it emerges that the accuracy of the grandfathered unit forecast is being compromised, for instance through the bringing forward of outages from one Obligation year to another at short notice, we may take mitigating action to protect the integrity of the RO scheme and the operation of the ROC market.

²⁹ See Article 11 of the RO Order 2015, 'Calculation B'.

Annex C: Current RO bands for biomass conversion and co-firing

| Band | Description ³⁰ | Support (ROC/MWh) |
|---|---|-------------------|
| Co-firing of regular bioliquid | Less than 100% regular bioliquid co-fired in a unit | 0.5 |
| Low-range co-firing of biomass | Less than 50% regular biomass or energy crops co-fired in a unit | 0.5 |
| Mid-range co-firing of biomass | 50% - less than 85% regular biomass or energy crops co-fired in a unit | 0.6 |
| High-range co-firing of biomass | 85% - less than 100% regular biomass or energy crops co-fired in a unit | 0.9 |
| Biomass conversion | Electricity generated from 100% regular biomass, energy crops or regular bioliquids by a unit of a relevant fossil fuel station ³¹ | 1.0 |
| Low-range co-firing with relevant energy crops ³² | Electricity generated before 1 April 2019 from less than 50% relevant energy crops | 1.0 |
| Low-range co-firing with CHP ³³ | Less than 50% biomass co-fired in a unit of a qualifying CHP generating station | 1.0 |
| Co-firing of regular bioliquid with CHP | Electricity generated from less than 100% regular bioliquid in a unit of a qualifying CHP generating station | 1.0 |
| Mid-range co-firing with CHP ³² | 50% - less than 85% biomass co-fired in a unit of a qualifying CHP generating station | 1.1 |
| High-range co-firing with CHP ³² | 85% - less than 100% biomass co-fired in a unit of a qualifying CHP generating station | 1.4 |
| Conversion with CHP | Electricity generated from 100% regular biomass, energy crops or regular bioliquids by a unit of a relevant fossil fuel CHP station | 1.5 |
| Low-range co-firing with relevant energy crops with CHP ³¹ | Electricity generated before 1 April 2019 from less than 50% relevant energy crops by a qualifying CHP generating station | 1.5 |

³⁰ 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.

³¹ As defined in Schedule 5 of the RO Order 2015.

³² As defined in Article 36 of the RO Order 2015.

³³ For capacity accredited in or after 2015/16, these support levels are only available in circumstances where support under the Renewable Heat Incentive is not available. See Article 35 of the RO Order.

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