HM Government

CONSULTATION ON NEW RULES FOR BIOLIQUIDS, WASTES & RESIDUES UNDER THE RENEWABLES OBLIGATION

23 October 2017

CONSULTATION ON NEW RULES FOR BIOLIQUIDS, WASTES & RESIDUES UNDER THE RENEWABLES OBLIGATION

The consultation can be found at: https://www.gov.uk/government/consultations/new-rules-for-bioliquids-wastes-and-residues-under-the-renewables-obligation

Any enquiries regarding this publication should be sent to us at RO@beis.gov.uk

Contents

General information

Interested parties:

This consultation is relevant to biomass energy developers and generators, biomass feedstock suppliers, processors and distributors, environmental organisations, and members of the public interested in biomass energy.

Issued:

23 October 2017

Respond by:

13 November 2017

Enquiries to:

Renewables Obligation Team
Department for Business, Energy & Industrial Strategy
Spur, Third Floor
1 Victoria Street
London, SW1H 0ET

Email: RO@beis.gov.uk

Territorial extent:

UK-wide

How to respond:

Your response will be most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome. Reasoning and evidence to support your answers will be particularly helpful. If you wish to refer to any long reports as part of your evidence, please identify the relevant sections that you are specifically referring to.

Where possible, responses should be submitted electronically via the e-consultation available at. https://beisgovuk.citizenspace.com/clean-electricity/bioliquids-wastes-residues-under-ro

Responses emailed to RO@beis.gov.ukmailto:SolarPV.Consultation@decc.gsi.gov.uk or hard copies sent to the postal address above will also be accepted.

Additional copies:

You may make copies of this document without seeking permission. An electronic version can be found at: https://www.gov.uk/government/consultations/new-rules-for-bioliquids-wastes-and-residues-under-the-renewables-obligation

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).

If you want information that you provide to be treated as confidential please say so clearly in writing when you send your response to the consultation. It would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded by us as a confidentiality request.

We will summarise all responses and place this summary at: https://www.gov.uk/government/consultations/new-rules-for-bioliquids-wastes-and-residues-under-the-renewables-obligation. This summary will include 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: beis.bru@beis.gov.uk

Executive Summary

Overview

This consultation document seeks views from interested parties across the UK on implementing the European Union's new sustainability requirements for bioliquids used for electricity generation under the Renewables Obligation (RO), and taking on board new definitions for wastes and processing residues that apply to bioliquids, and solid and gaseous biomass.

The UK is obliged to continue to implement EU legislation whilst the UK is still a member of the EU.

EU Directive on reducing indirect land-use change

In 2015, the European Union enacted Directive 2015/1513[1] to address concerns about the impact of indirect land-use change caused by the growing of crops for use as transport biofuels, or bioliquids used for the generation of electricity and/or heat. In relation to bioliquids, it amends Directive 2009/28/EC on the promotion of the use of energy from renewable sources (commonly called the Renewable Energy Directive or RED)[2]. Directive 2015/1513 is informally called the 'Directive to reduce indirect land-use change for biofuels and bioliquids' and is referred to in this consultation document as the ILUC Directive.

Indirect land-use change occurs where energy crops (such as cereals or oilseed rape) intended to be used for the production of fuel are grown on agricultural land and displace agricultural production to previously un-cropped land (such as grasslands and forests). This risks cancelling out the greenhouse gas savings that result from using the bioliquid because grasslands and forests typically absorb high levels of carbon dioxide. By converting these land types to crop land, atmospheric carbon dioxide levels may increase.

In addition, the ILUC Directive increases the minimum greenhouse gas saving threshold for biofuels and bioliquids to discourage further investments in installations with low greenhouse gas performance. It also addresses concerns about the creation of waste fuels and processing residues through the deliberate modification or contamination of a substance.

The purpose of this consultation

This consultation document sets out how the UK intends to implement the straightforward requirements from the ILUC Directive under the RO, and seeks views only on proposals

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1 Directive 2015/1513 is at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32015L1513

2 Directive 2009/28/EC is at: **Error! Hyperlink reference not valid.**http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009L0028

relating to the Directive where there are options for the way forward. We are also seeking views on the wording of the draft legislation that will bring the changes into force.

The Department for Transport is implementing the changes for transport biofuels[3].

Implementing the ILUC Directive in the Renewables Obligation

We intend to implement the following straightforward requirements from the ILUC Directive that are relevant to the RO:

(i) **Amend the existing definition of 'waste' in the RO legislation to** take account of the new definition introduced by the Directive. This makes it clear that substances will not be considered to be waste where they have been intentionally modified or contaminated to fall within the definition of waste set out in Article 3(1) of Directive 2008/98/EC. This new definition of 'waste' will apply in relation to bioliquids, and solid and gaseous biomass;

(ii) **Add a definition for 'starch-rich crops'**. This is needed to explain what is meant by starch-rich crops for the purposes of the data collection requirement for bioliquids (as set out in (xi) below) and for complying with the RO's 4% supplier cap on bioliquid ROCs[4] if this is implemented (as set out in (viii) below);

(iii) **Clarify the meaning of 'residue from processing'.** This makes it clear that substances will not be considered to be processing residues where they are the primary aim of a production process or they result from a production process that has been deliberately modified in order to produce the residue. The aim is to avoid incentivising a deliberate increase in processing residues at the expense of the main product. This definition will apply in relation to bioliquids, and solid and gaseous biomass and is relevant to the meaning of 'residue from agriculture, aquaculture, fisheries or forestry' in (iv) below. In practice, Ofgem already use this clarification when deciding whether or not a substance is a residue from processing;

(iv) **Clarify the meaning of 'residue from agriculture, aquaculture, fisheries or forestry'**. This makes it clear that references to residue from agriculture, aquaculture, fisheries and forestry are to residue directly generated by agriculture, aquaculture, fisheries and forestry and do not include residues from related industries or processing residues. This definition will apply in relation to bioliquids, and solid and gaseous biomass. The distinction is needed because residues directly generated by agriculture, aquaculture, fisheries and forestry are required to comply with the greenhouse gas emission savings thresholds and land criteria in Article 17 of the RED in order to receive support under the RO. However, residues from related industries or processing residues are only required to comply with the greenhouse gas emission savings thresholds. In practice, Ofgem already use this

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[3] The Government response to DfT's consultation 'Renewable Transport Fuel Obligation: proposed changes for 2017' is at: https://www.gov.uk/government/publications/renewable-transport-fuel-obligations-order-government-response

[4] An explanation of ROCs (Renewables Obligation Certificates) is given in paragraphs 1.1 - 1.2 below.

clarification when deciding whether or not a substance is a residue from agriculture, aquaculture, fisheries and forestry;

(v) **Amend the requirement for certain bioliquids to meet 60% minimum greenhouse gas emission savings compared to fossil fuel in order to receive support under the RO.** The savings required for bioliquids produced in an installation that started production between 6 October 2015 and 31 December 2016 are increased in the RO legislation from the current level of 50% to 60%, where the bioliquid is used to generate electricity from 1 January 2018 onwards[5]. (The options concerning the Directive's new date for achieving 35% savings are discussed in (x) below);

(vi) **Remove the current restriction on the use of default values when calculating the greenhouse gas emission savings from the use of bioliquids.** This allows default values to be used irrespective of whether the biomaterial from which the bioliquid is made was cultivated within or outside the European Union;

(vii) **Remove the existing definition of 'disaggregated default values for cultivation'.** This term relates to the restriction on the use of the default values in (vi) above. It is now redundant.

For the proposals relating to the ILUC Directive where there are options for the way forward, we propose the following:

(viii) **To consider whether bioliquids produced from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural land, will be covered by the RO's current 4% supplier cap on bioliquid ROCs, regardless of the generating technology that they are used in.** Under the current wording in the RO legislation, bioliquids produced from these crops are exempt from the supplier cap if the technology or fuel used is listed as being exempt. Although current levels of use of crop-derived bioliquids are very low, allowing them to remain exempt means that there is a possibility that if usage increased significantly, financial support under the RO may be given for the generation of renewable energy that cannot be taken into account for the purpose of compliance with the UK's 2020 targets under the RED (see (ix) below). We are therefore seeking information on the future use of crop-derived bioliquids and seeking views on whether we need to take action now to remove their exemption from the cap if used in exempt technologies;

(ix) **Not to change the current level of the 4% bioliquid cap under the RO to take account of the new limit on crop-derived bioliquids that can be taken into account for the purpose of compliance with the UK's 2020 targets under the RED**. The ILUC Directive introduces a limit on the maximum joint contribution from biofuels and bioliquids produced from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural land, that can be taken into account for the purpose of compliance with the UK's 2020 targets under the RED. This limit is no more than the energy quantity corresponding to a maximum of 7% of the final consumption of energy in transport in

[5] The savings required for bioliquids produced in an installation that started production after 1 January 2017 would in any event have increased under the RO from the current level of 50% to 60%.

the Member State. The current use of bioliquids under the RO is well below this limit and the RO legislation already applies a 4% supplier cap on the support for bioliquids. Following a consultation, the Department for Transport will impose a cap on biofuels produced from crops that can be used to meet the Renewable Transport Fuel Obligation (RTFO), with a sliding scale for the maximum amount beginning at 4% in 2018 and reducing linearly to 2% in 2032. On the basis of current evidence, we believe that the combined supply of crop-derived biofuels and bioliquids receiving financial support will be less than the 7% limit imposed by the ILUC Directive. We therefore propose that no changes are needed to the level of the bioliquid supplier cap under the RO at the present time;

(x) **To either retain the UK's current date for achieving 50% greenhouse gas emission savings, or to exactly implement the requirements in the Directive for achieving 35% savings**. The second option would mean temporarily lowering the UK's current requirements from 50% to 35% greenhouse gas emission savings in certain cases.

Under our preferred option (retaining the UK's current date for achieving 50% savings and implementing the new requirement for achieving 60% savings), the new percentage savings would be:

- Bioliquid produced by an installation that started producing liquid fuel from biomaterial[6] before 6 October 2015:
  - 35% in the case of bioliquid used to generate electricity before 1 January 2017;
  - 50% in the case of bioliquid used to generate electricity on or after 1 January 2017;
- Bioliquid produced by an installation that started producing liquid fuel from biomaterial on or after 6 October 2015:
  - 35% in the case of bioliquid used to generate electricity before 1 January 2017;
  - 50% in the case of bioliquid used to generate electricity on or after 1 January 2017 and before 1 January 2018;
  - 60% in the case of bioliquid used to generate electricity on or after 1 January 2018.

Under the second option (exactly implementing the Directive's requirements for achieving 35% savings, including implementing the new requirement for achieving 60% savings), the new percentage savings would be:

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[6] The phrase "started producing liquid fuel from biomaterial" is used because it may not be possible for the production installation to know whether the liquid fuel they sold was used as a biofuel or a bioliquid. "Biomaterial" is already defined in RO legislation as the biodegradable part of:
(a) Products, waste and residues of biological origin resulting from agriculture (including vegetal and animal substances), forestry and related industries (including fisheries and aquaculture), and
(b) Industrial, commercial and municipal waste.

- Bioliquid produced by an installation that started producing liquid fuel from biomaterial before 6 October 2015:
  - 35% in the case of bioliquid used to generate electricity before 1 January 2018;
  - 50% in the case of bioliquid used to generate electricity on or after 1 January 2018;
- Bioliquid produced by an installation that started producing liquid fuel from biomaterial on or after 6 October 2015:
  - 35% in the case of bioliquid used to generate electricity before 1 January 2017;
  - 50% in the case of bioliquid used to generate electricity on or after 1 January 2017 and before 1 January 2018;
  - 60% in the case of bioliquid used to generate electricity on or after 1 January 2018.

(xi) **To amend the data-gathering requirements in the RO legislation** to ensure generators above 50kW provide Ofgem with information on bioliquids sourced from starch-rich crops, sugars, oil crops and other crops grown as a main crop primarily for energy purposes on agricultural land. This is necessary to monitor compliance with the ILUC Directive's 7% cap on what can be taken into account for the purpose of compliance with the UK's 2020 targets under the RED and to ensure the UK Government can satisfactorily report to the European Commission on the use of bioliquids. We propose to make no change to the reporting requirements for bioliquid microgenerators (up to 50kW declared net capacity).

(xii) **Not to amend the current references to Annex 5 of the RED in the RO legislation that relate to the greenhouse gas criteria for bioliquids and solid and gaseous biomass.** This is because we consider that the references already include a reference to Annex 5 as amended by the ILUC Directive. The revised Annex 5 makes small changes to the calculation for annualised emissions from carbon stock changes caused by land-use change.

Full details are set out in Chapter 2. The draft legislation is at Annex B.

Next steps

We are aiming to lay the legislation before Parliament in December 2017 and anticipate that it will come into force on 1 January 2018.

Contracts for Difference

The ILUC Directive amendments to the RED must be reflected in all support schemes for renewable energy where there is financial support for the use of bioliquids. The Contracts for Difference (CFD) scheme (which applies to Great Britain only) provides long-term price stabilisation to incentivise investment in low-carbon generation and permits the use of bioliquids as a fuel for eligible technologies. The new requirements in the ILUC Directive must

therefore be reflected in the sustainability criteria that bioliquid fuels need to meet to permit their use by fuelled technologies supported by the CFD scheme.

The relevant amendments are already effective in contracts that were awarded during the first CFD allocation round and in Investment Contracts awarded under the Final Investment Decision Enabling for Renewables (FIDeR) process. The appropriate changes are being made to second allocation round contracts. A consultation on the drafting of the ILUC amendments to future CFDs, which will be consistent with the amendments already made to the existing CFD portfolio, will be published in due course.

Catalogue of questions

Consultation Questions

Chapter 2: Explanation of the proposals relating to the Indirect Land-Use Change Directive that are relevant to the Renewables Obligation

Q.1	What are your views on the likely level of electricity generation in the future from crop-derived bioliquids? Please explain your views, with evidence to support your position.

Q.2	Do you think that bioliquids produced from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural land, should be covered by the RO's current 4% supplier cap on bioliquid ROCs[7], regardless of the generating technology that they are used in? Please give reasons to support your answer.

Q.3	Do you agree that no changes are needed to the current 4% supplier cap on bioliquids under the RO at the present time? Please give reasons to support your answer.

Q.4	Are you aware of any generating stations that are, or intend to be, accredited under the RO and have used, or intend to use, consignments of bioliquid which have a greenhouse gas (GHG) emission saving of at least 35% but less than 50%? Please provide evidence to support your position (including the number of such stations, their capacity, the expected % GHG emission savings and the year of first generation).

[7] An explanation of ROCs (Renewables Obligation Certificates) is given in paragraphs 1.1 - 1.2 below.

Q.5	Do you think the RO legislation should: (i) Retain the UK's current date for achieving 50% greenhouse gas (GHG) emission savings; or (ii) Exactly implement the requirements in the Directive for meeting 35% GHG emission savings. This option would mean temporarily lowering the UK's current requirements from 50% to 35% GHG emission savings. Please give reasons to support your answer.

Q.6	Do you agree that, in order to facilitate compliance with the requirements in the RED, the RO legislation should be amended to require generators over 50kW to provide Ofgem with information on the quantities of bioliquids from cereal and other starch-rich crops, sugars and oil crops? Please give reasons to support your answer.

Q.7	Do you agree that there is no need to change the current reporting requirements for microgenerators (i.e. those up to 50kW capacity)? Please give reasons to support your answer.

Q.8	Do you agree that the terms 'sugars' and 'oil crops' are sufficiently well understood that they do not need to be defined in RO legislation? If you don't agree, please explain how they should be defined.

Q.9	Do you agree that the references in the RO legislation that relate to the greenhouse gas criteria for solid and gaseous biomass have been automatically updated to refer to the amended Annex 5 of the RED? If you don't agree, please give reasons to support your answer

Chapter 3: Draft implementing legislation for the Renewables Obligation

Q.10	Do you think the wording of the draft Renewables Obligation (Amendment) Regulations 2017 in Annex B is clear? If not, please explain which provisions you feel are unclear and in what way they are unclear.

Chapter 1: Introduction

Support for renewable energy under the Renewables Obligation

1.1 The Renewables Obligation (RO) has been the main financial mechanism since 2002 to incentivise deployment of renewable electricity generation in the UK. It places an obligation on electricity suppliers to produce a certain number of Renewables Obligation Certificates (ROCs) to Ofgem, the administrator of the RO scheme, in respect of each megawatt hour of electricity supplied each year. The number of ROCs to be supplied is set each year for the year ahead[8].

1.2 Ofgem issue ROCs to eligible generators in relation to the renewable electricity they generate. Generators sell ROCs to suppliers or traders, with or without the electricity generated, as tradable commodities. This allows them to receive a premium in addition to the wholesale price of their electricity. The value of a ROC is a matter for negotiation between generator and supplier/trader. Suppliers present ROCs to Ofgem to demonstrate their compliance with the RO (or make a payment per ROC into a buy-out fund).

1.3 The RO works on the basis of three complementary obligations: one covering England and Wales, and one each covering Scotland and Northern Ireland. Responsibility for the RO in Scotland and Northern Ireland is devolved to the Scottish Government and the Northern Ireland Department for the Economy respectively. Scotland and Northern Ireland may set their own rates of support, and there are some minor differences in support levels between the three Obligations.

1.4 The RO closed to new capacity on 31 March 2017 (with exceptions that extend the deadline for certain projects to January 2019 in Great Britain, and March 2019 in Northern Ireland). Capacity accredited after 25 June 2008 and until the RO closes to new applications, will continue to receive support until the twentieth anniversary of its accreditation date or the final closure of the scheme on 31 March 2037, whichever is the earlier (capacity accredited by 25 June 2008 receives support until 31 March 2027).

1.5 Going forward, the RO is being replaced in Great Britain by the competitive 'Contracts for Difference' (CFD) scheme, ensuring better value for money for bill payers.

Sustainability requirements for biomass energy

1.6 Biomass can be used in its liquid, solid or gaseous forms. To receive support under the RO, biomass must meet the relevant sustainability requirements.

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[8] The level of the Renewables Obligation for 2018/19 is explained at: https://www.gov.uk/government/publications/renewables-obligation-level-calculations-201819

Sustainability requirements under European Directives

1.7 In 2009, the European Union introduced a binding sustainability scheme for bioliquids and transport biofuels. Directive 2009/28/EC (commonly known as the Renewable Energy Directive or RED)[9] sets out sustainability criteria that bioliquids must comply with in order to qualify for support under incentive schemes (such as the RO) and to count towards the UK's targets in the Directive. The sustainability criteria include requirements on the minimum greenhouse gas emission savings that bioliquids need to achieve compared to fossil fuels. Sustainability criteria for transport biofuels are also set out in the Fuel Quality Directive (Directive 98/70/EC), and policy responsibility for complying with this Directive (including its targets) rests with the Department for Transport.

1.8 In 2014, the European Commission published a paper with recommendations that Member States should follow if they wished to implement sustainability criteria for solid and gaseous biomass[10].

1.9 In 2015, in view of the concerns about indirect land-use change, the European Union enacted Directive 2015/1513[11], which amended the Fuel Quality Directive and the RED. Directive 2015/1513 is informally called the 'Directive to reduce indirect land-use change for biofuels and bioliquids' and is referred to in this consultation document as the ILUC Directive. It introduced provisions to address the impact of indirect land-use change caused by the growing of crops for use as biofuels or bioliquids. In addition, it increased the minimum greenhouse gas saving threshold for biofuels and bioliquids to discourage further investments in installations with low greenhouse gas emission savings performance. The Directive also addressed concerns about deliberately modifying or contaminating a substance to create a fuel that would then fall within the definition of a waste or processing residue (and so be subject to less stringent sustainability criteria).

1.10 Going forward, the Commission has recently proposed a new approach to biomass sustainability for the 2020-2030 period. The details are set out in its revised RED proposal[12].

Indirect Land-Use Change

1.11 Where pasture or agricultural land previously destined for food and feed markets is diverted to biofuel or bioliquid production, the non-fuel demand will still need to be satisfied, either through intensification of current production or by bringing non-agricultural land into production elsewhere. The latter displacement of agricultural production to previously un-cropped land results in indirect land-use change. Where

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9 Directive 2009/28/EC (the Renewable Energy Directive) is at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009L0028

10 The European Commission's 'Commission Staff Working Document - State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU (SWD(2014) 259 final) is at: http://ec.europa.eu/energy/sites/ener/files/2014_biomass_state_of_play_.pdf

11 Directive 2015/1513 (the ILUC Directive) is at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32015L1513

12 The European Union's Revised Renewable Energy Directive is at: https://ec.europa.eu/energy/sites/ener/files/documents/technical_memo_renewables.pdf

land with high carbon stock (such as grasslands and forests, which typically absorb high levels of carbon dioxide) is converted to crop land, it can lead to significant greenhouse gas emissions, so increasing atmospheric carbon dioxide levels.

Introduction of sustainability requirements in the UK

1.12 On 1 April 2011, new requirements came into force in the UK under the RO. These implemented the mandatory bioliquid sustainability requirements of the RED, and introduced the Commission's optional arrangements for sustainability criteria for solid and gaseous biomass.

1.13 In 2014, the UK introduced its own sustainability reporting requirements against greenhouse gas emission savings criteria and land criteria, based on the European Commission recommendations.

1.14 On 1 December 2015 in England, Wales and Scotland, and on 1 March 2016 in Northern Ireland, further amendments came into force, requiring solid and gaseous biomass used in a generating station of 1MW and above to meet the sustainability criteria in order to receive support under the RO (rather than just being required to submit reports as was previously the case).

Implications of the result of the EU referendum

1.15 On 23 June 2016, the EU referendum took place and the people of the United Kingdom voted to leave the European Union. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period the Government will continue to negotiate, implement and apply EU legislation. The outcome of these negotiations will determine what arrangements apply in relation to EU legislation in future once the UK has left the EU.

Consultation

1.16 This consultation document sets out how the UK intends to implement the straightforward requirements in the ILUC Directive and seeks views on proposals where there are options on the way forward. In all cases where requirements of the Directive are to be implemented, our intention is to make the minimum changes necessary. We are also seeking views on the wording of the draft legislation that will bring the changes into force.

1.17 The Department for Transport is implementing the necessary changes for transport biofuels[13].

[13] The Government response to DfT's consultation 'Renewable Transport Fuel Obligation: proposed changes for 2017' is at: https://www.gov.uk/government/publications/renewable-transport-fuel-obligations-order-government-responsehttps://www.gov.uk/government/consultations/renewable-transport-fuel-obligation-proposed-changes-for-2017

Territorial extent

1.18 This is a UK-wide consultation on the RO and it is issued on behalf of the Department for Business, Energy and Industrial Strategy, the Scottish Government, and the Northern Ireland Department for the Economy.

Terminology

1.19 The term 'RO' is used in this consultation document to collectively cover the Renewables Obligation for England and Wales, Scotland and Northern Ireland.

1.20 The term 'RO legislation' collectively covers:

- The Renewables Obligation Order 2015, as amended, for England and Wales;
- The Renewables Obligation (Scotland) Order 2009, as amended, for Scotland; and
- The Renewables Obligation Order (Northern Ireland) 2009, as amended, for Northern Ireland.

1.21 The three pieces of RO legislation have some slight differences. Where these are relevant to the issues covered by the consultation, these are set out.

Contracts for Difference

1.22 The ILUC Directive amendments to the RED must be reflected in all support schemes for renewable energy where there is financial support for the use of bioliquids. The Contracts for Difference (CFD) scheme (which applies to Great Britain only) provides long-term price stabilisation to incentivise investment in low-carbon generation. It does not provide a strike price for bioliquid-producing technology. However, the CFD scheme permits the use of bioliquids as a fuel for other eligible technologies. The new requirements in the ILUC Directive must therefore be reflected in the sustainability criteria that bioliquid fuels need to meet to permit their use by fuelled technologies supported by the CFD scheme.

1.23 The relevant amendments are already effective in contracts that were awarded during the first CFD allocation round and Investment Contracts awarded under the Final Investment Decision Enabling for Renewables (FIDeR) process. The same changes will be made to second allocation round contracts by the Low Carbon Contracts Company (LCCC), the Counterparty to the CFD contracts. To ensure full compliance with the Directive ahead of any future CFD rounds, Government must amend the CFD Standard Terms and Conditions and the Generic CFD Agreement to give effect to the relevant requirements from the ILUC Directive. A consultation on proposed drafting amendments to transposing the ILUC Directive to CFDs will be published in due course.

Chapter 2: Explanation of the proposals relating to the Indirect Land-Use Change Directive that are relevant to the Renewables Obligation

The issue

2.1 The relevant requirements in the ILUC Directive must be implemented into UK legislation for the Renewables Obligation (RO). The UK's intention is to make the minimum changes necessary to comply with the Directive. Each change is discussed in turn below.

2.2 The straightforward requirements that must be implemented are set out in paragraphs 2.4 to 2.35. We are not seeking comments on whether these changes should be made, as we must make them in order to correctly implement the Directive. These requirements relate to the following provisions of the Renewable Energy Directive (RED):

- Article 2 - Definitions;
- Article 17 - Sustainability criteria for bioliquids (achieving 60% greenhouse gas savings);
- Article 19 - Calculation of the greenhouse gas impact of bioliquids.

2.3 However, there are several proposals relating to the ILUC Directive where there are options on the way forward. These are set out in paragraphs 2.36 to 2.74 and we would welcome your comments on these issues. They relate to the following provisions of the RED:

- Article 3 - Mandatory national overall targets and measures for the use of energy from renewable sources;
- Article 17 - Sustainability criteria for bioliquids (achieving 35% greenhouse gas savings);
- Article 22 - Reporting by the Member States;
- Annex 5, Part C - Methodology for calculating annualised emissions from carbon stock changes caused by land-use change.

Straightforward changes that will be made to the Renewables Obligation

Article 2 of Renewable Energy Directive - Definitions

2.4 The ILUC Directive adds eight new definitions to Article 2 of the RED.

Definitions relevant only to transport biofuels

2.5 Three of the new definitions (that is, for 'ligno-cellulosic material', 'non-food cellulosic material', and 'renewable liquid and gaseous transport fuels of non-biological origin') are relevant only to transport biofuels. They are therefore not relevant to RO legislation.

Definition with no relevance to RO legislation at the current time

2.6 A new definition has been added for 'low indirect land-use change-risk biofuels and bioliquids'. This is defined as 'biofuels and bioliquids, the feedstocks of which were produced within schemes which reduce the displacement of production for purposes other than for making biofuels and bioliquids and which were produced in accordance with the sustainability criteria for biofuels and bioliquids set out in Article 17'.

2.7 For bioliquids, this definition is only relevant to the requirement for the European Commission to submit a report to the European Parliament and the Council by 31 December 2017. This report will cover a number of issues, including the possibility of setting out criteria for the identification and certification of low indirect land-use change-risk biofuels and bioliquids that are produced in accordance with the sustainability criteria set out in Fuel Quality Directive and the RED, with a view to updating Annex 5 of the Fuel Quality Directive and Annex 8 of the RED, if appropriate.

2.8 However, as no action has yet been taken, and the definition is not relevant to any other part of the RED that applies to bioliquids, we do not intend to add the definition to the RO legislation at the present time.

New definitions that are relevant to RO legislation

2.9 A further four new definitions have been added to the RED covering 'waste', starch-rich crops', 'processing residue' and 'agricultural, aquaculture, fisheries and forestry residues'. They are discussed in turn below.

New definition of waste

2.10 The new definition of waste in the RED, as added by the ILUC Directive, refers to the definition of waste in Article 3(1) of the Waste Framework Directive (Directive 2008/98/EC)[14] which states that "'waste' means any substance or object which the holder discards or intends or is required to discard". It adds to that definition that "substances that have been intentionally modified or contaminated to meet that definition are not covered by this definition".

2.11 The new definition of waste is relevant in two key areas under the existing RO legislation:

[14] The Waste Framework Directive 'Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives' is at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098

- Bioliquid fuels produced from waste need only meet the specified greenhouse gas emission savings thresholds in order to receive support under the RO (they do not need to meet the land criteria[15]). In addition, they are considered to have zero life-cycle greenhouse gas emissions up to the process of collection of the materials; and
- Solid and gaseous biomass fuels produced from waste are not required to meet either the greenhouse gas emission savings thresholds or the land criteria in order to receive support under the RO.

2.12 Waste is already defined in RO legislation, by reference to Article 3(1) of the Waste Framework Directive, as meaning any substance or object which the holder discards or intends or is required to discard. The existing definition also provides that it also:

(a) Includes anything derived from waste; and

(b) Does not include landfill gas or sewage gas.

2.13 This definition of waste in the RO applies to all forms of biomass, whether solid, gaseous or liquid, but it does not currently exclude substances that have been intentionally modified or contaminated to make them waste.

2.14 Whilst the ILUC Directive is particularly concerned with biofuels and bioliquids, applying a consistent definition of waste to bioliquids and solid and gaseous biomass in the RO legislation avoids creating unnecessary confusion and burdens on generators and avoids creating distortions in the waste feedstock market.

2.15 **We therefore intend to amend the current definition of waste in the RO legislation**. This will make it clear that the term 'waste' excludes any substance that has been intentionally modified or contaminated to fall within the definition of waste in Article 3(1) of the Waste Framework Directive. The definition will apply in relation to bioliquids, and solid and gaseous biomass.

New definition of starch-rich crops

2.16 The ILUC Directive introduces a new definition of 'starch-rich crops'. These are defined as "crops comprising mainly cereals (regardless of whether only the grains are used, or the whole plant, such as in the case of green maize, is used), tubers and root crops (such as potatoes, Jerusalem artichokes, sweet potatoes, cassava and yams), and corm crops (such as taro and cocoyam)".

2.17 Clarifying what is meant by the term 'starch-rich crops' is necessary to implement the proposals to amend the data gathering requirements in the RO legislation (see paragraphs 2.63 – 2.68 below). It will also be necessary if we decide to ensure that bioliquids produced from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural lands, will be covered by the RO's current 4% supplier cap on bioliquid ROCs[16], regardless of the generating technology that they are used in (see paragraphs 2.40 – 2.50 below).

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[15] The land criteria in Article 17 of the Renewable Energy Directive specify that, in order to receive support or to count towards 2020 targets and obligations, bioliquids must not be made from raw material obtained from: land with high biodiversity value - Article 17(3); Land with high carbon stock - Article 17(4); or Peat land (with some exemptions) - Article 17(5).

[16] An explanation of ROCs (Renewables Obligation Certificates) is given in paragraphs 1.1 - 1.2 above.

2.18 **We therefore intend to add a definition of starch-rich crops to the RO legislation.**

New definition of processing residue

2.19 The ILUC Directive introduces a new definition of 'processing residue' to the RED. This is defined as "a substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process and the process has not been deliberately modified to produce it". The aim is to avoid incentivising a deliberate increase in the production of processing residues at the expense of the main product. The definition excludes residues resulting from a production process which has been deliberately modified for that purpose.

2.20 This definition was previously set out in a communication from the European Commission[17] in connection with biofuels and it is already used by Ofgem when deciding whether or not a substance is a residue from processing.

2.21 Residues from 'related industries or processing' are referred to in the definition below of 'agricultural, aquaculture, fisheries and forestry residues' as not falling within that definition.

2.22 **We therefore intend to clarify the meaning of 'residue from processing' in the RO legislation**. This will make it clear that substances will not be considered to be processing residues where they are the primary aim of a production process or they result from a production process that has been deliberately modified in order to produce the residue. This will apply in relation to bioliquids, and solid and gaseous biomass.

New definition of agricultural, aquaculture, fisheries and forestry residues

2.23 The ILUC Directive introduces a new definition to the RED of 'agricultural, aquaculture, fisheries and forestry residues'. These are defined as "residues that are directly generated by agriculture, aquaculture, fisheries and forestry; they do not include residues from related industries or processing".

2.24 This definition was previously set out in a communication from the European Commission[18] and it is already used by Ofgem when deciding whether or not a substance is a residue from agriculture, aquaculture, fisheries and forestry.

2.25 Article 17(1) of the RED states that biofuels and bioliquids produced from waste and residues, **other than** agricultural, aquaculture, fisheries and forestry residues, need only fulfil the sustainability criteria set out in Article 17(2) of the RED, as amended by the ILUC Directive, in order to be taken into account for the purposes of complying with the national targets in the RED, measuring compliance with renewable energy obligations, and being eligible for financial support. Article 17(2) sets out the required greenhouse gas emission savings.

2.26 Agricultural, aquaculture, fisheries and forestry residues are already required to comply with greenhouse gas emission savings thresholds and land criteria in Article 17 of the RED. This requirement is unchanged. All other types of waste and residues

[17] Communication from the Commission on the practical implementation of the EU biofuels and bioliquids sustainability scheme and on counting rules for biofuels (2010/C 160/02) is at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:160:0008:0016:EN:PDF

[18] As at footnote 17 above

only need to comply with the greenhouse gas emission savings thresholds. The new definition makes it clear that residues from related industries or processing are not considered to be agricultural, aquaculture, fisheries and forestry residues. Residues from related industries or processing are therefore only required to comply with the greenhouse gas emission savings thresholds.

2.27 **We therefore intend to clarify the meaning of 'residue from agriculture, aquaculture, fisheries and forestry' in the RO legislation**. This will ensure that fuels produced from residues from related industries or processing residues only need to comply with the greenhouse gas emission savings thresholds in order to receive support under the RO. This will apply in relation to bioliquids, and solid and gaseous biomass.

Article 17 of Renewable Energy Directive - Sustainability criteria for bioliquids (achieving 60% greenhouse gas savings)

2.28 Article 17 sets new minimum greenhouse gas emission savings thresholds compared to fossil fuel which bioliquids are required to meet when measuring compliance for national targets and renewable energy obligations, and for eligibility for financial support for the consumption of bioliquids.

2.29 The new requirements for greenhouse gas emission savings from the use of bioliquids can be summarised as follows:

- Bioliquid produced in installations starting operation on or before 5 October 2015:
  - At least 35% until 31 December 2017; and then
  - At least 50% from 1 January 2018;
- Bioliquid produced in installations starting operation from 6 October 2015 onwards - at least 60%.

2.30 The current greenhouse gas emission savings in RO legislation that bioliquids must meet in order to receive support can be summarised as follows:

- Used to generate electricity before 1st January 2017 - 35%;
- Used to generate electricity during 2017 - 50%;
- Used to generate electricity from 1 January 2018 onwards where the bioliquid was produced by an installation that started producing bioliquid before 1 January 2017 - 50%;
- Used to generate electricity from 1 January 2018 onwards where the bioliquid was produced by an installation that started producing bioliquid from 1 January 2017 onwards - 60%.

2.31 To ensure that generation from bioliquids counts towards the UK's targets under the RED, we must ensure that greenhouse gas emission savings do not fall below the new requirements set out in paragraph 2.29 above.

2.32 **We therefore intend to amend the RO legislation in line with the RED to increase the greenhouse gas emission savings required in order to receive support under the RO for bioliquid produced in an installation that started production between 6 October 2015 and 31 December 2016. The level will increase from the current 50% in the RO legislation to 60%.** (The revised requirements for achieving 60%

savings are set out in paragraphs 2.60 – 2.61 below, where the options concerning the Directive's new date for achieving 35% savings are discussed.)

Article 19 of Renewable Energy Directive - Calculation of the greenhouse gas impact of bioliquids

2.33 Article 19 of the original RED set certain restrictions on the use of disaggregated default values for cultivation when calculating greenhouse gas emission savings from the use of a bioliquid. The default values are set out in Part D of Annex 5 of the RED. The ILUC Directive removed the restriction on their use. So the default values may now be used irrespective of whether the biomaterial from which the bioliquid is made was cultivated within or outside the European Union. This ensures equal treatment for producers regardless of where the production takes place.

2.34 The existing RO legislation includes the restriction on the use of the default value. It also includes a definition of 'disaggregated default values for cultivation' which relates to the restriction on the use of the default values. Both of these are now redundant.

2.35 **We therefore intend to delete the current reference in the RO legislation to the restriction on the use of the default value and to delete the redundant definition of 'disaggregated default values for cultivation'.**

Proposals for amending the Renewables Obligation where there is a choice on the way forward

Article 3 of Renewable Energy Directive - Mandatory national overall targets and measures for the use of energy from renewable sources

Current and future use of bioliquids in the UK

2.36 For the purpose of compliance with the UK's 2020 targets under the RED, the maximum joint contribution from biofuels and bioliquids produced from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural land, shall be no more than the energy quantity corresponding to a maximum of 7% of the final consumption of energy in transport in the Member State in 2020. This is projected to be equivalent to around 31.4 TWh.

2.37 Although electricity generated from bioliquids is supported under the RO, this support is restricted to bioliquids which meet greenhouse gas emission savings thresholds and land criteria, as required by the RED. As explained in paragraphs 2.44 – 2.46 below, there are also further restrictions on their support under RO legislation in the form of a 4% supplier cap on bioliquid ROCs. The cap is broadly equivalent to 2 TWh/year in 2017, equivalent to Government's estimate of the amount of electricity that can be generated from bioliquids without diverting UK sources from the transport sector.

2.38 In 2015/16 (the latest year for which information is available)[19], crop-derived bioliquids accounted for around 0.017 TWh of generation. We have no evidence at present to suggest there will be a significant increase in this level in future years.

2.39 We would welcome your views on the future use of crop-derived bioliquids – see Q.1 at the end of this chapter.

Crop-derived bioliquids under the RO's bioliquid cap

2.40 The European Union's position is set out in Recital (17) to the ILUC Directive. This explains that the aim is to limit the amount of biofuels and bioliquids produced from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural land, that can be counted towards targets set out in the RED, without restricting the overall use of such biofuels and bioliquids.

2.41 Recital (19) says that, in line with the need to limit the amount of biofuels and bioliquids produced from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural land, Member States should aim to phase out support for consumption of such biofuels and bioliquids at levels which exceed the limit specified in Article 3.

2.42 Article 3(1) of the RED sets mandatory national overall targets for the share of energy from renewable sources. It has been amended so that in order to be taken into account when measuring compliance for national targets:

> "….the maximum joint contribution from biofuels and bioliquids produced from cereal and other starch-rich crops, sugars and oil crops and from crops grown as main crops primarily for energy purposes on agricultural land shall be no more than the energy quantity corresponding to the maximum contribution as set out in paragraph 4(d)".

2.43 Paragraph 4(d) requires that:

> "…. the share of energy from biofuels produced from cereal and other starch-rich crops, sugars and oil crops and from crops grown as main crops primarily for energy purposes on agricultural land shall be no more than 7% of the final consumption of energy in transport in the Member States in 2020."

2.44 The RO legislation already applies a cap on the support for bioliquids. This was introduced in April 2013 by the UK to prevent a significant diversion of bioliquids away from other uses, such as for transport. Subject to certain exemptions, no more than 4% of an electricity supplier's annual Obligation may be met by presenting ROCs from bioliquid generation.

2.45 The cap applies to generation of electricity using bioliquids under the standard and enhanced co-firing, biomass conversion and dedicated biomass bands (with or without combined heat and power or energy crops).

2.46 The exemptions from the cap are for ROCs issued in respect of electricity generated:

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[19] Ofgem's Biomass Sustainability Dataset 2015-16 at: https://www.ofgem.gov.uk/publications-and-updates/biomass-sustainability-dataset-2015-16

- By a microgenerator station (up to 50kW);
- By a qualifying combined heat and power (CHP) station below 1 megawatt;
- From advanced fuel; or
- By energy from waste with CHP.

2.47 In 2015/16 (the latest year for which information is available)[20], crop-derived bioliquids were used by 15 stations. Of these, 14 fell within a currently exempt category for at least some of their generation (13 generated as bioliquid CHP below 1 MW and 1 was a microgenerator).

2.48 Under the current wording in the RO legislation, bioliquids from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural land, that are used in any of the exempt technologies will be exempt from the cap. Although current levels of use of crop-derived bioliquids are very low, allowing them to remain exempt means that there is a possibility that if usage increased significantly, financial support under the RO may be given for the generation of renewable energy that cannot be taken into account for the purpose of compliance with the UK's 2020 targets under the RED.

2.49 **We are therefore seeking views on whether, in the light of the likely use of crop-derived bioliquids in the future, we need to take action now to remove their exemption from the cap if they are used in exempt technologies**.

2.50 We would welcome your views on this – see Q.2 at the end of this chapter.

The level of the RO's bioliquid cap

2.51 For transport biofuels, the current UK level of crops used is around 1.5% on an energy basis, which equates to around 2% on a volume basis. Following a consultation, DfT have announced that they will introduce a sliding scale for the maximum amount of transport biofuels supplied under their Renewable Transport Fuel Obligation (RTFO) that can be made from crops. The maximum level will begin at 4% in 2018 and reduce linearly year on year from 2021 to reach 3% in 2026 and 2% in 2032. Full details are in the Government response to the consultation[21].

2.52 Subject to any evidence submitted under Q.1 above, we believe that the combined supply of biofuels and bioliquids from crops will be less than the 7% limit in the ILUC Directive. On this basis, **we propose that no changes are needed to the level of the current 4% cap on bioliquids under the RO at the present time**. We will, however, monitor supply. If levels increase significantly in the future, we will take action at that time if it appears that there is a possibility that financial support under the RO may be given for the generation of renewable energy that cannot be taken into account for the purpose of compliance with the UK's 2020 targets under the RED.

2.53 We would welcome your views on this proposal – see Q.3 at the end of this chapter.

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[20] Ofgem's Biomass Sustainability Dataset 2015-16 at: https://www.ofgem.gov.uk/publications-and-updates/biomass-sustainability-dataset-2015-16

[21] The Government response to DfT's consultation 'Renewable Transport Fuel Obligation: proposed changes for 2017' is at: https://www.gov.uk/government/publications/renewable-transport-fuel-obligations-order-government-response

Article 17 of Renewable Energy Directive - Sustainability criteria for bioliquids (achieving 35% greenhouse gas savings)

2.54 Paragraphs 2.28 to 2.32 above explained that we intend to amend the RO legislation in line with the ILUC Directive to include the requirement that bioliquid produced in an installation that started production between 6 October 2015 and 31 December 2016 must meet 60% greenhouse gas emission savings in order to receive support under the RO.

2.55 However, we have two options for implementing the rest of the Directive's requirements. For ease of reference, the new greenhouse gas emission savings from the Directive are repeated here:

- Bioliquid produced in installations starting operation on or before 5 October 2015:
  - At least 35% until 31 December 2017; and then
  - At least 50% from 1 January 2018;
- Bioliquid produced in installations starting operation from 6 October 2015 onwards - at least 60%.

2.56 The current greenhouse gas emission savings in RO legislation that bioliquids must meet in order to receive support are as follows:

- Used to generate electricity before 1st January 2017 - 35%;
- Used to generate electricity during 2017 - 50%;
- Used to generate electricity from 1 January 2018 onwards where it was produced by an installation that started producing bioliquid before 1 January 2017 - 50%;
- Used to generate electricity from 1 January 2018 onwards where it was produced by an installation that started producing bioliquid from 1 January 2017 onwards - 60%.

2.57 If the UK implements the new requirement for bioliquid produced in installations starting operation on or before 5 October 2015 to achieve at least 35% greenhouse gas emission savings until 31 December 2017, this represents a reduction on the UK's current requirements. Exactly implementing the requirements in the Directive for meeting 35% greenhouse gas emission savings would mean temporarily reducing to 35% the current requirement under the RO legislation for 50% greenhouse gas emission savings where the bioliquid was produced in an installation that started on or before 5 October 2015 and it was used during 2017. But from 1 January 2018, the Directive increases the requirement to 50% for these installations, which is the same as the current RO legislation.

2.58 Based on Ofgem's biomass sustainability dataset for 2015-16[22], no stations using bioliquid reported any consignments with greenhouse gas emission savings between 35% and 50%. One station had some consignments below 35% (and so received no support under the RO for that generation). All the other stations were above 50%. So

[22] Ofgem's Biomass Sustainability Dataset 2015-16 at: https://www.ofgem.gov.uk/publications-and-updates/biomass-sustainability-dataset-2015-16

in practice, we believe it is likely that all generators will continue to exceed the existing 50% requirement even if the saving was reduced to 35% for a few months.

2.59 **In light of that and the proposed timing of transposition, our preferred option is to retain the UK's current date for achieving 50% greenhouse gas emission savings. However, we are seeking views on whether this is likely to prevent any generating station from claiming support under the RO because they are unable to achieve the current 50% level in the RO legislation but would have achieved the ILUC Directive's requirements for 35% savings.** If it is likely that some stations would be able to comply with the new 35% requirement in the ILUC Directive but not with the RO's existing 50% level, we will exactly implement the Directive's requirements for achieving 35% savings.

2.60 Under our preferred option (retaining the UK's current 50% savings and implementing the new date for achieving 60% savings), the new percentage savings would be:

- Bioliquid produced by an installation that started producing liquid fuel from biomaterial[23] before 6 October 2015:
  - 35% in the case of bioliquid used to generate electricity before 1 January 2017;
  - 50% in the case of bioliquid used to generate electricity on or after 1 January 2017;
- Bioliquid produced by an installation that started producing liquid fuel from biomaterial on or after 6 October 2015:
  - 35% in the case of bioliquid used to generate electricity before 1 January 2017;
  - 50% in the case of bioliquid used to generate electricity on or after 1 January 2017 and before 1 January 2018;
  - 60% in the case of bioliquid used to generate electricity on or after 1 January 2018.

2.61 Under the second option (exactly implementing the Directive's requirements for meeting 35% greenhouse gas emission savings, including implementing the new date for achieving 60% savings), the new percentage savings would be:

- Bioliquid produced by an installation that started producing liquid fuel from biomaterial before 6 October 2015:
  - 35% in the case of bioliquid used to generate electricity before 1 January 2018;
  - 50% in the case of bioliquid used to generate electricity on or after 1 January 2018;

[23] The phrase "started producing liquid fuel from biomaterial" is used because it may not be possible for the production installation to know whether the liquid fuel they sold was used as a biofuel or a bioliquid. "Biomaterial" is already defined in RO legislation as the biodegradable part of:
(a) Products, waste and residues of biological origin resulting from agriculture (including vegetal and animal substances), forestry and related industries (including fisheries and aquaculture); and
(b) Industrial, commercial and municipal waste.

- Bioliquid produced by an installation that started producing liquid fuel from biomaterial on or after 6 October 2015:
  - 35% in the case of bioliquid used to generate electricity before 1 January 2017;
  - 50% in the case of bioliquid used to generate electricity on or after 1 January 2017 and before 1 January 2018;
  - 60% in the case of bioliquid used to generate electricity on or after 1 January 2018.

2.62 We would welcome your views on these two options – see Q.4 and Q.5 at the end of this chapter.

Article 22 of Renewable Energy Directive - Reporting by the Member States

2.63 Each Member State is required to report to the European Commission every two years on progress in the promotion and use of energy from renewable sources. The next report is due by 31 December 2017.

2.64 The ILUC Directive adds a new requirement to report on the amounts of bioliquids in energy units corresponding to each category of feedstock group listed in Part A of a new Annex 8 that are taken into account for the purpose of complying with targets set out in the RED. The feedstock groups in Annex 8 are cereal and other starch-rich crops, sugars and oil crops. We must ensure that this information is collected from generators so that the UK Government can report to the European Commission on the use of bioliquids.

2.65 The information that generators are required to provide to Ofgem is set out in the RO legislation. Guidance to generators on complying with the requirements is set out in Ofgem's guidance on biomass sustainability[24]. To ensure accurate information is collected from those with the potential to use the most bioliquid, we **propose to amend the data gathering requirements in the RO legislation to require generators above 50kW to provide Ofgem with information about the energy content of bioliquids from cereal and other starch-rich crops, sugars and oil crops**.

2.66 **We propose to make no change to the current reporting requirements for microgenerators (i.e. those up to 50kW capacity).** This is because the quantity of bioliquid used by microgenerators is so small that it will have a negligible impact on the overall figures. We consider that sufficient information will be provided under their current monthly reporting and annual Audit reporting requirements to allow us to adequately determine crop use for such small quantities.

2.67 Although the term' starch-rich crops' is defined in the ILUC Directive and will be added to the RO legislation, the terms 'cereal', 'sugars' and 'oil crops' are not defined**. We proposed not to define these terms in the RO legislation as we think they are sufficiently well understood.**

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[24] Ofgem's guidance on biomass sustainability at: https://www.ofgem.gov.uk/environmental-programmes/ro/applicants/biomass-sustainability

2.68 We would welcome your views on these proposals – see Q.6, Q.7 and Q.8 at the end of this chapter.

Annex 5, Part C of Renewable Energy Directive - Methodology for calculating annualised emissions from carbon stock changes caused by land-use change

2.69 The ILUC Directive slightly expands the meaning of 'e_l' in the calculation for annualised emissions from carbon stock changes caused by land-use change in paragraph 7 of Part C of Annex 5 of the RED. It also clarifies that mass is measured in tonnes. 'e_l' is calculated by dividing total emissions equally over 20 years. The revised meaning is as follows (with the new text shown in **bold**):

> e_l = annualised greenhouse gas emissions from carbon stock change due to land-use change (measured as mass (grams) of CO_2-equivalent per unit of biofuel **or bioliquid energy (megajoules)). 'Cropland'(**) and 'perennial cropland'**http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32015L1513&qid=1476886009657&from=EN - ntr3-L_2015239EN.01002701-E0003**(***) shall be regarded as one land-use;**
>
> Footnotes
>
> **(**) Cropland as defined by IPCC[25].**
>
> **(***) Perennial crops are defined as multi-annual crops, the stem of which is usually not annually harvested such as short rotation coppice and oil palm.**

2.70 The RO legislation does not transcribe the actual formula from Annex 5 of the RED. Instead it just refers to the calculation in paragraph 7 of Part C of Annex 5 of the RED. The RO legislation applies that calculation to solid and gaseous biomass as well as to bioliquids, with modifications.

2.71 In relation to the greenhouse gas criteria for bioliquids, any amendment made to Annex 5 of the RED is automatically incorporated in the RO legislation, because the definition of the "Renewables Directive" in the RO legislation provides that in the relevant Schedule the references to Annex 5 of the RED are to Annex 5 as amended from time to time.

2.72 Although this is not the case for the relevant Schedule in the RO legislation that relates to the greenhouse gas criteria for solid and gaseous biomass, the RO legislation that included or inserted the relevant Schedule was made, for England and Wales, for Scotland and for Northern Ireland, after the amendments to Annex 5 were made by the ILUC Directive. The effect of sections 20A and 23 of the Interpretation Act 1978 is that the references to Annex 5 of the RED in the relevant Schedule are references to Annex 5 as amended by the ILUC Directive.

2.73 **We do not therefore intend to amend the current references to Annex 5 of the RED in the RO legislation that relate to the greenhouse gas criteria for bioliquids**

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[25] 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories - volume 4 at: http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html

and solid and gaseous biomass because we consider that the references already include a reference to Annex 5 as amended by the ILUC Directive.

2.74 We would welcome your views on this proposal – see Q.9 at the end of this chapter.

The costs and benefits of the proposals

2.75 The associated costs and benefits of the changes and proposals are summarised in Annex A.

Consultation Questions

2.76 We would welcome your views on the following questions:

Consultation Questions

Q.1	What are your views on the likely level of electricity generation in the future from crop-derived bioliquids? Please explain your views, with evidence to support your position.
Q.2	Do you think that bioliquids produced from cereal and other starch-rich crops, sugars and oil crops, and from crops grown as main crops primarily for energy purposes on agricultural land, should be covered by the RO's current 4% supplier cap on bioliquid ROCs, regardless of the generating technology that they are used in? Please give reasons to support your answer.
Q.3	Do you agree that no changes are needed to the current 4% supplier cap on bioliquids under the RO at the present time? Please give reasons to support your answer.
Q.4	Are you aware of any generating stations that are, or intend to be, accredited under the RO and have used, or intend to use, consignments of bioliquid which have a greenhouse gas (GHG) emission saving of at least 35% but less than 50%? Please provide evidence to support your position (including the number of such stations, their capacity, the expected % GHG emission savings and the year of first generation).
Q.5	Do you think the RO legislation should: (i) Retain the UK's current date for achieving 50% greenhouse gas (GHG)

	emission savings; or (ii) Exactly implement the requirements in the Directive for meeting 35% GHG emission savings. This option would mean temporarily lowering the UK's current requirements from 50% to 35% GHG emission savings. Please give reasons to support your answer.

Q.6	Do you agree that, in order to facilitate compliance with the requirements in the RED, the RO legislation should be amended to require generators over 50kW to provide Ofgem with information on the quantities of bioliquids from cereal and other starch-rich crops, sugars and oil crops? Please give reasons to support your answer.

Q.7	Do you agree that there is no need to change the current reporting requirements for microgenerators (i.e. those up to 50kW capacity)? Please give reasons to support your answer

Q.8	Do you agree that the terms 'sugars' and 'oil crops' are sufficiently well understood that they do not need to be defined in RO legislation? If you don't agree, please explain how they should be defined.

Q.9	Do you agree that the references in the RO legislation that relate to the greenhouse gas criteria for solid and gaseous biomass have been automatically updated to refer to the amended Annex 5 of the RED? If you don't agree, please give reasons to support your answer

Chapter 3: Draft implementing legislation for the Renewables Obligation

How the ILUC Directive will be implemented in RO legislation

3.1 The relevant changes set out in the ILUC Directive will be implemented across the UK by the Renewables Obligation (Amendment) Regulations 2017. The current draft is at Annex B. This will make the necessary changes to the Renewables Obligation Order 2015 (the ROO), the Renewables Obligation (Scotland) Order 2009 (the ROSO), and the Renewables Obligation Order (Northern Ireland) 2009 (the ROONI).

3.2 The relevant requirements in the Renewable Energy Directive (RED) and the corresponding provisions of the draft Regulations are set out in table 1 below.

3.3 The explanatory note at the end of the draft Regulation in Annex B explains each change. Apart from some minor differences in wording (which reflect existing differences in the wording of the various RO Orders), the changes are the same across the UK.

Table 1: Changes to the RO legislation in response to the ILUC Directive

Article in the Directive	**Relevant provision in the draft Renewables Obligation (Amendment) Regulations 2017**
Article 2 - New definition of 'waste'	ROO - regulation 3(1) and (2) ROSO – regulation 8(1) and (2); ROONI – regulation 13(1) and (2).
Article 2 - new definition of 'starch-rich crops'	ROO - regulation 4(1) and (3) ROSO - regulation 9(1) and (3); ROONI – regulation 14(1) and (3).
Article 2 - new definition of 'processing residue'	ROO - regulation 3(1) and (3); ROSO - regulation 8(1) and (3); ROONI – regulation 13(1) and (3).
Article 2 - new definition of 'agricultural, aquaculture, fisheries and forestry residues'	ROO - regulation 6; ROSO - regulation 11; ROONI – regulation 16.
Article 17(2) - new minimum greenhouse gas emission savings.	ROO - regulation 5(1) and (2)(b) ROSO – regulation 10(1) and (2)(b); ROONI – regulation 15(1) and (2)(b);

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Article in the Directive	Relevant provisions in the draft Renewables Obligation (Amendment) Regulations 2017
Article 19(3) - removal of restrictions on using the default values in Annex 5 of the RED	ROO - regulation 5(1), (2)(a), (3) and (4); ROSO - regulation 10(1), (2)(a), (3) and (4); ROONI – regulation 15(1), (2)(a), (3) and (4).
Article 22(1)(o) - new information to be provided to the European Commission on the energy content of crop-derived bioliquids	ROO - regulation 4(1) and (2); ROSO - regulation 9(1) and (2); ROONI – regulation 14(1) and (2).

Consultation Question

3.4 We would welcome your views on the following question:

Consultation Question

Q.10	Do you think the wording of the draft Renewables Obligation (Amendment) Regulations 2017 in Annex B is clear? If not, please explain which provisions you feel are unclear and in what way they are unclear.

Next steps

3.5 We will review the responses to this consultation and finalise our position on the issues set out in paragraphs 2.36 – 2.74. Please note that the draft legislation is subject to change in light of the consultation responses.

3.6 We are aiming to lay the final legislation before Parliament in December 2017. Unless Parliament raises objections, we anticipate that it will come into force on 1 January 2018.

Annex A: Analytical section on implementing the Indirect Land-Use Change Directive under the Renewables Obligation

Overview

1. We have summarised the main impacts and associated costs and benefits of the changes in this analytical section.

EU Directive 2015/1513 on Indirect Land-Use Change with regards to bioliquids

Issue under consideration

2. In 2015, the European Union enacted the ILUC Directive to reduce the risk of indirect land-use change arising from the growing of crops for use as transport biofuels, and from bioliquids used for the generation of electricity and/or heat. Full details are in chapter 2 of this document.

3. This analysis is concerned with the impact of the changes to be made to the RO legislation to bring the new requirements into force. It therefore only considers electricity generation using bioliquids.

Rationale for intervention

4. The majority of bioliquids used in the UK for electricity generation come from wastes and residues. These bioliquids typically provide high greenhouse gas emission savings and do not compete directly for agricultural land with the food and feed markets. But bioliquids may also be produced from crops grown on land which was previously used to grow food or feed crops. Since this food or feed production is still necessary, it may be wholly or partly displaced to previously non-cropland such as grasslands and forests. This process is known as indirect land-use change.

5. Indirect land-use change risks negating the greenhouse gas savings that result from using bioliquids because grasslands and forests typically absorb high levels of carbon dioxide. By converting these land types to crop land, atmospheric carbon dioxide levels may increase.

Policy options

6. The UK is obliged to continue to implement EU legislation whilst the UK is still a member of the EU. So the only policy option is to implement the relevant requirements set out in the ILUC Directive. These aim to address the impact of indirect land-use change caused by the growing of crops for use as bioliquids, to improve the sustainability of bioliquids, and to prevent the unnecessary creation of wastes and residues.

7. The counterfactual[26] we are assuming in this analysis is that electricity generating stations currently using bioliquids will continue to use their current type of bioliquid.

A description of the associated costs and benefits of the policy options

Impact

8. The key change (relevant to bioliquids) is increasing the minimum greenhouse gas emission savings threshold in order to improve the overall greenhouse gas balance of all types of bioliquid, and to discourage further investments in installations with a low greenhouse gas emission savings performance. The new requirements for greenhouse gas emission savings can be summarised as follows:

    - Bioliquid produced in installations starting operation on or before 5 October 2015:
        - At least 35% until 31 December 2017; and then
        - At least 50% from 1 January 2018;
    - Bioliquid produced in installations starting operation from 6 October 2015 onwards - at least 60%.

9. The impact of this change is that generators not already complying with the new requirements would need to switch their fuel to more sustainable sources in order to continue receiving support under the RO.

10. Based on Ofgem's biomass sustainability dataset for 2015-16[27], there are currently 41 electricity generating stations using bioliquids. Of these, 15 used either some or only bioliquids derived from crops (that is, rape seed oil). The remainder used wastes, residues or fossil-derived bioliquids. Of the 41 stations, 36 achieved greenhouse gas emission savings of over 60% on all their consignments. One station used some crop-derived bioliquids with a greenhouse gas emission saving of 57%. However, from the information we have available, it is not possible to say whether this fuel would need to comply with the 50% or 60% level under the new requirements. Another station used some consignments from various wastes with savings of less than 20%. For the remaining 3 stations, either some or all of the consignments were exempt from reporting the percentage saving or the figure was unknown. We do not have any evidence to suggest that other (either existing or new build) generators would be affected.

Costs and benefits

11. The broad costs and benefits are summarised in table 2 below, but not all are quantifiable. The quantifiable costs and benefits, over a 20-year period, are discussed in paragraphs 12 to 17. Non-quantifiable costs are discussed in paragraphs 18 to 39.

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[26] To understand the causal effect of an intervention, one needs to compare two states of the world: the scenario in which the intervention occurred and the world in which it did not. The latter is the counterfactual.

[27] Ofgem's Biomass Sustainability Dataset 2015-16 at: https://www.ofgem.gov.uk/publications-and-updates/biomass-sustainability-dataset-2015-16

Table 2: **Costs and benefits to society of the proposed changes**

Costs	Benefits
Generators: One-off familiarisation costs.	**Society**: Lower greenhouse gas emissions through higher GHG emission savings targets.
Generators: RO legislation sets new levels for greenhouse gas savings that must be achieved before ROCs are issued, which may require generators to change their fuel supplier or fuel type.	**Ofgem**: Improved transparency on definitions of bioliquids reduces the risk of legal challenge over compliance.
Generators: Must comply with the new definition of waste in the RO legislation.	**Society:** measures will prevent the deliberate bypassing of more stringent sustainability criteria by artificially turning a substance into a waste.
Generators: Additional reporting requirements in their monthly and annual reports for generators using crop-derived bioliquids.	**Society**: measures aim to deter the displacement of agricultural production onto uncultivated areas; this will give additional benefits of: preserving biodiversity, water and soil quality and areas of high carbon stock; preventing prices rises for food commodities.

12. On **quantifiable costs**, we estimate that for the generators there may be some additional one-off familiarisation costs which will apply to all 41 generators using bioliquids. Furthermore, there will be small changes to the current on-going monthly reporting required from generators using crop-derived bioliquids. We estimate the former to be valued at a combined total of around £950[28] and the latter at around £400[29] per annum for all the generators over 20 years. All estimates are in 2016 prices and non-discounted.

13. On the potential substitution of fuel, it is unlikely that a generator will have to switch to a fully different fuel type. Thus we have not quantified this impact.

14. On **benefits**, the changes to the RO legislation provide an incentive to ensure that minimum higher savings from greenhouse gases are achieved. However, in the case of the UK, most generators are already achieving greenhouse gas savings in excess of 60%. Thus there is no additional impact to quantify.

[28] Assuming 1.5 hour working time needed x £15 (ASHE hourly cost of head quarter admin functions) x 41 electricity generators.

[29] Assuming 0.15 hours working time needed x £15 (ASHE hourly cost of head quarter admin functions) x 12 months x 15 electricity generators.

15. Overall, we estimate that the **discounted net present value**[30] (central case) of the one-off and on-going additional costs, over the remaining 20-year life of the RO, is £6,800 (rounded to the nearest £100). The value is calculated by discounting and summing the one-off additional familiarisation cost of £950 and the on-going annual reporting cost estimated at £400 over a 20-year period.

Summary of quantifiable costs

16. Overall, we estimate that the discounted net present value (central case) of the impacts associated with implementing changes to the RO legislation to implement the ILUC Directive may be negative (-£6,800).

17. However, the net present value calculation does not take account of wider benefits of preserving biodiversity, water and soil quality and areas of high carbon stock as these are not quantifiable.

A description of the non-quantifiable associated costs and benefits of the policy options

Problem under consideration

18. In addition to the above outlined main changes to legislation on bioliquids, the following changes are either proposed or will be implemented:

- Amending the definition of “waste”, adding a definition of “starch-rich crops” and clarifying the meaning of “residue from processing” and “residue from agriculture, aquaculture, fisheries and forestry”;
- Removing the current restriction on the use of default values when calculating the greenhouse gas emission savings from the use of bioliquids.

Rationale for intervention

19. The UK is obliged to continue to implement EU legislation whilst the UK is still a member of the EU. The proposed changes will provide better information to generators and reduce the likelihood of generating electricity from non-supported fuels.

Policy options

20. Given that the ILUC Directive needs to be transposed into legislation, the above mentioned ‘enabling’ changes can only be implemented by amending that same legislation.

21. Non-regulatory options would not address this issue.

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[30] Net Present Value: Calculating the present value of the differences between the streams of costs and benefits provides the net present value (NPV) of an option. The NPV is the primary criterion for deciding whether government action can be justified. Source: ‘The Green Book – Appraisal and Evaluation in Central Government’ at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

A description of the associated costs and benefits of policy options

Waste

22. The change to this definition seeks to prevent materials from being intentionally contaminated or modified to create wastes.

23. The change would provide additional clarity and not lead to any quantifiable additional one-off or on-going benefit or cost to society.

Starch-rich crops

24. This definition is used to contribute to defining particular types of crop-derived bioliquids. These are defined as meaning crops comprising mainly cereals (regardless of whether only the grains are used, or the whole plant, such as in the case of green maize, is used), tubers and root crops (such as potatoes, Jerusalem artichokes, sweet potatoes, cassava and yams), and corm crops (such as taro and cocoyam).

25. The definition is being added to the RO legislation to ensure accurate data is gathered to enable the UK Government to report to the European Commission on the use of crop-derived bioliquids.

26. The change would not lead to any quantifiable additional one-off or on-going cost or benefit to society.

Processing residue

27. This new definition provides clarity on what a processing residue is. The aim is to avoid incentivising a deliberate increase in the production of processing residues at the expense of the main product. The definition excludes residues resulting from a production process which has been deliberately modified for that purpose.

28. Processing residue was previously not defined but was interpreted through guidance.

29. There is no evidence, nor data available, to suggest that deliberate modification is being carried out currently. The change would provide additional clarity and not lead to any quantifiable additional one-off or on-going cost or benefit to society.

Agricultural, aquaculture, fisheries and forestry residues

30. This new definition provides clarity on what agricultural, aquaculture, fisheries and forestry residues are. The definition excludes residues from related industries or processing.

31. Agricultural, aquaculture, fisheries and forestry residues are required to comply with both greenhouse gas emission savings criteria and land criteria. All other types of waste and residues only need to comply with greenhouse gas emission savings criteria.

32. The rationale for introducing this definition into the RO legislation is to ensure that the different bioliquid feedstocks are required to comply with the correct sustainability criteria.

33. Agricultural, aquaculture, fisheries and forestry residues was previously not defined but was interpreted through guidance.

34. The introduction of this definition in legislation does not lead to any additional one-off or on-going cost or benefit to society.

Default values

35. The change removes the current restriction on the use of default values when calculating the greenhouse gas emission savings from the use of bioliquids**.** This allows default values to be used irrespective of whether the biomaterial from which the bioliquid is made was cultivated within or outside the European Union.

36. The change would not lead to any quantifiable additional one-off or on-going cost or benefit to society.

Administrative changes by Ofgem

37. Introducing the above mentioned changes into legislation will require some small changes by the RO administrator, Ofgem.

38. However, only minor amendments to Ofgem's data collection template would be needed and the cost should be minimal to Ofgem because there would be no associated IT costs.

Summary of non-quantifiable costs

39. Overall, the above mentioned amendments and additions provide additional clarity and do not lead to any **quantifiable** additional one-off or on-going cost or benefit to society.

Annex B: Draft Renewables Obligation (Amendment) Regulations 2017

See the next page for the draft Regulations

STATUTORY INSTRUMENTS

2017 No. 0000

ELECTRICITY

The Renewables Obligation (Amendment) Regulations 2017

Made - - - -	***
Laid before Parliament	***
Coming into force - -	*1st January 2018*

The Secretary of State, being a Minister designated(**a**) for the purposes of section 2(2) of the European Communities Act 1972(**b**) in relation to energy and energy sources, makes the following Regulations in exercise of the powers conferred by section 2(2) of that Act:

Citation, commencement and extent

1.—(1) These Regulations may be cited as the Renewables Obligation (Amendment) Regulations 2017.

(2) These Regulations come into force on 1st January 2018.

(3) Any amendment made by these Regulations has the same extent as the provision to which it relates.

Amendments to Renewables Obligation Order 2015

2. The Renewables Obligation Order 2015(**c**) is amended in accordance with regulations 3 to 6.

3.—(1) Article 2 (interpretation) is amended as follows.

(2) In paragraph (1) for paragraph (b) of the definition of "waste" substitute—

"(b) does not include landfill gas, sewage gas or any substance intentionally modified or contaminated to fall within the meaning of "waste" given in Article 3(1) of that Directive(**d**).".

(3) After paragraph (6) insert—

"(7) A reference in this Order to residue does not, in the case of residue from processing, include a reference to any substance that is a primary aim of a production process or that the process has been deliberately modified to produce.".

(**a**) See article 6 of S.I. 2010/761.
(**b**) 1972 c.68. Section 2(2) was amended by section 27 of the Legislative and Regulatory Reform Act 2006 (c.51) and Part 1 of the Schedule to the European Union (Amendment) Act 2008 (c.7). Section 57(1) of the Scotland Act 1998 (1998 c.46) provides that, despite the transfer to the Scottish Ministers of functions in relation to observing and implementing obligations under EU law, any function of a Minister of the Crown shall continue to be exercisable by the Minister as regards Scotland for the purposes specified in section 2(2) of the European Communities Act 1972.
(**c**) S.I. 2015/1947, to which there are amendments not relevant to these Regulations.
(**d**) Directive 2008/98/EC of the European Parliament and of the Council of 19th November 2008 on waste and repealing certain Directives, O.J. No. L 312, 22.11.2008, p.3.

4.—(1) Article 82 (information to be provided to the Authority where electricity is generated from biomass) is amended as follows.

(2) In paragraph (4)—

(a) at the end of sub-paragraph (d) omit "and";

(b) in sub-paragraph (e)(v) for "softwood." substitute "softwood; and";

(c) after sub-paragraph (e) insert—

"(f) where the biomass was bioliquid used in a generating station on or after 1st January 2018, its energy content produced from each of the following categories of crop—

(i) starch-rich crops;

(ii) sugars;

(iii) oil crops;

(iv) any other crops grown as a main crop primarily for energy purposes on agricultural land.".

(3) In paragraph (10)—

(a) at the end of the definition of "protected or threatened species" omit "and";

(b) in the definition of "saw log" for "sawmill." substitute "sawmill; and";

(c) after the definition of "saw log" insert—

""starch-rich crops" includes—

(a) cereals (regardless of whether only the grains are used or the whole plant (such as in the case of green maize) is used);

(b) tubers and root crops (such as potatoes, Jerusalem artichokes, sweet potatoes, cassava and yams); and

(c) corm crops (such as taro and cocoyam).".

5.—(1) Schedule 1 (greenhouse gas criteria for bioliquid) is amended as follows.

(2) In paragraph 1 (interpretation)—

(a) omit the definition of "disaggregated default values for cultivation";

(b) for the definition of "relevant percentage" substitute—

""relevant percentage" means—

(a) in relation to bioliquid produced by an installation that started producing liquid fuel from biomaterial before 6th October 2015—

(i) 35% in the case of bioliquid used to generate electricity before 1st January 2017;

(ii) 50% in the case of bioliquid used to generate electricity on or after 1st January 2017;

(b) in relation to bioliquid produced by an installation that started producing liquid fuel from biomaterial on or after 6th October 2015—

(i) 35% in the case of bioliquid used to generate electricity before 1st January 2017;

(ii) 50% in the case of bioliquid used to generate electricity on or after 1st January 2017 and before 1st January 2018;

(iii) 60% in the case of bioliquid used to generate electricity on or after 1st January 2018.".

(3) Omit paragraph 5.

(4) For paragraph 6 substitute—

"**6.** The default percentage must not be used in relation to bioliquid described in the first column of Part A or Part B of Annex 5 to the Renewables Directive(**a**) unless, in relation to the bioliquid, the result of the calculation in paragraph 7 of Part C of that Annex is equal to, or less than, zero.".

6.—(1) Schedule 3 (land criteria) is amended as follows.

(2) Renumber paragraph 1 (interpretation) as sub-paragraph (1) of that paragraph.

(3) In paragraph 1, after sub-paragraph (1) insert—

"(2) A reference in this Schedule to residue from agriculture, aquaculture, fisheries or forestry—

(a) is a reference to residue directly generated by (as the case may be) agriculture, aquaculture, fisheries or forestry; and

(b) does not include a reference to residue from related industries or residue from processing.".

Amendments to Renewables Obligation (Scotland) Order 2009

7. The Renewables Obligation (Scotland) Order 2009(**b**) is amended in accordance with regulations 8 to 11.

8.—(1) Article 2 (interpretation) is amended as follows.

(2) In paragraph (1) for paragraph (b) of the definition of "waste" substitute—

"(b) does not include landfill gas, sewage gas or any substance intentionally modified or contaminated to fall within the meaning of "waste" given in Article 3(1) of that Directive.".

(3) After paragraph (8) insert—

"(9) A reference in this Order to residue does not, in the case of residue from processing, include a reference to any substance that is a primary aim of a production process or that the process has been deliberately modified to produce.".

9.—(1) Article 54 (information to be provided to the Authority where electricity is generated from biomass) is amended as follows.

(2) In paragraph (4)—

(a) at the end of sub-paragraph (d) omit "and";

(b) in sub-paragraph (e)(v) for "softwood." substitute "softwood; and";

(c) after sub-paragraph (e) insert—

"(f) where the biomass was bioliquid used in a generating station on or after 1st January 2018, its energy content produced from each of the following categories of crop—

(i) starch-rich crops;

(ii) sugars;

(iii) oil crops;

(iv) any other crops grown as a main crop primarily for energy purposes on agricultural land.".

(**a**) Directive 2009/28/EC of the European Parliament and of the Council of 23rd April 2009 on the promotion of the use of energy from renewable sources, O.J. No. L 140, 5.6.2009, p.16. The Directive was amended by Council Directive 2013/18/EU of 13th May 2013 adapting Directive 2009/28/EU of the European Parliament and of the Council on the promotion of the use of energy from renewable sources, by reason of the accession of the Republic of Croatia, O.J. No. L 158, 10.6.2013, p.230, and by Directive (EU) 2015/1513 of the European Parliament and of the Council of 9th September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources, O.J. No. L 239, 15.9.2015, p.1.

(**b**) S.S.I. 2009/140; relevant amending instruments are S.S.I. 2011/225 and 2015/384.

(3) In paragraph (10)—

(a) at the end of the definition of "protected or threatened species" omit "and";

(b) in the definition of "saw log" for "sawmill." substitute "sawmill; and";

(c) after the definition of "saw log" insert—

""starch-rich crops" includes—

(a) cereals (regardless of whether only the grains are used or the whole plant (such as in the case of green maize) is used);

(b) tubers and root crops (such as potatoes, Jerusalem artichokes, sweet potatoes, cassava and yams); and

(c) corm crops (such as taro and cocoyam).".

10.—(1) Schedule A1 (greenhouse gas emission criteria for bioliquid) is amended as follows.

(2) In paragraph 1 (interpretation)—

(a) omit the definition of "disaggregated default values for cultivation";

(b) for the definition of "relevant percentage" substitute—

""relevant percentage" means—

(a) in relation to bioliquid produced by an installation that started producing liquid fuel from biomaterial before 6th October 2015—

(i) 35% in the case of bioliquid used to generate electricity before 1st January 2017;

(ii) 50% in the case of bioliquid used to generate electricity on or after 1st January 2017;

(b) in relation to bioliquid produced by an installation that started producing liquid fuel from biomaterial on or after 6th October 2015—

(i) 35% in the case of bioliquid used to generate electricity before 1st January 2017;

(ii) 50% in the case of bioliquid used to generate electricity on or after 1st January 2017 and before 1st January 2018;

(iii) 60% in the case of bioliquid used to generate electricity on or after 1st January 2018.".

(3) Omit paragraph 5.

(4) For paragraph 6 substitute—

"**6.** The default percentage must not be used for the purposes of paragraph 2 unless, in relation to the bioliquid, the result of the calculation in paragraph 7 of Part C of Annex 5 to the Renewables Directive is equal to, or less than, zero.".

11.—(1) Schedule A2 (land criteria) is amended as follows.

(2) Renumber paragraph 1 (interpretation) as sub-paragraph (1) of that paragraph.

(3) In paragraph 1, after sub-paragraph (1) insert—

"(2) A reference in this Schedule to residue from agriculture, aquaculture, fisheries or forestry—

(a) is a reference to residue directly generated by (as the case may be) agriculture, aquaculture, fisheries or forestry; and

(b) does not include a reference to residue from related industries or residue from processing.".

Amendments to Renewables Obligation Order (Northern Ireland) 2009

12. The Renewables Obligation Order (Northern Ireland) 2009(**a**) is amended in accordance with regulations 13 to 16.

13.—(1) Article 2 (interpretation) is amended as follows.

(2) In paragraph (1) for paragraph (b) of the definition of "waste" substitute—

"(b) does not include landfill gas, sewage gas or any substance intentionally modified or contaminated to fall within the meaning of "waste" given in Article 3(1) of that Directive.".

(3) After paragraph (7) insert—

"(8) A reference in this Order to residue does not, in the case of residue from processing, include a reference to any substance that is a primary aim of a production process or that the process has been deliberately modified to produce.".

14.—(1) Article 46 (information to be provided to the Authority where electricity is generated from biomass) is amended as follows.

(2) In paragraph (4)—

(a) at the end of sub-paragraph (d) omit "and";

(b) in sub-paragraph (e)(v) for "softwood." substitute "softwood; and";

(c) after sub-paragraph (e) insert—

"(f) where the biomass was bioliquid used in a generating station on or after 1st January 2018, its energy content produced from each of the following categories of crop—

(i) starch-rich crops;

(ii) sugars;

(iii) oil crops;

(iv) any other crops grown as a main crop primarily for energy purposes on agricultural land.".

(3) In paragraph (10)—

(a) at the end of the definition of "protected or threatened species" omit "and";

(b) in the definition of "saw log" for "sawmill." substitute "sawmill; and";

(c) after the definition of "saw log" insert—

""starch-rich crops" includes—

(a) cereals (regardless of whether only the grains are used or the whole plant (such as in the case of green maize) is used);

(b) tubers and root crops (such as potatoes, Jerusalem artichokes, sweet potatoes, cassava and yams); and

(c) corm crops (such as taro and cocoyam).".

15.—(1) Schedule A1 (greenhouse gas emission criteria for bioliquid) is amended as follows.

(2) In paragraph 1 (interpretation)—

(a) omit the definition of "disaggregated default values for cultivation";

(b) for the definition of "relevant percentage" substitute—

""relevant percentage" means—

(a) in relation to bioliquid produced by an installation that started producing liquid fuel from biomaterial before 6th October 2015—

(**a**) S.R. 2009/154; relevant amending instruments are S.R. 2011/169 and 2016/84.

(i) 35% in the case of bioliquid used to generate electricity before 1st January 2017;

(ii) 50% in the case of bioliquid used to generate electricity on or after 1st January 2017;

(b) in relation to bioliquid produced by an installation that started producing liquid fuel from biomaterial on or after 6th October 2015—

(i) 35% in the case of bioliquid used to generate electricity before 1st January 2017;

(ii) 50% in the case of bioliquid used to generate electricity on or after 1st January 2017 and before 1st January 2018;

(iii) 60% in the case of bioliquid used to generate electricity on or after 1st January 2018.".

(3) Omit paragraph 5.

(4) For paragraph 6 substitute—

"**6.** The default percentage must not be used for the purposes of paragraph 2 unless, in relation to the bioliquid, the result of the calculation in paragraph 7 of Part C of Annex 5 to the Renewables Directive is equal to, or less than, zero.".

16.—(1) Schedule A2 (land criteria) is amended as follows.

(2) Renumber paragraph 1 (interpretation) as sub-paragraph (1) of that paragraph.

(3) In paragraph 1, after sub-paragraph (1) insert—

"(2) A reference in this Schedule to residue from agriculture, aquaculture, fisheries or forestry—

(a) is a reference to residue directly generated by (as the case may be) agriculture, aquaculture, fisheries or forestry; and

(b) does not include a reference to residue from related industries or residue from processing.".

Name
[title of minister signing]
Department for Business, Energy and Industrial Strategy

Date

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations amend the following Orders (the "Renewables Obligation Orders")—

- the Renewables Obligation Order 2015 (S.I. 2015/1947) (the "ROO");
- the Renewables Obligation (Scotland) Order 2009 (S.S.I. 2009/140) (the "ROSO"); and
- the Renewables Obligation Order (Northern Ireland) 2009 (S.R. 2009/154) (the "ROONI").

These Regulations transpose, in relation to the Renewables Obligation Orders, amendments to Directive 2009/28/EC of the European Parliament and of the Council of 23rd April 2009 on the promotion of the use of energy from renewable sources (the "Renewables Directive") made by Directive (EU) 2015/1513 of the European Parliament and of the Council of 9th September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources.

The changes made by these Regulations to the Renewables Obligation Orders are as follows—

- It is made clear that the term "waste" does not include any substance intentionally modified or contaminated to fall within the definition of "waste" in Article 3(1) of Directive 2008/98/EC of the European Parliament and of the Council of 19th November 2008 on waste (see amended definition of "waste" in article 2(1) of each of the Renewables Obligation Orders).
- It is made clear that references to residue do not, in the case of residue from processing, include references to any substance that is a primary aim of a production process or that the process has been deliberately modified to produce (see new article 2(7) of ROO, new article 2(9) of ROSO and new article 2(8) of ROONI).
- Operators of generating stations (other than microgenerators) that generate electricity from bioliquid must provide Ofgem with information about the energy content of the bioliquid produced from certain categories of crop (see amendments to article 82 of ROO, article 54 of ROSO and article 46 of ROONI).
- The minimum greenhouse gas emissions savings that must be achieved before renewables obligation certificates may be issued in respect of the generation of electricity from bioliquid is increased from 50% to 60% in certain cases (see the new definition of "relevant percentage" in paragraph 1 of Schedule 1 to ROO, paragraph 1 of Schedule A1 to ROSO and paragraph 1 of Schedule A1 to ROONI). The effect of the amendment is that the higher minimum applies in all cases where bioliquid produced by an installation that started producing liquid fuel from biomaterial on or after 6th October 2015 is used to generate electricity on or after 1st January 2018.
- Certain restrictions on using default values set out in Annex 5 to the Renewables Directive to calculate greenhouse gas emission savings from the use of a bioliquid are removed. For example, the default values may now be used irrespective of whether the biomaterial from which the bioliquid is made was cultivated within or outside the European Union (see amendments to paragraphs 5 and 6 of Schedule 1 to ROO, paragraphs 5 and 6 of Schedule A1 to ROSO and paragraphs 5 and 6 of Schedule A1 to ROONI).
- Renewables obligation certificates may not be issued in respect of electricity generated from bioliquid or, subject to exceptions, from solid and gaseous biomass unless the fuel meets the "land criteria" (see articles 61 and 63 of ROO; articles 22ZA and 22A of ROSO; and articles 21ZA and 21A of ROONI). It is made clear that fuel (other than woody biomass) made from residue that is not directly generated by agriculture, aquaculture, fisheries or forestry but by related industries or processing will meet the land criteria in all cases (see new paragraph 1(2) of Schedule 3 to ROO, new paragraph 1(2) of Schedule A2 to ROSO and new paragraph 1(2) of Schedule A2 to ROONI). The position is unchanged for fuel made from residue directly generated by agriculture, aquaculture, fisheries or forestry. So, for example, bioliquid made from such residue that is obtained from a protected source (as defined) will not meet the land criteria.

An explanatory memorandum and a transposition note are available with these Regulations on www.legislation.gov.uk.

An impact assessment has not been produced for this instrument as no significant impacts on business or the public or voluntary sectors are foreseen.

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