SCHEDULE 1 S Article 13

"SCHEDULE A1A S

Greenhouse gas emission criteria for solid and gaseous biomass

PART 1 S

Greenhouse gas emission criteria

Interpretation

1. In this Schedule—

"actual value method" means the calculation method provided for in Part 2;

"default value method" means the calculation method provided for in Part 3;

"post-2013 dedicated biomass station" means a generating station which—

(a) was not accredited on or before 31st March 2013; and

(b) has, in any month after March 2013, generated electricity in the way described as "dedicated biomass" in Schedule 2 (electricity to be stated in SROCs);

"relevant biomass" means biomass other than animal excreta, bioliquid, landfill gas, sewage gas or waste;

"relevant ceiling" means—

(a) in relation to biomass used by a post-2013 dedicated biomass station to generate electricity before 1st April 2020, 79.2 grams per mega joule of electricity;

(b) in relation to biomass used to generate electricity on or after 1st April 2020 and before 1st April 2025, 75 grams per mega joule of electricity; and

(c) in relation to biomass used to generate electricity on or after 1st April 2025, 72.2 grams per mega joule of electricity;

"relevant target" means—

(a) in relation to biomass used to generate electricity before 1st April 2020 by a station other than a post-2013 dedicated biomass station, 79.2 grams per mega joule of electricity;

(b) in relation to biomass used by a post-2013 dedicated biomass station to generate electricity before 1st April 2020, 66.7 grams per mega joule of electricity;

(c) in relation to biomass used to generate electricity on or after 1st April 2020 and before 1st April 2025, 55.6 grams per mega joule of electricity; and

(d) in relation to biomass used to generate electricity on or after 1st April 2025, 50 grams per mega joule of electricity.

The greenhouse gas emission criteria

2. Biomass meets the greenhouse gas emission criteria for solid and gaseous biomass—

(a) if the greenhouse gas emissions from its use are equal to, or less than, the relevant target; or

(b) if—

(i) the biomass is used by a post-2013 dedicated biomass station or the biomass is used to generate electricity after 1st April 2020;

(ii) the greenhouse gas emissions from its use are equal to, or less than, the relevant ceiling; and

(iii) the biomass is used in an obligation period in which the average greenhouse gas emissions from the relevant biomass used by the station to generate electricity during that obligation period are equal to, or less than, the relevant target.

Calculating the greenhouse gas emissions

3. For the purposes of paragraph 2, and subject to paragraph 4, the greenhouse gas emissions from the use of biomass to generate electricity—

(a) is to be calculated by the operator of the generating station using the actual value method or the default value method; or

(b) is 91 grams per mega joule of electricity.

4. The default value method must not be used to calculate the greenhouse gas emissions from the use of biomass unless—

(a) the biomass was used in a generating station with a total installed capacity of less than one megawatt;

(b) the biomass is described in the first column of the table in Part 4; and

(c) in relation to the biomass, 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.

5. For the purposes of paragraph 4(c), paragraph 7 of Part C of Annex 5 to the Renewables Directive is to be read as if—

(a) for each reference to "biofuel" there was substituted" biomass "; and

(b) the words "or bioliquid" were omitted in each place in which those words occur.

PART 2 S

Actual value method

6. Where the greenhouse gas emissions from the use of biomass are calculated using the actual value method the greenhouse gas emissions from the use of the biomass are equal to—

(a) in the case of biomass used by a combined heat and power generating station, $\frac{E}{\eta_{el}}\left(\frac{\eta_{el}}{\eta_{el}+C_h\times\eta_h}\right)$; and

(b) in any other case, $\frac{E}{\eta_{el}}$.

7. In paragraph (6)—

(a) η_{el} is equal to $\frac{A}{F}$ where—

(i) A is the total amount of electricity generated by the generating station during the month; and

(ii) F is the energy content of all of the fuels used in generating that electricity during the month;

(b) η_h is equal to $\frac{H}{F}$ where—

(i) F has the same meaning as in sub-paragraph (a)(ii); and

(ii) H is the energy content of all of the heat supplied to any premises by the generating station during the month; and

(c) is equal to—

(i) where the maximum temperature in degrees kelvin of heat or steam which is (or may be) supplied by the generating station to any premises ("T_{max}") is less than 423 degrees kelvin, 0.3546;

(ii) in any other case, $\frac{T_{max} - 273}{T_{max}}$; and

(d) E is the greenhouse gas emissions from the production of the biomass and is to be calculated in accordance with Part C of Annex 5 to the Renewables Directive but as if the following modifications were made to Part C of that Annex:—

(i) in paragraph 1—

(aa) for "and use of transport fuels, biofuels and bioliquids" there was substituted "of biomass";

(bb) for "E = total emissions from the use of the fuel" there was substituted "E = greenhouse gas emissions from the production of the biomass"; and

(cc) for "e_u= emissions from the fuel in use" there was substituted "e_u= zero";

(ii) in paragraph 2, for the references to "fuels" and "fuel" there was substituted in each case "biomass";

(iii) paragraphs 3 and 4 were omitted;

(iv) in paragraph 7—

(aa) for each reference to "biofuel" there was substituted "biomass"; and

(bb) the words "or bioliquid" were omitted in each place in which those words occur;

(v) in paragraph 11, for "fuel" there was substituted "biomass";

(vi) paragraph 13 was omitted;

(vii) in paragraph 14, for "fuel" there was substituted "biomass";

(viii) for paragraph 16 there was substituted—

"**16.** Emission saving from excess electricity from cogeneration shall be taken to be zero.";

(ix) in paragraph 17, for each reference to "fuel" there was substituted "biomass";

(x) in paragraph 18—

(aa) for "fuel" there was substituted "biomass";

(bb) the words "In the case of biofuels and bioliquids," were omitted;

(cc) before "and residues from processing" there was inserted "residues from aquaculture, arboriculture, fisheries and forestry"; and

(dd) for "fuels" there was substituted "biomass"; and

(xi) for paragraph 19 there was substituted—

"**19.** Where material is added to the biomass to act as a binding agent or to reduce the emissions of dust, carbon dioxide, methane or nitrous oxide from the use of the biomass, the material so added shall be considered to have zero life-cycle greenhouse gas emissions, provided that the material so added does not exceed 2% by weight of the biomass.".

PART 3 S

Default value method

8. The greenhouse gas emissions from the use of biomass are calculated using the default value method where the greenhouse gas emissions from the use of the biomass are equal to—

(a) in the case of biomass used by a combined heat and power generating station, $\frac{E}{\eta_{el}}\left(\frac{\eta_{el}}{\eta_{el}+C_h\times\eta_h}\right)$; and

(b) in any other case, $\frac{E}{\eta_{el}}$.

9. In paragraph (8)—

(a) η_{el}, η_h and C_h have the same meaning as in Part 2; and

(b) E, in relation to a type of biomass described in the first column of the table in Part 4, is the number of grams which corresponds to that description in the second column of that table.

PART 4 S

Default greenhouse gas emissions from the production of biomass

Biomass	***Default greenhouse gas emissions from the production of biomass (in grams)***
Wood chips made from residue from forestry carried out in European temperate continental forest	1
Wood chips made from residue from forestry carried out in tropical or subtropical forest	25
Wood chips from short rotation forestry carried out in European temperate continental forest	4
Wood chips from short rotation forestry carried out in tropical or subtropical forest	28
Wood briquettes or wood pellets—	2
(a) which are made from residue from forestry carried out in European temperate continental forest; and	

(b) where the process to produce the wood briquettes or wood pellets was fuelled by wood

Wood briquettes or wood pellets— 20

(a) which are made from residue from forestry carried out in tropical or subtropical forest; and

(b) where the process to produce the wood briquettes or wood pellets was fuelled by natural gas

Wood briquettes or wood pellets— 17

(a) which are made from residue from forestry carried out in tropical or subtropical forest; and

(b) where the process to produce the wood briquettes or wood pellets was fuelled by wood

Wood briquettes or wood pellets— 35

(a) which are made from residue from forestry carried out in European temperate continental forest; and

(b) where the process to produce the wood briquettes or wood pellets was fuelled by natural gas

Wood briquettes or wood pellets— 4

(a) which are made from short rotation forestry carried out in European temperate continental forest; and

(b) where the process to produce the wood briquettes or wood pellets was fuelled by wood

Wood briquettes or wood pellets— 22

(a) which are made from short rotation forestry carried out in European temperate continental forest; and

(b) where the process to produce the wood briquettes or wood pellets was fuelled by natural gas

Wood briquettes or wood pellets— 22

(a) which are made from short rotation forestry carried out in tropical or subtropical forest; and

(b) where the process to produce the wood briquettes or wood pellets was fuelled by wood

Wood briquettes or wood pellets— 40

(a) which are made from short rotation forestry carried out in tropical or subtropical forest; and

(b) where the process to produce the wood briquettes or wood pellets was fuelled by natural gas

Charcoal made from residue from forestry carried out in European temperate continental forest 41

Charcoal made from residue from forestry carried out in tropical or subtropical forest 50

Charcoal made from short rotation forestry carried out in European temperate continental forest	46
Charcoal made from short rotation forestry carried out in tropical or subtropical forest	57
Wheat straw	2
Bagasse briquettes where the process to produce the bagasse briquettes was fuelled by wood	17
Bagasse briquettes where the process to produce the bagasse briquettes was fuelled by natural gas	35
Bagasse bales	20
Palm kernel	27
Rice husk briquettes	28
Miscanthus bales	7
Biogas produced from wet manure	8
Biogas produced from dry manure	7
Biogas produced from wheat, where the whole plant was used to produce the biogas	21
Biogas produced from straw	21
Biogas produced from maize, where— (a) the whole maize plant was used in the process to produce the biogas; and (b) the maize was not grown by organic farming methods	34
Biogas produced from maize, where— (a) the whole maize plant was used in the process to produce the biogas; and (b) the maize was grown by organic farming methods”	19

SCHEDULE 2 S

Article 14

“SCHEDULE A2 S

Land criteria

Interpretation

1. In this Schedule—

“continuously forested area” means land of an area of more than one hectare which includes—

(a) trees more than 5 metres tall providing a tree canopy cover of more than 30%; or

(b) trees collectively having the capacity to provide a tree canopy cover of more than 30% which—

(i) are more than 5 metres tall; or

(ii) have the capacity to grow to a height of more than 5 metres;

"designated for nature protection purposes" means designated pursuant to the law of the United Kingdom or of any part of the United Kingdom or pursuant to the law of any country or territory outside the United Kingdom, for the purpose of protecting the natural environment;

"environmental quality assurance scheme" means a voluntary scheme which establishes environmental or social standards in relation to the production of woody biomass;

"greenhouse gas emissions from the use of fossil fuel" has the same meaning as in Schedule 1 (greenhouse gas emission criteria for bioliquid);

"highly biodiverse grassland" is to be construed in accordance with Article 17(3)(c) of the Renewables Directive;

"lightly forested area" means land of an area of more than one hectare which includes—

(a) trees more than 5 metres tall providing a tree canopy cover of between 10% and 30%; or

(b) trees collectively having the capacity to provide a tree canopy cover of between 10% and 30% which—

(i) are more than 5 metres tall; or

(ii) have the capacity to grow to a height of more than 5 metres;

"primary forest" means woodland of native species where there is no clearly visible indication of human activity and ecological processes are not significantly disturbed;

"relevant percentage" has the same meaning as in Schedule 1 (greenhouse gas emission criteria for bioliquid);

"relevant target" has the same meaning as in Schedule A1A (greenhouse gas emission criteria for solid and gaseous biomass);

"wetland area" means land that is covered with or saturated by water—

(a) permanently; or

(b) for a significant part of the year; and

"woody biomass" means biomass which—

(a) is, or is derived from, wood (other than an energy crop);

(b) is not a bioliquid.

Land criteria: bioliquids

2. A consignment of bioliquid meets the land criteria if the biomaterial from which the fuel was made—

(a) was not obtained from a protected source;

(b) was residue (other than residue from agriculture, aquaculture, fisheries or forestry); or

(c) was waste.

Land criteria: woody biomass

3. A consignment of woody biomass meets the land criteria if—

(a) at least 70% of the woody biomass was obtained from a sustainable source;

(b) the woody biomass is used by the RO capacity of a generating station to generate electricity in a month in which at least 70% of all of the woody biomass used by the RO capacity of that generating station to generate electricity was obtained from a sustainable source; or

(c) the woody biomass was certified by an environmental quality assurance scheme which ensures that at least 70% of the woody biomass certified by the scheme was obtained from a sustainable source.

Land criteria: other fuels

4. A consignment of fuel (other than bioliquid or woody biomass) meets the land criteria if the biomaterial from which the fuel was made—

(a) was not obtained from a protected source;

(b) was residue (other than residue from agriculture, aquaculture, fisheries or forestry);

(c) was an energy crop in respect of which financial assistance was paid under the Energy Crops Regulations 2000 [M1] or under an equivalent financial assistance scheme; or

(d) was added to the fuel for an exempt purpose.

Protected sources

5.—(1) For the purposes of paragraphs 2(a) and 4(a), biomaterial is obtained from a protected source if it is obtained from—

(a) land which at any time during or after January 2008 was primary forest;

(b) land which at any time during or after January 2008 was designated for nature protection purposes (unless the production of the biomaterial did not interfere with those nature protection purposes);

(c) highly biodiverse grassland (unless the harvesting of the biomaterial was necessary to preserve the grassland status);

(d) land which at any time during January 2008 was peatland (unless the cultivation and harvesting of the biomaterial did not involve the drainage of previously undrained soil);

(e) a former continuously forested area;

(f) except where sub-paragraph (2) or (4) applies to the biomaterial, a former lightly forested area; or

(g) a former wetland area.

(2) This sub-paragraph applies to biomaterial obtained from a former lightly forested area where—

(a) the fuel made from the biomaterial was not a bioliquid; and

(b) the greenhouse gas emissions from the use of the fuel to generate one mega joule of electricity did not exceed the relevant target.

(3) For the purposes of sub-paragraph (2)(b), the greenhouse gas emissions must be calculated using the method provided for in Part 2 of Schedule A1A (actual value method for greenhouse gas emission criteria for solid and gaseous biomass).

(4) This sub-paragraph applies to biomaterial obtained from a former lightly forested area where—

(a) the fuel made from the biomaterial was a bioliquid; and

(b) the greenhouse gas emissions from the use of the bioliquid to generate electricity were lower, by at least the relevant percentage, than the greenhouse gas emissions from the use of fossil fuel.

(5) For the purposes of sub-paragraph (4)(b), the percentage difference between the greenhouse gas emissions from the use of the bioliquid and the greenhouse gas emissions from the use of fossil fuel must be calculated using the method provided for in paragraphs 1, 2 and 5 to 18 of Part C of Annex 5 to the Renewables Directive.

(6) For the purposes of this paragraph—

(a) biomaterial was obtained from a former continuously forested area if the land—

(i) was a continuously forested area at any time during January 2008; and

(ii) was not a continuously forested area when the biomaterial was obtained from it;

(b) biomaterial was obtained from a former lightly forested area if the land—

(i) was a lightly forested area at any time during January 2008; and

(ii) was not a lightly forested area or a continuously forested area when the biomaterial was obtained from it; and

(c) biomaterial was obtained from a former wetland area if the land—

(i) was a wetland area at any time during January 2008; and

(ii) was not a wetland area when the biomaterial was obtained from it.

Sustainable source

6.—(1) For the purposes of paragraph 3, woody biomass is obtained from a sustainable source if it—

(a) was grown within an area of forest or other land which is managed—

(i) in a way which is consistent with—

(aa) the Forest Europe Sustainable Forest Management Criteria; or

(bb) a set of international principles for the sustainable management of land which meets the requirements specified in sub-paragraph (2); and

(ii) to meet the requirements specified in sub-paragraph (4);

(c) was residue from arboriculture carried out in an area which was not a forest;

(d) was added to the fuel for an exempt purpose; or

(e) was removed for the purpose of creating, restoring or maintaining the ecosystem of an area which was not a forest.

(2) The requirements specified in this sub-paragraph are that—

(a) the principles have been adopted following a process ("the principle setting process") which sought to—

(i) obtain a balanced representation of the views of interest groupings;

(ii) ensure that no single interest grouping could dominate the principle setting process; and

(iii) ensure that no decision on the contents of the principles could be made in the absence of agreement from a majority within each interest grouping involved in the principle setting process; and

(b) can be changed by a process ("the change process") which seeks to ensure that—

(i) no single interest grouping can dominate the process; and

(ii) no decision on changes to the principles can be made in the absence of agreement from a majority within each interest grouping involved in the change process.

(3) For the purpose of sub-paragraph (2), each of the following is an interest grouping in relation to the forest or other location where the wood was grown—

(a) persons with interests which are predominately economic in nature;

(b) persons with interests which are predominantly environmental in nature; and

(c) persons with interests which are predominantly social in nature.

(4) The requirements specified in this sub-paragraph are—

(a) harm to ecosystems is minimised, in particular by—

(i) assessing the impacts of the extraction of wood from the area and adopting plans to minimise any negative impacts;

(ii) protecting soil, water and biodiversity;

(iii) controlling the use of chemicals and ensuring that chemicals are used in an appropriate way;

(iv) wherever possible, using integrated pest management; and

(v) disposing of waste in a manner that minimises any negative impacts;

(b) the productivity of the area is maintained, in particular by—

(i) adopting plans to avoid significant negative impacts on productivity;

(ii) adopting procedures for the extraction of wood that minimise the impact on other uses of the area;

(iii) providing for all of the contractors and workers who are working in the area to be adequately trained in relation to the maintenance of productivity; and

(iv) maintaining an adequate inventory of the trees in the area (including data on the growth of the trees and on the extraction of wood) so as to ensure that wood is extracted from the area at a rate which does not exceed its long-term capacity to produce wood;

(c) compliance with the requirements of head (b) is monitored, the results of that monitoring reviewed and planning updated accordingly;

(d) the health and vitality of ecosystems is maintained, in particular by—

(i) adopting plans to maintain or increase the health and vitality of ecosystems;

(ii) adopting plans to deal with natural processes or events such as fires, pests and diseases; and

(iii) taking adequate measures to protect the area from unauthorised activities such as illegal logging, mining and encroachment;

(e) biodiversity is maintained, in particular by—

(i) implementing safeguards to protect rare, threatened and endangered species;

(ii) conserving key ecosystems in their natural state; and

(iii) protecting features and species of outstanding or exceptional value;

(f) those responsible for the management of the area (and any contractors engaged by them) comply with the local and national laws relating to health and safety and the welfare of workers;

(g) those responsible for the management of the area have regard to—

(i) legal, customary and traditional rights of tenure and land use;

(ii) mechanisms for resolving grievances and disputes relating to tenure and land use rights, forest or land management practices and working conditions; and

(iii) safeguarding the health and safety and rights of workers;

(h) there is a regular assessment of the extent to which those responsible for the management of the area have met the requirements set out in heads (a) to (g).

(5) In this paragraph—

"the Forest Europe Sustainable Forest Management Criteria" means the criteria for sustainable forest management in Lisbon Resolution L2 of the third Ministerial Conference on the Protection of Forests in Europe held in June 1998 [M2];

"integrated pest management" has the meaning given in Article 3(6) of Directive 2009/128/EC of the European Parliament and of the Council establishing a framework for Community action to achieve the sustainable use of pesticides [M3]; and

"local and national laws" in relation to a site means laws applying in the locality in which the site is situated, whether made at a local or national level.

Exempt purposes

7. For the purposes of paragraphs 4(d) and 6(1)(d), biomaterial is added to a fuel for an exempt purpose if—

(a) it is added to the fuel—

(i) to act as a binding agent; or

(ii) to reduce the emissions of dust, carbon dioxide, methane or nitrous oxide from the use of the fuel; and

(b) it does not exceed 2% by weight of the fuel."

Marginal Citations

M1 S.I. 2000/3042 as amended by section 73(2) of the Countryside and Rights of Way Act 2000 (c.37), **S.I.** 2001/3900 and S.I. 2011/1043. The Regulations were revoked by S.I. 2014/3263.

M2 Lisbon Resolution L2 is entitled "Pan-European Criteria, Indicators and Operational Level Guidelines for Sustainable Forest Management". Copies are available at http://www.foresteurope.org/ministerial_conferences/lisbon1998. Copies can also be obtained from the Department of Energy and Climate Change.

M3 OJ No L 309, 24.11.2009, p.71.

Changes to legislation:
There are currently no known outstanding effects for the The Renewables Obligation (Scotland) Amendment Order 2015.