

L.N. 265 of 2017**REGULATOR FOR ENERGY AND WATER SERVICES ACT
(CAP. 545)****Biofuels (Sustainability Criteria) (Amendment) Regulations, 2017**

IN EXERCISE of the powers conferred by article 37(1) of the Regulator for Energy and Water Services Act, the Minister responsible for Energy and Water Management, after consultation with the Regulator for Energy and Water Services, has made the following regulations:-

Citation and
commencement.
S.L. 545.28.

1. (1) The title of these regulations is the Biofuels (Sustainability Criteria) (Amendment) Regulations, 2017 and these regulations shall be read and construed as one with the Biofuels (Sustainability Criteria) Regulations, hereinafter referred to as "the principal regulations".

(2) These regulations give effect to Articles 2, 3, 6, 19 and Annex II of Directive 2009/28/EC, as amended by Directive (EU) 2015/1513.

(3) These regulations shall enter into force on the 10th September 2017.

Amends
regulation 2 of
the principal
regulations.

2. In regulation 2 of the principal regulations, immediately after the definition "renewable energy obligation" there shall be added the following new definitions:

"renewable liquid and gaseous transport fuels of non-biological origin" means liquid or gaseous fuels other than biofuels whose energy content comes from renewable energy sources other than biomass, and which are used in transport;

"starch-rich crops" means 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);".

Amends
regulation 3 of
the principal
regulations.

3. In regulation 3 of the principal regulations, sub-regulation (2) thereof shall be substituted by the following new sub-regulation:

"(2) The greenhouse gas emission saving from the use of biofuels and bioliquids taken into account for the purposes referred to in sub-regulation (1) shall be at least 60 % for

biofuels and bioliquids produced in installations starting operation after the 5 October 2015. An installation shall be considered to be in operation if the physical production of biofuels or bioliquids has taken place. In the case of installations that were in operation on or before the 5 October 2015, for the purposes referred to in sub-regulation (1), the biofuels and, or bioliquids operator shall ensure that biofuels and bioliquids shall achieve a greenhouse gas emission saving of at least 35 % until the 31 December 2017 and at least 50 % from the 1 January 2018. The greenhouse gas emission saving from the use of biofuels and bioliquids shall be calculated in accordance with regulation 5(1).".

4. Regulation 5 of the principal regulations shall be substituted by the following:

Substitutes regulation 5 of the principal regulations.

"For the purposes of regulation 3(2), the greenhouse gas emission saving from the use of biofuel and bioliquids shall be calculated as follows:

(a) where a default value for greenhouse gas emission saving for the production pathway is laid down in Part A or Part B of the Schedule and where the e_1 value for those biofuels or bioliquids calculated in accordance with item 7 of Part C of the Schedule is equal to or less than zero, by using that default value;

(b) by using an actual value calculated in accordance with the methodology laid down in Part C of the Schedule; or

(c) by using a value calculated as the sum of the factors of the formula referred to in item 1 of Part C of the Schedule, where disaggregated default values in Part D or Part E of the Schedule may be used for some factors, and actual values, calculated in accordance with the methodology laid down in Part C of the Schedule, for all other factors.".

5. The Schedule to the principal regulations shall be amended as follows:

Amends the Schedule to the principal regulations.

(a) item 7 of Part C thereof shall be substituted by the following new item:

"7. Annualised emissions from carbon stock changes caused by land-use change, e_l , shall be calculated by dividing total emissions equally over 20 years. For the

calculation of those emissions, the following rule shall be applied:

$$e_l = (CS_R - CS_A) \times 3,664 \times 1/20 \times 1/P - e_B, (*)$$

where

e_l = annualised greenhouse gas emissions from carbon stock change due to land-use change (measured as mass (grams) of CO₂-equivalent per unit biofuel energy (megajoules)). "Cropland" (**) and "perennial cropland" (***) shall be regarded as one land use;

CS_R = the carbon stock per unit area associated with the reference land-use (measured as mass (tonnes) of carbon per unit area, including both soil and vegetation). The reference land-use shall be the land-use in January 2008 or 20 years before the raw material was obtained, whichever was the later;

CS_A = the carbon stock per unit area associated with the actual land-use (measured as mass (tonnes) of carbon per unit area, including both soil and vegetation). In cases where the carbon stock accumulates over more than one year, the value attributed to CS_A shall be the estimated stock per unit area after 20 years or when the crop reaches maturity, whichever is the earlier;

P = the productivity of the crop (measured as biofuel energy per unit area per year); and

e_B = bonus of 29 gCO_{2eq}/MJ biofuel if biomass is obtained from restored degraded land under the conditions provided for in item 8 of Part C of this Schedule.

(*) The quotient obtained by dividing the molecular weight of CO₂ (44,010 g/mol) by the molecular weight of carbon (12,011 g/mol) is equal to 3,664.

(**) Cropland as defined by IPCC.

(***) 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."; and

(b) immediately after Part E thereof, there shall be added the following new Parts:

"Part F.

Provisional estimated indirect land-use
change emissions from biofuels ($\text{gCO}_{2\text{eq}}/\text{MJ}$) (+)

Feedstock group	Mean(*)	Interpercentile range derived from the sensitivity analysis(**)
Cereals and other starch-rich crops	12	8 to 16
Sugars	13	4 to 17
Oil crops	55	33 to 66

(*) The mean values included here represent a weighted average of the individually modelled feedstock values.

(**) The range included here reflects 90% of the results using the fifth and ninety-fifth percentile values resulting from the analysis. The fifth percentile suggests a value below which 5 % of the observations were found (i.e. 5 % of total data used showed results below 8, 4, and 33 $\text{gCO}_{2\text{eq}}/\text{MJ}$). The ninety-fifth percentile suggests a value below which 95 % of the observations were found (i.e. 5 % of total data used showed results above 16, 17, and 66 $\text{gCO}_{2\text{eq}}/\text{MJ}$).

Part G.

Biofuels and bioliquids for which the estimated indirect land-use change emissions are considered to be zero.

Biofuels and bioliquids produced from the following feedstock categories will be considered to have estimated indirect land-use change emissions of zero:

(1) Feedstocks which are not listed under part F of this Schedule.

(2) Feedstocks, the production of which has led to direct land-use change, i.e. a change from one of the following IPCC land cover categories: forest land, grassland, wetlands, settlements, or other land, to cropland or perennial cropland (++). In such a case a direct land-use change emission value (e_l) should have been calculated in accordance with item 7 of Part C of this Schedule.

(+) The mean values reported here represent a weighted average of the individually modelled feedstock values. The magnitude of the values in Part F is sensitive to the range of assumptions (such as treatment of co-products, yield developments, carbon stocks and displacement of other commodities) used in the economic models developed for their estimation. Although it is therefore not possible to fully characterise the uncertainty range associated with such estimates, a sensitivity analysis conducted on the results based on a random variation of key parameters, a so-called Monte Carlo analysis, was conducted.

(++) 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.

Part H.

S.L. 545.11. Feedstocks and fuels, the contribution of which towards the target of share of energy from renewable sources in all forms of transport in 2020 referred to in regulation 4 of the Promotion of Energy From Renewable Sources Regulations, shall be considered to be twice their energy content:

(a) algae if cultivated on land, in ponds or photobioreactors;

(b) biomass fraction of mixed municipal waste, but not separated household waste subject to recycling targets under paragraph (a) of item 12 of Schedule 5 of the Waste Regulations;

S.L.549.63.

S.L. 549.63. (c) bio-waste as defined in regulation 4 of the Waste Regulations from private households subject to separate collection as defined in regulation 4 of the aforesaid regulations;

(d) biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in part G of this Schedule;

(e) straw;

(f) animal manure and sewage sludge;

- (g) palm oil mill effluent and empty palm fruit bunches;
- (h) tall oil pitch;
- (i) crude glycerine;
- (j) bagasse;
- (k) grape marcs and wine lees;
- (l) nut shells;
- (m) husks;
- (n) cobs cleaned of kernels of corn;
- (o) biomass fraction of wastes and residues from forestry and forest-based industries, i.e. bark, branches, pre- commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil;
- (p) other non-food cellulosic material as defined in regulation 2;
- (q) other ligno-cellulosic material as defined in regulation 2 except saw logs and veneer logs;
- (r) renewable liquid and gaseous transport fuels of non-biological origin;
- (s) carbon capture and utilisation for transport purposes, if the energy source is renewable in accordance with the definition of "energy from renewable sources" as defined in regulation 2;
- (t) bacteria, if the energy source is renewable in accordance with the definition of "energy from renewable sources" as defined in regulation 2.

Part I.

Feedstocks, the contribution of which towards the target referred to in regulation 4 of the Promotion of Energy from Renewable Sources Regulations shall be considered to be twice their energy content:

- (a) used cooking oil;

(b) animal fats classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009 of the European Parliament and of the Council (*) of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation)." .*

*(OJ L 300, 14.11.2009, p. 1)
