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ANNEXES 1 to 5

ANNEXES

to the

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

establishing a carbon border adjustment mechanism

{SEC(2021) 564 final} - {SWD(2021) 643 final} - {SWD(2021) 644 final} -
{SWD(2021) 647 final}

ANNEX I
List of goods and greenhouse gases

1. For the purpose of the identification of goods, this Regulation shall apply to goods listed in the following sectors currently falling under the combined nomenclature ('CN') codes listed below, and shall be those of Council Regulation (EEC) No 2658/87 ⁽¹⁾.
2. For the purposes of this Regulation, the greenhouse gases relating to goods falling in the sectors listed below, shall be those listed below for each type of goods.

Cement

CN code	Greenhouse gas
2523 10 00 – Cement clinkers	Carbon dioxide
2523 21 00 – White Portland cement, whether or not artificially coloured	Carbon dioxide
2523 29 00 – Other Portland cement	Carbon dioxide
2523 90 00 – Other hydraulic cements	Carbon dioxide

Electricity

CN code	Greenhouse gas
2716 00 00 – Electrical energy	Carbon dioxide

Fertilisers

CN code	Greenhouse gas
2808 00 00 – Nitric acid; sulphonitric acids	Carbon dioxide and nitrous oxide
2814 – Ammonia, anhydrous or in aqueous solution	Carbon dioxide
2834 21 00 - Nitrates of potassium	Carbon dioxide and nitrous oxide
3102 – Mineral or chemical fertilisers, nitrogenous	Carbon dioxide and nitrous oxide
3105 – Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg - Except: 3105 60 00 – Mineral or chemical fertilisers containing the two fertilising elements phosphorus and potassium	Carbon dioxide and nitrous oxide

¹ Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff (OJ L 256, 7.9.1987, p. 1).

Iron and Steel

CN code	Greenhouse gas
72 – Iron and steel Except: 7202 – Ferro-alloys 7204 – Ferrous waste and scrap; remelting scrap ingots and steel	Carbon dioxide
7301- Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel	Carbon dioxide
7302 – Railway or tramway track construction material of iron or steel, the following: rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fish- plates, chairs, chair wedges, sole plates (base plates), rail clips, bedplates, ties and other material specialised for jointing or fixing rails	Carbon dioxide
7303 00 – Tubes, pipes and hollow profiles, of cast iron	Carbon dioxide
7304 – Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel	Carbon dioxide
7305 – Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross-sections, the external diameter of which exceeds 406,4 mm, of iron or steel	Carbon dioxide
7306 – Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel	Carbon dioxide
7307 – Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel	Carbon dioxide
7308 – Structures (excluding prefabricated buildings of heading 9406) and parts of structures (for example, bridges and bridge-sections, lock-gates, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, shutters, balustrades, pillars and columns), of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel	Carbon dioxide
7309 – Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment	Carbon dioxide

7310 – Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas), of iron or steel, of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment	Carbon dioxide
7311 – Containers for compressed or liquefied gas, of iron or steel	Carbon dioxide

Aluminium

CN code	Greenhouse gas
7601 – Unwrought aluminium	Carbon dioxide and perfluorocarbons
7603 – Aluminium powders and flakes	Carbon dioxide and perfluorocarbons
7604 – Aluminium bars, rods and profiles	Carbon dioxide and perfluorocarbons
7605 – Aluminium wire	Carbon dioxide and perfluorocarbons
7606 – Aluminium plates, sheets and strip, of a thickness exceeding 0,2 mm	Carbon dioxide and perfluorocarbons
7607 – Aluminium foil (whether or not printed or backed with paper, paper-board, plastics or similar backing materials) of a thickness (excluding any backing) not exceeding 0,2 mm	Carbon dioxide and perfluorocarbons
7608 – Aluminium tubes and pipes	Carbon dioxide and perfluorocarbons
7609 00 00 – Aluminium tube or pipe fittings (for example, couplings, elbows, sleeves)	Carbon dioxide and perfluorocarbons

ANNEX II
Countries and territories outside the scope of this Regulation

1. SECTION A- COUNTRIES AND TERRITORIES OUTSIDE THE SCOPE OF THIS REGULATION

This Regulation shall not apply to goods originating in the following countries:

- Iceland
- Liechtenstein
- Norway
- Switzerland

This Regulation shall not apply to goods originating in the following territories:

- Büsingen
- Heligoland
- Livigno
- Ceuta
- Melilla

2. SECTION B - COUNTRIES AND TERRITORIES OUTSIDE THE SCOPE OF THIS REGULATION WITH REGARD TO THE IMPORTATION OF ELECTRICITY INTO THE CUSTOMS TERRITORY OF THE UNION

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ANNEX III
Methods for calculating embedded emissions

1. DEFINITIONS

For the purposes of this Annex and Annex IV, the following definitions apply:

- (a) ‘simple goods’ means goods produced in a production process requiring exclusively input materials and fuels having zero embedded emissions;
- (b) ‘complex goods’ means goods requiring the input of other simple goods in its production process;
- (c) ‘specific embedded emissions’ means the embedded emissions of one tonne of goods, expressed as tonnes of CO_{2e} emissions per tonne of goods;
- (d) ‘CO₂ emission factor’, means the weighted average of the CO₂ intensity of electricity produced from fossil fuels in a geographic area. The CO₂ emission factor is the result of the division of the CO₂ emission data of the energy sector divided by the gross electricity generation based on fossil fuels. It is expressed in tonne of CO₂ per megawatt-hour;
- (e) ‘power purchase agreement’ means a contract under which a person agrees to purchase electricity directly from an electricity producer;
- (f) ‘Transmission System Operator’ means an operator as defined in Article 2(35) of Directive (EU) 2019/944 of the European Parliament and of the Council ⁽²⁾.

2. DETERMINATION OF ACTUAL DIRECT EMBEDDED EMISSIONS FOR SIMPLE GOODS

For determining the specific actual embedded emissions of simple goods produced in a given installation, only direct emissions shall be accounted for. For this purpose, the following equation is to be applied:

$$SEE_g = \frac{AttrEm_g}{AL_g}$$

Where SEE_g are the specific embedded emissions of goods *g*, in terms of CO_{2e} per tonne, AttrEm_g are the attributed emissions of goods *g*, and AL_g is the activity level of the goods. The activity level is the amount of the goods produced in the reporting period in that installation.

‘Attributed emissions’ mean the part of the installation’s direct emissions during the reporting period that are caused by the production process resulting in goods *g* when applying the system boundaries of the process defined by the implementing acts adopted pursuant to Article 7(6). The attributed emissions shall be calculated using the following equation:

$$AttrEm_g = DirEm$$

² Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (OJ L 158, 14.6.2019, p. 125).

Where DirEm are the direct emissions, resulting from the production process, expressed in tonnes of CO₂e, within the system boundaries referred to in the implementing act pursuant to Article 7(6).

3. DETERMINATION OF ACTUAL DIRECT EMBEDDED EMISSIONS FOR COMPLEX GOODS

For determining the specific actual embedded emissions of complex goods produced in a given installation, only direct emissions will be accounted for. In this case, the following equation is to be applied:

$$SEE_g = \frac{AttrEm_g + EE_{ImpMat}}{AL_g}$$

Where AttrEm_g are the attributed emissions of goods *g*, and AL_g the activity level of the goods, the latter being the amount of goods produced in the reporting period in that installation, and EE_{ImpMat} are the embedded emissions of the input materials (precursors) consumed in the production process. Only input materials listed as relevant to the system boundaries of the production process as specified in the implementing act adopted pursuant to Article 7(6) are to be considered. The relevant EE_{ImpMat} are calculated as follows:

$$EE_{ImpMat} = \sum_{i=1}^n M_i \cdot SEE_i$$

Where M_i is the mass of input material *i* used in the production process, and SEE_i its specific embedded emissions for the input material. For SEE_i the operator of the installation shall use the value of emissions resulting from the installation where the input material was produced, provided that that installation's data can be adequately measured.

4. DETERMINATION OF DEFAULT VALUES REFERRED IN ARTICLES 7(2) AND (3)

If actual monitoring data referring to direct emissions in accordance with points 2 and 3 cannot be adequately provided, a default value shall apply.

For the purpose of determining default values, only actual values shall be used for the determination of embedded emissions. In the absence of actual data, literature values may be used. The Commission shall publish guidance for the approach taken to correct for waste gases or greenhouse gases used as process input, before collecting the data required to determine the relevant default values for each type of goods listed in Annex I. Default values shall be determined based on the best available data. They shall be revised periodically through implementing acts based on the most up-to-date and reliable information, including on the basis of information provided by a third country or group of third countries.

4.1. Default values referred in Article 7(2)

When actual emissions cannot be adequately determined by the authorised declarant, default values shall be used. These values shall be set at the average emission intensity of each exporting country and for each of the goods listed in Annex I other than electricity, increased by a mark-up, the latter to be determined in the implementing acts of this Regulation. When reliable data for the exporting country cannot be applied for a type of goods, the default values shall be based on the average emission intensity of the 10 per cent worst performing EU installations for that type of goods.

4.2. Default values for imported electricity in Article 7(3)

Default values for imported electricity shall be determined based on either specific default values for a third country, group of third countries or region within a third country, or if those values are not available, on EU default values for similar electricity production in the EU, according to point 4.2.2.

4.2.1. Specific default values for a third country, group of third countries or region within a third country

Specific default values shall be based on the best data available to the Commission determining the average CO₂ emission factor in tonnes of CO₂ per megawatt-hour of price-setting sources in the third country, group of third countries or region within a third country.

Where specific default values are determined for a third country, a group of third countries or a region within a third country, and electricity is imported from another third country or another region into the third country, or another group of third countries or region within a third country with the purpose of being re-exported to the Union, the same specific default value shall not be used.

4.2.2. Alternative default values

Where no specific default value has been determined for a third country, a group of third countries, or a region within a third country, the default value for electricity shall represent the CO₂ emission factor in the EU, in tonne of CO₂ per megawatt-hour. That means the weighted average of the CO₂ intensity of electricity produced from fossil fuels in the EU. The weight reflects the production mix of the fossil fuels in the EU. The CO₂ factor is the result of the division of the CO₂ emission data of the energy industry divided by the gross electricity generation based on fossil fuels in megawatt-hour.

Where authorised declarants of goods originating in a third country, or for a group of third countries having a significant exchange of electricity with the EU, it can be demonstrated, on the basis of reliable data, that the average CO₂ emission factor of price-setting sources in that third country or that group of third countries is lower than the one in the EU or lower than the specific default value, an alternative default value based on that average CO₂e emission factor shall be established for that country or group of countries.

Where alternative default values are defined for a third country or region in a third country, or a group of third countries or regions within third countries, and electricity is imported from another third country or from another region within a third country, or another group of third countries or regions within third countries into the third country subject to the alternative default value, the same alternative default value may not be used.

5. CONDITIONS TO APPLYING ACTUAL EMBEDDED EMISSIONS IN ELECTRICITY

An authorised declarant may require to apply actual embedded emissions instead of default values for the calculation referred to in Article 7(3) if the following cumulative criteria are met:

- (a) the authorised declarant has concluded a power purchase agreement with a producer of electricity located in a third country for an amount of electricity that is equivalent to the amount for which the use of a specific value is claimed;
- (b) the installation producing electricity is either directly connected to the EU transmission system or it can be demonstrated that at the time of export, there was no

physical network congestion at any point in the network between the installation and the EU transmission system;

- (c) an equivalent amount of electricity to the electricity for which the use of actual embedded emissions is claimed has been firmly nominated to the allocated interconnection capacity by all responsible transmission system operators in the country of origin, the country of destination and, if relevant, each third country of transit, and the nominated capacity and the production of electricity by the installation referred to in point (b) refer to the same period of time which shall not be longer than one hour;
- (d) meeting the above criteria is certified by an accredited verifier. The verifier shall receive at least monthly interim reports demonstrating how the above criteria are fulfilled.

6. ADAPTATION OF DEFAULT VALUES BASED ON REGION SPECIFIC FEATURES

Default values can be adapted to particular areas, regions of countries where specific characteristics prevail in terms of objective factors such as geography, natural resources, market conditions, energy mix, or industrial production. When data adapted to those specific local characteristics are available and can define more targeted default values, the latter may be used instead of default values based on EU installations.

Where declarants for goods originating in a third country, or a group of third countries can demonstrate, on the basis of reliable data, that alternative region specific adaptation of default values are lower than the default values defined by the Commission the former can be used.

ANNEX IV

Book-keeping requirements for data used for the calculation of embedded emissions

1. MINIMUM DATA TO BE KEPT BY AN AUTHORISED DECLARANT FOR IMPORTED GOODS:

1. Data identifying the authorised declarant:
 - (a) name;
 - (b) the unique identifier assigned by the competent national authority;
2. Data on imported goods:
 - (a) type and quantity of each type of goods;
 - (b) country of origin;
 - (c) actual emissions or default values.

2. MINIMUM DATA TO BE KEPT BY AN AUTHORISED DECLARANT FOR EMBEDDED EMISSIONS IN IMPORTED GOODS BASED ON ACTUAL EMISSIONS

For each type of goods to which this Regulation applies, the following additional data has to be kept:

- (a) identification of the installation where the goods were produced;
- (b) contact information of the operator of the installation where the goods were produced;
- (c) the verified emissions report including the data regarding the embedded emissions of each type of declared goods as set out in Annex V;
- (d) the specific embedded emissions of the goods.

ANNEX V
Verification principles and content of a verification report

1. PRINCIPLES OF VERIFICATION

The following principles shall apply for verifications requested according to Article 8:

- (a) verifiers shall carry out verifications with an attitude of professional scepticism;
- (b) an emissions report shall be considered as verified and fit for purpose only if the verifier finds with reasonable assurance that the report is free of material misstatements and of material non-conformities regarding the calculation rules of Annex III;
- (c) installation visits by the verifier shall be mandatory except where specific criteria for waiving the installation visit are met;
- (d) for deciding whether misstatements or non-conformities are material, the verifier shall use thresholds given by the implementing acts adopted in accordance with Article 8.

For parameters for which no such thresholds are defined, the verifier shall use expert judgement to whether misstatements, individually or when aggregated with other misstatements, justified by their size and nature, have to be considered material, i.e. and could affect the use of the report by the intended users, in particular the competent national authorities.

2. CONTENT OF A VERIFICATION REPORT

A verification report shall include, at least, the following information:

- (a) identification of the installation where the goods were produced;
- (b) contact information of the operator of the installation where the goods were produced;
- (c) the applicable reporting period;
- (d) name and contact information of the verifier;
- (e) ID of accreditation, name of the Accreditation Body;
- (f) the date of the installation visit, if applicable, or the reasons for not carrying out an installation visit;
- (g) quantities of each type of declared goods produced in the reporting period;
- (h) direct emissions of the installation during the reporting period;
- (i) a description on how the installation's emissions are attributed to different types of goods;
- (j) quantitative information on the goods, emissions and energy flows not associated with those goods;
- (k) in case of complex goods:
 - i. quantities of input materials (precursors) used;
 - ii. the specific embedded emissions;

- iii. in case actual emissions are used: the identification of the installation where the input material has been produced and the actual emissions from the production on that material.
- (l) the verification opinion statement;
- (m) information on material misstatements found and not corrected, where applicable;
- (n) information of non-conformities with calculation rules set out in Annex III, where applicable.