

Supplements to the guidelines on certain State aid measures in the context of the system for greenhouse gas emission allowance trading post-2021

The guidelines on certain State aid measures in the context of the system for greenhouse gas emission allowance trading post-2021 ⁽¹⁾ are supplemented as follows:

(1) in point 15, number 15, the figure ‘80’ is inserted in the place of the indication ‘[...]’, and two paragraphs are added, so as for the current wording of that definition to read as follows:

‘(15) ‘fall back electricity consumption efficiency benchmark’ means 80 per cent of actual electricity consumption, determined by ESA decision together with the electricity consumption efficiency benchmarks. It corresponds to the average reduction effort imposed by the application of the electricity consumption efficiency benchmarks (benchmark electricity consumption/average electricity consumption). It is applied for all products which fall within the eligible sectors, but for which an electricity consumption efficiency benchmark is not defined.

The fall back electricity consumption efficiency benchmark shall be reduced (as from year $t = 2022$) by 1.09% on an annual basis, according to the formula established in Annex II under ‘Updated efficiency benchmarks for certain products referred to in Annex I.’

(2) in point 28, point (b), the description of the factor C_t used in the formula is supplemented, so as for the current wording of that point to read as follows:

‘(b) Where electricity consumption efficiency benchmarks listed in Annex II are not applicable to the products manufactured by the beneficiary, the maximum aid payable per installation for costs incurred in year t equals:

$$A_{\max t} = A_i \times C_t \times P_{t-1} \times EF \times AEC_t$$

In this formula, A_i is the aid intensity, expressed as a fraction (e.g. 0,75); C_t is the applicable CO₂ emission factor or market-based CO₂ emission factor (tCO₂/MWh) (at year t); P_{t-1} is the EUA forward price at year $t-1$ (EUR/tCO₂); EF is the fall-back electricity consumption efficiency benchmark as defined in point 15 number 15.; and AEC_t is the actual electricity consumption (MWh) in year t .’

(3) in the table in Annex I, the description of the sector covered by the NACE code 20.16.40.15 is completed/supplemented, so as for the current wording of that description to read as follows:

‘Polyethylene glycols and other polyether alcohols, in primary forms’

(4) the following Annex II is inserted:

⁽¹⁾ OJ L 130, 15.4.2021, p. 3, and EEA Supplement No 27, 15.4.2021, p. 3.

‘Annex II - Electricity consumption efficiency benchmarks and annual reduction rates for products referred to in Annex I

- *Electricity consumption efficiency benchmarks for products referred to in Annex I with exchangeability of fuel and electricity:*

Products for which exchangeability of fuel and electricity was established in Section 2 of Annex I to Delegated Regulation (EU) 2019/331.

Delegated Regulation (EU) 2019/331 in Annex I established that in respect of certain products there is substitutability between fuel and electricity. For those products, it is not appropriate to set a benchmark on the basis of MWh/t of product. Instead, starting points are the specific greenhouse gases emission curves derived for the direct emissions. For those products, the product benchmarks were determined on the basis of the sum of direct emissions (from energy and process emissions), as well as indirect emissions arising from the use of the inter-exchangeable part of the electricity.

In those cases, factor ‘E’ in the formula for the calculation of the maximum aid as referred to in point 28(a) of these Guidelines is to be replaced by the following term that converts a product benchmark laid down in Delegated Regulation (EU) 2019/331 into an electricity consumption efficiency benchmark on the basis of an average European CO₂ emission factor of 0,376 tCO₂/MWh:

Existing product benchmark from Annex section 2 from Regulation 2021/447² (in tCO₂/t) × share of relevant indirect emissions over the baseline period (%) / 0,376 (tCO₂/MWh).

The value of the efficiency benchmarks for products with exchangeability of fuel and electricity to be applied in the period 2021 – 2025 can be found in the Regulation (EU) 2021/447 of 12 March 2021 determining revised benchmark values for free allocation of emission allowances for the period 2021 to 2025 pursuant to Article 10a(2) of Directive 2003/87/EC of the European Parliament and of the Council.

- *Efficiency benchmarks for products referred to in Annex I that are not listed in Table 1 of this Annex*

The fall back electricity consumption efficiency benchmark as defined in point 15 number 15 of these Guidelines is applicable for all eligible products referred to in Annex I for which an electricity consumption efficiency benchmark is not defined.

- *Updated efficiency benchmarks for certain products referred to in Annex I*

Table 1 lists the benchmark values that should be used as a starting point for the determination of the applicable efficiency benchmark for a specific year, taking into account the corresponding annual reduction rate.

² Commission Implementing Regulation (EU) 2021/447 of 12 March 2021 determining revised benchmark values for free allocation of emission allowances for the period from 2021 to 2025 pursuant to Article 10a(2) of Directive 2003/87/EC of the European Parliament and of the Council (OJ L 87, 15.3.2021, p. 29–34). Regulation 2021/447 is incorporated into the EEA Agreement at point 21a) of Annex XX by EEA Joint Committee Decision No 221/2021 (not yet published).

That annual reduction rate describes by how much the benchmarks will be automatically reduced annually. Unless stated otherwise in Table 1, all efficiency benchmarks (including the ‘fall back electricity consumption efficiency benchmark’) shall be reduced (as from year t = 2022) by 1.09% on an annual basis, according to the following formula:

$$\text{efficiency benchmark applicable in (year t)} = \text{benchmark value in 2021} * (1 + \text{annual reduction rate})^{(\text{year t} - 2021)}$$

Table 1: Electricity consumption efficiency benchmarks for certain products referred to in Annex I

NACE4	Product benchmark	Benchmark value in 2021	Benchmark unit	Unit of production	Annual reduction rate [%]	Product definition	Processes covered by product benchmark	Relevant Prodcom code	Description
17.11	Chemical wood pulp	0.904	MWh/t 90% sdt	Tonne of chemical wood pulp	1.09	Chemical wood pulp, dissolving grades	All process directly or indirectly linked to chemical pulp production, including drying, washing and screening, and bleaching	17.11.11.00	Chemical wood pulp, dissolving grades
17.11	Chemical wood pulp	0.329	MWh/t 90% sdt	Tonne of chemical wood pulp	1.09	Chemical wood pulp, soda or sulphate, other than dissolving grades		17.11.12.00	Chemical wood pulp, soda or sulphate, other than dissolving grades
17.11	Chemical wood pulp	0.443	MWh/t 90% sdt	Tonne of chemical wood pulp	1.09	Chemical wood pulp, sulphite, other than dissolving grades		17.11.13.00	Chemical wood pulp, sulphite, other than dissolving grades
17.11	Semi-chemical wood pulp	0.443	MWh/t 90% sdt	Tonne of semi-chemical wood pulp	1.09	Semi-chemical wood pulp		17.11.14.00	Mechanical wood pulp; semi-chemical wood pulp; pulps of fibrous cellulosic material other than wood
17.11	Mechanical pulp	Fall back approach			1.09	Mechanical pulp		All processes directly or indirectly linked to mechanical pulp production, including	

NACE4	Product benchmark	Benchmark value in 2021	Benchmark unit	Unit of production	Annual reduction rate [%]	Product definition	Processes covered by product benchmark	Relevant Prodcom code	Description
							wood treatment, refining, washing, bleaching, heat recovery		
17.11	Recovered paper	0.260	MWh/t 90% sdt	Tonne of recovered paper	1.09	Recovered paper	All process directly or indirectly linked to recovered paper production, including thickening and dispersing, and bleaching		
17.11	Deinked recovered paper	0.390	MWh/t 90% sdt	Tonne of deinked recovered paper	1.09	Deinked recovered paper			
17.12	Newsprint	0.801	MWh/t product	Tonne of newsprint	1.09	Newsprint	All processes directly or indirectly linked to production of paper, including refining, pressing and thermal drying	17.12.11.00	Newsprint
17.12	Uncoated fine paper	0.645	MWh/t product	Tonne of uncoated fine paper	1.09	Uncoated fine paper		17.12.12.00 17.12.13.00 17.12.14.10 17.12.14.35 17.12.14.39 17.12.14.50 17.12.14.70	Uncoated fine paper
17.12	Coated fine paper	0.538	MWh/t product	Tonne of coated fine paper	1.09	Coated fine paper		17.12.73.35 17.12.73.37 17.12.73.60 17.12.73.75 17.12.73.79 17.12.76.00	Coated fine paper
17.12	Tissue	0.925	MWh/t product	Tonne of tissue paper	1.09	Tissue		17.12.20.30 17.12.20.55 17.12.20.57 17.12.20.90	Tissue

NACE4	Product benchmark	Benchmark value in 2021	Benchmark unit	Unit of production	Annual reduction rate [%]	Product definition	Processes covered by product benchmark	Relevant Prodcom code	Description
17.12	Testliner and fluting	0.260	MWh/t product	Tonne of paper	1.09	Testliner and fluting		17.12.33.00 17.12.34.00 17.12.35.20 17.12.35.40	Testliner and fluting
17.12	Uncoated carton board	0.268	MWh/t product	Tonne of carton board	1.09	Uncoated carton board		17.12.31.00 17.12.32.00 17.12.42.60 17.12.42.80 17.12.51.10 17.12.59.10	Uncoated carton board
17.12	Coated carton board	0.403	MWh/t product	Tonne of carton board	1.09	Coated carton board		17.12.75.00 17.12.77.55 17.12.77.59 17.12.78.20 17.12.78.50 17.12.79.53 17.12.79.55	Coated carton board
20.13	Sulphuric acid	0.056	MWh/t product	Tonne of Sulphuric acid	1.09	Sulphuric acid; oleum	All processes directly or indirectly linked to the production of sulphuric acid	20.13.24.34	Sulphuric acid; oleum
20.13	Chlorine	1.846	MWh/t product	Tonne of chlorine	1.09	Chlorine	All processes directly or indirectly linked to the electrolysis unit, including auxiliaries	20.13.21.11	Chlorine
20.13	Silicon	11.87	MWh/t product	Tonne of silicon	1.09	Silicon. Other than containing by weight not less than 99,99 % of silicon	All processes directly or indirectly linked to the production of silicon	20.13.21.70	Silicon. Other than containing by weight not less than 99,99 % of silicon

NACE4	Product benchmark	Benchmark value in 2021	Benchmark unit	Unit of production	Annual reduction rate [%]	Product definition	Processes covered by product benchmark	Relevant Prodcom code	Description
20.13	Silicon	60	MWh/t product	Tonne of silicon	1.09	Silicon. Containing by weight not less than 99,99 % of silicon	All processes directly or indirectly linked to the furnace, including auxiliaries	20.13.21.60	Silicon. Containing by weight not less than 99,99 % of silicon
20.13	Silicon carbide	6.2	MWh/t product	Tonne of silicon carbide	1.09	Silicon. Carbides of silicon, whether or not chemically defined	All processes directly or indirectly linked to the production of silicon carbide	20.13.64.10	Silicon. Carbides of silicon, whether or not chemically defined
24.10	Basic oxygen steel	0.03385	MWh/t product	Tonne of crude (cast) steel	0.60	Crude steel: non-alloy steel produced by other processes than in electric furnaces	Secondary metallurgy, refractories preheating, auxiliaries and casting installations up to cut-off of crude steel products	24.10.T1.22	Crude steel: non-alloy steel produced by other processes than in electric furnaces
24.10						Crude steel: alloy steel other than stainless steel produced by other processes than in electric furnaces		24.10.T1.32	Crude steel: alloy steel other than stainless steel produced by other processes than in electric furnaces
24.10						Crude steel: stainless and heat resisting steel produced by other processes than in electric furnaces		24.12.T1.42	Crude steel: stainless and heat resisting steel produced by other processes than in electric furnaces
24.10	Ferro-manganese	2.2	MWh/t product	Ferro-manganese containing by weight > 2% carbon	2.03	Ferro-manganese, containing by weight > 2% carbon, with a granulometry <= 5 mm and a manganese		24.10.12.10	Ferro-manganese, containing by weight > 2% carbon, with a granulometry <= 5 mm and a manganese

NACE4	Product benchmark	Benchmark value in 2021	Benchmark unit	Unit of production	Annual reduction rate [%]	Product definition	Processes covered by product benchmark	Relevant Prodcom code	Description
						content by weight > 65%			content by weight > 65%
24.10				Ferro-manganese containing by weight > 2% carbon		Other ferro-manganese, containing by weight > 2% carbon (excl. ferro-manganese with a granulometry of <= 5 mm and containing by weight > 65% manganese)		24.10.12.20	Other ferro-manganese, containing by weight > 2% carbon (excl. ferro-manganese with a granulometry of <= 5 mm and containing by weight > 65% manganese)
24.10	Ferro-manganese	1.4	MWh/t product	Ferro-manganese containing by weight <= 2% carbon	1.09	Other ferro-manganese containing by weight less or equal than 2 % carbon		24.10.12.25	Other ferro-manganese containing by weight less or equal than 2 % carbon
24.10	Ferro-silicon	8.54	MWh/t product	Ferro-silicon, containing by weight > 55% of silicon	1.09	Ferro-silicon, containing by weight > 55% of silicon		24.10.12.35	Ferro-silicon, containing by weight > 55% of silicon
24.10	Ferro-silicon	Fall back approach			1.09			24.10.12.36	Ferro-silicon, containing by weight <= 55% silicon and >= 4% but <= 10% of magnesium
24.10	Ferro-nickel	9.28	MWh/t product	Ferro-nickel	1.09	Ferro-nickel		24.10.12.40	Ferro-nickel

NACE4	Product benchmark	Benchmark value in 2021	Benchmark unit	Unit of production	Annual reduction rate [%]	Product definition	Processes covered by product benchmark	Relevant Prodcom code	Description
24.10	Ferro-silico-manganese	3.419	MWh/t product	Ferro-silico-manganese	1.12	Ferro-silico-manganese		24.10.12.45	Ferro-silico-manganese
24.42	Primary aluminium	13.90	MWh/t product	Unwrought non-alloy aluminium	0.25	Unwrought non-alloy aluminium from electrolysis	Unwrought non-alloy aluminium from electrolysis including production control units, auxiliary processes and cast house. Also include anode plant (pre-bake). In case anodes are provided from a stand-alone plant in EU, this plant should not be compensated. For anode produced outside EU, a correction may be applied	24.42.11.30	Unwrought non-alloy aluminium (excluding powders and flakes)
								24.42.11.53	Unwrought aluminium alloys in primary form (excluding aluminium powders and flakes)
								24.42.11.54	Unwrought aluminium alloys (excluding aluminium powders and flakes)
24.42	Alumina (refining)	0.20	MWh/t product	alumina	1.11		All processes directly or indirectly linked to the production of alumina	24.42.12.00	Aluminium oxide (excluding artificial corundum)
24.43	Zinc electrolysis	3.994	MWh/t product	zinc	0.01	Primary zinc	All processes directly or indirectly to the zinc electrolysis unit including auxiliaries	24.43.12.30	Unwrought non-alloy zinc (excluding zinc dust, powders and flakes)
								24.43.12.50	Unwrought zinc alloys (excluding zinc

NACE4	Product benchmark	Benchmark value in 2021	Benchmark unit	Unit of production	Annual reduction rate [%]	Product definition	Processes covered by product benchmark	Relevant Prodcom code	Description
									dust, powders and flakes)
24.44	Unwrought refined copper	0.31	MWh/t product	Copper cathodes	1.09	Copper cathodes	All processes directly or indirectly linked to the electrolytic refining process, including on-site anode casting where appropriate	24.44.13.30	Unwrought unalloyed refined copper (excluding rolled, extruded or forged sintered products)'

(5) in Annex III, the numerical data is inserted in the third column of the table, so as for the current wording of that Annex to read as follows:

‘ANNEX III

**Maximum regional CO₂ emission factors in different geographic areas*
(tCO₂/MWh)**

Zones		Applicable CO ₂ emission factor
Adriatic	Croatia, Slovenia	0.69
Iberia	Spain, Portugal	0.53
Baltic	Lithuania, Latvia, Estonia	0.75
Central Western Europe	Austria, Germany, Luxembourg	0.72
Nordic	Sweden, Finland	0.58
Czechia-Slovakia	Czechia, Slovakia	0.85
Belgium		0.36
Bulgaria		0.98
Denmark		0.52
Ireland		0.49
Greece		0.73
France		0.44
Iceland* ¹		[...]
Italy		0.46
Cyprus		0.70
Hungary		0.58
Malta		0.40
Netherlands		0.45
Norway* ²		[...]
Poland		0.81
Romania		0.96

* The geographic area for Liechtenstein and the applicable CO₂ emission factor will be established at a later stage.

*¹ The CO₂ emission factor applicable for Iceland will be established at a later stage.

*² The CO₂ emission factor applicable for Norway will be established at a later stage.'
