Response to European Commission's Consultation on the draft ETS State Aid Guidelines

9 March2020

EUROPEAN ALUMINIUM

Contents

Introduction & positive elements of the draft ETS guidelines

European Aluminium represents the entire value chain of the aluminium industry in Europe. We welcome the European Commission's review of the Emission Trading System (ETS) Guidelines and the proposed changes in the new draft released last 14 January 2020, now open to stakeholder feedback.

Aluminium is a globally traded commodity, with a selling price set on global exchanges such as the London Metals Exchange (LME). This makes aluminium companies price-takers. Electricity cost is a key differentiator of aluminium producers' competitiveness (reaching up to 40% of a primary aluminium smelter's total production costs[12]), and is in turn heavily influenced by the indirect carbon costs, passed-through in the electricity bill by electricity producers. These indirect costs are linked to the carbon price set by the EU ETS and the location-specific emission factor.

Indirect costs faced by our sector have rapidly increased due to soaring European Union Allowances (EUA) prices from about 5 eur/tCO2 in mid-2017 up to the current level of around 25 eur/t CO2. Therefore, the new guidelines will be key for preserving the competitiveness of our industry in Europe while providing the right incentives to further decarbonise, in line with the European Green Deal and climate agenda.

We welcome the approach proposed by the Commission for the identification of eligible sectors as well as the new changes with regards to stable aid intensity and more targeted aid.

In particular, we support:

- The integration of the common assessment principles of more targeted aid in the Guidelines. This is necessary in order to ensure the adequate protection of those industries that are particularly electro-intensive while also being exposed to international competition;

[1] See here European Commission / CEPS study on composition and drivers of energy prices and costs in Energy Intensive Industries, Aluminium case study. 14 January 2018

2 See here European Commission SWD 769 Final30.11.2016 Energy prices and costs in Europe, p.3

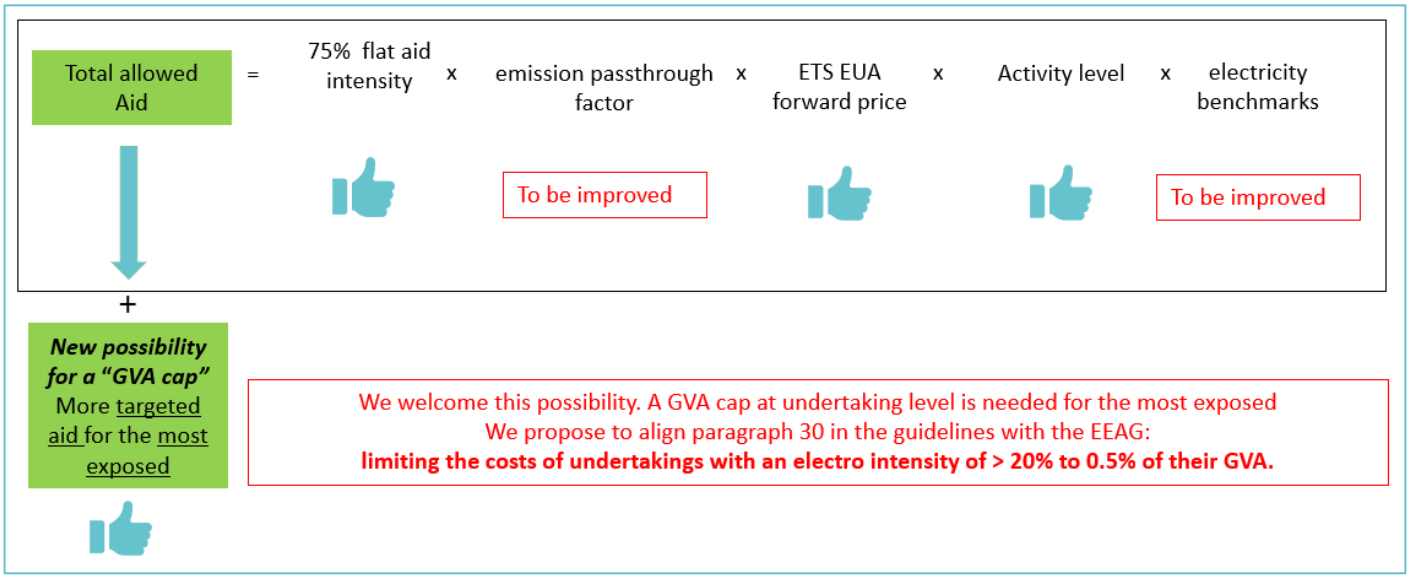
- The proposal for allowing Member States to grant the total aid amount stable at 75% for the entirety of phase IV of the ETS trading period (2021-2030);
- The possibility of targeted aid for undertakings in the most exposed sectors, like Aluminium, to limit their exposure to indirect ETS costs as a function of their gross value added ("GVA");
- The use of baseline output and the "European Union Allowance (EUA)" forward price in the calculation formula for the amount of aid. This better reflects actual production and prevents market distortions. Compensation granted on previous year's production give correct incentives to invest and avoid overcompensation;
- The update of electricity consumption benchmarks and the CO2 emission passthrough factors in 2025, depending on available data and improved methodology.

Most importantly, the new possibility of more targeted aid for the undertakings that are the most electro-intensive and are also exposed to international competition is a crucial element for preserving the competitiveness of our industry vis-à-vis aluminium producers outside Europe.

The improvements needed

In the explanatory note accompanying the draft Guidelines, the Commission requests stakeholders' views on several proposed changes, particularly with regards to the design of more targeted aid for the most exposed and the methodology for the calculation of aid in the formula.

In the annexes to this consultation response we suggest changes to the text (Annex III), accompanied by more detailed justifications and evidence (Annexes I & II).



The main elements are summarised in the figure above and in the following sections.

I. Level of aid and the possibility to limit the cost exposure to a percentage of the GVA

The level of more targeted aid should follow the same criteria outlined in the EU Guidelines on State aid for Environmental protection and Energy 2014-2020 (EEAG)[3] concerning the exemption from RES-supporting surcharges:

- According to the EEAG, Member States can provide additional compensation above the maximum aid intensity in order **to limit the burden for the most exposed undertakings.** For example, in line with the EEAG, such approach was followed by the 2014 German Renewable Energy Law approved by the Commission (2014 State Aid S.A 38632[4]) for distinguishing sectors/undertakings. In paragraph 310 of the law, it was justified that the aluminium sector is not in a position to pass on additional costs to their customers without losing significant market share.
- Even after 75% compensation, with **an ETS price at 30 EUR/tCO2, indirect costs would still amount to 16% of a primary aluminium smelter's GVA or even higher.** With the proposed approach instead, **aid would be catered for undertakings within a sector for which indirect costs are very burdensome, while also ensuring that inefficient undertakings are not compensated more than the most efficient undertakings**.
- Secondly, in the case of an integrated company, **the calculation of the undertaking's GVA should be based solely on the operations that relate to the specific eligible sector for which aid is being granted.** This to avoid the risk of artificially inflating an Integrated undertaking's GVA based on its operations in other sectors, which might be completely unrelated to the purpose of the aid.

- We therefore suggest the following:
  - **As in the EEAG, the targeted aid should be granted to specific undertakings, within the eligible sectors, with an electro-intensity higher than 20%, in order to limit their burden from indirect costs to 0.5% of their GVA.**
  - **The calculation of the GVA should be performed solely on the operations of the relevant business unit, in order to avoid the artificial inflation of the GVA based on the company's operations in other sectors.**

To see our proposed amendments to the draft Guidelines and more a detailed justification, click here.

II. Emission passthrough factors and regions

In the current draft, the definition of markets is inappropriate and the CO2 emission passthrough factors are missing. While we understand that the latter will be defined at a later stage, we see that the proposed methodology and approach by the Commission **does not reflect how power markets work in reality.**

[3] See here § 188 – 189 of the EU Guidelines on State aid for Environmental protection and Energy 2014-2020 (EEAG)
[4] See here SA.38632 EEG 2014

In our view, an accurate definition of markets is only possible if the regions are defined correctly (see Annex II)**.**

More specifically:

- In annex III of the draft Guidelines, the CO2 regions have been made smaller. However, **CO2 passthrough factors and geographical areas are interlinked and EU electricity markets are becoming more and more interconnected**, as required by EU electricity market rules.
- The overly strict definition of 1% price divergence contradicts the market evolution. **For the Nordic market for example, our analysis of power price correlation between areas shows that prices divergence has instead decreased, showing how Nordic markets are inherently connected, as well as for Central West Europe (CWE)**[5].
- Furthermore, more and more intermittent renewable electricity results in more price volatility, hence higher price differences. As electricity markets are becoming more and more integrated and an increasing share of intermittent renewables is introduced, the accuracy of the simplified methodology proposed by the Commission is **conditional on the regions being defined correctly**.
- For the reasons above, **a regional approach, as in the current guidelines, should continue to be used for the definition of markets** (eg. Nordic, Central-West Europe, Baltic, Iberia, Czechia and Slovakia) and **Norway should be included into the Nordic market as well as Denmark**. This will allow to have the most accurate definition of CO2 costs' impact on the power price and reflect the level of market integration.
- **In power markets where the pass-through factor is more a result of price influences over interconnectors** rather than domestic thermal power generation, such as is the case in the **Nordic countries and the CWE regions, defining pass-through factors through power market models rather than through physical emissions from domestic thermal power generation should be a permissible alternative**.

These models are widely available, have been developed massively over the last few years, and can accurately identify the pass-through of emissions in electricity prices. More transparency is thus needed from the Commission on how the division of markets was done and which statistics have been used. This to avoid too high or too low factors, and furthermore to be more in line with the European policies to integrate markets.

- Against this background, we recommend the commission to:
  - **Re-establish the Nordic and CWE regions as in the current Guidelines, reflecting the actual market integration.**
  - **Add Norway and Denmark to the Nordic region.**
  - **Use electricity market models as additional analysis when setting the regions, in order to obtain the most accurate regions (and therefore the most accurate pass-through factors).**

To see our proposed amendments to the draft Guidelines and a more detailed justification, click here.

[5] For further information about France and the CWE Region see here "Analysis of the CO2 Power Emission Factor for Indirect Compensation Related to the EU ETS" for UNIDEN by Compass Lexicon, February 2019

III. Definition of benchmarks

The Benchmark levels are not defined yet.

We however disagree with the Benchmarks definition which links them to the provisions in Article 10 a (2) of the ETS Directive for direct emissions: linking them **to an arbitrary yearly decrease and not to actual data would not reflect the reality** and **in turn lead to the risk of not ensuring adequate protection from the threat of carbon leakage** (as mandated by the ETS Directive).

- We thus invite the Commission to:
  - **Not link the benchmarks to an arbitrary yearly decrease as foreseen in the approach for direct emissions taken by the Commission under the ETS Directive.**
  - **Use the definitions of product benchmarks at Prodcom 8 level which are based on the best performing installations rather than the top 10%.**
  - **Collect electricity data on Prodcom 8 level, maintaining the current definitions, by involving commodity associations to ensure data accuracy.**

To see our proposed amendments to the draft guidelines and a more detailed justification, click here.

IV. Conditionality

While we understand that some form of some form of conditionality is needed to incentivize beneficiaries to reduce their carbon footprint, it must be well designed, reasonable and proportionate to ensure that it does not undermine the main purpose of the compensation, which is to prevent carbon leakage. The proposed conditionality provisions **are too stringent and in certain cases their achievement might even be unfeasible**.

In particular:

- The obligation to conduct energy audits and to implement the recommendations of the audit report (assuming that the costs of the relevant investments are proportionate) is a reasonable and acceptable form of conditionality. However, **5 years is a far too long payback period for electro intensive industries, which tend to have tiny profit margins**.
- Reducing the carbon footprint of the undertaking's electricity consumption could also be a reasonable form of conditionality. However, the Guidelines **should not cite specific examples, given that the opportunities to reduce the carbon footprint of consumption (and the ways in which this can be achieved) vary greatly between Member States and different industrial sectors.**
- Furthermore, the request to ensure at least 50% from an aluminium smelter' electricity consumption from on-site RES **production is unrealistic and technically impossible due to spatial constraints for our industry**. For instance, a 1MW PV capacity requires around 1 ha of land and produces on average 1300 MWh/year

(depending on natural potential and technology efficiency). **An average-sized aluminium smelter consumes around 3TWh/year. Covering half of this electricity consumption from on-site PV would require 1200 hectares - approximately 1650 football fields – which is physically impossible!**

- The obligation to invest at least 80% of the aid amount in projects that lead to substantial reductions of installations' direct greenhouse gas emissions implies that the beneficiaries will receive some sort of 'positive' subsidy. **In reality, the purpose of indirect cost compensation is to reduce electro-intensive consumers' exposure to an actual cost that burdens them but not their international competitors, and therefore the compensation is necessary in order to reduce the risk of carbon leakage**. Furthermore, the primary aluminium production process is already fully electrified and its direct emissions tend to be relatively low. As a result, in many cases it might not even be possible to invest 80% of the aid in such projects.

- We thus invite the Commission to:
  - **Amend the text so that the pay-back time for the relevant investments recommended in the audit report should not exceed 2 years;**
  - **Ensure that the Guidelines do not cite specific examples for reducing the carbon footprint of electricity generation, given that such opportunities vary greatly between different Member States and sectors covered;**
  - **Delete the provision introducing the obligation to invest at least 80% of the aid amount in projects that lead to substantial reductions of installation's greenhouse gas emissions.**

To see our proposed amendments to the draft Guidelines and a more detailed justification, click here.

In view of the upcoming technical work on the draft Guidelines, we call upon DG Competition and EU Member States' representatives to take into consideration our suggestions above and remain available to provide further clarifications if needed.

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EUROPEAN ALUMINIUM

ANNEX 1 – Aluminium production's exposure to electricity costs

Carbon leakage in the aluminium sector is a reality. The closure and curtailments of EU-based smelters in recent years has led to the loss of roughly 36% of primary capacity since 2008. Investment in new capacity aimed at covering the increasing global and EU demand for aluminium is happening in other parts of the world instead of the EU (investment leakage). We therefore question the RAG ratings included on pages 33-36 of the consultant's report[6] that accompanied the proposal for the updated ETS Guidelines. Aluminium should undoubtedly be considered as a sector at 'high risk' of carbon leakage across all scenarios.

As already mentioned, electricity costs for primary smelters in the EU accounts for around 40% of production costs[7]. Therefore, electricity is a substantial cost element, and constitutes a major share of EBITDA. In the current Guidelines, indirect cost as a percentage of the GVA (and trade intensity) is the threshold for a sector to become eligible for aid. Certain sector are eligible on indirect cost at 2.2 % of GVA. For undertakings with 2.2% indirect cost of GVA, the cost after 75% compensation will be about 0.5% of GVA.

Consequentially, for a primary aluminium undertaking in Europe, assuming a price of 30 €/tCO2 and the current emission factor, this would have indirect costs of GVA higher than 60%; and even with 75% compensation the indirect cost would be more than 15 % of GVA. As a result, even with further decarbonisation, the indirect cost after compensation would be substantially higher than the threshold to become eligible for compensation!

The Commission rightly recognised that the measures for carbon leakage protection for indirect costs have not worked well for certain electro intensive industries, especially for aluminium primary producers in Europe, who are significantly impacted in a material way by higher costs, and are thus the most exposed[8][9] (see below). Indeed, since 2008, over 30% of Europe's primary aluminium production capacity has been idled, largely due to high electricity prices. The proposed method in the new Guidelines would better cater for those undertakings, as primary aluminium, for which indirects costs are particularly burdensome.

Energy prices and costs in EU energy intensive sectors – Simple averages, 2016:

Sector	Price of electricity (€/MWh)	Cost of electricity** (€/MWh)	Cost of electricity as a share of production costs (%)	Price of natural gas (€/MWh)	Cost of natural gas as a share of production costs (%)
Bricks and roof tiles	86.3	79.3	5.4%	25.1	13.6%
Wall and floor tiles	99.2	88.1	5.2%	24.1	10.4%
Glass tableware	92.4	85.8	6.2%	23.8	7.5%
Packaging glass	75.4	68.9	7.5%	22.3	12.2%
Primary aluminium	39.4	37	41.6%	20.9	1.3%
Secondary aluminium	97.6	93.9	6.1%	24.4	7.9%
Downstream aluminium	80.0	80.0	1.3%	24.7	0.6%
Steel EAF	53.7	50.6	9.8%	19.2	2.5%
Steel BOF*	57.6	52.1	3.3%	17.2	1.1%
Nitrogen fertiliser	66.5	60.3	6.6%	18.8	52.1%
Refineries*	69.0	62.9	0.8%	20.3	1.1%

[6] See here European Commission Combined retrospective evaluation and impact assessment support study on Emission Trading System (ETS) State Aid Guidelines
[7] See here European Commission SWD 430 Final 31.11.2016 part 9/13 Energy prices and costs in Europe p. 318
[8] See here 2017 State of the EU ETS Report, p. 21: "*More electricity intensive sectors, such as primary aluminium, are however impacted by high indirect costs, and it can be in a material way. Around 3% -14% (depending of EUA prices) of total production costs for the primary aluminium sector can be attributed to indirect costs".*
[9] See here 2018 External report (CEPS/Ecofys) on composition and drivers of energy prices & costs in energy intensive industries

ANNEX 2 – Regional CO2 factors & power market models

The main purpose of the CO2 emission passthrough factor in the Guidelines is to identify the impact of CO2 emission costs on power prices in each market. The draft Guidelines are correctly based on market principles where the emission passthrough factor is de-linked from the total electricity generation's greenhouse gas footprint and decided by the price setting technology in each market.

Geographical areas

The draft State Aid Guidelines propose a fragmentation of the current Guidelines' geographical regions. The justification is an assessment in the consultant report[10] accompanying the draft Guidelines that price convergence in the Central and Western Europe (CWE) and Nordic zones has decreased.

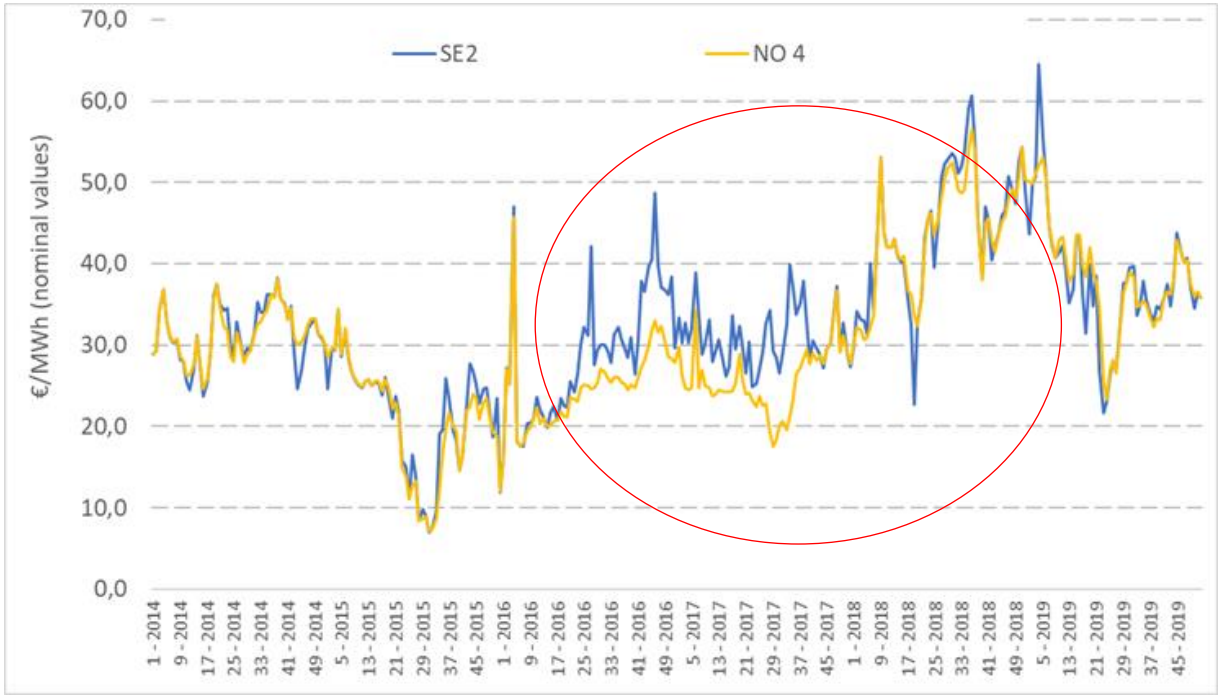
Our analysis however shows the opposite:

- Cross-border interconnector capacity has consistently increased in the last ten years, and the improved physical connection is amplified by an increased use of flow-based market coupling. Furthermore, there are several factors that result in price differences between markets. **An empirical examination of day-ahead power prices shows more price convergence, not less, in most countries**. This was also recognised very recently by the European Commission in 2019[11]
- Specifically, the **Nordic countries** have been interconnected with a common price-setting mechanism for the last 20-30 years, and there is sufficient information available to re-establish a single factor for this region encompassing Norway, Sweden, Finland and Denmark.
- Whether or not there is a "significant price difference" between two national power markets depends on either how well connected they are or how similar their power systems are. For **Norway and Sweden**, both apply. In both countries, electricity demand has a strong seasonal profile, while generation is dominated by fossil-free baseload power (hydro in Norway, hydro and nuclear in Sweden) with considerable flexibility. Usually, excess generation or excess demand happen simultaneously. Therefore, the interconnectors are normally not used to export one country's excess generation to another country's excess demand and that means there are usually no bottlenecks on the many interconnectors between the countries. No bottlenecks mean identical power prices.
- At the same time, even though bottlenecks on the interconnectors between Norway and Sweden are infrequent, they do occur in specific events such as during periods of extreme renewable generation (wet and windy periods) and low demand. Also, transmission outages on the Norwegian-Swedish occur.
- For these markets, our analysis show, that estimating price homogeneity between markets by counting the number of hours with price differences exceeding 1%, as in the proposed methodology by the Commission, is too crude and risks attributing market characteristics on single non-representative events. One example is the price difference between Norway and Sweden. This difference was largely down to an uncharacteristic large

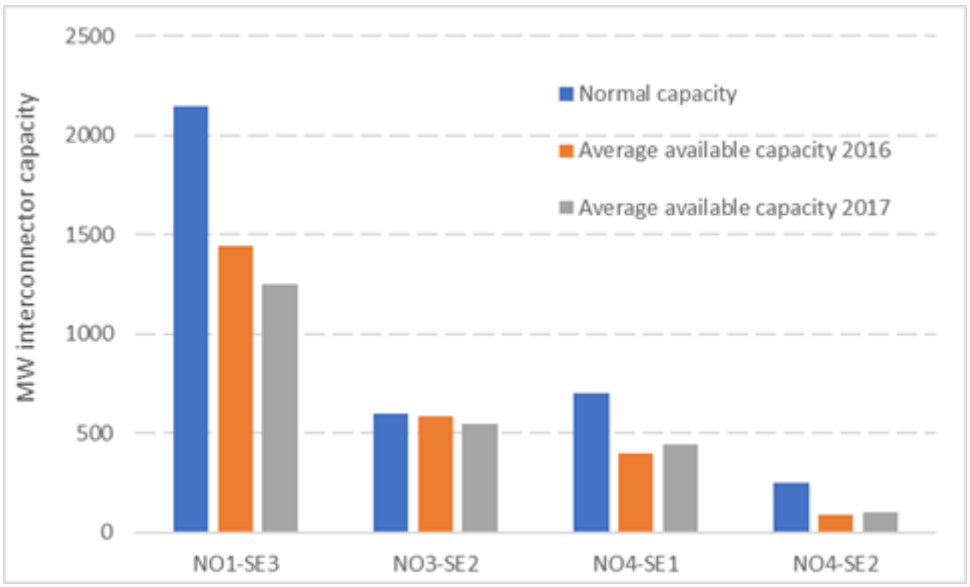
[10] See here European Commission Combined retrospective evaluation and impact assessment support study on Emission Trading System (ETS) State Aid Guidelines, p. 10

[11] See here European Commission SWD 2019, Energy Prices and Costs in Europe, September 2019. P. 2: "*In the wholesale electricity market, increasing market coupling and interconnectors are clearly creating price convergence (an indication of more efficient markets), except during extreme price spikes and troughs when local supply differences are too great to be bridged across Member States*." and "*First, the creation of the single market helps to protect the EU from volatile prices affecting an individual Member State. With interconnections, (…), coupled markets and dynamic pricing, flexibility and growing trade between Member States provide a buffer against international price spikes. The broadly growing convergence in prices across Member States suggests that these efforts are bearing fruit*."

difference in prices between the northern Norwegian and northern Swedish price zones in 2016 and 2017. Prices in these two regions is shown in the figure below:

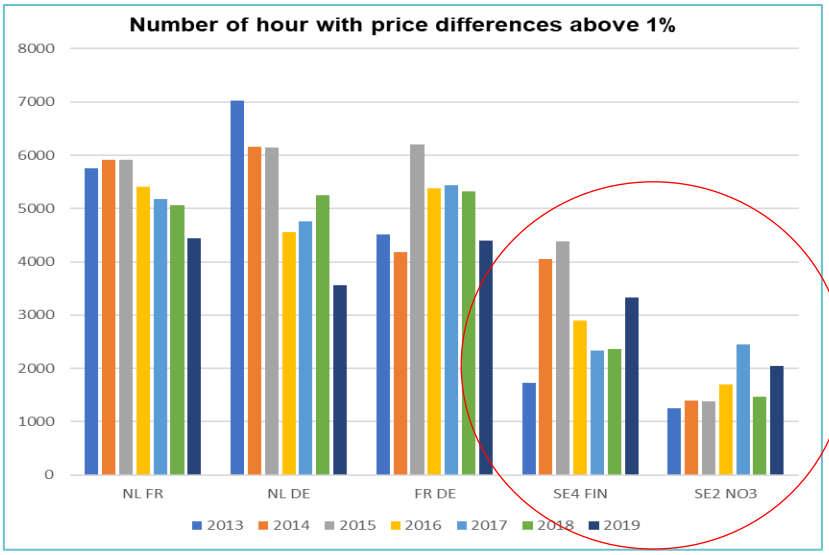


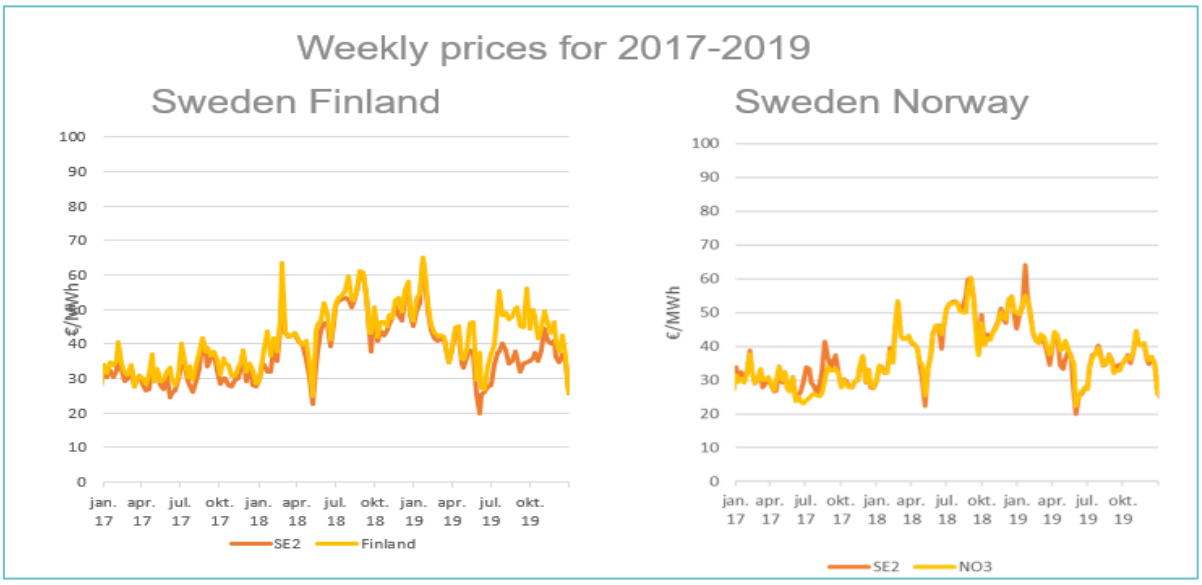
- After a period of similar prices, price divergence intensified in 2016 and 2017 before reverting to the trend of being more similar. The price differences above were attributable to a number of interconnector outages between several Norwegian-Swedish interconnectors (see figure below). When transmission lines are fully available, prices are broadly similar even in years with considerable intermittent generation, as in 2018. The price difference methodology proposed by the Commission risks assigning too much weight to anomalies and less to business-as-usual situations and actual market mechanisms.



- The only way to completely eradicate price differences, i.e. to bring price differences down to below 1%, is to build so much transmission capacity that it is never fully used. This is not economically viable. It is important to note that both the Norwegian and Swedish power market is split into multiple price areas. These price areas reflect internal bottlenecks, and internal bottlenecks means that there is occasionally a difference in the price in, say, the north and south of Sweden. Such internal bottlenecks are the norm in most European countries, but prices are kept equal through interventions in the power market and in grid management.

- Also for **Finland and Sweden**, empirical price data (see figures below) reveals that the differences, proposed as a common region, are consistently higher than those for the price zones along the Norwegian- Swedish border. **By the draft Guidelines' own logic, Norway should therefore be included in the Nordic region.**

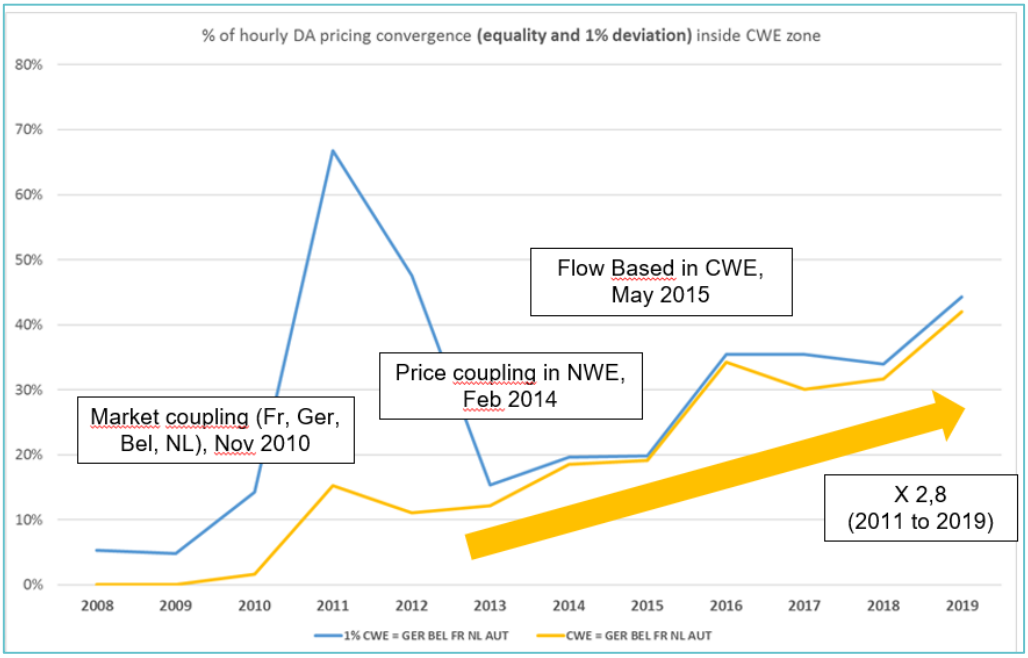




Elsewhere, electricity dispatch models and **analysis of price correlation between markets** and of short-term limitation of interconnectors **also reveal that the CWE region encompassing France, Germany, Belgium, Netherlands, Luxembourg, Austria and Germany should be re-established as regions**. This because:

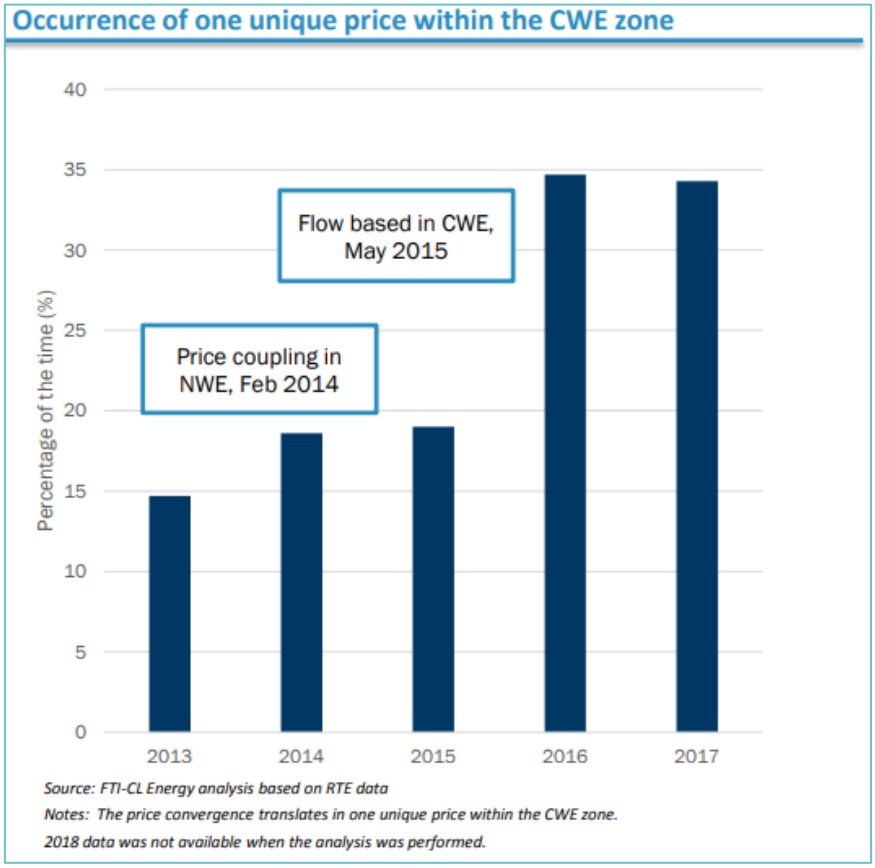
- As explained, another metric for measuring price homogeneity is not the absolute price differences, but an indication of how much they affect each other, i.e. evaluating how prices correlate. This measures how the price in one market influences the price in another and thus also to which extent the CO2 element in one country spills over to another (see figure below).

	Sweden	Norway	Denmark	Finland	Poland	Germany	Austria	Netherlands	France	UK
Sweden*	1.00	0.93	0.90	0.90	0.61	0.72	0.74	0.78	0.50	0.42
Norway**	0.93	1.00	0.85	0.83	0.63	0.66	0.70	0.76	0.46	0.41
Denmark	0.90	0.85	1.00	0.84	0.75	0.84	0.83	0.75	0.48	0.37
Finland	0.90	0.83	0.84	1.00	0.75	0.64	0.67	0.65	0.37	0.21
Poland	0.61	0.63	0.75	0.75	1.00	0.60	0.63	0.53	0.23	0.09
Germany	0.72	0.66	0.84	0.64	0.60	1.00	0.96	0.83	0.76	0.44
Austria	0.74	0.70	0.83	0.67	0.63	0.96	1.00	0.84	0.76	0.39
Netherlands	0.78	0.76	0.75	0.65	0.53	0.83	0.84	1.00	0.81	0.64
France	0.50	0.46	0.48	0.37	0.23	0.76	0.76	0.81	1.00	0.53
UK	0.42	0.41	0.37	0.21	0.09	0.44	0.39	0.64	0.53	1.00



- Also in the CWE Region, bottlenecks between countries do occur. Examples are situations with either ample wind generation or unexpected shutdowns of generation or (unexpected) limitations on interconnectors occur. These markets will not have equal prices until the transmission capacity between them is not a limiting factor and all bottlenecks are removed. However, as already mentioned above, this is not economically viable as it would require excessive investments in transmission capacity and it is also not the case internally in countries, where there are many bottlenecks at any time but the price is kept equal through interventions in

the power market. In particular, analysis[12] of the electricity market spot prices show that convergence was at 15% in 2011, and is now reaching more than 40% in 2019 (see 2nd figure above). This drastic increase stems from more market coupling, additional cross border capacities and flow based in the CWE Region.



- For France for example, a national definition of the factor would ignore the specificities of the French mix, which is characterised by a very low carbon production mix: the average value for CO2 content is 0.05 tCO2/MWh (50 g/kWh) vs 0.5 tCO2 due to 72 % nuclear, 15 % hydro, 8 % other renewables, which is however not the marginal asset defining the electricity price[13]. Neighboring markets, plus large hydro (priced on the basis of fuels assets) have been the marginal asset 50 to 90% of the time since 2010. Historical data and further counterfactual analysis show that the CWE zone remains the relevant geographic market for France, with further convergence expected with the deployment of 5 GW of additional interconnection capacity within the zone.

Possibility to use Power market models

The Commission proposes to continue the simplified approach by calculating the weighted average of the CO2 intensity of electricity produced from fossil fuels within the defined geographical area / regions. This methodology is simple, has been able to establish reasonable accurate emission factors and is sufficiently reflective of actual pass-through factors **only if the regions are defined appropriately.**

[12] See here "Analysis of the CO2 Power Emission Factor for Indirect Compensation Related to the EU ETS" for UNIDEN by Compass Lexicon, February 2019
[13] See here p.23 "Analysis of the CO2 Power Emission Factor for Indirect Compensation Related to the EU ETS" for UNIDEN by Compass Lexicon, February 2019

However, **it can lead to very inaccurate results when connected areas are defined too small and in contradiction to the actual situation consumers meet in the market**:

- For regions with a high proportion of non-fossil power production like Norway, Austria and France, the CO2 emission factor is to a large degree determined by exchange with thermal-dominated neighbouring countries. In some part of Europe, gas or coal fired plants are setting the price most of the time. The wholesale power prices are driven by several factors where the short-run marginal cost of thermal power is the main driver (driven by commodity prices coal, gas, and CO2). Emission cost adds to the marginal plants cost and thus to the price.
- The Commissions simplified methodology with larger regions has been accurate in these markets. However, the effect of making regions smaller will lead to a lower emission passthrough factor than actually paid in the market. Therefore, **the carbon leakage risk will increase for industry located in areas with clean generation.**

Electricity market models could instead describe more accurately the actual market convergence with respect to defining common emission passthrough factors:

- In 2012 impact assessment of the ETS Guidelines for Phase III[14], the Commission had already stated that an EU wide electricity market model could have been used to assess the emission passthrough factors. Such model was not available in 2012. However, there are today several consultancy companies which can provide EU-wide electricity market models. This was also stressed in the Consultant report on the draft ETS Guidelines[15], while also recognising that there are still challenges and limitations to their consensual use in Europe.

While we agree there might be some practical limitations and that information is not directly available from power exchanges nor Member States, electricity market models can provide accurate information and precisely define the factors in countries/regions where the actual pass-through factor is influenced from connected markets and not only from domestic emission-intensive power generation.

There is a broad consensus for such models at least in the Nordic market, which is the longest functioning market in Europe. **Therefore, the Guidelines should allow the use of electricity market models as additional analysis where they are needed in order to reach more accurate results**.

[14] See here European Commission 2012 Impact Assessment on the ETS Guidelines, p.36
[15] See here European Commission Combined retrospective evaluation and impact assessment support study on Emission Trading System (ETS) State Aid Guidelines, p. 56

ANNEX 3 – Suggested amendments & detailed justifications

Level of Aid & definition of the targeted aid: Amendments to § 30, 31, 26 & 27

§ 30	**Proposed new text**
.. for some sectors the aid intensity of 75% might not be sufficient to ensure that there is adequate protection against the risk of carbon leakage	*……. for* ***~~some sectors~~ undertakings with electro intensity higher than 20% in the eligible sectors*** *the aid intensity of 75%* ***~~might~~ is*** *not sufficient to ensure that there is adequate protection against the risk of carbon leakage*

Justification:

The possibility for extra support above 75% should relate to specific undertakings, following the approach that was adopted in the EEAG (Section 3.7.2). Therefore, defining "sufficient" at sector level is not significantly targeted and can give unintended effects. The rationale for this is:

a) one eligible sector might include a minor share of undertakings with extremely high indirect costs while the remaining share has a low exposure, and as such the sector (overall) would only have a small to medium exposure;

b) while another sector might have no undertakings with extremely high indirect costs, but all of the undertakings have a medium exposure, meaning that this sector would apparently have a higher exposure than the sector described above (under point (a)).

In order to ensure that the aid is targeted, while also limiting the risk of competition distortion within the internal market, the extra aid should be limited to the most electro-intensive undertakings operating in a sector that's included on the eligibility list in Annex I of the ETS Guidelines. The meaning of "sufficient" should be defined. The definition should be based on the level of electro intensity, as defined in the relevant provisions of the EEAG (§188 and §189, namely 20% electro intensity).

§ 30	**Proposed new text**
……. when needed, Member States may limit the amount of the indirect costs to be paid at undertaking level to […] % of the gross value added of the undertaking concerned in year t.	*…when needed Member States will have the possibility to limit the amount of indirect cost to be paid at undertaking level to* ***0,5*** *% of GVA …* ***for undertakings with electro intensity higher than 20% in the relevant sector****.*

Justification:

The level of extra aid should be defined in a manner that's consistent with the methodology foreseen in Section 3.7.2 of the EEAG, e.g. indirect costs should be limited to 0.5% of the undertaking's GVA. In order to be in line with the incentive effects foreseen in the Guidelines, the GVA calculations as described in §30 could be defined based

on the electricity consumption efficiency benchmarks. This would ensure that inefficient undertakings are not compensated more than the most efficient undertakings.

§ 30	**Proposed new text**
[…] The gross value added of the undertaking must be calculated as turnover, plus capitalised production, plus other operating income, plus or minus changes in stocks, minus purchases of goods and services (which shall not include personnel costs), minus other taxes on products that are linked to turnover but not deductible, minus duties and taxes linked to production. Alternatively, it can be calculated from gross operating surplus by adding personnel costs. Income and expenditure classified as financial or extraordinary in company accounts is excluded from value added. Value added at factor costs is calculated at gross level, as value adjustments (such as depreciation) are not subtracted.	*[…] The gross value added of the undertaking must be calculated as turnover, plus capitalised production, plus other operating income, plus or minus changes in stocks, minus purchases of goods and services (which shall not include personnel costs), minus other taxes on products that are linked to turnover but not deductible, minus duties and taxes linked to production. Alternatively, it can be calculated from gross operating surplus by adding personnel costs. Income and expenditure classified as financial or extraordinary in company accounts is excluded from value added. Value added at factor costs is calculated at gross level, as value adjustments (such as depreciation) are not subtracted.* ***In the case of an integrated undertaking with activities in multiple sectors, the Gross Value Added of the undertaking will be calculated based solely on the income and costs that relate to the specific eligible sector for which the aid is being granted.***

Justification:

The Guidelines foresee the possibility of granting aid to undertakings operating in specific sectors (as defined in Annex I) that are deemed to be exposed to a genuine risk of carbon leakage. Likewise, the possibility of limiting the amount of indirect costs to a specific percentage of the undertaking's GVA (under §30) is designed in order to "ensure that there is adequate protection against the risk of carbon leakage".

Therefore, in order to ensure the required level of protection against the risk of carbon leakage, the calculation of the undertaking's GVA should be based solely on the operations of the undertaking that relate to the specific eligible sector for which aid is being granted. Otherwise, in the case of an integrated undertaking with operations across multiple sectors, the calculated GVA would be affected by the undertaking's (completely unrelated, for the purpose of the aid in question) operations in other sectors. This leads to the risk of artificially inflating the calculated GVA, meaning that the required level of protection would not be ensured, since the remaining exposure would not be proportionate to the undertaking's operations in the specific eligible sector.

§ 31	Proposed new text
When Member States decide to adopt the limitation […] % GVA …. the limitation must apply to all eligible undertakings in the relevant sector...	*When Member States decide to adopt the limitation […] % GVA …. the limitation must apply to all eligible undertakings* ***with electro intensity higher than 20%*** *in the relevant sector.*
Justification: There can be large differences of exposure within a sector. 75% might be sufficient for some undertakings within the sector, but not for others. Therefore, in order to ensure that the targeted aid is only provided in cases where it is genuinely needed, there must be clear definitions on eligibility for this aid.	

§ 26	Proposed new text
The aid is proportionate and has a sufficiently limited negative effect on competition and trade if it does not exceed 75 % of the indirect emission costs incurred. ……	*The aid is proportionate and has a sufficiently limited negative effect on competition and trade if it does not exceed 75 %* ***plus the extra according to § 30*** *of the indirect emission costs incurred……*
Justification: According to §30, Member States can limit the indirect cost further than 75%, therefore § 26 should be amended in order to take into account any aid as described in § 30.	

§ 27	Proposed new text
The maximum aid payable per installation for the manufacture of products within the sectors listed in Annex I must be calculated according to the following formula: …… *…..In this formula, Ai is the aid intensity, expressed as a fraction (e.g. 0.75);*	*The maximum aid payable per installation for the manufacture of products within the sectors listed in Annex I must be calculated according to the following formula* ***(unless the relevant undertaking is eligible for extra aid according to § 30)*** *……* *…In this formula, Ai is the aid intensity, expressed as a fraction (~~e.g.~~ 0.75);*
Justification: According to §30, Member States can limit the indirect cost further than 75%, therefore § 27 should be amended in order to take into account any aid as described in § 30. The factor is proposed to be 75% therefore, in order to avoid confusion, the "e.g." must be deleted.	

Emission passthrough factors and geographical areas: amendments to § 14.10

Paragraph 14.10	Proposed new text
'CO2 emission factor', in tCO2/MWh, means the weighted average of the CO2 intensity of electricity produced from fossil fuels in different geographic areas. The weight shall reflect the production mix of the fossil fuels in the given geographic area. The CO2 factor is the result of the division of the CO2 equivalent emission data of the energy industry divided by the gross electricity generation based on fossil fuels in TWh. For the purposes of these Guidelines, the areas are defined as geographic zones (a) which consist of submarkets coupled through power exchanges, or (b) within which no declared congestion exists and, in both cases, hourly day-ahead power exchange prices within the zones showing price divergence in euros (using daily ECB exchange rates) of maximum 1 % in significant number of all hours in a year. Such regional differentiation reflects the significance of fossil fuel plants for the final price set on the wholesale market and their role as marginal plants in the merit order. The mere fact that electricity is traded between two Member States does not automatically mean that they constitute a supranational region. Given the lack of relevant data at sub-national level, the geographic areas comprise the entire territory of one or more Member States. On this basis, the following geographic areas can be identified: Nordic (Sweden and Finland), Baltic (Lithuania, Latvia and Estonia), Iberia (Portugal and Spain), Czechia and Slovakia (Czechia and Slovakia) and all other Member States separately. The corresponding maximum regional CO2 factors are listed in Annex III. In order to ensure equal treatment of sources of electricity and avoid possible abuses, the same CO2 emission factor applies to all sources of electricity supply (auto generation, electricity supply contracts or grid supply) and to all aid beneficiaries in the Member State concerned;	*'CO2 emission factor', in tCO2/MWh,* ***shall reflect the price-setting technology a) in areas were the actual pass-through factor comes from price influence from connected areas and not only from thermal generation within the area, it can be decided using additional analysis based on electricity markets models and b) where the actual pass-through factor comes mainly from thermal generation within the area, then*** *'CO2 emission factor', in tCO2/MWh, means the weighted average of the CO2 intensity of electricity produced from fossil fuels in different geographic areas. The weight shall reflect the production mix of the fossil fuels in the given geographic area. The CO2 factor is the result of the division of the CO2 equivalent emission data of the energy industry divided by the gross electricity generation based on fossil fuels in TWh. For the purposes of these Guidelines, the areas are defined as geographic zones (a) which consist of submarkets coupled through power exchanges, ~~or (b) within which no declared congestion exists and, in both cases~~,* ***where the*** *hourly day-ahead power exchange prices within the zones showing price divergence in euros (using daily ECB exchange rates) of maximum 1 % in significant number of all hours in a year,* ***or b) for current regions CWE and Nordic, where calculations of the covariances between areas inclusive limitations on interconnectors resulting in larger price differences, is analysed.*** *Such regional differentiation reflects the significance of fossil fuel plants* ***and for CWE and Nordic areas also reflects the impact from abroad,*** *for the final price set on the wholesale market and their role as marginal plants in the merit order. The mere fact that electricity is traded between two Member States does not automatically mean that they constitute a supranational region.* ***~~Given the lack of relevant data at sub-national level~~****, the geographic areas comprise the entire territory of one or more Member States. On this basis, the following geographic areas can be identified: Nordic (****Norway,***

	***Denmark**, Sweden and Finland**), Central-West Europe (Austria, Belgium, Luxembourg, France, Germany and The Netherlands),** Baltic (Lithuania, Latvia and Estonia), Iberia (Portugal and Spain), Czechia and Slovakia (Czechia and Slovakia) and all other Member States separately. The corresponding maximum regional CO2 factors are listed in Annex III **or factors decided by using additional analysis based on electricity markets models on request from Member States and approved by the Commission**. In order to ensure equal treatment of sources of electricity and avoid possible abuses, the same CO2 emission factor applies to all sources of electricity supply (auto generation, electricity supply contracts or grid supply) and to all aid beneficiaries in the Member State concerned;*

Justification:

The changes to the text aim to provide an accurate definition of the passthrough factor. In summary:

- The proposed methodology is sufficient to define the passthrough factor in large interconnected regions;
- However, the methodology gives inaccurate results if areas are wrongly defined too small and where the factor is impacted by neighbouring areas;
- Therefore, electricity market models could be used as additional analysis in countries/regions where the actual pass-through factor comes from price influence from connected markets and not from domestic emission-intensive power generation.

For a more detailed explanation, see Annex II

Benchmarks amendments to §14.13

§14.13	Proposed new text
(13) 'electricity consumption efficiency benchmark', in MWh/tonne of output and defined at Prodcom 8 level9, means the product-specific electricity consumption per tonne of output achieved by the most electricity-efficient methods of production for the product considered. The electricity consumption efficiency benchmark update shall be consistent with Article 10a(2) of the EU ETS Directive. For products within the eligible sectors for which fuel and electricity exchangeability has been established in section 2 of Annex I to Commission Delegated Regulation (EU) 2019/33110, the definition of electricity consumption efficiency benchmarks is made within the same system boundaries, taking into account only the share of electricity for the determination of the aid amount. The corresponding electricity consumption benchmarks for products covered by eligible sectors are listed in Annex II to these Guidelines;	*(13) 'electricity consumption efficiency benchmark', in MWh/tonne of output and defined at Prodcom 8 level9, means the product-specific electricity consumption per tonne of output achieved by the most electricity-efficient methods of production for the product considered.* ***~~The electricity consumption efficiency benchmark update shall be consistent with Article 10a(2) of the EU ETS Directive.~~ ~~For products within the eligible sectors for which fuel and electricity exchangeability has been established in section 2 of Annex I to Commission Delegated Regulation (EU) 2019/33110, the definition of electricity consumption efficiency benchmarks is made within the same system boundaries, taking into account only the share of electricity for the determination of the aid amount.~~*** *The corresponding electricity consumption benchmarks for products covered by eligible sectors are listed in Annex II to these Guidelines;*

Justification:

The benchmark levels are not defined yet. We support the continuation of the current definitions of product benchmarks at Prodcom 8 level and, furthermore, we advise the Commission to collect electricity data on Prodcom 8 level through a separate process run by DG Comp and using a Consultancy company with the involvement of the commodity associations, i.e. following a procedure that's similar to the one used for the current Guidelines.

However, we disagree that the benchmarks should be linked to Article 10 a (2) of the ETS Directive:

- Firstly, the electricity benchmark is set based on the best installation rather than the top 10% (as is the case for free allowances);
- Secondly, applying an arbitrary yearly decrease to the electricity benchmarks seems illogical and might lead to inaccurate strange results. Furthermore, the electricity benchmark cannot be linked to fuel exchangeability.

Conditionality: amendments to § 53 and § 54

§ 53	**Proposed new text**
……either as a stand alone energy audits or within the framework of certified Energy Management System or Environmental Management System, for example the EU eco-management and audit scheme (EMAS)15. If the beneficiary is not covered by the obligation to conduct an energy audit under Article 8(4) of the Energy Efficiency Directive, Member States commit to verifying that it will conduct one within the first four years after their first application for aid, and then every four years thereafter, unless they carry out energy audits within the framework of certified Energy Management System or Environmental Management System.	*……either as a stand alone energy audits or within the framework of certified Energy Management System or Environmental Management System, **~~for example the EU eco-management and audit scheme (EMAS)15~~**. If the beneficiary is not covered by the obligation to conduct an energy audit under Article 8(4) of the Energy Efficiency Directive, Member States commit to verifying that it will conduct one within the first four years after their first application for aid, and then every four years thereafter, unless they carry out energy audits within the framework of certified Energy Management System or Environmental Management System.*
Justification: The use of benchmarks is the best way to incentivize energy efficiency and emission reductions, especially where electricity costs are a significant part of the production costs. Additional energy efficiency requirements as described in § 53 are not in line with the objective of minimising the risk of carbon leakage (as mandated by the ETS Directive). Being exposed to international competition, electro-intensive industries have a natural interest in investing in energy efficiency. Implementing energy management systems should be acceptable to all beneficiaries, however the Guidelines are too detailed and the link to special system such as EMAS should be deleted.	

§ 54	**Proposed new text**
Member States also commit to monitoring that beneficiaries covered by the obligation to conduct an energy audit under Article 8(4) of the Energy Efficiency Directive will: *(a) implement recommendations of the audit report, to the extent that the pay-back time for the relevant investments does not exceed [5] years and that the costs of their investments is proportionate; or alternatively* *(b) reduce the carbon footprint of their electricity consumption, for example, through installing an on-site renewable energy generation facility (covering at least 50% of their electricity needs), through a*	*Member States also commit to monitoring that beneficiaries covered by the obligation to conduct an energy audit under Article 8(4) of the Energy Efficiency Directive will:* *(a) implement recommendations of the audit report, to the extent that the pay-back time for the relevant investments does not exceed [**~~5~~2**] years and that the costs of their investments is proportionate; or alternatively* *(b) reduce the carbon footprint of their electricity consumption, for example, through installing an on-site renewable energy generation facility **~~(covering at least 50% of their electricity needs),~~** through a carbon-free power purchase agreement**, if the national electricity market provides the legal environment set by the***

carbon-free power purchase agreement; or alternatively *(c) invest a significant share of at least 80% of the aid amount in projects that lead to substantial reductions of the installation's greenhouse gas emissions and well below the applicable benchmark used for free allocation in the EU Emissions Trading System.*	***Electricity Market Design rules and if concluding such agreement is economically sensible;*** *or alternatively* *(~~c) invest a significant share of at least 80% of the aid amount in projects that lead to substantial reductions of the installation's greenhouse gas emissions and well below the applicable benchmark used for free allocation in the EU Emissions Trading System.~~*

Justification:

Regarding (a):

The obligation to conduct energy audits and to implement the recommendations of the audit report (assuming that the costs of the relevant investments are proportionate) is a reasonable and acceptable form of conditionality. However, 5 years is far too long a payback period for electro intensive industries like Aluminium, which tend to have tiny profit margins, and therefore this figure should be reduced.

Regarding (b):

Reducing the carbon footprint of the undertaking's electricity consumption (e.g. through a carbon-free PPA) could also be a reasonable form of conditionality. However, the Guidelines should not cite specific examples, given that the opportunities to reduce the carbon footprint of consumption (and the ways in which this can be achieved) vary greatly between different Member States and sectors.

Firstly, the volumes of electricity consumed by electro-intensive industries are enormous (even a relatively small primary aluminium smelter consumes 2-3 TWh of electricity on an annual basis). Therefore, installing "*an on site renewable energy generation facility (covering at least 50% of their electricity needs)*" (as referenced in the draft Guidelines) is simply impossible, due to a lack of available space. We therefore do not oppose to the respective provision but value for the share of consumption coming from on-site RES should not be included.

Signing a carbon-free PPA is more feasible. However, RES sourcing remains a massive challenge for aluminium smelters. The requirement for massive volumes of baseload/uninterrupted electricity makes it very difficult to cover this demand using carbon-free generation, which tends to be much more variable and unpredictable (particularly in the case of wind and solar production). These difficulties were outlined in a report recently published by DG ENERGY, European Commission[16], which highlights the importance of investment support to foster corporate investments in renewable technologies. Also, the "*Masterplan for a Competitive Transformation of EU Energy-intensive Industries*" recently published by the High-Level Group on Energy-intensive Industries[17] also identified "firming costs" (*i.e. the cost of changing a variable electricity production profile to a flat industrial consumption profile*) as a major barrier to the further uptake of industrial RES sourcing. The issue is also described in detail in a report that was recently issued by the Institute for European Studies at the Vrije Universiteit Brussel (VUB), titled "*Metals for a Climate*

[16]See here DG ENERGY Report: "Competitiveness of corporate sourcing of renewable energy Part 2 of the Study on the competitiveness of the renewable energy sector", 28 June 2019
[17] See here EU "*Masterplan for a Competitive Transformation of EU Energy-intensive Industries*". 28 November 2020

Neutral Europe"[18]. To date, the only cases of RES sourcing by aluminium smelters in Europe are in the Nordics, where the abundant hydropower can be used to cover the plant's consumption in a competitive and low-carbon manner.

In other regions of Europe, requiring an aluminium smelter to sign a carbon-free PPA that covers 50% of its consumption would lead to massive "firming costs", destroying its competitiveness and leading to carbon leakage (i.e. undermining the basic purpose of the compensation). Therefore, the Guidelines should not reference a specific percentage of the consumption that should be covered by the PPA. In the meantime, the Commission should continue to work with electro-intensive industries on the various promising initiatives that could lead to the possibility for such consumers to cover larger percentages of their consumption using carbon-free electricity in the future (e.g. the development of markets for low-carbon goods, the development of multi-seller PPAs, as well as investment support under initiatives such as the Innovation Fund). Solving these problems is also the only way to entice other industries to increase their levels of electrification, which will be necessary in order to achieve climate neutrality by 2050.

Finally, the European Green Deal states that: "*the Commission will step up its regulatory and non-regulatory efforts to tackle false green claims".* Therefore, greenwashing (e.g. via the obligation to purchase Guarantees of Origin, which lack additionality) should be avoided.

Regarding (c):

The objective of the Guidelines is to reduce the risk of carbon leakage caused by indirect EU ETS costs. However, option (c) effectively reduces the compensation by 80% without reducing beneficiaries' exposure to indirect costs, and is therefore incompatible with the stated objective (indeed, it would likely have the opposite effect).

The proposed conditionality (requiring the beneficiary to re-invest 80% of the aid) essentially implies that the beneficiaries will receive some sort of 'positive' subsidy, when in reality the purpose of indirect cost compensation is to reduce electro-intensive consumers' exposure to an **actual** cost that burdens them but not their international competitors. By requiring the beneficiary to re-invest 80% of the aid, the exposure to these costs is only reduced by 20%, and therefore the risk of carbon leakage is not avoided (as mandated by the ETS Directive).

Furthermore, the investments proposed under option (c) would only lead to a reduction of **direct** emissions, without reducing the indirect costs passed on to these consumers through electricity prices. Therefore, the risk of carbon leakage would not be reduced.

Indeed, given that many of the eligible sectors are characterized by high levels of electrification (e.g. the primary aluminium production process is already fully electrified), direct emissions attributable to these sectors tend to be relatively low. As a result, this limits the scope for investments aimed at lowering direct emissions, meaning that it might not even be impossible to invest 80% of the aid in such projects.

[18] See here study by the Institute for European Studies, Vrije Universiteit Brussel (VUB), entitled "*Metals for a Climate Neutral Europe"*