



To: Directorate-General for Competition, Unit B3
Date: March 10 2020

HT.582 – Consultation on Guidelines on certain state aid measures in the context of the system for greenhouse gas emission allowance trading post 2021

About Alcoa

Alcoa is a global leader in the production of bauxite, alumina and aluminum products. In Europe, the company operates in Spain, Norway and Iceland, with four aluminum smelters and one alumina refinery. Two Alcoa smelters are located in Norway, one in Spain and one in Iceland, whilst Alcoa's alumina refinery in Europe operates in Spain.

Our electricity consumption in Spain and Norway faces indirect CO₂ costs that cannot be passed through to our final product price, whereas the degree of indirect CO₂ costs compensation has significantly varied in those two countries. Our operations in Iceland do not face indirect CO₂ costs. In 2018, Alcoa's four European smelters consumed over 13.2 TWh of electricity – 3.5 TWh in Spain, 4,7 TWh in Norway and 5,0 TWh in Iceland. In addition, our alumina refinery in Spain consumed 0.3 TWh in 2018.

Substantial electricity-intensity makes Alcoa's European operations exceptionally prone to carbon leakage risk. As a relevant example, Alcoa curtailed smelting operations in two of its Spanish smelters, in Avilés and La Coruña, from February 2019. The increasing costs of electricity in the country derived from different factors (including CO₂ price increase) contributed to this decision.

All Alcoa activities in Europe fall under the NACE code 2442.

Overall comments on the draft guidelines' principles

Carbon compensation's chief purpose is to prevent carbon leakage risks from quota-purchase obliged power producers passing carbon costs on through power prices. For undertakings which use electricity as the main source of energy and input, such indirect costs are considerably higher than the direct costs from buying allowances. Alcoa is a producer of primary aluminum, one the most electricity-intensive undertakings there is. Meaningful carbon leakage protection for the most electricity-intensive undertakings means a targeted level of carbon compensation.

For this reason, we fully support what we interpret to be the main intention in the proposed guidelines; a proportional and targeted aid that concentrates carbon compensation to where it is needed the most. We refer specifically to the draft guidelines' § 16: "aid must be targeted towards a situation where aid can bring about a material improvement that the market cannot deliver itself.....the aid must change the behavior of the undertaking (s) concerned in such a way that it engages additional activity, which it would not carry out without such aid...". Amongst others, both non-degressive aid intensity and the provision for a "hardship clause" show a firm commitment to meaningful carbon compensation from the Commission.

Targeted aid subscribes to the idea that carbon compensation must be at a level that sufficiently protects electricity-intensive industries against risks of carbon leakage. Also, targeted aid ensures that the distortion between carbon-intensive and electricity-intensive industries is reduced. Carbon intensive industries can receive full compensation for direct EU ETS costs (Benchmark and CSCF-dependent).

Below, we give more comprehensive remarks about numerous elements in the draft guidelines.

Level of carbon leakage protection

The provision to provide added carbon leakage risk protection to highly electro-intensive industries is extremely important and welcome. Member States should be given the option to limit indirect carbon costs to 0.5% of GVA for undertakings with a 20% electro-intensity, as in the EEAG.

Alcoa and other aluminum production undertakings in general are price-takers with no ability to pass carbon prices, both directly from buying allowances and in particular through the effect they have on electricity prices, to consumers. Aluminium is a commodity traded on the London Metals Exchange (LME). Any incremental costs borne exclusively by installations in some parts of the world cannot be reflected in global commodities pricing. A rise in energy prices, even small, would therefore have a significant impact on the European aluminum industry's competitiveness and market shares. The supply-side of the global aluminum market is dominated by Chinese smelters, and Chinese over-capacity is a fundamental market feature. China's growth in aluminum has curbed Europe's aluminum industry to a global market share of 5%.

It is highly welcome that the draft Guidelines clearly indicate that this is understood, and that carbon compensation must level out the playing field. Numerous paragraphs are relevant. First, § 26 says that at the sectoral level, the level of compensation will be 75% until 2030. Non-degressive aid intensity is essential. An arbitrary cut-down of carbon leakage protection would dilute the purpose of carbon compensation while also reducing confidence in the system.

A considerably more accurate way of adjusting compensation is to update the benchmark values, as recognized by the Commission. Its explanatory note says that it "considers that this update of the efficiency benchmarks is better suited to capture any potential efficiency gains in the sectors concerned than a per-se reduction of the aid intensity". We agree with the Commission's assessment that aid intensity should be stable throughout the ETS period with a mid-term update of the electricity consumption efficiency benchmarks to consider most recent data and production processes.

§ 30 is another extremely important part of the draft Guidelines. It introduces the possibility for Member States to further limit the exposure of beneficiaries to indirect costs as a function of their gross value added ("GVA"). This possibility, which is currently included in the Energy & Environment Guidelines (EEAG), is aimed at limiting the exposure of the most electro-intensive sectors for whom indirect carbon costs, when after applying 75% compensation, can make up a disproportionate amount of their GVA.

Alcoa strongly welcomes this new possibility. A continuation of the current State Aid Guidelines in Phase IV, without the GVA limitation, would not be enough to prevent carbon (and/or investment) leakage for the aluminium sector. Given the high costs we remain exposed to carbon leakage risk even after the maximum permitted compensation is granted. A more targeted approach, integrating elements from the EEAG, is severely needed in order to create a level playing field between eligible sectors.

While the principle of the GVA limitation is very positive and needs to be maintained, it could be improved by clarifying that the GVA limitation is at undertaking level and whom would be eligible for this limitation.

We propose that the system be fully aligned with that of the EEAG which gives Member States the option of further limiting the costs to 0.5% of the gross value added for undertakings that are particularly exposed to carbon leakage risk. Undertakings eligible for this measure should have an electro-intensity of at least 20%. To be in line with the incentive effects in the Guidelines, the calculations could be defined to be based on the electricity consumption efficiency benchmarks to avoid that inefficiency is compensated more than the most efficient undertakings.

Pass-through factors and definition of regions

Norway, as an EEA member, should be included in the list in Annex III and should be added to the Nordic region.

Pass-through factors based on domestic thermal generation may be accurate for Member States with ample thermal generation, but Member States with renewable-dominated power markets, where pass-through factors are determined by interconnectors to other markets, should, with the approval of the Commission, be allowed to use more appropriate methodologies such as power market models.

Regional definition

In the pass-through factor table in Annex III in the draft Guidelines, Norway is left out. Norway is an EEA member, a part of the EU ETS and has power prices that are very much influenced by EU ETS prices and should therefore be included in the list.

The Norwegian power market belongs in the “Nordic region”, i.e. together with Finland and Sweden. In the current guidelines, the Nordic region consists of Denmark, Finland, Norway and Sweden make out the Nordic region. We believe omitting Norway from the Nordic region to be an inaccurate representation of Nordic market homogeneity and pass-through factor similarities. Looking at empirical data, price differences between Norway and Sweden are verifiably not higher than those between Finland and Sweden. Therefore, by the Commission’s own logic, Norway should be included. Besides, price differences between the Nordic markets are mainly a result of specific events, e.g. excessive renewable generation or transmission outages, and not due to market fundamentals. The Nordic systems still share the same overall traits, considerable renewable-based share of flexible generation and baseload capacity, and a highly seasonal demand profile, meaning the substantial interconnector capacity between the countries are often not bottlenecked. This means identical prices. Moreover, the Nordic markets share the power exchange, the same marketplace for balancing services and the same rules and regulation.

The Commission proposes a region separation threshold of price differences of at least 1% in a significant number of hours. This is an overly strict and crude threshold factor that risks assigning too much weight to anomalies over fundamentals. Price differences between Norway and Sweden, for example, were indeed high in 2016 and 2017 compared to other years because of transmission capacity outages. This does not mean that the two markets are becoming inherently more “different”.

The 1% price divergence methodology contradicts the market evolution and the stated objective of the European Commission which is the completion of the internal market. A far more accurate metric for measuring price homogeneity for the Nordic region (and CWE) is an indication of how much prices affect each other, i.e. evaluating how prices correlate. Price differences will occur in specific situations, such as in periods with limited transmission capacity, and markets will not have identical prices until the transmission capacity between them is not a limiting factor and all bottlenecks are removed. Periods with very high intermittent and variable renewable generation will typically also yield price differences. Eradicating price differences is not economically viable as it would require excessive investments in transmission capacity. Price correlation also reflects pass-through correlation as the emission factor is “traded” through market coupling, and therefore price correlation is a far more accurate indicator of how pass-through factors spills over to connected markets than an overestimated market fragmentation does. The table below shows price correlation factors for a number of connected markets.

	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

It is clear from the graphs and tables that we can observe strong correlation between Sweden Norway, Finland and Denmark, and furthermore, Central West Europe is another connected region with common price setting and not national areas as the draft proposal.

Pass-through factor definition

The Commission proposes to continue the current 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 straightforward and has been able to establish reasonably accurate emission factors in Phase III as the defined regions were accurate. However, the values may be very inaccurate when areas are defined too small and for markets where the actual pass-through factor comes from price influence from connected markets (such as the Nordics, Austria, France and others).

In markets with a large share of hydropower and nuclear, like the Nordic power market, price setting is different to thermal markets where the marginal source of generation, typically gas-fired or coal-fired generation, sets the price. Norway, as an example, is dominated by hydropower with significant reservoir

capacity, and only a minor fraction comes from thermal generation. But although the Nordic power market is almost without CO₂ emissions, it is not without CO₂ cost. Some coal-fired generation remains in Denmark, Finland and Sweden, and this type of generation frequently defines the opportunity cost for hydropower generation, and therefore setting the overall price. Thermal generation on the Continental power market, to which the Nordics are connected, also set opportunity costs.

The Spanish and Portuguese markets, which jointly form the Iberian region, are also relevant examples. Prices in these two markets are highly correlated, and price differences only occur in the few hours per year when the wind energy generation is high. Both electrical systems have an average hydro generation in the range of 10-20%, where most hydropower stations have dams with enough storage capacity to regulate the power generation. The run-of-river generation is marginal. Under these circumstances, hydropower producers bid power to the market at a price that reflects the opportunity cost, i.e. at the expected marginal price of the thermal generation. To observe and establish the emission passthrough factor for the Guidelines in such complex markets, the Commission's methodology of using just the thermal domestic generation will give inaccurate pass-through factors.

Electricity market models can more accurately describe what actually happens in markets such as the Nordics. While power market models were deemed not sufficiently established to provide EU-wide analysis when the current guidelines were developed, there are today a host of models that can provide accurate simulations of most European power markets. Such models have long been used by policy-makers in the Nordics. Therefore, the Guidelines should open for such methodology on request from Member States and approved by the Commission to obtain the most accurate numbers.

For more accurate definition of emission passthrough factor, we recommend the following:

- i. The proposed methodology is sufficient to define the passthrough factor in thermal markets and also in large regions where renewable energy is intermittent and variable and has no regulation capability.
- ii. The methodology gives inaccurate results if areas are defined wrongly too small, and where the factor is impacted by neighboring areas and in markets where hydropower generation has a significant role and bids at opportunity costs.
- iii. Electricity market models could be used on request from MSs in countries/regions where the actual pass-through factor comes from price influence from connected markets and not from domestic emission-intensive power generation.

Conditionality

The reference to on-site renewable generation and the linking of carbon compensation to direct emissions should be removed.

Given the degree of electricity-intensity and that end-products are traded on global markets with tight margins, primary aluminium production has the strongest inherent incentive to be as energy efficient as possible. Therefore, we a priori have reservations about making compensation conditional upon energy efficiency. Nevertheless, we understand the conditionality requirements proposed by the Commission and wish to share the following input.

Paragraphs 53 and 54 describe the conditionality to receive aid. We believe certain modifications to paragraph would make the system more efficient:

a) Onsite renewable energy generation: Given the huge amounts of electricity needed to produce non-ferrous metals, stipulating that 50% of this energy should come through "on-site renewable energy generation facility" is not even technically feasible. Alcoa, for instance, has signed several large PPAs with wind energy providers in recent years, but the investments in wind parks themselves should be done where there is space available for economic investments and the wind resources are readily available, not within industry sites. The reference to "installing on-site renewable energy generation facility" should therefore be removed.

b) Linking with direct emissions (80% share):

The objective of indirects compensation is to reduce the risk of carbon leakage due to the impact the EU ETS has on power prices. Using a considerable part, up to 80% of indirects compensation, to address direct emissions, is not in line with this objective. Incentives to reduce direct emissions should not be included in this piece of legislation but in other legislation (ETS Directive).

In addition, requesting that primary aluminium production use 80% of the electricity price compensation to address direct emissions may not be possible and not in line with the stated intentions of operating aid. Primary aluminium production directs a large part of investments and challenges to energy efficiency and a lower share of costs linked to direct emissions. A requirement to spend carbon compensation on curbing direct emissions would be at odds with encouraging industrial electrification.

Benchmarks

Benchmarks are the best methodology to incentivize energy efficiency and should be based on actual data for the 10% best performers. Benchmarks should not be linked to the ETS article 10a (2).

Annex III will define the electricity consumption benchmarks, with paragraph 14.13 outlining the electricity consumption efficiency benchmark and with paragraph 66 outlining that the benchmarks should be updated in 2025.

Overall, benchmarks are the best methodology to incentivise energy efficiency and emissions reduction. We believe that benchmarks should be based on actual data for 10% best performers and thus, disagree with part of the methodology to decide the benchmark.

We disagree that benchmarks should be linked to the ETS article 10a (2) as an arbitrary yearly decrease will not be based on real data. It would result in an arbitrary reduction of the level of compensation, leading to the risk of insufficient protection against the risk of carbon leakage.

We support the continuation of current definitions at Prodcum 8 level. We would recommend that the European Commission, working in tandem with a consultancy company, collect electricity data at Prodcum 8 level with the involvement of respective commodity associations which request them. This would be a similar exercise to the process run in 2011/2012.

Other issues

Alcoa believes firmly that compensation should be based on previous year's *production data*. This will ensure that the system is more dynamic and will avoid overcompensation, which is an objective in state aid cases, while providing incentives for the industries growth investments. We welcome that in § 27 (Maximum aid calculations) and § 14 (11), the Commission defines the production level to be compensated based on previous year's compensation. We fully support this methodology which.

Alcoa also supports that the current CO₂ price definition (average of the daily quotation of the EUA forward price of the year t during the year t-1) should be kept. We are pleased to see that in paragraphs 27 and 14.9, the Commission has decided to continue with its current definitions. Such a system will ensure that compensation is neutral to each company' power sourcing strategy.

Finally, we fully support that benchmark and emission pass through factors shall be updated in 2025 to consider technology developments and the decarbonization of the power sector. We support the Commission's proposal to have mid-term updates of both values in 2025.

We remain available to answer any questions and to continue the exchange.