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POSITION PAPER

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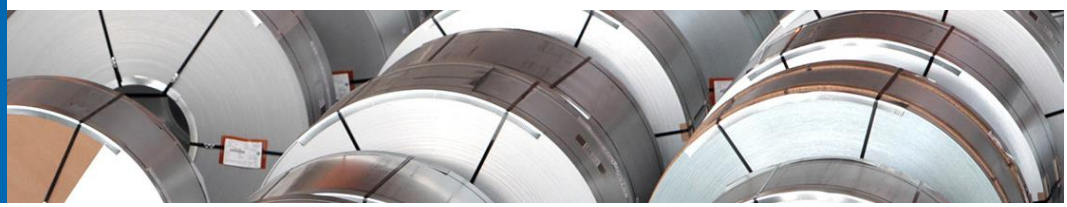
COMPENSATION OF INDIRECT CARBON COSTS IN THE POST 2020 EU ETS



OUR KEY MESSAGES

- The steel industry (NACE code 2410) is at very high risk of carbon leakage and should remain eligible for financial compensation after 2020;
- The very high risk of carbon leakage is due to a combination of factors: high trade and energy intensity; exposure to global overcapacity and unfair trade practises; low profitability;
- Both steel production routes should remain eligible for financial compensation, notably:
  - The electric arc furnace (EAF), which uses electricity to melt and recycle scrap;
  - The integrated route, which consumes electricity produced from the combustion of waste gases generated unavoidably by the steel making process. Financial compensation for this case is explicitly mentioned in recital 13 of the post 2020 EU ETS Directive;
- The aid intensity should be 100% (of the benchmark) and not be digressive; the carbon leakage risk faced by the sector is not digressive as long as there is no comparable climate legislation in competing countries;
- The most appropriate way to address intra-EU competition is a mandatory implementation of compensation schemes in all member states. On the other hand, any option that involves a reduction of the amount of possible compensation is clearly not acceptable;
- Compensation should not be made conditional because it does not distort incentives for energy efficiency investments, since it is based on very strict benchmarks. Such conditionality would penalise early movers and overlap with other pieces of legislation;
- Company specific assessments on the basis of the Gross Value Added (GVA) present several important limitations because the GVA is highly dependent on the companies' structure and may lead to unintended results in case of early movers;
- The CO_2 emission factor must reflect the actual CO_2 cost passed through into prices. The approach of using historical empirical data on the emission factor in the relevant regional market should be maintained in order to ensure a consistent and stable framework;
- Several sectors (industrial gases, mining of iron ores and pipes) belong to the same value chain and need to be eligible for compensation since they contribute to the carbon leakage exposure of the steel industry.

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STEEL INDUSTRY AT VERY HIGH RISK OF INDIRECT CARBON LEAKAGE

The steel sector (NACE code 2410) has been considered at risk of carbon leakage under EU ETS phase 3, both for direct and indirect costs. As no major element has reduced such risk (on the contrary, higher carbon prices have increased it), it should clearly remain eligible also for financial compensation, as done with free allocation.

The main raw materials used in the production process (iron ore, coke, and scrap) as well as the steel products are globally traded goods that can be easily transported. Hence, very small price differences play an important role on the market.

The bulk of carbon leakage in the steel sector occurs as a result of the slow but persistent loss of sales to the advantage of competitors who all operate in countries where there is no such internalisation of carbon costs. The most marginal sales in terms of contribution are the first to be lost, for instance in export markets. The resulting loss in sales volumes pushes up average fixed costs, thus reducing the contribution of the remaining sales, so that more business "falls off the cliff" as no longer being profitable. Thus competitors from third countries progressively gain EU market share at the expense of EU producers' as an increasing proportion of the latter's' sales become marginal. Statistics on imports and exports of the last years provide indication of this trend, with the EU that became a net importer of steel finished products while traditionally it was a net exporter.

The high carbon leakage risk of the steel sector was also underlined in the "In-depth analysis in support of the Commission Communication COM (2018) 773- A Clean Planet for all- A European long-term strategic vision for a prosperous, modern, competitive and climate neutral economy". In the tables 13 (page 221) and 16 (page 225), ferrous metals is the energy intensive sector with the highest impact both on output and on investments from the increased unilateral climate ambition in line with 1.5° objectives. As an order of magnitude, the additional downward impact is estimated at 10.1 % for steel, while the second impacted sector (non-ferrous metals) is estimated only at 3.5%.

Market characteristics of the steel industry

The main market characteristics that determine its very high exposure to carbon leakage are:

- Combination of both high trade and energy/electro intensity: according to the Commission data used for the post 2020 carbon leakage list the trade intensity is 25.7% and indirect electro-intensity is 1.414 kg CO_2/€ GVA.
- Global overcapacity (sections 1.1 and 1.1.2 NERA study): the gap between global production and demand was 650 million tonnes in 2017, which is almost three times the European capacity of around 220 million tonnes. EU industry has reduced both capacity and production over the last decade. The EU market share in the total production decreased from 15% in 2008 to 9% in 2018.
- Exposure to international trade and unfair trade practices such as dumping (sections 1.2.1 and 3.1 NERA study): imports have been steadily increasing in volume and value since 2012 reaching the highest levels despite the measures implemented by the EU in reaction to such unfair trade practices. As a result of the combined effect of increasing imports and decreasing exports, the trade balance has worsened significantly. The EU became net importer in terms of quantities in 2013 and in terms of value in 2015.
- Low or negative profitability (section 2 NERA study): the EBIT margin estimated with Eurostat figures remained between 1% and 2% in the reference period 2014-2016 (and was even negative

in 4 out of the 6 preceding years). The steel sector is the third lowest for the ratio Gross Operating surplus/turnover among all (35) sectors addressed by the targeted consultation.

Steel production routes

Two processes are employed in the EU for producing steel. One, the electric arc furnace ("EAF"), uses electricity to melt scrap to produce new steel. This process contributes to the sustainable use of natural resources as it recycles scrap ('old' steel which is in principle 100% recyclable).

The other process is called integrated route ("BF/BOF") and produces steel using mainly virgin raw materials (iron ore, coal and limestone) with the addition of some steel scrap. Since there is a finite amount of scrap available and due to quality constraints, the integrated route is indispensable to meet the demand of an ever growing steel market.

The iron ore-based steel making sites are characterized by the production of waste gases (coke oven gas, blast furnace gas, basic oxygen furnace gas) which due to their residual calorific value are recovered to generate heat and steam (replacing natural gas) but also electricity (depending on the energy balance of the site). The most efficient way to treat exceeding waste gases is to use them in power plants for electricity production. The main characteristic of this waste gas-based electricity production is that it is not demand driven but depends exclusively on waste gas availability related to the production of steel.

According to the Commission Delegated Regulation 2019/331 on post 2020 free allocation rules (consistently with the pre-2020 Benchmarking Decision), recital 18, "*for the determination of the benchmark values for products of which the production generates waste gases, the carbon content of those waste gases should be taken into account to a large extent;[…] where waste gases are exported from the production process outside the system boundaries of the relevant product benchmark and combusted for the production of electricity, no additional allowances are allocated beyond the share of the carbon content of the waste gas accounted for in the relevant product benchmark*".

As a result of this principle, the steel plant generating waste gases transferred to power plants faces a structural shortage in free allowances corresponding to the natural gas emission factor that is subtracted from the benchmark value. Due to this free allocation shortage, it is essential that the integrated steel plants remain eligible for financial compensation of indirect costs. This element is acknowledged and stressed also in the post 2020 EU ETS Directive 2018/410 (recital 13): "*It would be desirable that Member States partially compensate, in accordance with State aid rules, certain installations in sectors or subsectors which have been determined to be exposed to a significant risk of carbon leakage because of costs related to greenhouse gas emissions passed on in electricity prices, including inter alia for the consumption of electricity by the installations themselves produced through the combustion of waste gases*".

According to the Commission staff working document accompanying the latest Report from the Commission on Energy prices and costs in Europe, electricity consumption in the EAF route was around 0.53 MWh/t in the period 2014-2016 and in the BF/BOF route 0.35 MWh/t.

In addition to direct electricity consumption, it should be noted that steel sector uses also significant amounts of industrial gases such as oxygen for unavoidable purposes which have an important embedded electricity consumption. On the basis of the data from the Best Available Techniques Reference document (BREF), the embedded electricity consumption related to oxygen is estimated at 24 kwh/t crude steel in the EAF route and 92 kwh/t in the BF/BOF route.

Both routes are indeed facing fierce competition from countries with no CO_2-related constraints, not only on the upstream market but also in electro-intensive downstream processing activities (e.g. rolling, coating).

Global and intra-EU competition

The steel sector is in high competition both within the EU and vis a vis third countries' producers. Considering the relatively low market share of EU production in total global production as well as the high exposure to international trade and unfair trade practices related to global overcapacity, the extra-EU competition puts the whole EU market under great pressure and risk of carbon leakage.

The rules on financial compensation should prioritise the objective of mitigating the risk of carbon leakage against third countries as clearly set in the EU ETS Directive. This is consistent both from the environmental viewpoint and industrial competitiveness. Indeed, any leakage of production outside the EU to constituencies that do not have a comparable cap and trade mechanism will result in higher emissions and leakage of investments, production and jobs.

The intra-EU competition is indeed a relevant element of any industry that cannot be ignored. The most appropriate way to address it is a mandatory implementation of compensation schemes in all member states. On the contrary, any option that involves a reduction of the amount of possible compensation is clearly not acceptable, as it would weaken during the implementation phase the only instrument foreseen by the ETS Directive to defend the sectors most exposed to indirect carbon leakage.

Conditionality

Compensation should not be made conditional on energy efficiency requirements. In fact, energy efficiency improvements are a must for industries with high energy costs in order to remain competitive. Compensation of indirect costs does not distort incentives for energy efficiency investments because it is still based on very strict benchmarks reflecting the best performance in the sector. Furthermore, such conditionality would penalise early movers that are close to technical limits. Finally, other pieces of legislation, such as the Energy Efficiency Directive, include provisions in this regard.

Aid intensity and digressiveness

The steel sector is highly exposed to carbon leakage risk linked to indirect costs and is unable to pass through unilateral regulatory costs without genuine risk of losing market shares. This risk is even more relevant in the context of much higher carbon prices compared to the ones experienced until 2017. Furthermore, affordable and competitive electricity prices are essential to facilitate the transition to breakthrough technologies which require even larger amounts of electricity. Therefore, it is important to set the aid intensity at 100%; existing and further reductions of the aid intensity undermine the effectiveness of the carbon leakage provisions because actually the risk faced by the sector is not digressive as long as there is no comparable climate legislation in competing countries.

Even 100% aid intensity would not mean full compensation of indirect costs, as it would still be capped by the very strict benchmarks. For instance, in fall back benchmarks, it would still be reduced by 20% compared to the baseline electricity consumption; i.e. with the current 75% aid intensity level fixed in 2020, the installations in fall back may receive compensation only for 60% of the indirect costs (75% of 80%). This is far below the maximum aid intensity level according to EU state aid rules.

Limitations of company's specific assessment

Modulating aid intensity on the basis of the Gross Value Added (GVA) of individual companies presents several important limitations. The GVA of companies is highly dependent on their structure, including the configuration of the production steps where the higher share of value added is generated. Furthermore, company-specific assessment on electricity consumption may lead to unintended results in case energy efficiency measures that have been already implemented.

Emission factor

As a matter of principle, the CO_2 emission factor must reflect the full indirect CO_2 burden, i.e. the actual CO_2 cost passed through into prices. The approach of using historical empirical data on the emission factor in the relevant regional market should be maintained in order to ensure a consistent and stable framework. The calculation of this factor should be based on reliable and transparent sources in order to reflect the real costs faced by the industry.

Sectors closely linked to steel industry: pipes, industrial gases and iron ores

In the EU ETS phase 3 seamless steel pipes were also included in the list of eligible sectors as they are closely linked to the steel sector. Therefore, they should remain eligible.

In addition to direct electricity consumption, it should be noted that steel sector uses also significant amounts of industrial gases (NACE code 2011) for unavoidable purposes such as oxygen which have an important electricity consumption embedded. On the basis of the data from the Best Available Techniques Reference document (BREF), the embedded electricity consumption is estimated at 24 kWh/t crude steel in the EAF route and 92 kWh/t in the BF/BOF route. The lack of compensation for the indirect costs linked to these gases further exposes the steel sector to carbon leakage risk. Therefore, the consumption of industrial gases should also be considered as eligible for financial compensation. This provision is also important in the context of the medium to long term transformation of the sector, whose breakthrough technologies will need large consumption of industrial gases like hydrogen.

Finally, it should be noted that also the NACE code 0710 (Mining of iron ores), which is eligible for financial compensation in the EU ETS phase 3, is very important for the steel sector as it is within the same value chain because it covers the material "sintered iron ore". Since it contributes to the overall exposure to the indirect carbon leakage risk of the steel industry, it is important that it remains eligible for the post 2020 period.