##### **Document supporting Public consultation on** **Review of the EU State Aid Guidelines for Environment protection and Energy (EEAG) post 2020**

*This document summarizes the reactions from the Finnish Steel and Metal Producers (FSMP) on the European Commission’s public consultation on the* EU State Aid Guidelines for Environment protection and Energy (EEAG) post 2020*. FSMP represents the entire Finnish metal production sector which employ directly and indirectly close to 50 000 people. Finland has Europe’s biggest stainless steel and nickel production operations and produces big portion of Europe’s battery and other basic metals.*

*We appreciate the opportunity of the European Commission to provide on the applicability and fit-for-purpose of the proposed review of the EU State Aid Guidelines for Environmental protection and Energy (EEAG) post 2020*

**Introduction**

##### Finnish Steel and Metal Producers supports the EU Commission’s comprehensive review of the EU State Aid Guidelines for Environment protection and Energy (EEAG) post 2020. Decarbonization and electrification of energy intensive industries, like steel and non-ferrous metals production, will require substantially upfront investments in research, scaling-up and demonstration of low-carbon processes, and clean energy production, and especially electricity, in a relatively short time period of time. This can only be achieved if the EU state aid guidelines takes into consideration the relevant aspects of supporting the low CO2-emission technology investments and use. State aid guidelines should facilitate this transformation and maintain a flexible approach that prevents prescriptive and rigid regulation which do not take the dynamic evolution of technology and value chains into account. The transition towards carbon neutrality will not be linear, but will rather require step changes, investments and adaptations spanning over several decades.

As discussed profoundly in the various EU Commission Green Deal strategies, successful transformation of the EU energy intensive sectors is undoubtedly the most important single task to successfully achieve the climate change mitigation targets. We believe that Europe has the unique opportunity to lead the transformation of its economy to a future in which it is CO2 neutral, environmentally responsible, circular and able to compete internationally addressing third country trade distortions without inhibition. Steel and non-ferrous metals are central to the EU economy, and it underpins the development of major manufacturing sectors right along the value chain. Our industry sustains close to 6 million direct and indirect jobs in the EU. Our view is that to make the EU’s recovery plan and green transition a success, a Green Deal on Steel should be agreed between EU steel industry and the EU institutions and governments, with a clear action plan establishing a market for green steel in the period 2021 to 2030. This plan can serve as a blueprint for other sectors, and help the industry out of the worst economic crisis in decades[[1]](#footnote-1).

As for the European non-ferrous metals industry, it is already the most electrified of all energy-intensive industries, with a 58% share of electricity use in its overall energy consumption. To give the example of zinc, in 1990, full hydro represented only 62% of the zinc metal production. Presently, most zinc (93%) is produced using RLE[[2]](#footnote-2) (full hydro process). With further electrification of industry, aligned with EU’s 2050 vision, other industries (i.e. steel, chemicals) could follow the zinc pathway and face the same challenges. While non-ferrous metals production is already very electro-intensive, there still exists potential for further shifts to replace fossils fuels with electricity. In some pyrometallurgical smelting routes, higher levels of electricity use can be possible by replacing fossil fuels with other electricity-based heating technologies (e.g., induction heating). In the nickel industry, various sources of fossil fuels are used in the production of technical/industrial gases which might be replaced by electricity (longer-term). Electric heating can also be considered as a replacement to the fossil fuel used for heating in auxiliary processes (e.g., boilers and heating). Finally, in secondary production and more downstream applications, electricity might be a viable replacement for some processes using e.g., natural gas as energy source being replaced by induction heating. For higher levels of electrification to be viable, electricity prices need to be competitive vis-à-vis the current technologies.

Consequently, a climate ambitious state aid policy and its enforcement should, as a general principle, take into account the impact on the global competitiveness of the European industry as a key factor. Global warming is not an EU internal-market problem, but rather an international one. Through its ambitious climate policy, Europe is leading on international climate action, [but its effort will have limited effect if we do not see corresponding, reciprocal effort by other large nations or regions](https://european-calculator.eu/wp-content/uploads/2020/04/EUCalc_PB_no7_Trade.pdf). By acting alone, European industry is suffering from added costs compared with main international competitors. Until this global level playing field is established, European industrial competitiveness needs to be safeguarded also via competition policy. In today’s carbon constrained world, globally competing industries, such as steel and non-ferrous metals, are exposed to market distortion due to different non-reciprocal climate policies worldwide. Therefore, it is of utmost importance that competition policy and state aid address growing global competition imbalances, too.

Particularly, for the non-ferrous metals industry, it should be noted that we face major competition distortions vis-à-vis China, whose non-ferrous metals production has multiplied tenfold in 20 years and currently represents 50% of global production. The Chinese non-ferrous metals sector is also characterized by a number of state-owned enterprises who are primed to become national champions. Despite the coal-based electricity grid, the Chinese industry is not subject to any direct or indirect carbon cost. Its overcapacity has been documented[[3]](#footnote-3) and industrial installations receive consistent subsidies that the EU Commission has repeatedly acknowledged[[4]](#footnote-4).

Α key aspect of EU state aid policy has always been the definition of the ‘relevant market. When the EU’s competition policy was designed, the internal market was the relevant market. However, the market in which steel and non-ferrous metals operate is now a global one, in which the internal market is merely a sub-market, in fact one that’s becoming less and less crucial in shaping the (global/relevant) reality of the market. Thus, competition distortions have to be assessed in the correct framework, i.e. the global one. Focusing simply on whether one European company is in an advantageous position compared to another, is sub-optimal at a time when both of these companies are being surmounted by subsidised Chinese metals production. In attempting to maintain a level playing field within Europe, the EU is inadvertently helping non-EU companies, who are not subject to the same restrictions and have therefore grown to enjoy dominance in the actual market (i.e. the global one). The end result is that the EU’s competition policy actually ends up helping the globally dominant players, which can lead to a counter-intuitive effect to the one competition policy should have.

State-aid schemes should also consider the need for a level-playing field between EU EIIs and global competitors, acknowledge the specificities of industrial sectors and avoid the unintended effect of compromising the global competitive position of European EIIs. EU State aid rules only arrange for a level playing field within the EU, without also ensuring a level playing field for EU companies competing worldwide, apart from the existence of a so called “matching clause” in some situations (e.g. the Research, Development and Innovation framework) to compensate for the distortive third-country subsidy. However, this clause has never been applied because there is a lack of data regarding aid granted to competitors by third countries.

Direct industrial electrification is a major opportunity for Europe to achieve its climate neutral objectives. European steel and non-ferrous metals producers are the frontrunners in industrial electrification and would reduce their GHG footprint by 81%-90% should power be decarbonised. Given the major potential of direct industrial electrification, equal treatment should be given between direct and indirect electrification (i.e. increased use of hydrogen powered by renewables, etc). Any support schemes designed to support indirect electrification (contracts for difference for renewable power hydrogen, etc) should also be available for direct electrification (i.e. renewable PPAs signed by non-ferrous metal producers).

Consequently, we need to be careful that the regulatory framework does not give wrong signal to industry and discourage industrial electrification and use of electricity as an energy source. From a public policy perspective, in order to encourage the electrification of more heterogeneous production processes as a decarbonisation pathway (The power generation sector has full decarbonisation potential) it is important to limit the regulatory costs of electrification.Too high a regulatory cost would seem inconsistent with the 2050 long-term strategy which promotes the electrification of industry as one of the key pathways to meeting our 2050 decarbonisation objectives.

**Recommendations on the revision of the EEAG**

With regard to the EEAG, the most important modification is the granting of aid for decarbonisation measures in energy-intensive industry, both for additional operating cost and investment cost. The revision of the EEAG should, in our view, be closely linked to the climate objectives set out in the European Green Deal. The transition of the steel industry, for example setting-up of new low-carbon production facilities, first deployment, their operational costs, and dismantling and clean-up costs of the replaced facilities, incurs tremendous costs that the sector will not be able to bear on its own.

With a view to avoid intra-EU competition distortion, the EU should aim at a Europe-wide revision and harmonization of rules, based on a holistic, forward looking planning, taking into consideration the position of all relevant stakeholders, and particularly that of energy intensive industries. Policy planning of aid instruments requires a careful assessment, taking into duly considerations aspects related to international competitiveness of industry.

Against this background, the scope of the current EEAG needs to be amended in a way that provides European steel and metal producers with the much-needed financial support. The transformation to low-carbon production processes is time intensive and investment decisions taken today are expected to start having an impact – in a best-case scenario – in 10 years. Thus, it is crucial to start and/or continue performing this shift as soon as possible and to support the companies in their efforts, by introducing provisions that ensure the following:

* Granting aid for decarbonisation measures in energy-intensive industry, both for additional operating cost and investment cost;
* Granting aid for dismantling CO2 heavy production sites after transformation to production sites mainly relying on low-carbon energy;
* Providing support for investments in low carbon energy sources (such as the use of H2 production);
* Extending its scope to render the use of low carbon energy eligible for aid as well (demand-side measures);
* Granting state aid not only explicitly to CCS, but also to other breakthrough technologies in industry, like H2 based production and CCU;
* Incentivize the reuse of waste as secondary material and to stop incentives and aid for incineration

Funding of investment cost and aid intensities are also very important. As decarbonizing energy-intensive industries requires massive investments, there is a necessity to increase aid intensities to 100% the full financial needs.

In some cases, the current aid intensities are too low and this can block future decarbonisation projects. For example, if investment into low-carbon production process is considered as “Aid for undertakings increasing the level of environmental protection in the absence of Union standards, 40 % aid intensity for large company (50 % if eco-innovation) is certainly not sufficient compared to the important amounts needed to invest in such decarbonisation measures; nothing is envisaged in the current EEAG for dismantling CO2 heavy production sites after transformation while 100% aid intensity is possible for the remediation of contaminated sites or 50% for relocation of undertakings ..."

Some other aid intensities are even lower (even only around 20 – 30 %); too low to trigger these high-volume investments. The reason is, that there remain still considerable uncovered funding gaps which inhibit the required decarbonisation projects necessary to enable the Green Deal.

Decarbonized processes and products often require more expensive input materials and/or energy mixes. Therefore, it is crucial to allow funding for additional operation costs unit to establish a working market for “green products”. Therefore – accompanying the staid-aid reform – necessary legal measures (e.g. obligatory quotas for green-products; enhancing green public procurement etc.) must be taken to establish a “lead market for green products” which will cover the higher costs (investment and operational cost) by itself at the long run. Until this has been achieved, state-aid is the only option to stimulate and enable the Green Deal.

The objective of the support is to bring low CO2 processes to the market on a large industrial scale, a large part of which is already available. The criterion for approval under the state aid rules will therefore not only be the degree of innovation, but particularly the achievable far-reaching reduction volumes of greenhouse gas emission of such projects; similar to the ETS Innovation fund.

Recycling waste streams into products which currently are incinerated is highly beneficial for decarbonization. It is therefore required to stop incentives and aid for incineration plants. At the same time, FSMP requests that the reuse of waste as secondary material resource, in a cradle-to-cradle way, should be eligible for state aid under EAAG.

In particular, the upcoming revision of the Guidelines on EEAG should set the right framework for ambitious CCfDs to be implemented at national and sectorial level. In this context, the EEAG shall be revised and introduce CCfDs, factoring in criteria that are necessary for the transformation of industrial sectors such as steel.

We propose the following adjustments to the environmental and energy aid guidelines, in order to implement the requirements:

* Definition of a general compatibility criterion “conversion to low CO2 or CO2-neutral production”, according to which support for additional investment and operating costs with an aid intensity of 100% is expressly permitted under the state aid rules;
* Inclusion of a special rule on the compatibility of carbon contracts for difference (CCfD) as a key instrument for the promotion of projects to introduce low carbon production processes.

**Carbon contracts for difference (CCfD) needs to be designed fit-for-the-purpose**

Questions 35 to 38 ask about the role of carbon contacts for difference. At this stage, we would like to point out that we think the Commission and Member States should consider using a carbon contract for difference or similar mechanisms not just to incentivise breakthrough technologies but also to encourage long term low carbon PPAs between industry and providers.

Indeed, CCfDs could be a game-changer, speeding up the EII transformation. If well designed, CCfDs could provide substantial financial resources and underpin aviable business model to produce low-carbon steel and non-ferrous metals at a commercial scale in Europe.

Importantly, the EU needs a supportive regulatory framework and enabling policies to empower the European steel and non-ferrous metals industry to contribute to the EU’s climate objectives and sustainable growth targets; a holistic approach in terms of policy solutions is necessary, ranging from proposals to ensure free and fair international trade, to R&D support, financing solutions, climate and energy policy, circular economy and environmental policies[[5]](#footnote-5).

As a frontrunner, the EU is already setting ambitious benchmarks on low-carbon steel and metals globally, driving the transition of other regions in the world that today lag behind. From a long-term perspective, the EU will benefit from greater market share, once the demand for low-carbon products takes up, provided that it supports the industry addressing the technological and financial risks. However, without a well-functioning support mechanism in place for the EII industry we are presently running in the danger of loosing out leading position via lower profitability and lack of new investments in the steel and non-ferrous metals production.

The upcoming revision of the Guidelines on State Aid for environmental protection and energy 2014-2020 (EEAG) should set the right framework for effective CCfDs to be implemented at national level. In this context, the EEAG shall be revised and introduce CCfDs, factoring in criteria that are necessary for the transformation of industrial sectors such as steel, namely:

1. recognise the greater added value for society from investing in low-carbon steel and non-ferrous metals production, by allowing **dedicated sector and project-specific CCfD for steel and metals sector**. Auctioning procedures, especially if organised across different industries, are not a viable solution for our industry.
2. allow CCfDs to cover the **full abatement costs of the new low-carbon processes** (i.e. the “difference” should be calculated between production costs of low carbon technologies and production costs of conventional ones, without discounting the avoided ETS-related costs)
3. **accept long-term duration of CCfDs**, tailored to the specific characteristics of industrial sectors with very long investment cycles such as steel and metals (duration of projects up to 10-20 years)
4. adopt an adequate **methodology for the calculation of emission reductions** volumes achieved by a company via the investment in the project.
5. provide **sufficient and complementary funding**, and further **de-risk CCfDs** (ex-post evaluation and indexation)

The original concept for a ‘Carbon Contract for Difference’ is to compensate for the difference between the ‘strike’ price (i.e. the agreed price in the contract) and the yearly average price of emissions allowances (EUAs). Yet, as explained below, this design would not contribute to a viable business case which would be required to compete with conventional steel.

Carbon Contracts for Difference need to cover the full abatement costs of the new low-carbon processes, as this is the only way to create a concrete business case ensuring that projects on low-carbon steel are implemented. An improper design could otherwise result in a CCfD that would fail to make low-carbon production process economically viable.

CCfD require also to factor in the lack of a global-level playing field compared to third countries where EII industry is not subject to similar CO2 costs constraint as production in the EU. This is particularly true for materials such as steel and non-ferrous metals where the pass-through of unilateral regulatory costs is not possible due to fierce international competition, as also confirmed by the low profit margins registered by the European sector.

Therefore, an effective CCfD – one that makes low-carbon steel internationally competitive – necessitates aid at the level of the full abatement costs in the EU, i.e. the “difference” should be calculated between production costs of low carbon technologies and production costs of conventional ones, without discounting the avoided ETS-related costs. As an example, a project that delivers emissions reductions of 2 tonnes of CO2 per tonne of steel while entailing total costs of €700 per tonne of steel (after deducting possible benefits) compared to production costs of €500 per tonne of steel for conventional production (without considering ETS costs) would be granted a CCfD of €100 per tonne of abated CO2 (i.e. €200€ / 2 tonnes of CO2).

A CCfD that compensates only for the difference with the EU ETS price would fail to provide sufficient incentives in high-risk investment in low-carbon technologies since they would remain exposed to international competition not subject to any carbon constraints. The strike price in a CCfD should cover the full cost-difference of the transformation, including operational costs and the additional investment costs (i.e. financial services for interest and depreciation), if funds for the latter are not made available under different funding instruments. It must be ensured under State Aid law that different instruments can be combined.

Since the partial compensation of the additional abatement costs would not be sufficient as an investment incentive, restrictions on the possibility to grant subsidies up to 100% of the eligible costs must be avoided under State Aid law, and it should be possible to combine funding from other instruments under the same CCfD where necessary.

All costs and benefits should be taken into account in the contract in order to address risks of under or over compensation. Regarding free allocation, only allowances that are actually granted to the installation after the implementation of the project (i.e. taking into account the possible cross sectoral reduction factor and any other possible reduction) and available to be sold on the market should be accounted for and deducted in the calculation. Yet, it should be noted that according to the current ETS rules, free allocation for low-carbon technologies would be significantly reduced compared to the conventional technologies.

Therefore, a separate chapter on Carbon Contracts for Difference with EU-wide harmonised criteria should be included under revised “Guidelines on State Aid for environmental protection and energy”.

Low-carbon steel and non-ferrous metals produced with the support of CCfDs will co-exist with conventionally produced products for two decades to come as the transition of the European industry will be gradual. It is therefore necessary to complement measures to stimulate lead markets for low-carbon steel and metals with effective measures against carbon leakage.

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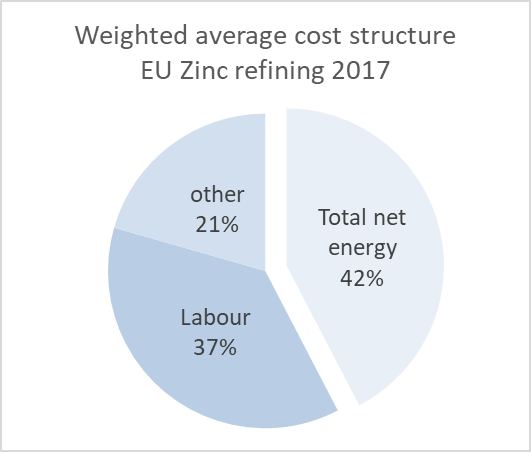
##### **Case I in point: Zinc**

Primary zinc production in Finland has almost completely switched its energy from fossil fuel to electricity over the past decennia. Therefore, it has become now a very electricity intensive sector as compared to other industries.

Any increase in electricity cost will hit the operational margins in zinc refining industry substantially. Energy consumption accounts for 42% of production cost. Over 95% of the energy use is electric power.

* Power costs in Europe are significantly higher compared to other regions in the world with zinc refining capacity
* Global Zinc price is set on daily at the London Metal Exchange.
* Electricity is produced locally
* Zinc smelters cannot pass on higher regional production costs

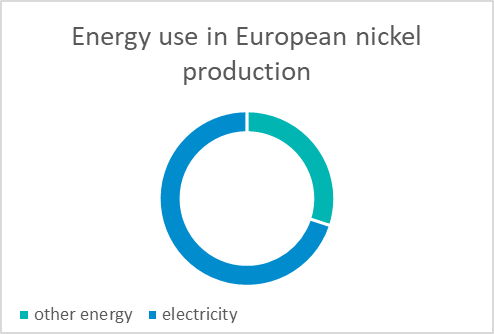
Power costs for primary smelters in EU accounts on average for about 40% of conversion costs. Therefore, electricity is a substantial cost element, with potential large impact on the operational margin.

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**Case II in point: Nickel**

Finnish nickel producers are known to be amongst those with the highest energy efficiencies globally. Between 1999 and 2011, the greenhouse gas emissions from nickel production were reduced by more than 40%, as shown in published and peer reviewed life cycle data collected by the nickel industry. In Europe, electricity accounts for roughly 70% of the total energy used in nickel production. Around 70% of the global nickel production goes into stainless steel production. Nickel metal from Finland´s nickel producers competes with other nickel products produced outside Europe, such as ferronickel (around 30% nickel content) and nickel pig iron (3-15% nickel content).

These nickel products are characterized by production processes with far higher emission intensities. Compared to nickel metal, ferronickel shows a 4 times higher carbon footprint. Nickel Pig Iron, a product which predominantly is produced in China, has on average a carbon footprint which is 10-12 times higher. Any production allocation would therefore result in an extreme case of carbon leakage.



Different than in other metals industries, there is no standard process to produce nickel. The European nickel production processes are tailored to the range of raw materials inputs (e.g. nickel matte, nickel oxide sinter, nickel anodes for batteries) which are imported to the European nickel refineries and vary in chemical and mineralogical composition. In order to achieve a high resource efficiency and to keep the production processes competitive, the processes are furthermore tailored to recover as much as possible potential by-products, such as cobalt, copper and platinum group metals.

The processes also vary in view of their electro intensities. While some processes are completely electrified, others use different forms of fuel as major energy input. As a highly energy intensive industry with energy being a major share of the total production costs, the improvement of energy efficiency is a part of our daily business.

Power costs for European nickel producers accounts on average for about 19% of production costs and can be as high as 25% of the total production costs. Electricity is already a substantial cost element. European nickel producers are already confronted with the highest electricity prices compared to other nickel producing regions globally. For an industry that competes globally and where the prices are set globally at Metal Exchanges, there is no possibility to pass on additional regional costs (as the RES surcharges) to customers.

Nickel prices are set globally at metal exchanges such as LME. European nickel refiners are paid for the treatment of the respective nickel intermediates (e.g. nickel matte and nickel oxide sinter) which are shipped from countries such as e.g. Canada or Russia to their installations for refining into nickel metal. The European nickel refiners are paid a treatment and refining charge. The output prices are therefore not relevant when assessing the profit margins of the nickel industry. They are independent from the LME price.

The profit margins of European nickel producers are reduced by regional costs through increased electricity prices. Competitors importing similar raw materials for similar treatment and refining to China do not experience these costs. As a consequence, the profit margins of European nickel producers are significantly reduced.

As a price taker industry, we cannot pass on such local or regional costs to our customers which purchase the raw materials on a global market. Competing regions do not face such costs and do not have to pass them on to their customers.

1. https://www.EUROFER.eu/publications/position-papers/a-green-deal-on-steel-update/ [↑](#footnote-ref-1)
2. The RLE, full hydro process has the lowest energy consumption and 94% of the consumed energy is electricity– with 84% of electricity consumed used in the electrolysis stage of the zinc refining process. Today, in the EU 27, electricity now represents 85% of all energy used in the production of zinc. Source:https://eurometaux.eu/media/1907/sectoral-roadmap-zinc-2050.pdf [↑](#footnote-ref-2)
3. Analysis of Market-Distortions in the Chinese Non-Ferrous Metals Industry’: [**here**](https://eurometaux.eu/media/1624/study_-analysis-of-market-distortions-in-china.pdf%20and) [↑](#footnote-ref-3)
4. Commission Staff Working Document “on significant distortions in the economy of the People’s Republic of China for the purposes of trade defence investigations” SWD(2017) 483 final [↑](#footnote-ref-4)
5. https://www.eurofer.eu/assets/publications/position-papers/a-green-deal-on-steel-update/2020-10-14-EUROFER-Policy-paper-A-Green-Deal-on-Steel\_V5.pdf [↑](#footnote-ref-5)