

EUROFER accompanying document to EEAG consultation

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 is central to the EU economy, and it underpins the development of major manufacturing sectors right along the value chain. Our industry sustains 2.6 million direct and indirect jobs in the EU.

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 decades¹.

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 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

¹ <https://www.eurofer.eu/publications/position-papers/a-green-deal-on-steel-update/>

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.

Decarbonizing 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 state-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, EUROFER 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.

Position paper

Carbon Contracts for Difference

How to facilitate a viable business model to start commercial scale production of low-carbon steel before 2030

Publication date: 05 January 2021

Overview

Project-specific long-term Carbon Contracts for Difference (CCfD) can be an important tool to facilitate a viable business model and to launch large scale, innovative projects to reduce emissions in industrial sectors such as steel.

The European steel industry is keen to start the transformation. Our ambition is – under the right conditions - to reduce CO₂ emissions by 2030 by 30% compared to 2018 (which equates to 55% compared to 1990) and towards carbon neutrality by 2050. The sector is able to significantly advance the EU's climate objectives as CO₂ emissions are concentrated in a limited number of installations that cover about 25% of EU industrial and almost 6% of EU total CO₂ emissions. These could have the **highest abatement potential in volume amongst all industrial sectors** if our projects can be implemented successfully and low-carbon steel finds its way into the market.

However, companies cannot invest today in low-carbon technologies that will entail higher production costs as there is no market which would pay a premium accounting for the additional cost of low-carbon steel vis-à-vis conventional steel products with similar properties. This is particularly true for steel, a trade-intense material, exposed to a very high risk of carbon leakage and significant overcapacities in third countries.

The difficulty of investing stems from the fact that steel is characterised by high capital and operational costs and very long investment cycles, a situation aggravated by historically low profitability. Low-carbon technologies entail for example the use of new energy carriers and feedstocks such as renewable energy and hydrogen, which would substantially increase operational costs. Such investment needs to constitute a sustainable business case in order to be able to compete with conventional steel.

CCfDs could be a game-changer, kickstarting this transformation. If well designed, CCfDs could provide substantial financial resources and underpin a **viable business model to help scale-up projects and produce low-carbon steel at a commercial scale in Europe**.

Importantly, the EU needs a supportive regulatory framework and enabling policies to empower the European steel 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 policies².

As a frontrunner, the EU has the opportunity to set ambitious benchmarks on low-carbon steel 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.

² 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

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, by allowing **dedicated sector and project-specific CCfD for steel**. Auctioning procedures, especially if organised across different industries, are not a viable solution for the steel 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 (duration of projects up to 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)

How would a CCfD work?

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.

An effective CCfD design for low-carbon 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 steel production is not subject to similar CO₂ costs constraint** as production in the EU. This is particularly true for materials such as steel 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 produced with the support of CCfDs will co-exist with conventionally produced steel for decades to come as the transition of the European steel industry will be gradual. It is therefore necessary to complement measures to stimulate lead markets for low-carbon steel with effective measures against carbon leakage.

Emission reductions calculation methodology

The contract would only apply to the **emission reduction volumes achieved by a company via the investment in the project**.

An agreed methodology at EU level with clear accounting rules representing the systemic operation of steel production is necessary. In steel production, single production processes are connected into a process chain and optimised in order to achieve the highest efficiency/highest performance of the overall system (highest efficiency/highest performance of the process chain or value chain).

Hence, using single product benchmarks, such as ETS benchmarks, could be very problematic. For example, for the integrated production route a single benchmark cannot capture all process emissions that are part of primary steel production. In fact, different product benchmarks would need to be integrated – at least benchmarks on hot metal, coke and sinter. Transfer rules need to be applied (among others for the transfer of waste gases) to obtain a reliable methodology that covers all emissions of an installation, especially those of the project under consideration. Otherwise, there would be a **serious risk of miscalculation of the emissions**.

Therefore, internationally or regionally recognised standards or protocols which define clear accounting rules reflecting those interconnections (connections of the above production processes) with the aim of providing transparent and comparable assessments should be used for calculating the emissions reductions related to the project.

Funding and de-risking

Sufficient financial resources need to be made available for CCfDs to ensure that initial projects can be launched in a short timeframe. It should be possible to **complement Carbon Contracts for Difference with other types of European and national funding** (for example, innovation funding such as the European Innovation Fund, Just Transition Fund etc.), by authorising the offset of costs via grants from such instruments in the calculation. This would allow companies and Member States to maximise the use of available resources and reduce the financial burden on national budgets. Any potential risk of competition distortion should be addressed.

Energy prices (e.g. electricity and hydrogen), but also raw material prices for the conventional production processes (e.g. iron ore, coke and coking coal, scrap) are fluctuating; the strike price (as the cost difference between the new and the reference production process) will be very volatile and difficult to predict.

Adjusting some elements of the CCfD would be advisable. For example, by introducing the **possibility of a yearly ex-post correction of the strike price under a CCfD** both sides of the contract could further alleviate the investment risk. To minimise the administrative burden, the central parameters like prices for ore, coke, coal, scrap, electricity and hydrogen, could be indexed.

Duration of a CCfD

Certain industrial sectors such as steel have very long investment cycles. Given the high technological and financial risk that is intrinsic to projects introducing new process technologies at such a massive scale as is required in the steel industry, it is particularly important to **allow CCfDs to cover the entire period of the investment** (economical lifetime of a project), which for steel is usually up to 20 years.

Ideally, in this timeframe, reliable political framework conditions enabling internationally competitive production of low-carbon steel in the EU will be introduced and the new low-carbon processes will become economically viable and operate without CCfDs. However, should this not happen, the possibility of prolonging the support of the instrument – a checkpoint - should be considered.

Allocation of CCfDs

Steel is considered as a 'hard to abate' sector and is recognised as being at very high risk of carbon leakage. At the same time, because of its large production volumes, steel is responsible for one quarter of industrial emissions in the EU.

The greater added value for society from investment in low-carbon steel production should be recognised in the allocation procedure for CCfDs. Considering the significant environmental and economic added value of investments in low-carbon steel technologies, **dedicated sector and project-specific CCfDs for steel** should be designed to untap the full potential of these technologies.

Auctioning procedures, especially if organised across different industries, are not a viable solution for the steel industry, due to different strike price possibilities and different market realities. This is also the case for CCfDs developed for energy providers, where in addition there is also the elevated risk that consumers could end in a captive to providers in ownership of the CCfDs, which must be avoided at all means.

Ultimately, it will be the successful deployment of low-carbon technologies in the steel sector that will create demand for such new energy sources; hence, CCfDs for manufacturing sectors, including steel, should be prioritised.

Energy intensive Users (EIUs) – second part of the EEAG Consultation

Under the existing EEAG (section 3.7), EIUs exposed to international competition are entitled to aid in the form of reductions in or exemptions from environmental taxes and in the form of reductions in funding support for electricity from renewable sources.

The underlying principle and objective of these provisions is very important and should be retained. Especially the fundamental notion that without such reductions and exemptions EIUs would be placed at such a competitive disadvantage that it would not be feasible to introduce the support for renewables at all. Such reductions and exemptions need to be maintained and strengthened, because they constitute effective measures to ensure the competitiveness of these sectors, including steel, and contribute to the overall environmental objectives as they support environmental ambition in the EU while avoiding carbon, investment, jobs leakage to third countries with less environmental ambition. The aid for EIUs involved under these schemes has proved to be based on objective, transparent and non-discriminatory criteria. Without these exemptions, EIUs would face the imminent risk of losing market shares to competitors in third countries where no comparable climate protection measures are in place or where such exemptions are provided. This would have disruptive economic, social and environmental effects, undermining the social acceptance of climate policy. At the same time, the overall costs of support for renewables should be reduced over time as more technologies reach maturity and market competitiveness.

While retaining the principles and objectives of existing provisions, the revision of the EEAG should take into account recent court cases when defining the definition and boundaries of state aid. In the very recent judgment³ concerning the German law for renewable energy from 2012 (EEG 2012), the European Court of Justice (“ECJ”) found that funds generated by surcharges paid in accordance with national schemes do not constitute State resources as long as they are not at the disposal of the State but controlled by private parties. Consequently, under certain conditions, exemptions to energy intensive undertakings do not constitute State aid. The revised EEAG should take into account these developments and clarify such conditions.

Looking ahead, rising shares of renewables will need to be accompanied by additional measures that address their intermittency, including infrastructure, storage, generation adequacy, balancing and distribution. All these measures will impact further the energy bill in the EU without comparable costs in third countries. In analogy to the situation with contributions to renewables, financing such costs could easily undermine the competitiveness of EIUs exposed to international competition, such as steel. Furthermore, EIUs offer solutions in these fields as they contribute to the stability of the grid thanks to their specific consumers’ profiles. Hence, they should be also shielded from an undue extent of such regulatory costs (e.g. capacity mechanisms, system balancing costs, network and distribution costs, etc.), taking into account their overall contributions to taxes and levies.

[Explanatory part to questions 130 - 143](#)

Question 130

While the exact evolution of each component of electricity prices is difficult to forecast across the EU, it is clear that increased climate ambition will imply additional policy interventions both at EU and national level. These may include not only continued support for renewable energy generation but also, and most importantly, related measures to ensure generation adequacy and transmission and distribution services, which are necessary to counterbalance the intermittence of renewable

³ ECJ, 28.3.2019, C-405/16 P, ECLI:EU:C:2019:268 – Germany / Commission

generation. Such policy interventions will increase the impact of regulatory costs on the electricity bill. Therefore, EIUs should be shielded from such costs in order to preserve their competitiveness against third countries' competition that is not subject to equivalent climate constraints.

Question 131

The aid for EIUs in the form of reductions in or exemptions from environmental taxes and funding support for electricity from renewable sources has proven to be effective against the risk of carbon leakage, hence retaining sufficient tax base in Europe while avoiding increase of emissions in third countries without comparable legislation. Yet, in order to remain effective in the future, such aid should be extended to other policy measures that affect the electricity bill, such as regulatory costs for generation adequacy and transmission and distribution services.

Question 132

Removing aid for EIUs would have a disruptive effect on the competitiveness of these sectors against competition from third countries without comparable climate and energy legislation. The electricity bill would increase substantially in all EU member states, without an equivalent situation in third countries. This would result in carbon, jobs and investment leakage and deterioration of the EU tax base. With regards the formulation of the question, it shall be clarified that the EU Green Deal Communication states that carbon leakage occurs "*either because production is transferred from the EU to other countries with lower ambition for emission reduction, or because EU products are replaced by more carbon-intensive imports*". The question refers only to the first situation (relocation of EU production) but does not take into account the risk of the second scenario (EU production replaced by imports).

Question 133

Deep CO₂ emissions reductions in the steel sector are possible through a combination of technological pathways, including steel recycling, carbon capture utilisation and storage, process integration, and electricity/hydrogen-based metallurgy. Most of these pathways require direct or indirect (via hydrogen) electrification. According to the EUROFER 2050 Roadmap, additional energy requirements will be about 400TWh of electricity by 2050 – about seven times what the sector purchases currently. Therefore, the increase of taxes and levies on the electricity bill would impair significantly the decarbonisation of the steel industry.

Question 134

After the quick development of renewable energy in the last decades, it is essential that decarbonisation schemes priorities investments in industry with large abatement potential such as the steel sector. These schemes should not be financed by specific charges or taxes on industry, since it would increase the risk of carbon leakage in short term, hence being counterproductive both for environment and industrial competitiveness. Charges on energy sources (electricity and/or fuels) have a similar effect, since they cause a cost disadvantage against producers in third countries without comparable climate legislation. Funding of decarbonisation schemes should be supported by horizontal financial resources, such as the general budget. Similarly, ETS revenues should be used to finance investment in low carbon technologies in industry.

Question 138-139

The eligibility of EIUs for aid in the current EEAG is defined according to the international trade intensity and the electro-intensity. Such criteria have proven to be transparent, robust and effective

in identifying the sectors that need to be shielded from the regulatory costs in electricity bill. The recent ETS Guidelines identify a very short list of eligible sectors; such assessment aims only at identifying sectors affected by indirect carbon costs passed through in electricity price, which represent only a specific issue compared to the broader purpose of the EEAG. Therefore, the existing eligibility criteria and thresholds should be maintained.

Question 140-141

Aid for EIUs is not only aimed at avoiding relocation of production within the EU, but also, and most importantly, to third countries without comparable climate and energy legislation and costs. Therefore, the option of granting reductions to EIUs only in those Member States that have reached a certain EU-wide minimum level of decarbonisation levies (in absolute amount) would be counterproductive, since it would increase the risk of carbon, jobs and investment leakage to third countries. This is even more dangerous in the context of increasing regulatory costs due to strengthening of EU's 2030 climate & energy targets.

Questions 142-143

Aid for EIUs should not be made conditional on additional requirements. In fact, this kind of state aid aims at reimbursing partially EIUs for the regulatory costs in the energy bill. If now state aid is made conditional to additional measures to be taken by the company (i.e. investments in energy efficiency or emission reductions), de facto it is not anymore a (partial) reimbursement of incurred costs since it requires additional expenditure to the company. As the eligible sectors are acknowledged as being at risk of carbon leakage, the missed reimbursement would create the conditions for the materialisation of such risk, leading to an increase in global emissions.

It shall be noted that EIUs are already subject to the EU ETS, which is the cornerstone legislation to reduce emissions in a cost competitive way. In addition, large companies are also subject to compulsory energy audits foreseen by the Energy Efficiency Directive. Further conditionality criteria for aid would create another layer of overlapping legislation. Finally, energy efficiency improvements are a must for industries with high energy costs in order to remain competitive.