

A minimum carbon price for the European electricity industry: what for? And how?

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The decarbonisation of the European electricity sector is a necessary step towards achieving climate neutrality by 2050.² A period of relatively low and ineffective carbon price levels under the European Emission Trading Scheme (EU ETS)—between 4 to €8/tCO₂ from 2012 to mid-2018—led to a renewed interest in setting a minimum carbon price (so-called carbon price floor [CPF]) for the electricity sector. Following the example of the UK that put one in place in 2013, The Netherlands announced that it will introduce a domestic CPF from 2020, while eight other EU Member States (Denmark, Finland, France, Ireland, Italy, Portugal and Sweden) spoke out recently in favour of such a policy measure.³

The EU electricity market being strongly integrated, it is likely that any national CPF would face strong domestic political opposition due to competitiveness concerns. Implementing it over the whole EU electricity market would greatly reduce these concerns and improve the environmental integrity, but an agreement would still be difficult to reach due to the diversity of national electricity mixes across the EU. In this context, the idea of a regional CPF scheme complementary to the EU ETS within a group of willing Member States emerged progressively in the European debate. This Issue Brief, based on Haussner (2019), explores legal implications of implementing a regional carbon price floor through the EU legal institution of Enhanced cooperation.

- 1 Manuel Haussner was a visiting scholar at IDDRI from February to April 2019. He gratefully received funds from BayFrance (Franco-Bavarian University cooperation center).
- 2 European Commission (2018). A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy -Communication from the Commission
- 3 <https://www.gouvernement.fr/en/statement-to-strengthen-and-extend-carbon-pricing-in-europe>

KEY MESSAGES

A carbon price floor for the EU electricity industry would improve long-term investment incentives for low-carbon electricity generation. Revenue raised could be used for financing actions to accelerate the energy transition: re-financing renewable energy support schemes or compensation measures for sectors and consumers adversely affected by the energy transition.

Enhanced cooperation is legally feasible and requires the participation of at least nine Member States to be launched. Such an approach requires a close coordination among Member States to avoid extended and time-consuming negotiations.

A carbon price floor could lead to an increase in the wholesale market electricity price which, however, represents only part of the final electricity price for EU consumers. A higher market price would also reduce the difference between revenues guaranteed to renewable producers and the electricity market price, and thus the levies on the consumer bill that often finance it in the EU.

A cancellation of European Emissions allowances (EUA) would reduce the so-called "waterbed effect" where additional emission reductions in the electricity sector depress the CO₂ market price and thus the incentive to reduce emissions for other industries. By contrast, any intra-European measures on electricity production from Member States not implementing the CPF would violate the free movement of goods under the Treaty on the Functioning of the European Union.

1. A CARBON PRICE FLOOR: WHAT FOR?

After several years of low and ineffective carbon price levels, the adoption in 2018 of the EU Emission Trading Scheme (EU ETS) reform and Market Stability Reserve (MSR)⁴ helped raising European Emissions Allowances (EUA) prices to around €20-25/tCO₂. While the increased carbon price significantly increased the operation costs of some electricity producers, there is still much uncertainty about the evolution of the carbon market price in the long term. This could prevent sending a sufficiently credible incentive for future low-carbon investments (Newbery *et al.*, 2019). In this regard, implementing a carbon price floor (CPF) in the electricity sector is currently considered in the public debate in order to improve predictability for investors in low-carbon electricity production (FTI Consulting, 2018).

Implementing an EU ETS-wide CPF by means of an auction reserve price would deliver a homogenous price signal among all sectors and as such would provide the biggest incentives for emissions reductions (Dinguirard, 2016). Its introduction would, in theory, not qualify as a fiscal measure, nor would it as a measure significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply (Article 191(2)(c) TFEU; Fischer *et al.* (2018)). As such, it would necessarily apply to all EU ETS sectors, especially the 65 industries considered at risk of carbon leakage.⁵ This broad application would make it difficult to find an agreement on the minimum price level among stakeholders and EU Member States. In addition, a broad EU ETS reform has just been completed and the next revision of the ETS directive is scheduled for 2023, which does not plead for a quick reopening of discussions on the ETS rules. By contrast, introducing a minimum CO₂ price only for the electricity sector as a complementary measure to the ETS could be envisaged, notably because it is not considered as a sector at risk of carbon leakage and because technologies to produce low-carbon electricity are already deployed at an industrial scale (renewables and nuclear) and its costs well documented.

Two additional advantages would be provided by a CPF. First, it would contribute to a more predictable and economically efficient phase-out of fossil fuel and especially coal, with a quicker phase-out of the most inefficient coal power plants while the most efficient coal power plants would operate until it remains economically viable or until the potential national regulatory date of coal power phase-out takes effect (WWF, 2018). Second, a CPF would generate an additional revenue stream usable by public authorities to finance needed actions to implement the energy transition and to prepare the reconversion of regions and workers whose today's activity depends on fossil fuels: e.g. state investment for adaptation measures in regions where coal mining is currently one of the major industries (see e.g. Alves Dias *et al.* (2018); Kohlekommission (2019)),

⁴ For more information about the market stability Reserve (MSR) : https://ec.europa.eu/clima/policies/ets/reform_en

⁵ Carbon leakage refers to the situation where, for reasons of costs related to climate policies, businesses transfer their production to other countries with looser emission constraints.

use of revenues for RES support, investments in buildings' energy efficiency or electric vehicles uptake.

2. HOW CAN A COORDINATED CO₂ SURCHARGE BE IMPLEMENTED?

A minimum CO₂ price for the electricity sector only would necessarily take the form of a CO₂-surcharge on top of the ETS price in the current context. It could reflect the difference between a targeted minimum carbon price and the ETS price⁶. It could be implemented either *ex ante* as a top-up charge based on the carbon-content of energy products as in the UK case or *ex post* as a CO₂-charge on verified emissions under the EU ETS as The Netherlands plan to implement it from 2020.

A unilateral implementation of a CO₂-surcharge would not be subject to legal constraints from EU law. EU primary law⁷ would allow the implementation of such a measure as long as it does not discriminate against electricity producers and electricity imports from other Member States.⁸ Within EU secondary law,⁹ the EU Excise Directive explicitly allows the implementation of such a charge on electricity producers since it pursues environmental objectives.¹⁰ It would also be compatible with the EU ETS which allows the implementation of more stringent policy at national level even if the same policy objective has been regulated at EU level.¹¹

In theory, a CPF in the electricity sector could be implemented by all Member States at EU level as well as within one or a group of Member States. The applicable voting pattern in the Council (qualified majority voting *versus* unanimity voting) is yet unclear. While an electricity sector specific CPF would not qualify as a measure primarily of a fiscal nature,¹² it could still be considered as a measure significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply.¹³ If so, unanimity voting would have to be established.¹⁴

A middle way would be provided by the implementation of a carbon price under enhanced cooperation,¹⁵ where a group of at least nine Member states agree on the joint implementation of a CPF. Any legislation under enhanced cooperation would then become enforceable in national jurisdictions of participating Member States.

⁶ The UK CO₂ surcharge was initially meant to fill the gap between a growing minimum carbon price set at 16€/tCO₂ and due to increase to 30€/tCO₂ in 2020 and the ETS price. However, due to the very low ETS market price, the CO₂ surcharge has been capped at 18.08 €/tCO₂ from 2016 to 2021.

⁷ EU Treaties : Treaty on European Union (TEU) and Treaty on the Functioning of the European Union (TFEU).

⁸ Article 110 TFEU.

⁹ EU Directives, Decisions and Regulations.

¹⁰ Article 1(2) Directive 2008/118/EC, Article 14(1)(a) Directive 2003/96/EC.

¹¹ Article 193 TFEU.

¹² Article 192(2)(a) TFEU. On the interpretation of Article 192(2)(a) TFEU, see Ismer & Haussner (2016).

¹³ Article 191(2)(c) TFEU.

¹⁴ See the judgement of the ECJ in the Case C-5/16 Poland vs Parliament ECLI:EU:C:2018:483.

¹⁵ Article 20 TEU and Articles 326 et seqq TFEU.

3. STARTING A CPF UNDER ENHANCED COOPERATION

Enhanced cooperation is an EU legal procedure¹⁶ that allows to deepen the cooperation between Member States within the framework of non-exclusive competence under the Treaties and to make use of the Treaties institutions. Since a CPF for the electricity sector would be subject to the environmental competence of the EU,¹⁷ one of the policies of shared competence,¹⁸ the way for a CPF under enhanced cooperation would in principle be open. Reaching the nine participating countries threshold could likely be met within the EU. During the Climate Change Conference in Katowice a group of eight EU Member States - Denmark, France, Finland, Ireland, Italy, The Netherlands, Portugal, Sweden - already expressed their interest in the implementation of a carbon price floor and to phase out coal power production. Besides, Austria, Belgium and Germany also announced an objective to phase out coal while Slovakia and Spain are currently discussing it.

Enhanced cooperation can only be evoked as a measure of “last resort, when it has established that the objectives of such cooperation cannot be attained within a reasonable period by the Union as a whole.”¹⁹ It does not require a failed vote in the Council on a Commission proposal but must at least be discussed within the Council as EU policy measure in order to withstand a challenge before the Court of Justice of the European Union (CJEU). The compatibility with EU Treaties is not overly complex but draws some limits. The CPF must comply with the free movement of goods, in particular Article 110 TFEU, and the rules on state aid law, Article 107 TFEU. The latter comes into play concerning compensation rules for energy-intensive industries. Particularly, enhanced cooperation shall neither undermine the internal market²⁰ nor shall it constitute a barrier to or discriminate in trade between Member States or distort competition between them.

The process for allowing enhanced cooperation follows several steps.²¹ First, EU Member States who wish to cooperate must issue a request to the Commission that should then submit a proposal on the matter.²² Then, authorisation to continue enhanced cooperation must be granted by both the Parliament and the Council in its full composition under qualified majority voting; hence, a CPF under enhanced cooperation could still be opposed by some Member States, even the ones not participating in the enhanced cooperation. Finally, the CPF should be approved by a qualified majority or even unanimity of participating Member States if the measure is recognised as significantly affecting national energy mixes.²³

¹⁶ Article 20 TEU and Article 326 TFEU et seqq.

¹⁷ Article 191, 192 TFEU.

¹⁸ Article 4 TEU.

¹⁹ Article 20(2) TFEU

²⁰ Article 326 subpara 2 TFEU.

²¹ Enhanced cooperation has only been used twice thus far: in the field of unitary patent protection (Regulation (EU) No 1257/2012 and Regulation (EU) No 1260/2012) and in the field of divorce and legal separation (Regulation (EU) No 1259/2010). Further, there is an ongoing proposal on a financial transaction tax under enhanced cooperation (Commission, COM(2013) 71 final).

²² Article 326 subpara 2 TFEU.

²³ Article 192(2)(c) TFEU

4. COMPLEMENTING A CPF

A CPF also comes with several implications: it would increase electricity prices for private consumers and industry, and additional emissions abatement in the electricity sector could free EU allowances available for other industrial sectors participating in the ETS, the so-called “waterbed effect”, reducing its environmental impact. Finally, another issue could emerge from the competition between producers from countries applying the minimum carbon price and producers located in countries which do not apply it. Such impacts could be reduced by complementary policy options summarised in Table 1.

| Impacts of a CPF on | | policy option | |
|---|------------|--|--|
| electricity price increase | businesses | reduced electricity tax rate | direct compensation of EII (state aid limitations) |
| | consumer | reduced electricity tax rate | direct transfer |
| “Waterbed effect” in the ETS | | market stability reserve | allowance cancellation mechanism when ETS price is lower than CPF targeted price |
| intra-EU carbon leakage in the electricity sector | | imposition of charge on EU electricity imports from countries not implementing the CPF | allowance cancellation mechanism when ETS price is lower than CPF targeted price |

■ Allowed ■ Allowed within a certain limit
■ Legally not feasible under EU treaties

To limit the impact of increased electricity prices on their competitiveness, electricity-intensive industries could be compensated for up to 75% of the increase in their electricity bill that can be attributed to the CPF, as currently applies for the EU ETS CO₂ price.²⁴ Similar compensation measures have been confirmed for the UK CPF scheme (European Commission, 2018). Another option would be to reduce the electricity tax rate; its minimum level is 0.5 EUR/MWh under EU law.²⁵ However, electricity tax rates for business are often already low²⁶ which limits the possibility to reduce it in many EU countries.²⁷ The measure would also have the significant disadvantage of reducing the incentive to improving their energy efficiency and countervailing the effect of the carbon price.

As for households, the situation is different. The wholesale market price represents a smaller share of their bill—on average only one third of the final electricity price for EU households. A higher wholesale market price would also reduce the gap with revenues guaranteed to renewable producers and thus the amount of the existing levies on the consumer bill covering these difference as e.g. the EEG levy in Germany. Therefore, a higher CO₂ price would likely have a more limited impact on electricity prices for households. If it anyhow raises equity concerns, consumers could also be granted a direct transfer financed by the revenues of the tax or a reduction of other electricity tax rates could be considered with the same caveat that it would reduce the incentive for improving energy efficiency.

²⁴ Not to qualify as state aid, compensation may only be granted to sectors as laid down in Annex II of the ETS State Aid Guidelines (see paras 179 et seq of Environmental State Aid Guidelines).

²⁵ Excise Directive (Article 4 and Annex I Directive 2008/118/EC).

²⁶ Commission (2018).

²⁷ Commission (2018).

The potential for a reduction in electricity taxes for households is higher than for business as many countries apply much higher levels of electricity taxation²⁸ and should be set at a minimum rate of 1€/MWh at EU level.²⁹

Two measures can contribute to improve the environmental performance of a CPF by reducing the risk of “waterbed effect”. First, the newly implemented Market Stability Reserve would anyhow automatically absorb any allowances from the market over a defined threshold and cancel it in a second stage. Second, a coordinated withdrawal of allowances upon power plant closure or whenever the ETS price goes below the targeted carbon price among countries participating in the CPF could further reinforce the impact of the measure without reducing the incentive to decarbonise in other ETS industries.

Finally, in theory, one might think a way to ensure an efficient decarbonisation would be to establish a tax on electricity imports from Member States that do not participate to the enhanced cooperation on a CPF. However, such a measure would infringe the key principle of free movement of goods within the EU under the current EU treaty. According to this, a charge on imports may not be higher than the lowest level of taxation imposed on a category of domestic products, regardless how these imports are produced.³⁰

CONCLUSION

A CPF would deliver credible long-term incentives for a deep decarbonisation of the electricity sector; it would allow for an economic efficient coal phase-out; and it would generate a revenue stream usable for needed energy transition priorities i.e. the support to regions affected by a coal phase-out or the financing of RES. Implementing a CPF within a group of willing Member States would reduce competitiveness concerns, which could facilitate a political agreement. However, the distributional impact of a higher CO₂ price among producers and consumers in Europe would remain a political challenge³¹ and would require the goodwill of those who do not want to be part of it since a vote by the Council and the European Parliament will still be necessary. Applying complementary policy options or direct transfers between EU Member States through a pooling of CPF revenues or an allocation of funds, for example to regions mostly affected by coal phase out under the EU budget, could be introduced in the political discussion.

²⁸ Commission (2018).

²⁹ Article 4 and Annex I Directive 2008/118/EC.

³⁰ On this see ECJ, Case C-213/96 *Outokumpu Oy* [1998] ECR-I 1801.

³¹ See IDDRI-Agora Energiewende (2018) for an evaluation of the distributional impact in France and Germany of a CO₂ price increase from 30 to 50 euros per tCO₂ in 2030.

Coordination among a group of Member States could lead to a prolonged process with low results, as demonstrated by the proposal on enhanced cooperation for a financial transaction tax that has been going on since 2009. Hence, for such a cooperation to happen, a closer coordination of energy policy among EU Member States would likely be needed to lay the ground to define common and more detailed objectives underpinning the implementation of a CPF and building trust among participating countries. The mandatory consultations with neighbouring Member States on National Energy and Climate Plans established by the Regulation on the Governance of the Energy Union and Climate Action adopted in 2018 could be used to this end. Recognising nationally agreed socio-economic pathways to phase out coal or other fossil fuels such as the one proposed by the Coal Commission in Germany, these consultations could define a common minimum carbon price trajectory compatible with the national pathways of each participating MS.

BIBLIOGRAPHICAL REFERENCES

Commission (2018). Excise Duty Tables – Part II Energy Products and Electricity.

Council Directive 2008/118/EC of 16 December 2008 concerning the general arrangements for excise duty and repealing Directive 92/12/EEC.

Dinguirard, F. (2016). Strengthening the EU ETS price signal, The Shift project

Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action.

Fisher, C. *et al.* (2018): The Legal and Economic Case for an Auction Reserve Price in the EU Emissions Trading System.

FTI Consulting (2018). A climate and socio-economic study of a multi-member state carbon price floor for the power sector, Executive summary.

Haussner Manuel (2019) A Carbon Price Floor for the Electricity Sector: Coordination through Enhanced Cooperation (working title). forthcoming.

IDDRI and Agora Energiewende (2018). The ‘Energiewende’ and the ‘transition énergétique’ by 2030, Executive Summary.

Kohlekommission (2019). Abschlussbericht der der Kommission „Wachstum, Strukturwandel und Beschäftigung“.

Newbery, D. *et al.* (2019). The Political Economy of a Carbon Price Floor for Power Generation.

WWF (2018). Dem Ziel verpflichtet CO₂-Mindestpreise im Instrumentenmix einer Kohle-Ausstiegstrategie für Deutschland.

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