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## A CARBON PRICE FLOOR FOR POWER GENERATION TO REAFFIRM EU CLIMATE LEADERSHIP

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Major European countries should reaffirm climate leadership by putting a minimum price on carbon dioxide emissions from electricity generation

We argue that the EU should introduce a minimum price on carbon dioxide from electricity generation – effectively “topping up” the European Union’s Emissions Trading Scheme (EU ETS) – to bring forward low-carbon investment and induce switching from coal-fired generation to cleaner gas. As an interim step, individual EU countries may find it beneficial to introduce a national carbon price floor, as Great Britain has done and the Dutch Government is committed to.

The 2015 Paris Climate Agreement, ratified by 176 countries, has now come into force. The European Union has enacted a 40% reduction target for 2030, and its ambitious *Energy Roadmap 2050* aims to reduce carbon emissions by 80-95% by 2050 (relative to 1990). The electricity sector is to decarbonize earlier and more strongly than other sectors such as transport or heating because it can replace fossil fuels more readily.

Despite these positive developments, the EU’s main climate policy instrument – the EU ETS – has failed to deliver the carbon price needed to incentivize this low-carbon transition. While European Commission’s internal analysis shows a “target-consistent” price of €32-63 per ton of carbon dioxide emissions would be required by 2030, the actual carbon price during 2017 was only €6/tCO<sub>2</sub>. And while the ETS price finally began to increase in early 2018, current policy still fails to give investors a bankable guarantee on an adequate future carbon price – thus stymying low-carbon investment.

Our argument for the EU to introduce a minimum carbon price for electricity generation is a “low regret” policy: it directly addresses the risk of the EU ETS price being too low, and is a first step in reaffirming the EU’s climate leadership. It also sidesteps potential concerns about international competitiveness and carbon leakage because electricity is not traded internationally beyond European borders like cement or steel.

We recommend that the carbon price floor should “top up” the EU ETS price to a level of €25-30/tCO<sub>2</sub> for the power sector, rising at 3-5% annually above the rate of inflation until at least 2030. This would encourage a shift from coal to gas in

electricity generation, achieve quick emissions reductions, and help reassure investors in low-carbon technologies. Importantly, such a price floor can be introduced within the existing EU ETS policy framework.

In the interim, EU Member States with serious domestic emissions targets may find a national carbon price floor attractive. This is easier to implement than a EU-wide price floor and helps address the future of coal – avoiding “lock in” to an unsustainable technology. Since April 2013, British electricity generation has already been subject to a minimum carbon price, currently adding £18/tCO<sub>2</sub> to the ETS price. The British price floor has had a dramatic impact, with the share of coal-fired generation dropping from 41% in 2013 to less than 8% in 2017.

In October 2017, the new Dutch Government announced a similar plan: a price floor starting at €18/tCO<sub>2</sub> in 2020 and rising to €43/tCO<sub>2</sub> by 2030. To enhance its credibility and durability, a national price floor may need to be accompanied by an emissions performance standard (EPS), as in Great Britain.

Many Member States have already joined the *Powering Past Coal Alliance* – including Belgium, Denmark, Finland, France, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, Sweden and the UK. This suggests a policy dynamic leading to a regional carbon price floor in North-West Europe.

The new Market Stability Reserve (MSR) in the EU ETS, which begins operations in January 2019, will further enhance the value of a carbon price floor. Until now, the EU ETS has been subject to a “waterbed effect”: if one country (or one sector) alone reduced its emissions, these would resurface elsewhere within the system – given the fixed overall EU-wide emissions cap. From 2023 onwards, the MSR will cancel surplus carbon allowances, which in the medium term should ensure that most of a unilateral emissions reduction translates into an overall emissions reduction. The MSR will thus enable policies like a carbon price floor to achieve a global climate benefit.

Our research also discusses how, over the last five years, jurisdictions around the world – including California and the Regional Greenhouse Gas Initiative (RGGI) in the U.S. – have demonstrated how a price floor can be a practical design element for carbon trading while retaining the appeal of a market-based abatement mechanism. Combining a price floor with a price ceiling (maximum price) – to create a price corridor – might also make the policy more attractive to countries concerned about volatile carbon market prices.

The full Cambridge EPRG research paper is available at:

<https://www.eprg.group.cam.ac.uk/eprg-working-paper-1816/>

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David M. Newbery, David M. Reiner, and Robert A. Ritz (2018). “When is a carbon price floor desirable?” Energy Policy Research Group (EPRG), Cambridge Judge Business School, Working Paper 1816, June 2018.