KONRAD ADENAUER STIFTUNG

Briefing Paper

EU Carbon Pricing, the Nordic countries and Germany

Experts agree that carbon pricing is crucial to reduce greenhouse gas emissions and meet climate targets: giving emissions a price tag internalises externalities such as social costs and creates incentives for producers and consumers to reduce emissions. Policy makers can choose between a carbon tax and emissions trading system (ETS). Both models have their pros and cons: Whilst introducing a tax seems simpler and faster on first sight, setting the "right" price or tax rate is difficult yet crucial to meet emission targets. Emissions trading systems by contrast effectively cap emissions: the government defines a maximum of emissions allowances (one per tonne of carbon dioxide equivalent) which buyers/ recipients of these allowances can trade between each other, letting market forces constantly determine the price level ("cap and trade"). In any case, a sustainable carbon pricing policy needs to be ecologically effective, economically efficient and socially viable.

Yet climate change as a global challenge requires not just national carbon pricing initiatives, but also international coordination and cooperation, not least in order to curb carbon emissions in the most cost-efficient way. The EU is a key player in this regard as it not only has enormous economic weight, but also has the oldest and largest ETS of its kind. Yet since not all economic sectors are currently part of the EU ETS (which covers approximately half of the EU's carbon emissions), national policies of EU member states differ for the non-EU ETS sectors (transport, building, waste and agriculture).

The Nordic countries and Sweden in particular are considered pioneers on carbon taxing, whilst Germany has just decided to introduce its own national emissions trading system for the non-EU ETS sectors. Coordination and cooperation between the Nordic countries and Germany could be key and lead the way for taking the next steps towards a coherent and comprehensive EU ETS. As a German Christian Democratic political foundation and think tank committed to the concept of a Social Market Economy as well as the idea and process of European integration, the Konrad-Adenauer-Stiftung would like to contribute to the development of sustainable European climate policy solutions and cooperation.

Carbon pricing in Europe: the EU ETS

The EU Emissions Trading Scheme (EU ETS) is the world's oldest and largest of its kind. Set up in 2005, it constitutes the world's first international ETS. It is the EU's central climate action instrument for meeting its climate targets for 2020 and 2030.

After gradually removing surplus certificates from the market, the price for allowances has been increasing from seven euro at the beginning of 2018 to its current price of about 25 euros per tonne. Due to incremental reduction of allowances, further price increases can be expected in the upcoming trading phase between 2021 and 2030.

Yet since it is currently limited to the energy and large industrial sectors as well as intra-European aviation, the EU ETS only covers about 45 percent of all European emissions. The new EU

Commission is pushing the idea of expanding the EU ETS to additional economic sectors to make carbon pricing more comprehensive and consequently emissions reduction more effective and cost-efficient. Thereby the EU could put itself at the forefront of the global development towards high-tech low carbon societies. Yet eventual plans for introducing a carbon border tax under the EU Green Deal remain controversial, not least regarding implications for international trade.

Carbon pricing in Germany

Germany will adopt carbon pricing in the transport and building sectors and for smaller industrial units from 2021. De facto, for the decade until 2030, The German model constitutes a hybrid between an emissions trading system and a carbon tax: From 2021, the government will give out allowances to firms, starting at a fixed price of 25 euros per tonne of CO_2 equivalents (CO_2e) that is set to increase incrementally to 55 euros in 2025. In 2026, the government will auction allowances with a price corridor of 55 to 65 euros; from 2027, the market will set the price with an option for price corridors to be decided in 2025.

In the long run, the German government intends to integrate its national trading system into the EU ETS. Yet beyond the challenge of coordination with the EU ETS and other member states' carbon pricing systems, many experts have criticised the entry price of being too low and doubt the social balance/ equity of the German model. In addition, the economic burden of the COVID-19 pandemic raises doubts on social viability and industrial competitiveness.

Carbon pricing in Sweden

Sweden enacted a carbon tax on fossil fuels in 1991, the carbon tax being based on the level of carbon emissions of each fossil fuel. In practice, this means that coal is most heavily taxed, followed by oil and natural gas. The carbon tax is paid by the companies that make the fuels available in the Swedish market, with the added costs of the carbon tax being passed on to the consumer through fuel pricing. The price per unit of Swedish carbon has been gradually raised from 0.25 SEK per kg CO_2e in 1991 to circa 115 SEK per kg CO_2e in 2019. The carbon tax rate per kg is since 1992 differentiated for industry (0.08 SEK per kg CO_2e in 1992) and households and service providers (0.32 SEK per kg CO_2e in 1992), meaning that smaller companies and households have paid more effective carbon tax than industry since. Currently, the Swedish carbon tax is circa 100 euros per tonne CO_2e.

At the same time, Sweden is part of the European Emission Trading (ETS) scheme, with larger Swedish companies that take part of the European emission trading scheme being exempt from the Swedish carbon tax. The burning of biofuels is free from Swedish carbon tax, a tax similar to the carbon tax will be imposed on the burning of non-hazardous waste in 2020, and higher-sulphur fossil fuels with are subject to a dedicated sulphur tax.

Carbon pricing in Finland

In Finland a carbon tax was implemented in January 1990, making it one of the first countries in the world to do so in response to climate change. The introduced tax was based on the carbon content of fossil fuels and evolved from 1,12 euros per tonne CO_2e. Peat and natural gas had a favourable tax treatment and the wood industry was exempted from the tax. Further fuels used

as raw material in industrial production were exempted. In 1997, the carbon tax was added with a tax on electricity consumption. While the carbon tax was imposed on traffic and heating fuels, electricity was taxed per kWh. In 2011, a combination of carbon- and energy tax was applied where the tax rates were adjusted according to the amont of carbon and energy components. The Carbon tax rate in 2019 was 62 euros per tonne CO2.

The Finnish Government announced that Finland reaches for carbon neutrality by 2035. It means that Finland would produce carbon emissions only to the extent as is absorbed again. Most European countries will not aim for carbon neutrality before 2050.