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Edited by Christian Gollier and Dominic Rohner

## **Peace not Pollution**

How Going Green Can Tackle  
Both Climate Change and  
Toxic Politics

# Peace not Pollution

## How Going Green Can Tackle Both Climate Change and Toxic Politics

CEPR

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# CHAPTER 4

## Carbon pricing and social acceptability: Using EU ETS auction revenues for social expenditures in a changing world

**Simone Borghesi and Albert Ferrari**

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Achieving carbon neutrality requires increasingly stringent climate policies that, in jurisdictions with an emissions trading system (ETS), may lead to higher carbon prices, affecting industries, end-users and households. In the last few years, a rising carbon price trend has emerged in the leading carbon markets, which may partly be attributed to higher ambition. This rapid increase has provoked concerns about the social acceptability of more stringent climate policies among the population vulnerable to price changes. These concerns have been fuelled by the rise in energy prices, particularly after the outbreak of the war in Ukraine, which may hit the poor and jeopardise the successful post-pandemic recovery.

The viability of more stringent climate policies and the achievement of the climate neutrality goal also depend on the (re)distributional impacts of such policies and the way the population perceives these impacts. In this context, an ETS can play a role by raising revenues that can be used for redistribution purposes. It is, therefore, relevant to examine ETS revenues and the related expenditures performed by the governments. The EU provides a relevant case study. In 2022, new policies aiming at putting the EU on track to climate neutrality were agreed. This climate ambition was confirmed despite concerns about the high carbon price in the EU ETS and the distributional impact of high energy prices triggered by the invasion of Ukraine by Russia.

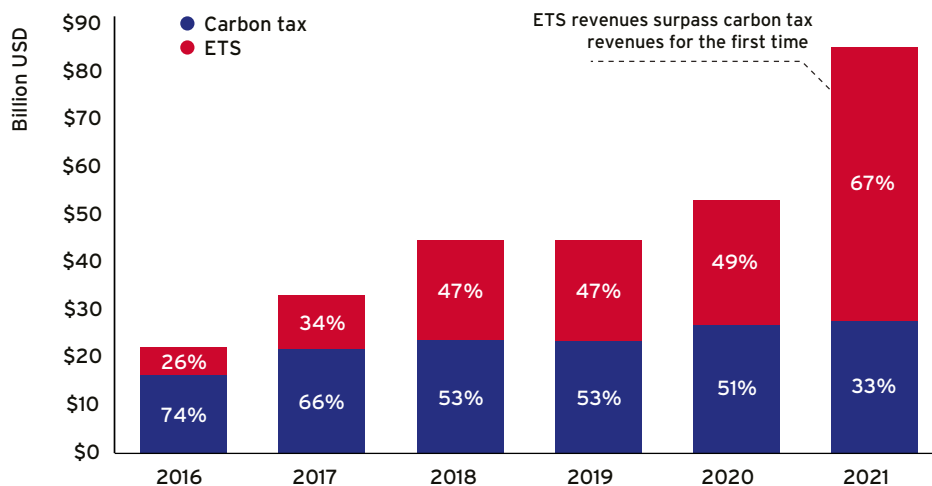
Higher energy and carbon prices are likely to have regressive effects. Lower-income households spend a bigger income share on energy- and carbon-intensive goods and face higher financial constraints to adopt energy- and carbon-efficient technologies. In addition, they are more prone to losing jobs in energy- and carbon-intensive sectors. The extension of carbon pricing to new sectors and the energy crisis risk exacerbating inequalities. Tackling the distributional effects of carbon pricing is fundamental to the success of our carbon neutrality ambition.



## ETS REVENUES: SOME POLICY CONSIDERATIONS

Carbon revenues were about \$84 billion worldwide in 2021, with ETS revenues (\$56 billion) exceeding carbon tax revenues for the first time (Figure 1).

**FIGURE 1** EVOLUTION OF GLOBAL CARBON PRICING REVENUES OVER TIME



Source: World Bank (2022).

ETS revenues correspond to the revenues raised by an ETS jurisdiction when allowances are auctioned to market participants. They are a function of the size of the jurisdiction's economy, allowance prices, the scope of emissions the ETS covers and the share of auctioned allowances.

ETSs can play a crucial role by raising revenues, and this is becoming an important consideration for policymakers. Although they are not the silver bullet in financing climate neutrality, ETS revenues can be instrumental in supporting the transition to net zero by impacting economic and environmental effectiveness and the political acceptability of the system, as well as consolidating fiscal resources of the jurisdiction (PMR 2019, ICAP 2019).

If allocated to the jurisdiction's budget, ETS revenues would be fed directly into the general budget without any identified end-use. This option offers many advantages. It increases the resource availability for public spending and can become an opportunity for improving the overall taxation framework. It provides a margin for manoeuvre as it is considered simple and flexible (PMR 2019).

Alternatively, ETS revenues can be earmarked, i.e. designated specifically for a particular purpose. Earmarking of revenues tends to increase support for carbon pricing by associating costs with benefits. Revenues can finance various categories of expenditures, such as climate mitigation, industry and innovation, social support, debt reduction, tax

reform and other programmes. Most ETSs earmark the majority of revenues towards climate mitigation, industry and innovation. A few ETSs already channel payments towards social support to low-income communities (Borghesi and Ferrari 2022).

The use of auction revenues depends on the general objectives of fiscal policies. It should fit in the political arbitrage between efficiency, long-run growth and equity. Jurisdictions should find their own recipe prioritising among expected benefits and taking into account their economic, legal and administrative contexts (PMR 2019). The establishment of dedicated funds is a good practice for allocating revenues.

The acceptability of carbon pricing policies also depends on how they are communicated (e.g. Carattini et al. 2017). In that respect, it is crucial to implement positive communication on the use of ETS revenues. This can be achieved by engaging with communities and stakeholders to design programmes and reporting the achieved impacts. In addition, jurisdictions can label funded projects with an explicit mention of the origin of the money.

### THE USE OF THE EU ETS REVENUES BEFORE 2023

Revenues raised through the EU ETS were \$36.7 billion in 2021 (ICAP 2022), amounting to about 41% of global carbon revenues (World Bank 2022). Auctioning revenues accrue to the budgets of member states. Most of the EU ETS revenues are redistributed to all member states based on their verified emissions. For solidarity reasons, 10% of revenues are distributed among the lower-income member states only. All member states should use at least 50% of revenues for climate and energy purposes.

Moreover, two EU investment funds were established. First, the Modernisation Fund supports investments in lower-income member states aimed at modernising energy systems, improving energy efficiency, and facilitating a socially fair transition to a low-carbon economy. The fund is capitalised with the auction revenues of 2% of the EU allowances. Second, the Innovation Fund supports innovative and breakthrough industrial technologies, such as green hydrogen and carbon capture, utilisation and storage. The fund is monetised through selling at least 450 million allowances and the remaining budget from the NER 300 programme.<sup>1</sup>

So far, most of the auction revenues have been directed to implementing energy efficiency and renewable energy programs in buildings, heating, and mobility (European Commission 2017). As Wiese et al. (2020) argue, efficiency and renewable energy programmes targeted at low-income households or communities help to reduce energy and mobility poverty. They can have a long-lasting effect by lowering their bills. In practice, member states differ in terms of shares of revenues aimed at climate and energy as well as measures undertaken. France, for instance, devotes most of its auctioning

<sup>1</sup> NER 300 is an EU funding programme pooling together about €2 billion for innovative low-carbon technology, focusing on the demonstration of environmentally safe carbon capture and storage and innovative renewable energy technologies on a commercial scale within the EU.

revenues to improving households' energy efficiency and supporting low- and middle-income households (Krause et al. 2022). Hungary and Estonia focus on transport, using revenues to fund electric charging infrastructure and support the purchase of electric cars and buses. Germany devotes one part of its revenues to international climate activities. Another essential difference concerns whether member states have earmarked their revenues or added them to the general budget: ten states have earmarked auction revenues, eleven have not earmarked revenues, and six are using a hybrid approach (Figure 2).

**FIGURE 2 EARMARKING APPROACHES OF EU ETS REVENUES BY MEMBER STATES**



Source: Authors' elaboration created with MapChart based on data from Krause et al. (2022).

### **A RENEWED APPROACH FOR THE USE OF THE EU ETS REVENUES IN THE FIT FOR 55 PACKAGE**

The recently adopted measures<sup>2</sup> of the Fit for 55 package (FF55) set forth by the European Commission in 2021 and of the REPowerEU strategy are expected to strengthen the EU's means to reach carbon neutrality and protect the most vulnerable citizens.

<sup>2</sup> At the time of writing, the European Parliament and the European Council had reached provisional agreements on the main files related the Fit for 55 Package and REPowerEU. Those agreements need to be approved by each institution before the new directives come into force.

The FF55 foresees that member states shall spend 100% of their ETS revenues on climate-related activities. An additional 2.5% of auctioned allowances will be fed into the Modernisation Fund to finance the energy transition of low-income member states and support low-income households as well as the modernisation of energy systems. The Innovation Fund will be increased from 450 to 575 million allowances.

The FF55 also introduces a second emissions trading system (ETS 2) covering emissions from buildings and road transport to ensure these sectors contribute to the EU climate objectives. The ETS 2 should be operational by 2027, but it may be postponed until 2028 if energy prices are exceptionally high (European Parliament 2022a). Some experts argue that this might hit low- and middle-income households more severely (Feindt et al. 2021), although evidence is still mixed. The impact assessment of the FF55 indicated that “*while initial impacts [of the ETS 2] can be mildly regressive, revenue recycling can, in theory, fully resolve the distributional issues which arise*” (European Commission 2021: 129).

The possible income loss of low- and middle-income households may be counterbalanced by the proposed creation of a Social Climate Fund (SCF) supporting vulnerable households, micro-enterprises and transport users particularly affected by energy and transport poverty. The SCF will be operational from 2026 (i.e. one year before the ETS 2) thanks to the auction of 50 million EU ETS allowances (approximately €5 billion). Then, the SCF is expected to provide approximately €86.7 billion of funding to member states – 75% originating from the auctioning revenues of the ETS 2 and 25% from member states. The SCF will support only measures and investments that respect the principle of ‘do no significant harm [to the environment]’ and aim to reduce fossil fuel dependency. Member states must submit Social Climate Plans to the European Commission after consulting local authorities, economic and social partners, and civil society. The Social Climate Plans will cover two types of initiatives: (1) structural investments, including building renovation, renewable energy integration, purchase and infrastructure for zero- and low-emission vehicles, public and shared transportation; and (2) direct income support measures – up to 37.5% of the total cost of each Plan – to tackle the increase of fuel prices in the ETS 2 sectors (European Parliament 2022b). Therefore, the actual distributional effects of the ETS 2 could be much lower than perceived in public opinion.

## **REPowerEU: HOW SHOULD ETS REVENUES CONTRIBUTE TO TACKLING THE ENERGY CRISIS?**

Within the REPowerEU strategy, the European Commission had proposed to unlock and auction part of the allowances (equivalent to €20 billion) in favour of the Recovery and Resilience Facility to promote the REPowerEU objectives. This was motivated by the exceptionally high energy prices following the Russian invasion of Ukraine, which has required mobilising all available resources to accelerate the transition away from Russia’s fossil fuels. However, it raised questions about whether the means are appropriate for the purpose and how to proceed with a view to unlock more ETS revenues. Although initially

planned as a release of allowances from the Market Stability Reserve, the final agreement between the European Council and Parliament is to finance it through different sources (European Council 2022): 60% originates from the Innovation Fund, and 40% comes from frontloading ETS allowances (i.e. anticipating the auctioning of allowances otherwise scheduled from 2026 onwards) (Montel 2022). This will be distributed to member states, considering their energy dependency rate and share of fossil fuels.

### **CONCLUDING REMARKS: CARBON PRICING AND DISTRIBUTION AT THE TIME OF THE WAR**

The combined effect of the Ukraine war and the still uncertain recovery from the COVID-19 pandemic can bring us closer to a new period of stagflation if not promptly addressed. What is more, the energy price hikes may affect public support for climate policies. The increase in energy prices shows the need to accelerate the transition process to set free from the current energy dependence, but it may have severe regressive effects and hinder climate policies that tend to increase carbon prices. In this context, can ETS revenues fix the distributional challenge of carbon pricing? It appears so. Studies have estimated that even a limited share of revenues allocated to low-income households (17% according to Berry 2018; 11% according to Mathur and Morris 2014) may be sufficient to compensate for the adverse effects of carbon pricing.

The present complex international scenario raises new questions both for policy and research. In today's world, the increase in revenues generated under the EU ETS represents a unique opportunity to reinforce the EU's green budget and contribute to the objective of reaching carbon neutrality by 2050. The FF55 and REPowerEU proposals on the use of ETS revenues are going in the right direction, but a clear policy framework is to be put in place for ETS revenues to actively support the EU's carbon neutrality objective. The social acceptability of high carbon prices can be increased by clearly devoting and earmarking a higher share of ETS revenues to 'green' social expenditures. The destinations of revenues could be adjusted to address changing challenges and priorities (higher energy and carbon prices, climate neutrality, new sector coverage). Communicating to the public with a transparent reporting on the use of revenues is crucial to facilitate acceptability.

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