The use of auctioning revenues from the EU ETS for climate action

An analysis based on eight selected case studies

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Disclaimer

Contents

Summary

The EU has agreed to reach climate neutrality by 2050 and enshrined this objective in the European Climate Law (ECL). Achieving this objective necessitates a transformation of the EU economies which requires significant additional investments across all sectors (COM 2018).

One key source of climate financing could come from the auctioning revenues of the EU Emissions Trading System (EU ETS). The EU ETS generated EUR 16.5 billion of revenues in 2020 and EUR 14 billion in the first half of 2021 alone (COM 2021a). These revenues are expected to further increase due to a reduction of overall emission allowances, leading to a rising carbon price as well as the phasing out of free allocation (Wiese et al. 2020, Lemmens and Mertens 2022).

This study analyses the reporting on the use of auctioning revenues since 2013 and investigates how countries earmark their revenues and if those revenues finance additional climate action. For this purpose, we selected eight countries as case studies, namely Czechia, Germany, Greece, France, Italy, the Netherlands, Poland, and Portugal. The analysis is mainly based on the reporting of Member States to the European Commission, desk research on legal documents and interviews with relevant experts from ministries and NGOs.

Our four key conclusions were:

1 **All revenues should be spent on climate action.** The EU ETS Directive must establish 100% earmarking, exclude fossil fuels and compensation payments, and improve reporting standards. External checks should safeguard spending of revenues on climate action.

2 **Not all auctioning revenues reported to be spent on climate action incentivise green investment.** Countries spent part of their revenues on support for fossil fuels, in particular new gas boilers through building retrofitting programmes. Other countries include energy price compensation for industry in their reporting.

3 **Reporting has significant shortcomings.** Submitted reports do not provide a good description of the financed actions as they are missing important contextual information and often include inaccuracies.

4 **National policy design must ensure traceable long-term funding.** Countries should dedicate the revenues to a limited number of institutions and actions. Ideally, more revenues go to the Modernisation Fund thereby ensuring a transparent use of revenues.

A separate summary of six pages is available here.

1 Introduction

1.1 Background

The European Union (EU) agreed to reach climate neutrality by 2050 and enshrined this objective in the European Climate Law (ECL; Regulation (EU) 2021/1119). Achieving this objective necessitates a transformation of the EU economies and requires significant additional investments across all sectors (COM 2018). **One key source of financing could be the revenues from the auctioning of allowances of the EU Emissions Trading System (EU ETS).**

Revenues generated from auctioning allowances in the EU ETS could be a crucial source of designated funding for additional climate action. **The EU ETS generated EUR 16.5 billion of revenues in 2020, and EUR 14 billion in the first half of 2021 alone,** demonstrating a rising trend (COM 2021a). This is supported by, for example, Wiese et al. (2020), who expect a further **upwards trend** due to the reduction of overall allowances and the decrease of free allowance allocation.

In spite of the increasing importance of revenues, **political discussion on the use of auctioning revenues** as well as available analyses were rather limited so far, with a few notable exceptions (e.g., Esch et al. 2013, Velten et al. 2016, Lübbeke et al. 2021). However, the importance of revenues is more prevalent in the current discussion on the new proposal of the European Commission (COM) and in context of the second emission trade system of the EU (EU ETS 2).

1.1.1 Using auctioning revenues for climate action

While the main purpose of the ETS is not revenue generation but the reduction of emissions, there are theoretical arguments as well as empirical evidence **supporting the benefits of using auctioning revenues for climate action.** As scientists such as Wiese et al. (2020) or Gilligham and Palmer (2013) point out, a carbon price alone does not necessarily lead to investments into climate-friendly solutions. There are additional barriers such as behavioural failures, informational asymmetries and liquidity constraints, for which complementary policies are necessary. Auctioning revenues can provide the funds to facilitate these policies and thus tackle these barriers. Moreover, they can also address sectors that are currently outside the ETS, hence amplifying the push towards a climate transition and possibly increasing social acceptance through lower energy bills (Wiese et al. 2020). Additionally, there is evidence that using revenues for climate-friendly investment decreases economic losses of mitigation policies (e.g., Corradani et al. 2018).

Furthermore, empirical studies suggest that **earmarking revenues for environmental purposes leads to higher public support of carbon pricing** and that people prefer to have auctioning revenues spent on environmental action, even over societal programmes (see e.g., Maestre-Andrés et al. 2019).

1.1.2 Other uses of auctioning revenues – compensation for households and industry

In the context of the use of auctioning revenues, the discussion oftentimes revolves around using revenues **to alleviate the financial burden of the carbon price for households or industries.** This is also known as indirect cost compensation or electricity price compensation, as consumers do not pay directly for the emission allowances, but the energy generator pays for its allowances and passes the cost on to its customers.

For households, governments introduce compensation payments as carbon taxes have the potential to be regressive, and therefore burden the lower-income households disproportionally. It is, however, important to distinguish how governments distribute revenues to households. Paid out as lump-sum to the general population or to lower income households, these payments mitigate the potentially adverse distributional effects and provide support independently from consumption (Bowen 2015, Ohlendorf et al. 2021). However, **if compensation is proportional to energy consumption (e.g., electricity or gas), they disincentivise energy savings or, in particular in the case of natural gas, a switch to another energy source.**

For industries, governments enact a **compensation to protect specific branches from the financial strain of the carbon price** (Bowen 2015). In the case of the EU ETS, the EU ETS directive argues that energy companies pass on the costs of emission allowances to consumers, burdening energy intensive industries and therefore leading to migration of these industries into regions with less restrictive environmental policies (carbon leakage) (EU ETS Directive 96/61/EC, Article 10a (6)). However, **when industries recieve compensation, environmental externalities are no longer fully internalised, which reduces the incentive to reduce energy consumption** or switch to cleaner energy sources (Woerdman 2021; Carbon Market Watch 2020). Hence, this practice undermines the polluter pays principle.

1.1.3 Current EU legislation and the EU Commissions proposal for amending it

The EU ETS Directive (Article 10(3) and 3d (4)) specifies **that 50% of auctioning revenues from stationary sources and 100% of revenues from auctioning in the aviation sector should be allocated towards climate action**. In addition to and separated from climate action, the EU ETS Directive allows for up to 25% to be spent on industry compensation for increased electricity prices. If countries use more than 25%, they must 'publish a report setting out the reasons for exceeding that amount'.

The European Commission recently proposed a revision of the EU ETS (COM 2021b) as part of implementing the Green Deal. In the explanatory memorandum to the proposal, it states **that 'stricter rules are necessary to ensure Member States spend their revenues in line with climate objectives'.** Hence, the Commission proposes use of all revenues for climate action, with the exception of the share dedicated towards industry compensation. It also changes the wording from 'should' to 'shall', making it a requirement instead of a suggestion.

Furthermore, the recent Communication of the European Commission discusses **how ETS auctioning revenues should be used to alleviate the burden of raising energy prices.** While the Commission stated that the revenues can 'be used to finance [..] social support', it still leaves considerable leeway on how to do so. However, it states that this could be done as lump-sum payments, 'as to maintain the incentive to reduce energy consumption and invest in energy savings.' (COM 2021c)

1.1.4 Earmarking auctioning revenues for specific purposes

E**armarking is 'the practice of designating or dedicating specific revenues raised from general or special taxes to finance or offset specified public** expenditures **and public services**' Soares (2012). The aim is to increase transparency in budgeting, to augment environmental action or economic efficiency or to better control public expenditure. In environmental policy, earmarking can signal a 'double commitment' to environmental purposes, once through the environmental levy and then through the spending of revenues on environmental action (Soares 2012).

Earmarking auctioning revenues can take a variety of forms, such as earmarking them to specific programmes, funds or ministries. The allocation happens through national laws,

ministerial decrees, state budgets or the budget of the earmarked funds. **Earmarking can be separated into budgetary earmarking and political earmarking**. Budgetary earmarking means that the revenues have a clear separation from the state budget; political earmarking means that a law declares where the revenues go to without a separate budgetary structure (Esch et al. 2013).

1.1.5 Reporting on the use of auctioning revenues

Member States must submit a report on their use of auctioning revenues on a yearly basis. These reports include the amount of revenues, the amount spent on climate action and the domestic and international actions financed by auctioning revenues in the field of climate action. These reports had to be submitted in line with the Monitoring Mechanism Regulation (MMR, Regulation (EU) 525/2013, Article 17) for the years from 2013 to 2019. Since 2020, they must be submitted in line with the preceding Governance Regulation (2018/1999 Article 19 (2)). The Commission has detailed the specifications of the reporting in the Implementing Regulation N°749/2014, Annex XII (2013-2019) and Implementing Regulation N°2020/1208 in Annex II (since 2020).

1.2 Objective of this study

Through this work, we want to get a better understanding on the reporting of revenues, on how countries regulate their revenue allocation, for what they use their revenues and what the political narrative regarding use of auctioning revenues is in individual countries. Hence, the study seeks to answer the following four questions:

1) How is the accessibility of reported information and data? Does reporting provide enough information to support the understanding of the use of auctioning revenues in a national context?
2) What is the role of earmarking or other legal provisions to allocate auctioning revenues to specific programmes?
3) For what purposes and programmes do countries use their auctioning revenues and are these programmes supporting investments and actions in the field of climate mitigation or adaptation?
4) Are auctioning revenues seen as an impulse for additional climate action?

Based on the analysis, this study also provides recommendations for the EU legislative framework as well as national policymaking.

1.3 Approach

The research questions require an in-depth view on how countries set up their revenue allocation. Hence, **we selected eight countries to conduct in-depth case studies** based on a mapping from the contractor, WISE-NL. There are Czechia, France, Germany, Italy, the Netherlands, Poland, Portugal and Poland.

For these case studies, **we first analysed the reporting of each country to the European Commission and use this as a starting point**. Afterwards, we **analysed national legislation and other relevant documents** to get a better understanding on the institutional set-up of the allocation as well as the specification of the financed programmes.

Lastly, we try to assess if the actions that were financed with auctioning revenues were additional. This means answering the question 'would certain actions exist if auctioning revenues were not available?'. This is a counterfactual question, which relies on assumptions and understanding of the national context. Hence, **we tried to gauge the narrative around the use of revenues.** If there is a discussion around implementing new actions because auctioning revenues make funds available, it is likely that these actions are additional. Since this is very difficult to determine based on available data alone, we analysed this question in a qualitative manner based on the judgement of experts.

1.3.1 Data sources

We used three major sources of information:

1) the **national reports on the use of auctioning revenues** that Member States have to submit under the MMR and the Governance Regulation for the years 2013 to 2020. Member States' reports are available on the Eionet (for the years 2013-2019) and Reportnet (for 2020 onwards) in the form of excel and html files. The reports were our starting point as they provide information on the share of auctioning revenues spent on climate action, implementing agencies, programmes that receive their financing from the revenues, and information on earmarking.

2) **desk research for relevant legal provisions on the use of auctioning revenue as well as information about the financed programmes.** Relevant legal documents are especially the transpositions of the EU ETS Directive, state budgets and the budgets of the respective funds. For the programmes, the official websites of the implementing ministries are the most relevant source of information.

3) **expert interviews** to gain deeper insights into the political discussion around actioning revenues and to clear possible up details. We interviewed one or two experts per country from relevant ministries and/or NGOs working on the topic.

1.3.2 The definition of climate action

The EU ETS Directive (Article 10 (3) defines climate action by listing broad groups of possible actions (list shortened for brevity):

- The reduction of GHG emissions
- supporting renewable energies and other low carbon technologies
- reducing deforestation and increasing afforestation and reforestation, forestry sequestration,
- carbon capture and storage,
- shift to low-emission transport,
- research and development for energy efficiency and clean development,
- energy efficiency,
- district heating systems,
- social support for lower- or middle-income households
- administrative expenses of the EU ETS
- climate action in vulnerable third countries as well as the reallocation of labour to contribute to a just transition.

These categories leave room for interpretations, as they do not exclude any activities, such as the support of fossil fuel technologies.

Hence, **we are basing our analysis on a narrower understanding of climate action**. We do not consider the support of fossil fuels or the compensation for high energy prices for

households and industries to be climate action, as they may lead to higher emissions (for a discussion, see 1.1.2). We therefore point out these practises in our case studies.

Furthermore, we assume that the best use of auctioning revenues **is for additional climate action,** not merely to finance activities that would have happened in any case. Hence, we discuss if financed actions are (likely) additional or not.

1.3.3 Outline of this study

This study is structured as follows: After the introduction, the eight case studies are presented in alphabetical order in chapter 1. Each case study can be separated from the rest of the document, which is why each has its references separately. Thereafter, chapter 3 summarizes the findings over all case studies an overview of the results of each case study (Table 18). Lastly, chapter 4 contains the general recommendations on the use of ETS auctioning revenues.

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2 Country case studies

We assessed the use of auctioning revenues in eight countries. Each case study contains 1) the total amount of auctioning revenues, 2) the revenues spent on climate action, 3) the legal provisions and earmarking, 4) a description of the financed national actions, 5) the quality of reporting and 6) a short concluding overview.

2.1 Czechia

Czechia issued 48 million ETS allowances in 2019, equal to 3.7% of total allowances in the EU. Of these issued allowances, 53.1% were auctioned, thereby generating revenues for the country (see Table 1).

Table 1: GHG emissions, total and auctioned allowances in Czechia

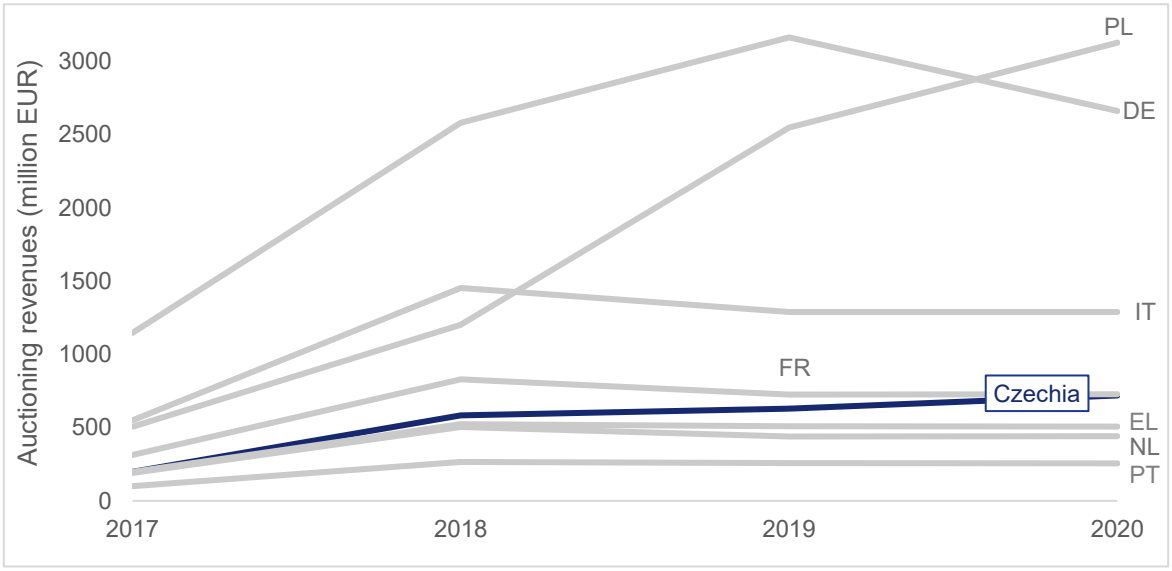
Indicator	Absolute values	Relative values
GHG emissions	137 million tonnes	4.1% of all EU emissions
ETS allowances	48 million allowances	3.7% of all ETS allowances
Auctioned allowances	26 million allowances	53.1% of Czech allowances

Source: Eurostat 2021, EEA 2021a,b. All data for the year 2019

2.1.1 Total amount of auctioning revenues

Czechia received EUR 2.5 billion auctioning revenues between 2013 and 2020 (Eionet 2021, Reportnet 2022). Compared to the other analysed cases, Czechia's auctioning revenues are in the middle of the spectrum (see Figure 1).

Figure 1: Total revenues from allowance auctioning in case countries (CZ highlighted)

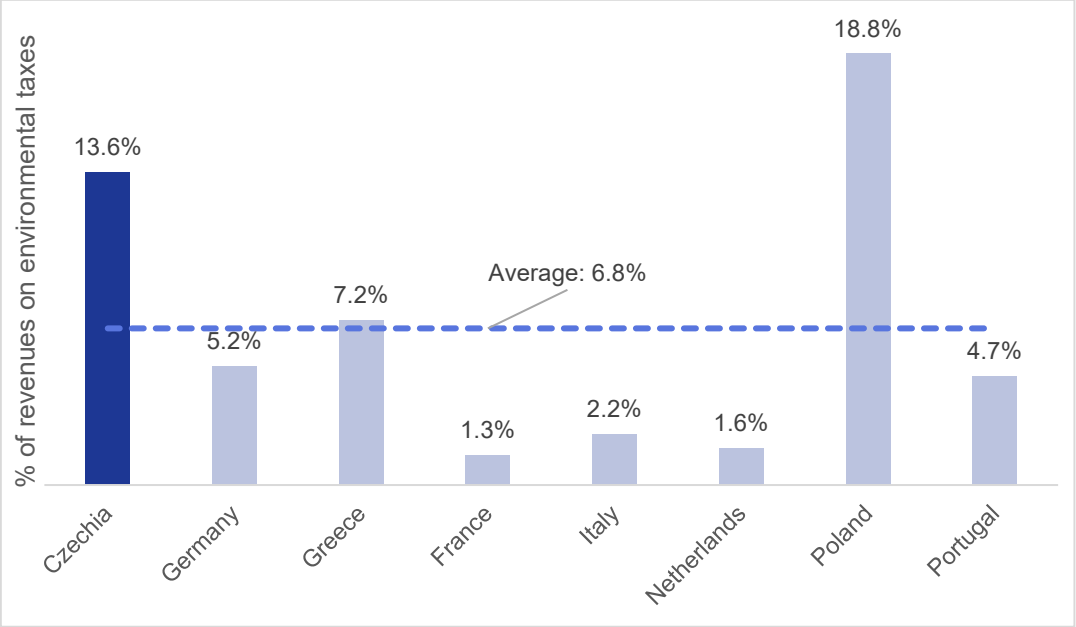


Source: Case country's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

In 2019, auctioning revenues made up 13.7% of Czechia's environmental taxes, i.e., all energy, transport and resource taxes[1] (Eurostat 2022, Eionet 2021, Reportnet 2022). When compared to the other case countries, this is above average (see Figure 2).

Like in all case countries, the relevance of auctioning revenues in Czechia has been growing over the last years as their share of the state budget has been increasing. Hence, auctioning revenues could be an increasingly important lever for climate action.

Figure 2: Share of revenues on environmental taxes in case countries (CZ highlighted)



Source: Case country's reporting on the use of auctioning revenues and Eurostat (Eurostat 2022, Eionet 2021, Reportnet, 2022), data for 2019

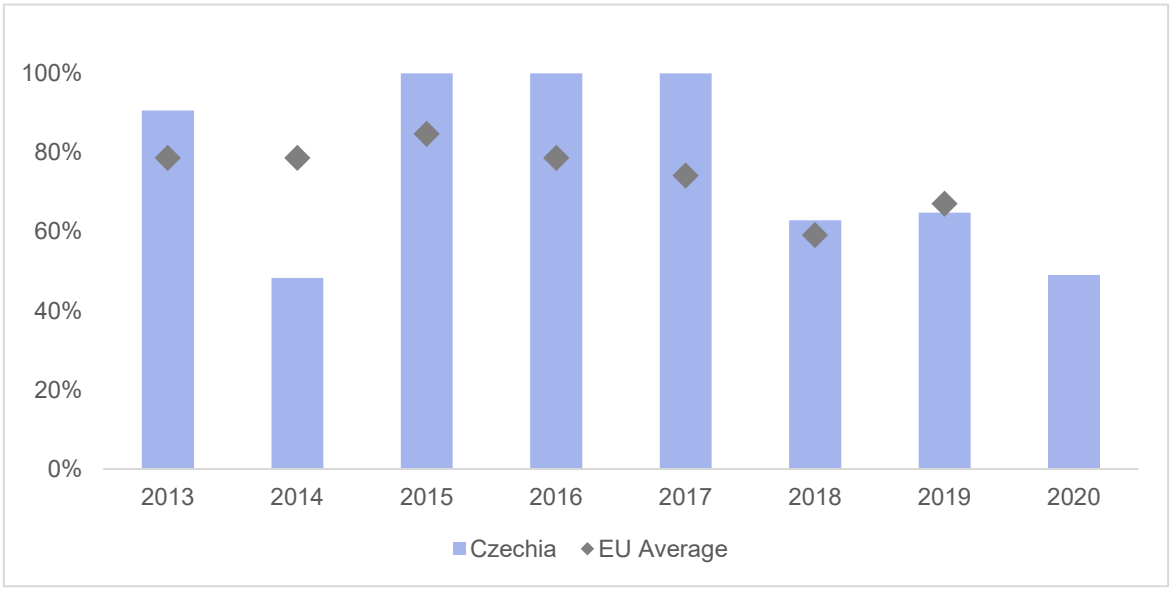
2.1.2 Revenue spent on climate action

The share of auctioning revenues spent on climate action in Czechia **has varied over the years.** In 3 of 7 reported years, the share was lower than the EU average (see Figure 3). The reporting shows that in the years 2014 and 2020, **the share of auctioning revenues spent on climate action was lower than the 50% suggested by the EU ETS Directive**. Discussion on directing more auctioning revenues to climate action are progressing slowly (Tuma and Chrpa 2022).

Czechia spent all revenues on domestic action. There is some minor international spending listed on the summary table (Eionet 2021, Reportnet 2022, Table 1) for some years, but there is no information on the corresponding programmes elsewhere (e.g., in Table 3 of the reporting template).

[1] Environmental taxes mean taxes that concern goods that have a harmful effect on the environment, which can be further categorised into the areas energy taxes, transport taxes and pollutant/resource taxes. ETS auctioning revenues are included in this indicator as energy taxes (Eurostat 2013).

Figure 3: Share of auctioning revenues spent on climate action in Czechia compared to the EU average



Data for the EU average is not available for 2020, Source: Czechia's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022, WWF 2021)

2.1.3 Legal provisions and earmarking

Czechia earmarks part of its revenues politically, i.e., there is no separate budget from the state budget; Czechia declares the purposes of the auctioning revenues via law. **The Act on Emission Allowances 383/2012 Coll.** regulates the allocation of auctioning revenues in Czechia (Government of Czechia, 2013). Its most important provisions are:

- Article 7 (5): A maximum **CZK 8 billion per year (~EUR 330 million) are earmarked towards** climate purposes as specified in the EU ETS Directive. The earmarking is rather ambiguous, as the 'maximum' in the legislation could indicate a cap but is in fact supposed to safeguard environmental spending (Tuma and Chrpa 2022). Indeed, in the years 2019 and 2020, Czechia reported to spend more than the earmarked amount, according to its reporting (CKR 10.4 billion in 2019 and CKR 9.3 billion in 2020, Eionet 2021, Reportnet 2022).

  According to Tuma and Chrpa (2022), the amount earmarked by this law was originally higher, at CZK 12 billion (~EUR 500 million) but was reduced in 2020. The Czech government explained this change mainly with the allocation of allowances to the Modernisation Fund, which reduced the absolute number of allowances and therefore also the revenues (Tuma and Chrpa 2022).

- Article 7 (6): this provision stipulates that **the Ministry of Industry and Trade (MIT) and the State Environmental Fund** (managed by the Ministry of Environment) **each receive 50 % of the earmarked auctioning revenues;** this is equal to max. CZK 4 billion (~EUR 160 million) for each entity.

- Article 12: this provision determines that **all transfers from the Modernisation Fund should go to the State Environment Fund**, whereby projects implemented for the transition away from coal should be prioritised.

Czechia benefits from the Modernisation Fund and at the same time, decided to contribute a share of its auctioning allowances to it, equivalent to EUR 16 billion (about CZK 422 billion) over the time span of 2021-2030. Czechia does so in addition to the

minimum contribution that is required from every Member State (Tuma and Chrpa 2022, COM, 2022).[2] As a result, Czechia now auctions a lower number of allowances each year. This way, it avoids auctioning revenues going to the state budget and potentially financing non-climate related purposes (Tuma and Chrpa 2022).

The allocation to the respective entities (i.e., the MIT and the State Environmental Fund) takes place yearly under the Act on the State Budget of Czechia (see also Frank Bold Society 2021). The MIT is also legally obliged to finance the feed-in tariffs for renewables and does so via a budget chapter, not a direct transfer. There is no such earmarking for the State Environmental Fund, instead the money goes directly into its budget without being bound to a specific programme of the Fund (Tuma and Chrpa 2022). However, reporting states that the money of the auctioning revenues is used for the New Green Savings Programme (see 2.1.4).

2.1.4 National Action

According to the reporting from Czechia, **two entities receive the auctioning revenues: The MIT, which finances its Feed-in-Tariff scheme (FiT scheme) for renewables with the revenues, and the Environmental Fund, which uses the revenues for the New Green Savings programme** (see Table 2, Figure 4 and next sections). According to law, the CZK 8 billion (~EUR 330 million) which are earmarked should be split equally between the two entities (see 2.1.3.).

Table 2: Use of auctioning revenues for climate action in Czechia

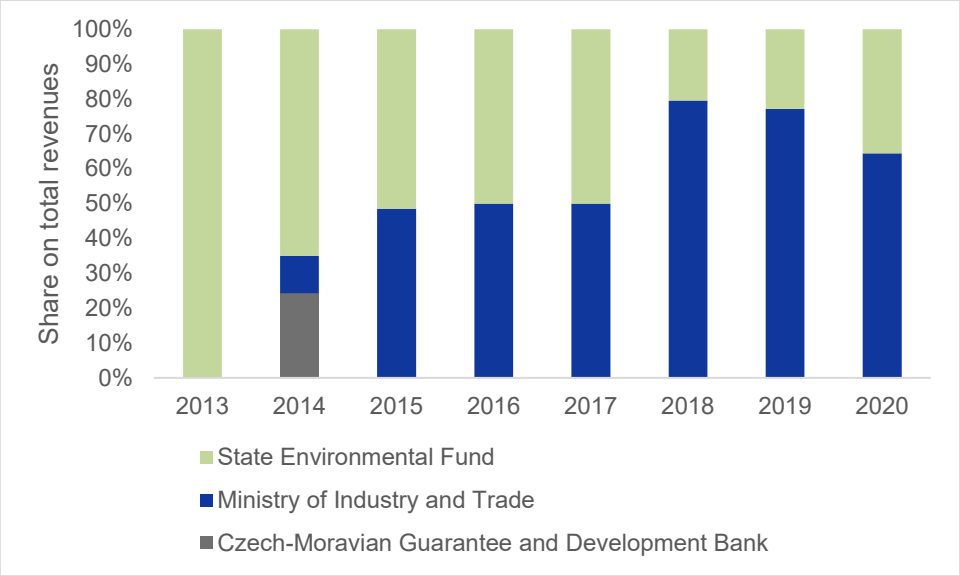
Implementing institution	Supported programme	2013	2014	2015	2016	2017	2018	2019	2020
Ministry of Industry and Trade	Feed-in-Tariff scheme		11%	49%	50%	50%	80%	77%	64%
State Environmental Fund	Green Savings Programme	100%	65%	51%	50%	50%	20%	23%	36%
Czech-Moravian Guarantee and Development Bank	Support to Technology Development Centres		24%						

Source: Czechia's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

Since 2018, **the MIT has received more than half** of the auctioning revenues for its FiT scheme (see Figure 4). This is most likely due to the fact that the government cannot change the amount of revenues going to the renewable programme due to the existing obligations of the FiT scheme. As a consequence, it allocates less revenues to the State Environmental Fund through the Act of the State Budget (Tuma and Chrpa, 2022).

[2] The Modernisation Fund has the aim to support renewable energy, energy efficiency, energy storage, energy networks and just transition. Investments must be approved by the EIB, the European Commission and an Investment Committee (European Commission 2022).

Figure 4: Share of revenues allocated to implementing agencies in Czechia



Source: Czechia's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

Ministry for Industry and Trade (MIT) – Feed-in-Tariff for Renewables

Auctioning revenues made up 22% of the MIT's subsidies for renewable energies in 2020, which is 12% of the ministry's expenditures (Government of Czechia, Eionet 2021, Reportnet 2022; own calculations). Thus, while they are not the only income stream, auctioning revenues constitute an important pillar of the financing of the ministry and its energy subsidy programmes.

The revenues are earmarked to finance the FiT scheme for renewable energy technologies. This scheme started in 2005 and ended, de-facto, in 2013. Under this scheme, fixed FiT were guaranteed for 20 years to all renewable installations built in that period, except for hydropower, which received a guaranteed FiT for 30 years (see Valach 2019).

Due to the decreasing costs for energy generation with photovoltaic (PV), the demand for this programme was higher as expected in 2010, as was the resulting burden for the state budget. Thus, **the government decided in 2013 to use the new auctioning revenues to help cover the payments for the already installed capacities** (Tuma and Chrpa 2022). This means that the auctioning revenues covers the deficit in the programme budget and does not lead to any new installations. Thus, while auctioning revenues are supporting renewables, which is a form of climate action under the EU ETS Directive, they do not finance additional action, but rather gaps in the budget.

Environment Fund - the New Green Savings Programme

Auctioning revenues made up 13% of the expenditures of the State Environmental Fund in 2020 (Government of Czechia, 2019; Eionet 2021; Reportnet 2022; own calculations). While the auctioning revenues make up a considerable share of what the State Environment Fund can spend on actions, it is not the Fund's main source of financing.

The Fund finances several programmes related to environmental protection and climate action. **According to the reporting, auctioning revenues specifically go into one programme, the New Green Savings Programme.** This programme aims at improving energy efficiency in buildings by offering grants for the retrofitting of family and apartment houses, the construction of passive standard houses, purchases of houses with very low energy consumption, solar-thermal and PV installations, green roofs, heat from wastewater, controlled ventilation systems,

heat pumps, biomass boilers, and charging stations for EV. **The programme also supports the exchange from old solid fuel boilers to gas condensing boilers** (New Green Savings Programme 2022).

According to experts, the programme **is well liked by the public,** incentivises investments by actors who would not have considered energy efficiency measures otherwise and is an important part of climate policy in the building sector (Tuma and Chrpa 2022).

The programme started in 2009. **It has had several periods so far**, the two most recent being from 2014 to 2021, and from 2021 to 2030 (New Green Savings Programme 2021a; New Green Savings Programme 2022a).

The role of auctioning revenues in financing the New Green Savings programme has changed over the years and continues to do so. Originally, financing came from revenues from the emission trading under the Kyoto Protocol. After emission trading under the Kyoto Protocol ended in 2012, the source of financing shifted to auctioning revenues. For the period from 2014-2021, funds stemmed entirely from the auctioning of ETS allowances (Czech Environment Ministry 2020). The ministry originally planned a budget of CZK 17,2 billion (~EUR 705 million) but the final allocation was slightly lower at CZK 16 billion (~EUR 655 million). In total, 74 000 beneficiaries benefitted from the programme during the first period (New Green Savings Programme 2021b).

During the period from 2014-2020, the amount allocated to the programme declined. Experts attribute this to two factors: First, there is still money in a reserve, as projects get reimbursed after they are finished. Second, there was a political decision to use the money for the allowance auctioning elsewhere (Tuma and Chrpa 2022).

In the following period from 2021 to 2030, the programme will be funded with a total of CZK 39 billion (~EUR 1,6 billion). Financing until 2026 will come from the Recovery and Resilience Facility (RRF) through the National Recovery Plan (total CZK 19 billion, ~EUR 780 million), and from 2026 onwards again from the revenues of ETS allowance auctioning (CZK 4 billion per year, ~EUR 160 million) (State Environmental Fund 2022). However, **this new allocation is not in accordance with the provision of the Act on Emission Allowances, which determines that half of the auctioning revenues for climate-related purposes, *i.e.,* CZK 4 billion (~EUR 160 million), should be allocated to the Environmental Fund annually** (Government of Czechia 2013). It is unclear if and when the government will address this.

2.1.5 Quality of reporting

Overall, quality of reporting is good. There are some inconsistencies in the reporting which seem to be the result **of currency conversion errors**, as not the same conversion rate was used for all of the different programmes.

Furthermore, there is some minor international spending listed on the summary table for some years, equal to about 0.3% of revenues, but there is no information on the corresponding programmes elsewhere (e.g., in Table 3 of the reporting template) (Eionet 2021, Reportnet 2022). According to ministry experts, no international action is currently financed with auctioning revenues (Tuma and Chrpa 2022).

2.1.6 Conclusions

Czechia has an act which earmarks auctioning revenues up to a maximum limit of CZK 8 billion **(~EUR 330 million)**. **However, the legislation is ambiguous,** as this can be interpreted as a cap, but is meant to safeguard climate spending. In fact, Czechia's spending on climate action slightly exceeded the cap twice, in 2019 and in 2020.

According to its reporting**, Czechia did not comply with the suggestion of the EU ETS Directive to spend 50% of auctioning revenues on climate action in 2014 and 2020.** It is unclear if this trend will continue. **There are also inconsistencies with the national legislation,** as more money went to the Ministry of Industry and Trade (MIT) than to the Environmental Fund between 2018 and 2020, instead of splitting the revenues equally as demanded by the Act on Emission Allowances.

However, the government will **allocate a share of its allowances over the next trading period to the Modernisation Fund.** This will ensure that more auctioning revenues will be spend on climate action, as the European Investment Bank (EIB) and the European Commission have to approve all investments made through the Fund.

Over the period from 2013 to 2020, the auctioning revenues financed two programmes: the New Savings Programme and a Feed-in-Tarif scheme. The former is financed through the State Environmental Fund, promotes energy efficiency measures in buildings and is an important environmental programme in Czechia. In contrast, **the continued financing of the Feed-in-Tariff scheme through auctioning revenues is a mere patch for a budgetary hole**, as the scheme has already ended, and payments are only made for already existing installations. Therefore, it does not provide any additional incentive to advance climate action.

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2.2 France

France issued 95 million ETS allowances in 2019, equal to 7.3% of total allowances in the EU. Of these allowances 31% of the issued allowances were auctioned, thereby generating revenues for the country (see Table 3).

Table 3: GHG emissions, total and auctioned allowances in France

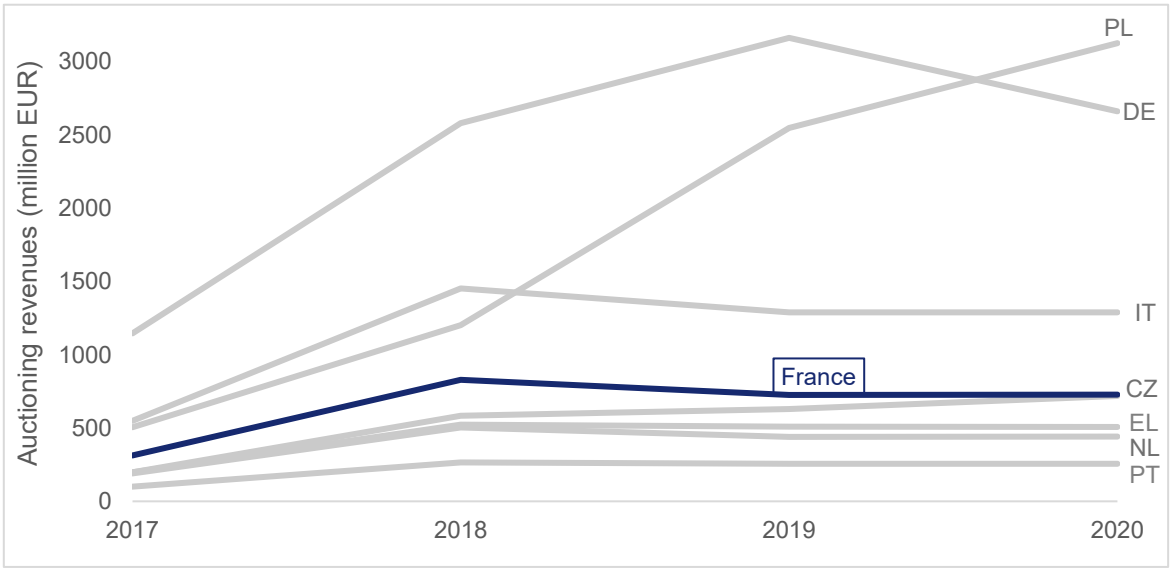
Indicator	Absolute values	Relative values
GHG emissions	405 million tonnes	12.1% of all EU emissions
ETS allowances	95 million allowances	7.3% of all ETS allowances
Auctioned allowances	30 million allowances	31.0% of French allowances

Source: Eurostat 2021, EEA 2021a, b All data for the year 2019

2.2.1 Total amount of auctioning revenues in France

Between 2013 and 2020, **France received about EUR 3.6 billion of auctioning revenues.** Compared to the other analysed cases, the auctioning revenues of France are on the lower end (see Figure 5). This is most likely due to low emissions in the energy sector because of a high share of nuclear power in France's electricity mix (Representative of the French Ministry of Ecologic Transition [RFMEC] 2022).

Figure 5: Total revenues from allowance auctioning in case countries (FR highlighted)



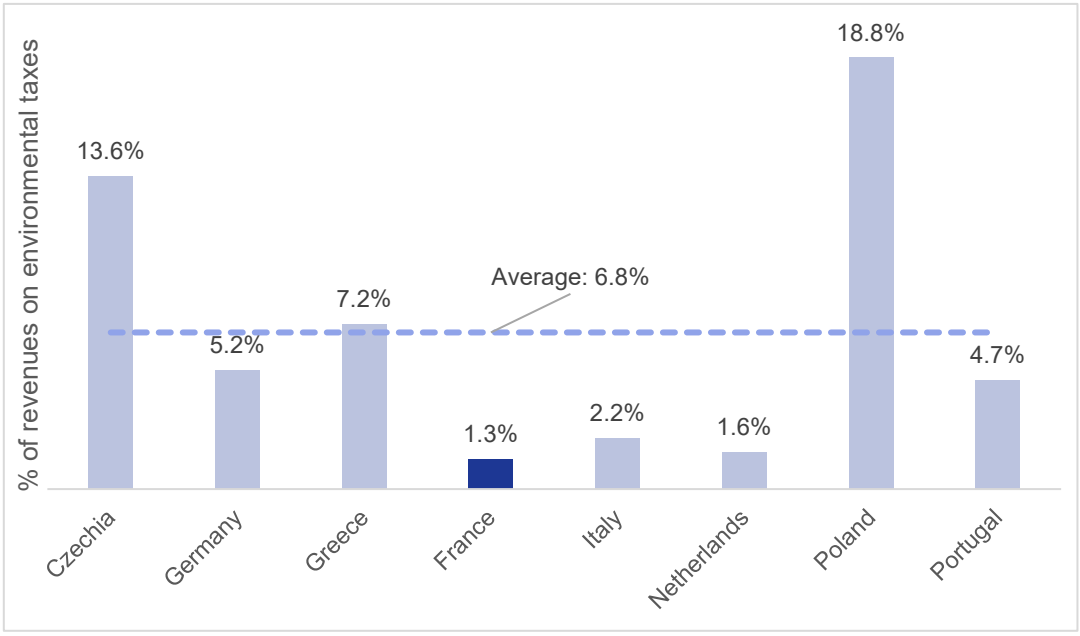
Source: Case country's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

Therefore, in 2019, auctioning revenues **made up only 1.3% of France's environmental taxes,** i.e., energy, transport and resource taxes[3] (see Figure 6). This is the lowest share when compared to the other case countries (Eurostat 2022, Eionet 2021, Reportnet 2022).

[3] Environmental taxes mean taxes that concern goods that have a harmful effect on the environment, which can be further categorised into the areas energy taxes, transport taxes and pollutant/resource taxes. ETS auctioning revenues are included in this indicator as energy taxes (Eurostat 2013).

Like in all case countries, the relevance of auctioning revenues in France has been growing over the last years as their share of the state budget has been increasing. Hence, auctioning revenues could be an increasingly important lever for climate action.

Figure 6: Share of auctioning revenues on environmental taxes in case countries (FR highlighted)

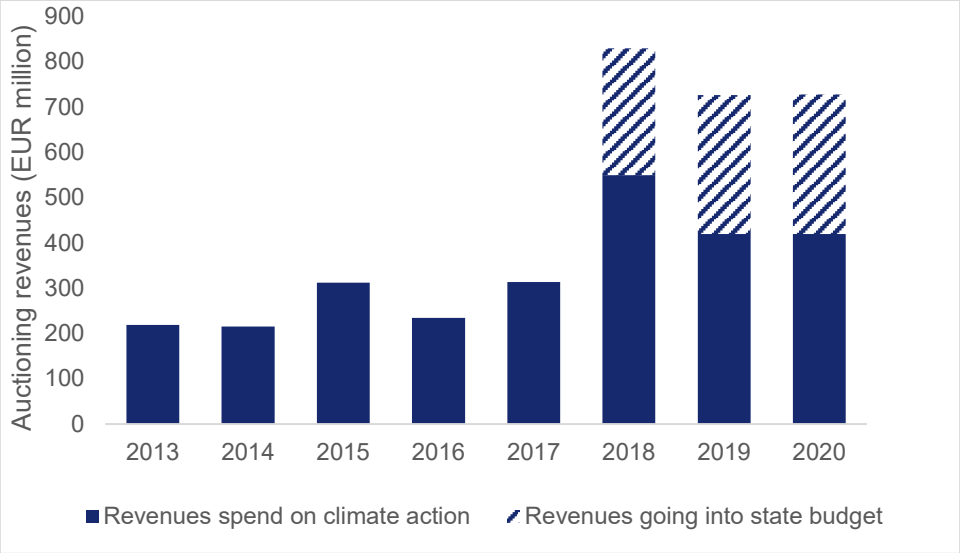


Source: Case country's reporting on the use of auctioning revenues and Eurostat (Eurostat 2022, Eionet 2021, Reportnet, 2022), data for 2019

2.2.2 Revenue spent on climate action

France reports to spent 100% of revenues on climate action until 2018. Afterwards, the share varies (see Figure 7). In its reporting on climate action, **it lists just one programme: a building retrofitting programme called 'Better Living'**. However, the amount dedicated to this programme is capped, and the remainder goes into the general state budget. The allocation to the state budget is reported as climate action in the report for 2020, which is misleading, but might have been an error in reporting.

Figure 7: Auctioning revenue use in France



Source: France's reporting (Eionet 2021, Reportnet, 2022) Note: In the report for 2020, the state budget was counted as climate action. This was adjusted for the graph.

2.2.3 Earmarking and legal provisions

The French government earmarks part of its revenues politically through the law No. 2012-1509 of 29 December 2012 on the on the finances for 2013, Article 43 (I) (Government of France, 2021). The yearly state budget allocates the revenues to the French National Housing Agency (ANAH), which uses the revenues – according to France's reporting on auctioning revenue use – to finance the Better Living programme (Eionet 2022, Reportnet 2022).

The allocation started with the budget of 2013 (Government of France 2012). **However, earmarked revenues are capped, with the remainder going into the state budget**. Through the yearly budgetary process, the cap can be adjusted (RFMEC 2022). This adjustment process works by passing a finance law that amends Article 46 of the law n° 2011-1977, where the cap is written down (Government of France 2011).

Between 2013 and 2017, revenues did not reach the cap, and thus all of them went into the budget of the ANAH. In 2018, the cap of EUR 550 million was reached for the first time (RFMEC 2022, PMR 2019). **In the two subsequent years, the government lowered the cap to EUR 420 million** (Government of France 2018, Article 83). It is unclear why this was the case, especially since there was a reduction in the grants of the scheme in 2019 (Soliha 2019). For 2021, the government increased the cap to EUR 481 million again (Government of France 2020, Article 82).

There is an ongoing discussion on dedicating the increasing revenues to other purposes as well, for example to the forestry sector, clean car subsidies or other retrofitting programmes (RFMEC 2022).

2.2.4 National action

In its reporting on climate action, **it lists just one programme: a building retrofitting programme called 'Better Living' (see** Table 4**)**.

Table 4 The use of auctioning revenues in France

Implementing institution	Programme	2013	2014	2015	2016	2017	2018	2019	2020
ANAH	Better living programme	100%	100%	100%	100%	100%	66%	58%	58%
French government	State budget						34%	42%	42%

Source: France's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

The Better Living programme provides grants to low-income households for energy efficiency retrofitting of their homes, covering a share of the retrofitting depending on the income level. It is administered through the National Housing Agency (ANAH), a public institution under the supervision of the Ministry of Housing, the Ministry of Economy and the Ministry of the Finance (Eionet 2022, Reportnet 2022).

Historically, **auctioning revenues made up a significant share of ANAH's budget:** It constituted 50% of the budget in 2016, 73% in 2014, about 60% in 2019 and 40% in 2020 (ANAH 2014, 2016, 2020, 2021). However, this share is down to 16% in 2021, due to the substantial increase in the agency's budget financed by other sources of funding (ANAH 2021).

The Better living programme already existed before 2013, so the auctioning revenues were most likely allocated to cover gaps in funding (RFMEC 2022). Besides auctioning revenues, the scheme also receives financing from the ANAH's budget and the National Thermal Renovation Aid Fund (FART) (Court of Auditors 2018).

The fluctuations of the auctioning revenues over the third trading period were one factor that led to temporary gaps in funding. These fluctuations also led to frequent change in the amount of the grants which were available to the recipients and hence lowered the predictability of funding (PMR and ICAP 2019, Court of Auditors 2018).

In spite of the uncertain funding, **the French Court of Auditors and a representative of the French Ministry of Environment agreed that the programme was largely successful and well-received.** The programme reached 81% of its target of 300 000 renovations in the period from 2010 to 2017. Additionally, according to a survey of the ANAH, 71% of recipients would not have renovated their house without the Better Living Programme (Court of Auditors 2018). However, a lack of public communication might have led to the programme not reaching its full potential (RFMEC 2022, Court of Auditors 2018).

Both the Better Living programme and its successor programmes (Ma Prime Rénov') cover gas boilers. According to a survey of recipients in 2015, most people decided to stay with the energy source of their heating system, and if they changed it, they did so in favour of either wood or gas (Court of Auditors 2018). This support for gas boilers is continued the Ma Prime Rénov' schemes (Garanka 2022).

2.2.5 Quality of reporting

The reporting quality is good, as the details of the programme are explained in considerable detail. However, the reporting does not consistently make it clear which shares go into the general state budget and which to the 'Better living' programme. This leads to minor inconsistencies in the reporting.

2.2.6 Conclusions

The allocation of revenues in France is simple and straightforward. France allocates its revenues, up to a cap, through the yearly state budget to the French National Housing Agency (ANAH). ANAH uses the revenues to finance one programme, a building retrofitting programme for low-income households called 'Better living' (since 2021 changed into MaPrimeRénov'). However, with the recent increase of revenues, there is now an active discussion on how to spend the revenues in other relevant areas and possible finance other programmes.

The Better living programme was already running before of 2013, **so auctioning revenues facilitated the funding afterwards**. They made up a significant share of the Housing Agency's budget, up until last year. In the third trading period, **the fluctuations in revenues were one factor that led to an uncertainty of funding for recipients of the Better living programme.**

In spite of its funding irregularities, **the Better living programme was successful in facilitating retrofitting for low-income households** and generated additional energy savings in the building sector. However, the programme and its successor programme include financing for gas boilers, which should not count as climate action (see 1.3.2).

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2.3 Germany

Germany issued 269 million ETS allowances in 2019, equal to 20.5% of total allowances in the EU. Of these issued allowances, 40.3% were auctioned, thereby generating revenues for the country (see Table 5).

Table 5: GHG emissions, total and auctioned allowances in Germany

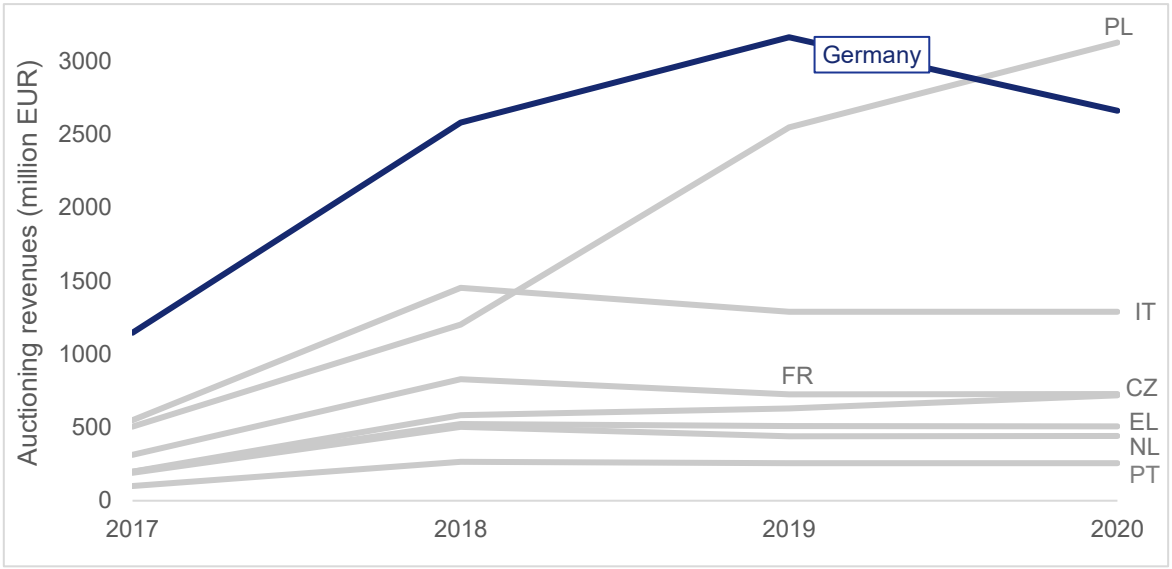
Indicator	Absolute values	Relative values
GHG emissions	793 million tonnes	23.6% of all EU emissions
ETS allowances	269 million allowances	20.5% of all ETS allowances
Auctioned allowances	108 million allowances	40.3% of German allowances

Source: Eurostat 2021, EEA 2021a,b. All data for the year 2019

2.3.1 Total amount of auctioning revenues in Germany

Between 2013 and 2020, **Germany received about EUR 13.1 billion of auctioning revenues.** Compared to the other analysed cases, Germany's auctioning revenues were the second highest in 2020 (see Figure 8).

Figure 8: Total revenues from allowance auctioning in case countries (DE highlighted)



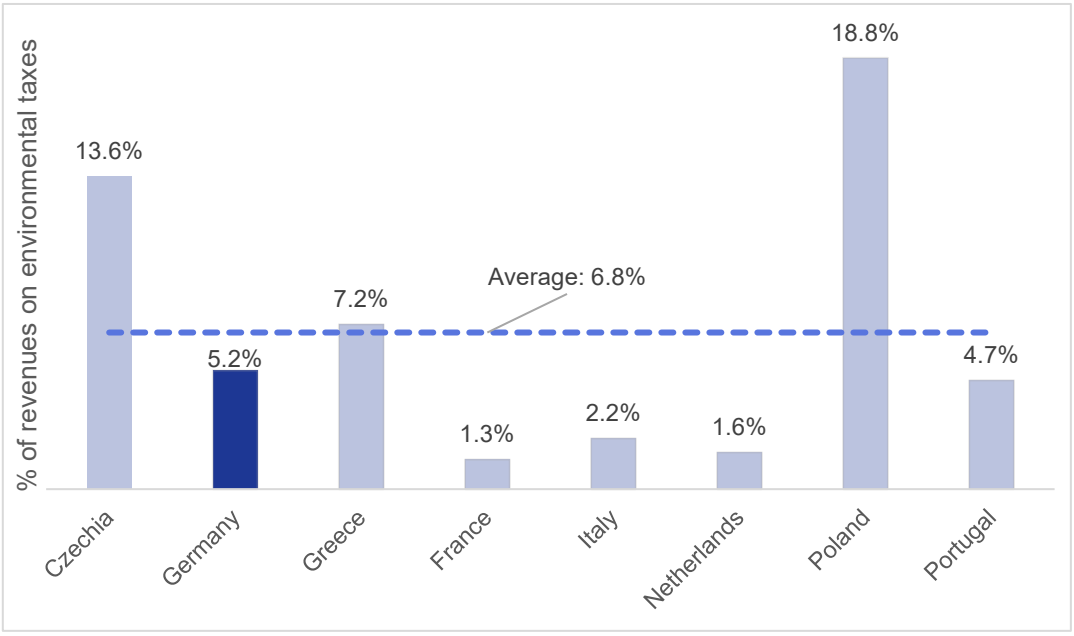
Source: Case country's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

In 2019, **auctioning revenues made up 5.18% of German environmental taxes**, *i.e.,* all energy, transport and resource taxes,[4] (Eurostat 2022, Eionet 2021, Reportnet 2022). This is slightly less than average when compared to the other case countries (see Figure 9).

Like in all case countries, the relevance of auctioning revenues has been growing over the last years as their share of the state budget has been increasing. Hence, auctioning revenues could be an increasingly important lever for climate action.

[4] Environmental taxes mean taxes that concern goods that have a harmful effect on the environment, which can be further categorised into the areas energy taxes, transport taxes and pollutant/resource taxes. ETS auctioning revenues are included in this indicator as energy taxes (Eurostat 2013).

Figure 9: Share of revenues on environmental taxes in case countries (DE highlighted)



Source: Source: Case country's reporting on the use of auctioning revenues and Eurostat (Eurostat 2022, Eionet 2021, Reportnet 2022), data for 2019

2.3.2 Revenue spent on climate action

Germany reports that all its auctioning revenues are spent on climate action. The years between 2016 and 2019 are the exception, as in these years, reporting deducted the expenses for the German Emissions Trading Authority (DEHSt) from the amount spent on climate action (less than of total revenues). However, as these expenses fall under climate action according to the EU ETS Directive, they could have been included.

2.3.3 Earmarking and legal provisions - The Energy and Climate Fund

Germany allocates its auctioning revenues to the Energy and Climate Fund (EKF), a so-called 'special fund', *i.e.*, a juristically and budgetary separate entity from the general state budget. Its purpose is to advance the German energy transition and to support climate protection measures (German Federal Ministry of Finance, BMF, 2021). The EKF is the biggest fund financing climate protection measures in Germany.

History of the Energy and Climate Fund

The fund was established in 2010. **Its legal basis is the Law on the Establishment of an 'Energy and Climate' Special Fund**, which was amended several times, the last time in 2020 (BMF 2021). The law specifies that the EKF should finance programmes in the areas of energy efficiency, renewable energy, energy storage and grid technologies, retrofitting, national and international climate protection and electromobility. Additionally, the fund can finance compensation of industry, including for the shutdown of coal power plants and high electricity prices (Government of Germany 2010, Article 2).

Initially, the EKF was supposed to be financed with earnings from nuclear power plants. However, after the catastrophe of Fukushima in 2011, support for nuclear power was abandoned, which created a need for other sources of funding. Therefore, the German government decided to allocate the ETS auctioning revenues to the EKF (Esch and Kowalzig 2011). **The aim was to create transparency for the use of auctioning revenues and have**

a tool at hand to support the energy transition. The German government addressed fluctuation in auctioning revenues by dedicating money from the state budget to cover any deficits in the of the fund (Eionet 2021, Reportnet 2022).

In 2016, this changed, when the **German government adjusted the EKF's legal basis to allow for allocating more money from the state budget to the fund even beyond what would be needed to cover any deficits**. This shift was likely motivated by the Climate Protection Programme 2050, which marked a change in direction towards more investment into climate and energy actions. Since then, the EKF has received additional funds from the state budget for a variety of purposes, such as the actions under the Climate Protection Programme 2030, the Covid-19 recovery stimulus package and measures introduced as a reaction to the war in Ukraine (BMF 2021, see also 2.3.6).

Current state of the Energy and Climate Fund

The yearly budget of the EKF consists of the auctioning revenues, state budget and money from the fund's reserve. Starting from 2021, the fund is also financed by the German national emission trading system, which covers the transport and heating sectors (Government of Germany 2010, Article 4 paragraph 2). In 2021, budget was distributed as follows: 70.4% stemmed from the EKF's reserve, 17.4% from the national emission trading system, 6.4% from the ETS auctioning revenues and 5.8% from the state budget (BMF 2021). Thus, the auctioning revenues of the ETS do not constitute the majority of the fund's budget anymore.

The yearly budget plan of the EKF is passed with the state budget act. Hence, the German parliament and Federal Council have to approve it (BMF 2015). **The allocation of the funds is determined by an internal decision-making process of the implementing ministries**. In the year 2020, the ministries which carried out programmes of the fund were the Federal Ministry for Economic Affairs and Climate Action (BMWK), the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, the Federal Ministry of Transport and Digital Infrastructure, the Federal Ministry of Education and Research, the Federal Ministry of Food and Agriculture and the Federal Ministry of the Interior and Community. **This process is largely opaque to outside observers and most likely administratively difficult, since six different ministries must coordinate.**

The outflow of the EKF's programmes was hampered in recent years. In 2020, 40% of the funds available to the programmes were not paid out, an increase from 31% in 2019. This is reflected in the size of the fund's reserve, which increased from EUR 4 billion in 2018 to EUR 31 billion in 2020 (BMF 2020 2021). Possible explanations include that the programmes are too fragmented, the application process for funding is too bureaucratic and public communication on these programmes is not effective (Funk 2019). This means that the continuous expansion in the size of the fund does not necessarily lead to the desired proportional increase in programme activities and related climate action.

The German government argues that the creation of the EKF as a separate fund makes additional climate action programmes possible (Government of Germany Article 2). Indeed, the level of ambition in the climate strategies and **programmes might not have been as high if it was not for the availability of funding through the revenues.**

2.3.4 National action

Since the financing of the programmes is a mixture between the auctioning revenues, the state budget, and the reserves of the funds, **it is not possible to attribute individual programmes to auctioning revenues.** An exception is a small share of revenues financing the DEHSt

(Eionet 2021). However, this only makes up a marginal share of the auctioning revenues, 0.4% in the year 2020.

Between 2013 and 2015, there are no details in the reporting on specific programmes financed by the EKF. Reporting of these years only explains what the budget of the fund consists of, namely the auctioning revenues that go into the EKF, what is taken out of the reserve and the additions of the state budget. Additionally, it lists the expenses for the DEHSt.

For the **years after 2016, the expenses for the DEHSt and the programmes financed by the EKF are listed each year**. The list of programmes is extensive, with the number increasing from 14 programmes in 2016 to 47 programmes in 2020. The Ministry of Economy and Energy implemented the majority of the biggest programmes.[5] Table 6 showcases the programmes with a share of auctioning revenues of 10% or higher for each year.

Table 6: Selection of reported programmes in Germany

Implementing ministry	Programme	2016	2017	2018	2019	2020
Ministry of Economy and Energy (BMWK)	CO_2 Building Retrofitting Programme	43.8%	45.0%	53.9%	50.4%	36.0%
	Grants for electric vehicles	0.4%	1.8%	2.5%	3.1%	12.9%
	Programme for the use of renewable energies in heating (Market Incentive Programme)	4.7%	3.0%	1.7%	7.8%	12.1%
	Compensation for electricity-intensive companies for electricity price increases due to emissions trading	15.2%	14.1%	8.0%	6.9%	10.8%
Ministries of Education, of Economy and Energy, of Transport, of the Environment	Measures for the further development of electromobility	12.1%	8.9%	7.4%	7.4%	6.3%

Source: Germany's reporting on the use of ETS auctioning revenues (Eionet 2021, Reportnet 2022)

The CO_2 Building Retrofitting Programme is one of the main programmes for building retrofitting in Germany. It was administered by the German development bank KfW and covered a series of different subsidies, including grants and soft loans, for a variety of measures to improve energy efficiency in new buildings as well as the building stock. Critics argue that the programme put too much emphasis on new buildings instead of tackling the building stock, as 60% of fundings went into the new buildings in 2020 (Zerger and Wolff 2021)

The Market Incentive Programme (MAP) subsidised renewable heating and cooling systems and was administered by the Federal Office for Economic Affairs and Export Control (BAFA). Besides financing renewable heating systems, it also financed gas boilers in combination with renewable systems with a grant of up to 30%. The grant was an additional 10% higher if an oil boiler was in place before the exchange to incentivise a switch from heating with oil (BAFA 2022).

[5] With the change of government in 2021, this ministry was expanded to include the area of climate change, now being called Federal Ministry of Economic Affairs and Climate Action.

In 2021, **both the CO_2 Building Retroffitting Pogramme and the MAP were merged into the Federal Support for Efficient Buildings- Programme (BEG),** with the goal of streamlining the administrative procedure (BMWK 2021). However, the KfW and the BAFA administer the joint programme, depending on the exact measure, which maintains part of the administrative complexity. The programme still finances hybrid gas boilers with a grant of up to 40% (German Federal Ministry of Economic Affairs and Climate Action 2022).

The subsidy for e-vehicles exists since 2016 and is administered through the BAFA. The scheme offers grants in the order of up to EUR 6000 for buying or leasing e-vehicles, fuel cell cars and plug-in hybrid cars (BAFA, 2022).

The action 'Measures to develop electromobility' is an umbrella term for several different measures, based on the National Electromobility Development Plan of 2009. It covers a great variety of programmes, including, inter alia, support for municipalities to reduce air pollution, research on battery technologies and procuring electric busses in public transport. Out of the programmes listed in Table 6, it is the one which the least outflow of money in 2020, with just about 64% of the funds being paid out, in comparison to 85% on average for the other programmes (German Federal Ministry of Finance 2021, own calculations). This supports the hypothesis that fragmented programmes have a lower outflow than larger ones.

Germany **compensates energy intensive industries** for the indirect financial burden of the ETS on electricity. The German government's reasoning is in line with the ETS Directive: energy companies pass on the costs of emission certificates to consumers, especially burdening industries with high electricity consumption (DEHSt 2017). However, the compensation should not be considered climate action (see 1.3.2).

2.3.5 International action

Germany **reports spending less than 1% of auctioning revenues annually on international climate action**. Details on cooperation are missing, as the reporting only lists different areas, such as energy, technology, resources or ocean pollution.

An outlier is the year 2013, for which Germany reported a share of 25% of auctioning revenues spent on international climate action. However, the reporting does not provide any further details.

2.3.6 Changes since 2020

In recent years, **the German government continued to expand the EKF in terms of budget and spending purposes**. The Corona crisis and the war in Ukraine especially motivated several measures to increase the volume of the EKF: In 2021, **it was announced that the EKF will receive an additional EUR 60 billion to invest into climate and energy**. For this, the government transferred a credit authorisation for EUR 60 billion to the fund, which was originally intended for Covid-19 stimulus packages, but not used up (tagesschau 2021).

In 2022, the **German government announced that the EKF will finance the abolishment of a surcharge on electricity** for consumers (EEG levy). This surcharge on electricity consumption is in place since 2000 and finances the renewable electricity built-up in Germany. **While it is unclear how much exactly will be spent on the abolishment, this will now be a core purpose of the fund** (German Parliament 2022a). This abolishment is ambiguous: Since the substitution reduced the price for electricity for consumers, it is a societal measure that does not incentivise energy savings. On the other hand, since the money is still spent on the expansion of renewables, the programme it also incentivizes green investment (see 1.3.2).

In line with these recent developments**, the German government made a proposal in May of 2022 to expand the EKF into a new 'Climate and Transformation fund'**. This would accommodate both an increase in fund volume and the new purpose of the fund in financing the cancellation of the EEG levy, amongst others (German Parliament 2022b).

2.3.7 Quality of reporting

Generally, **reporting is detailed but difficult to access.** Whereas the description of provisions and programmes offers a lot of information, there are unexplained inconsistencies over the years. For example, for the years from 2016 to 2019 the expenses for the DEHSt are included in the summary table as climate action, while in the other years they are not. Furthermore, it is difficult to follow calculations, especially retracing the EKF's funding back to ETS auctioning revenues, the state budget and the reserve.

2.3.8 Conclusions

Germany has a system of budgetary earmarking in place, as it dedicates almost all its auctioning revenues towards the Energy- and Climate Fund (EKF). In the beginning of the third trading period, the fund's main purpose was to ensure that ETS auctioning revenues were dedicated towards climate actions. **However, in recent years, the fund was extended considerably, making it the central fund for climate financing. T**he EKF is now also used to finance the abolishment a surcharge for electricity consumers which used to finance the deployment of renewables, increasing the funds its scope significantly. Furthermore, there are more and more funds dedicated to the EKF from sources other than the auctioning revenues, for example additions from the state budget, the national emissions trading system or credit authorisations.

As the fund is implemented through six different ministries, **the decision-making process is complex. It is also largely opaque for outside observers, thus limiting its transparency.** Additionally, a considerable share of funds is not being paid out. This may be a consequence of the vast number of programmes, complicated application procedures and a lack of effective public communication on the support schemes.

Lastly**, two financed programmes should not count as climate action and therefore not be financed with auctioning revenues**. Namely, the German government paid out industry compensation from the fund and its building retrofitting programmes included support for gas technologies.

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2.4 Greece

Greece issued 34 million ETS allowances in 2019, equal to 2.6 % of total allowances in the EU. Of these allowances 60.5% of the issued allowances were auctioned, thereby generating revenues for the country (see Table 7).

Table 7: GHG emissions, total and auctioned allowances in Greece

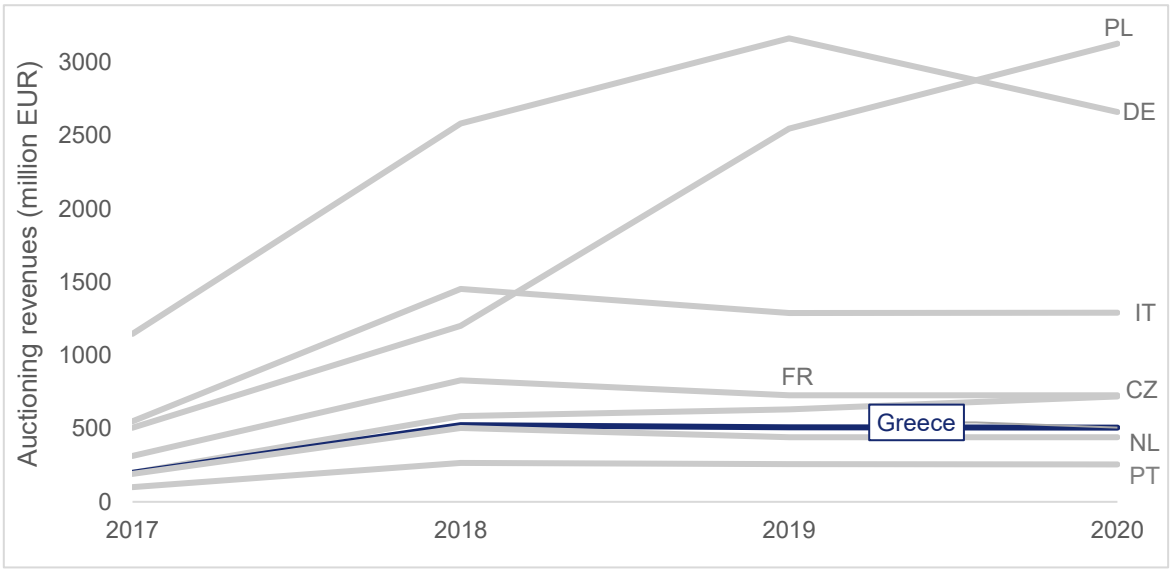
Indicator	Absolute values	Relative values
GHG emissions	82 million tonnes	2.4% of all EU emissions
ETS allowances	34 million allowances	2.6% of all ETS allowances
Auctioned allowances	21 million allowances	60.5% of Greek allowances

Source: Eurostat 2021, EEA 2021a,b. All data for the year 2019

2.4.1 Total amount of auctioning revenues in Greece

Between 2013 and 2020, **Greece received about EUR 2.4 billion of auctioning revenues.** Compared to the other analysed cases, Greece's auctioning revenues are on the lower end of the spectrum (see Figure 10).

Figure 10: Total revenues from allowance auctioning in case countries (EL highlighted)



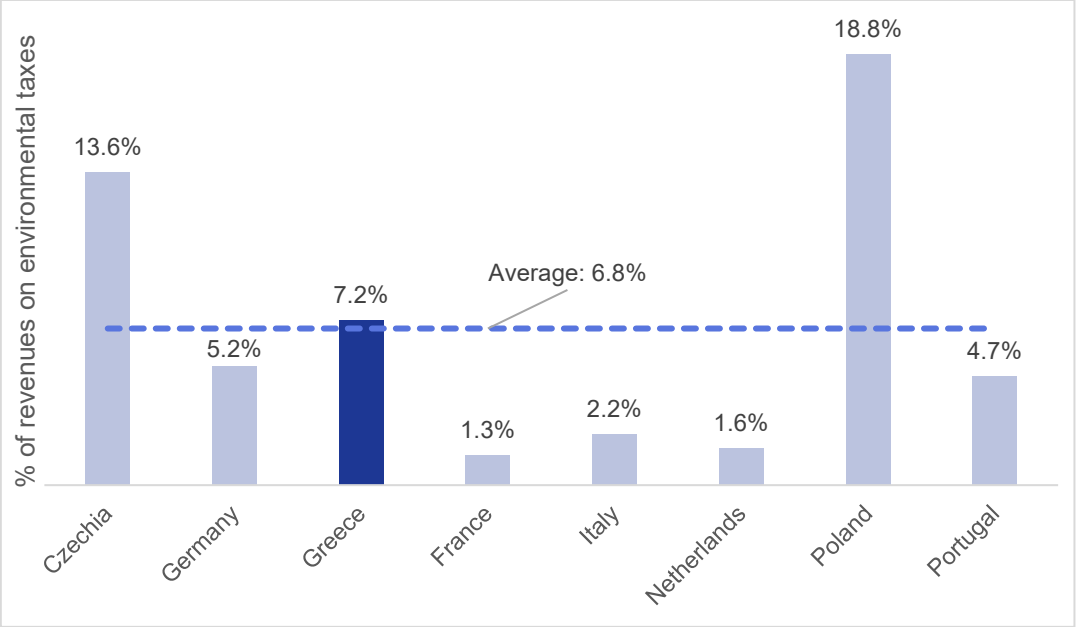
Source: Case country's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

In 2019, **auctioning revenues made up 7.2 % of Greece's environmental taxes**, i.e., energy, transport and resource taxes.[6] When compared to the other case countries, this is slightly above the average (see Figure 11, Eurostat 2022, Eionet, 2021, Reportnet, 2022).

Like in all case countries, the relevance of auctioning revenues in Greece has been growing over the last years as their share of the state budget has been increasing. Hence, auctioning revenues could be an increasingly important lever for climate action.

[6] Environmental taxes mean taxes that concern goods that have a harmful effect on the environment, which can be further categorised into the areas energy taxes, transport taxes and pollutant/resource taxes. ETS auctioning revenues are included in this indicator as energy taxes (Eurostat 2013).

Figure 11: Share of revenues on environmental taxes in case countries (EL highlighted)



Source: Source: Case country's reporting on the use of auctioning revenues and Eurostat (Eurostat 2022, Eionet 2021, Reportnet 2022), data for 2019

2.4.2 Revenue spent on climate action

Greece **reported that 100% of total auctioning revenues** went to domestic climate action. For most years, the reported amount was slightly higher than 100%. Reporting does not explain why this is the case. Table 8 shows the reported share on climate action in Greece as well as the share spend on climate action when excluding indirect cost compensation for industries and an unspecified share of 2020. This unspecified share, 16,4% or EUR 84 million of auctioning revenues, are not allocated to a specific programme in the reporting. However, it is very likely that this amount goes to the compensation of industries in risk of carbon leakage, as this is stipulated in the respective Ministerial Decree for 2020 (Greek Ministry of Environment and Energy 2019).

Table 8: Share of total revenues spent on climate action in Greece

	2013	2014	2015	2016	2017	2018	2019	2020
Reported	100%	100%	103%	101%	101%	101%	101%	101%
Share spend on climate action, excluding industry compensation/ unspecified share (*)	/	/	/	/	85%	85%	87%	84%

Source: Greece's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022). (*) Unspecified amount seems to be the electricity price compensation for industry (see 0)

2.4.3 Earmarking and legal provisions

Greece earmarks its revenues politically, i.e., it allocates them via legislation. The law determines the revenues purposes and yearly ministerial decrees decide upon exact allocation.

The most relevant law for auctioning revenues is law N° 3468 ΦΕΚ Α΄129 / 27.6.2006, which transposes the provisions of the EU ETS Directive (Art. 10) (Government of Greece 2006). It has been amended multiple times since 2006.

Between 2013 and 2015, according to Law N° 3468 ΦΕΚ Α΄129 / 27.6.2006**,** the revenues went to the Special RES Account managed by the Renewable Energy Sources Operator LAGIE SA (later called DAPEEP). An unspecified share should furthermore be used to compensate industries in risk of carbon leakage.

For the period between 2016 and 2020, provisions for revenue allocation according to Law N° 3468 ΦΕΚ Α΄129 / 27.6.2006 (amended through Law N° 4369 of 2016, Article 50) were:

- at least 60% should go to the Special Renewables Account (Special RES Account) between 2016 to 2018, 65% for the years 2019 and 2020;
- a share should go to the compensation of energy intensive industries and is financed. Money that is not used for compensation should go to the Special RES Account. The Regulatory Authority for Energy (RAE) determines the share;
- a share should go to projects supporting the uses listed in the ETS Directive, in particular energy savings programmes for low- and middle-income households, reducing fossil fuels in transport, and wildfire prevention projects. The implementing body is decided by the yearly ministerial decrees.

An amendment in the year 2018 (Law N°4585 Article 3b) establishes the Just Transition Fund for 'the development of sustainable economic activities with a low carbon and environmental footprint' and the creation of employment in the regions of Kozani, Florani, Megalopolis and Arcadia.

For the period between 2021 and 2030, provisions for revenue allocation according to Law N° 3468 ΦΕΚ Α΄129 / 27.6.2006 (amended through Law N°4819 of 2021 Article 131) were:

- the Operator of the Emissions Trading Scheme and Guarantees of Origin (AERG) administers part of the revenues to compensate sectors in risk of carbon leakage, the remaining revenues go to the Special RES Account, managed by DAPEEP.
- Similar distribution as in the previous period for uses listed in the ETS Directive and bodies supervised by the Ministry of Environment and Energy, as well as
- 1% of auctioning revenues for the Ministry of Environment and Energy to cover expenses arising from international conventions; and
- a share should be allocated to the 'Energy Transition Fund', compensating households for increasing energy prices.

In addition to these legal provisions, there are yearly ministerial decrees by the Ministry of Environment and Energy deciding upon the exact allocation. Before publishing **the yearly ministerial decree, there is a coordination process with the relevant entities to check their needs for auctioning revenues in the upcoming year.** On this basis, the Ministry of Environment and Energy decides upon the exact allocation (Niavis 2022). The process is largely opaque for outsiders, and there is no fixed time frame for the publication of the decree (Mantzaris 2022).

2.4.4 National action

From 2013 to 2016, Greece did not report on specific domestic programmes but states that the money went to the LAGIE. The LAGIE manages the Special Account for Renewable Energy Sources. From 2017 to 2020 Greece reported that most of the revenues went to LAGIE (then DAPEEP) and less than 30% went to other programmes (see Table 9). This would be in accordance with the respective legal provisions (see 2.1.3.)

Table 9: Share of programmes on total spending on climate action

Implementing Agency	Programme	2017	2018	2019	2020
LAGIE DAPEEP	RES Support	72%	60%	72%	78%
	Industry compensation	15%	15%	13%	17%
Bank of Greece	Promotion of electric vehicles				4%
ETEAP S.A.(*)	Energy efficiency for SMEs through auctioning		6%	3%	
ETEAN (**)	Energy efficiency for households and public buildings	13%	13%		
Ministry of Environment and Energy	Promotion of electric vehicles			6%	
Green Fund (***)	Transition to a low carbon economy (National Just Transition Fund)		6%	6%	1%
Natural Environment and Climate Change Agency (NECCA) (***)	Support the operation and causes of NECCA				1%
National Center for Environment and Sustainable Development (***)	No programme specified	0.1%	0.1%	0.2%	

Source: Greece's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022) with corrections from Nikos Mantzaris (2022) on the basis of the Ministerial Decrees (*) Hellenic Fund for Entrepreneurship & Development (**) Hellenic Development Bank SA (***) under supervision of the Ministry of Environment and Energy

Special RES Account

Between 2013 and 2020**, by far the highest share of auctioning revenues went to the Special RES Account, which is managed by DAPEEP (formally LAGIE).** This fund finances all programmes which support the deployment of renewable energy plants, such as Feed-in-Tariff (FiT) schemes for older renewable installations, or, since 2017, tender schemes. These programmes finance mainly renewable energy producers, but also include support for combined heat and power (CHP) plants, including a natural gas plant for aluminium production (Mantzaris 2022, see also Maroulis 2019). There are three main sources of income for this account, which are the auctioning revenues, a surcharge for suppliers and a levy for consumers. Thus, the auctioning revenues constitute an important pillar in the financing of the programme. Each year, the development of the energy market during the preceding year determines the share of revenues for this fund (Mantzaris 2022). After 2021, **the financing of the RES through auctioning revenues decreased substantially**, **as income from the supplier surcharge increased due to rising electricity prices.** Due to this increase, it was decided to reduce the dedicated share from auctioning allowances to 4% in 2021 (Mantzaris 2022, Greek Ministry of Environment and Energy 2021a).

Compensation of industries in risk of carbon leakage

Between 2017 and 2019, **the second largest share went to the compensation of industry in risk of carbon leakage** (see Table 9). In 2020, it is not listed in the reporting (Reportnet 2022). However, the ministerial decree for 2020 allocates 16.5% of total revenues to this action,

and the ministerial decrees of 2021 and 2022 allocate 11%. Hence, it can be assumed that auctioning revenues are still used to finance the compensation (Greek Ministry of Environment and Energy 2019, 2021a, 2022).

Ministerial Decree N° 21906 of December 2014 regulates the compensation (Government of Greece 2014). The total support is calculated each year in accordance with the provisions from the European Commission, so the exact amount can differ from the amount that the Ministerial Decree predetermined (Mantzaris 2022). **The exact allocation to each entity is opaque, and there seem to be no climate-related requirements for receiving this compensation** (Mantzaris 2022).

Even though industry compensation is specifically allowed by the EU ETS, **counting it as climate action is misleading at best,** as the compensation eliminates the carbon price signal and reduces incentives to improve energy efficiency (see 1.3.2).

National Just Transition Fund/ Green Fund

The National Just Transition **Fund is considered a best-practice case for the use of auctioning revenues** (Mantzaris 2022). The Greek government established the National Just Transition Fund to support regions affected by the energy transition, specifically the lignite phase-out (Mantzaris 2022). It is channelled through the Green Fund (Greek Ministry of Environment and Energy 2021). The fund receives its budget solely from the auctioning revenues and **would not have been possible without the ETS auctioning revenues** (Greek Ministry of Environment and Energy 2021c, Mantzaris 2022, Niavis 2020).

The fund's objective is to 'finance projects and actions for the development of sustainable, low carbon economic activities' in the regions Kozani, Florina and the Municipality of Megalopolis (Greek Ministry of Environment and Energy 2021). According to the respective decision of the Greek Environment and Energy Ministry, this includes the axis energy efficiency, green transformation of lignite areas, business transformation, mobility systems and technical assistance (Greek Ministry of Environment and Energy 2021c).

For the fourth trading period from 2021 to 2030, the **Law N° 3468 ΦΕΚ Α΄129 / 27.6. states that auctioning revenues will be allocated to the National Just Transition Fund**, securing long-term finance (Government of Greece 2006). However, since the ministerial decrees determine the respective share for each year, a certain extent of uncertainty remains. So far, the fund received approximately EUR 112 million between 2018 and 2021 (Mantzaris 2022).

Use of revenues from 2021 onwards – A clear shift

There is a radical shift in the use of auctioning revenues for the years 2021 and 2022 in comparison with the previous trading period from 2013 to 2020. As electricity and gas prices rose considerably in 2020, the Greek government decided to use the ETS auctioning revenues to compensated households through the 'Energy Transition Fund', starting in 2021. It dedicates the majority of auctioning revenues towards this purpose**. According to the Ministerial Decrees, the fund received approximately 74% of auctioning revenues in 2021 and 75% in 2022.** Correspondingly, the Ministry of Environment and Energy substantially reduced the allocation towards the support of renewables through the Special RES Account, down to 4% (Greek Ministry of the Environment and Energy 2021b, 2022). While this decrease is also attributed to the increase in other income streams, it constitutes a radical deviation from the previous period.

Law 4839/2021, Article 61 lays down the provisions of the Energy Transition Fund. It states that the Special RES Account as well as the state budget will finance the fund. Beneficiaries are households which use natural gas as a fuel as well as 'low-voltage consumers' (Government

of Greece 2021). The fund combats the increase in energy and gas prices through lump-sum payments dependent upon gas or electricity consumption, and therefore **does not promote a switch of fuels or investments into other heating systems nor does it support more efficient use of energy**. As it includes gas as well, it indirectly subsidises its consumption. This means that the fund cannot be considered as climate action and the allocation of more than 70% of auctioning revenues to the fund means that Greece will not be able to report a 50% of auctioning revenues going to climate action, at least in the upcoming two years. **It is unclear if this change remains a temporary measure or if it will become permanent**.

2.4.5 Quality of reporting

Quality of reporting to the EU Commission is generally good, but the reporting is not very detailed. Calculations are consistent in each year with the exemption of 2020. In that year, there is a significant discrepancy between the total amount spent on climate action and the revenues allocated to a programme: about EUR 84 million are not allocated to a specific programme. It is likely that the money went to the compensation of industries, as the Ministerial Decree for 2020 allocated the same amount to the programme.

In the reporting, the information on the supported programmes is limited to the programme name without further description, only a reference to the respective ministerial decree. **This makes it difficult to understand which national programmes Greece supports with auctioning revenues when just looking at the reporting.**

2.4.6 Conclusions

Greece clearly earmarks its auctioning revenues and **allocates them through a well-functioning system of national legislation and ministerial decrees.** National law determines the actions which are financed with the revenues, and yearly ministerial decree earmark the money for specific programmes. **The decision-making process of the ministerial decree, however, is opaque.**

Moreover, the yearly decision process means **some uncertainty for the different programmes and their financial resources**, as has been shown by the recent radical change in the use of revenues.

Auctioning revenues was a major lever for climate action in Greece during 2013 to 2020, as it provided financing for programmes that most likely would not be available otherwise. Notably, revenues allowed for a continued support of renewables without having to increase the burden on households.

The **compensation of industries in risk of carbon leakage is the only action in the period from 2013 to 2020, which is reported as climate action without clearly falling into that category**. Even though industry compensation is specifically allowed by the EU ETS, counting it as climate action is misleading at best. However, it makes up only a minor share of total revenues.

Despite a mostly positive track-record, **recent changes in the use of auctioning revenues in Greece indicate a substantial shift**. In 2021 and 2022, almost 75% of auctioning revenues go towards compensating households for increasing energy and gas prices, through the new Energy Transition Fund. This cannot be considered as climate action, as it does not promote a switch of fuels or investments into other heating systems, nor does it support more efficient use of energy or any related investments. It is unclear if these provisions will be permanent.

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2.5 Italy

This case study was conducted by Anna Reyneri from the University of Groningen.

Italy issued 116 million allowances in 2019, equal to 8.9% of all total allowances in the EU. Of these allowances, 44.4% were auctioned, thereby generating revenues for the country (see Table 11).

Table 10: GHG emissions, total and auctioned allowances in Italy

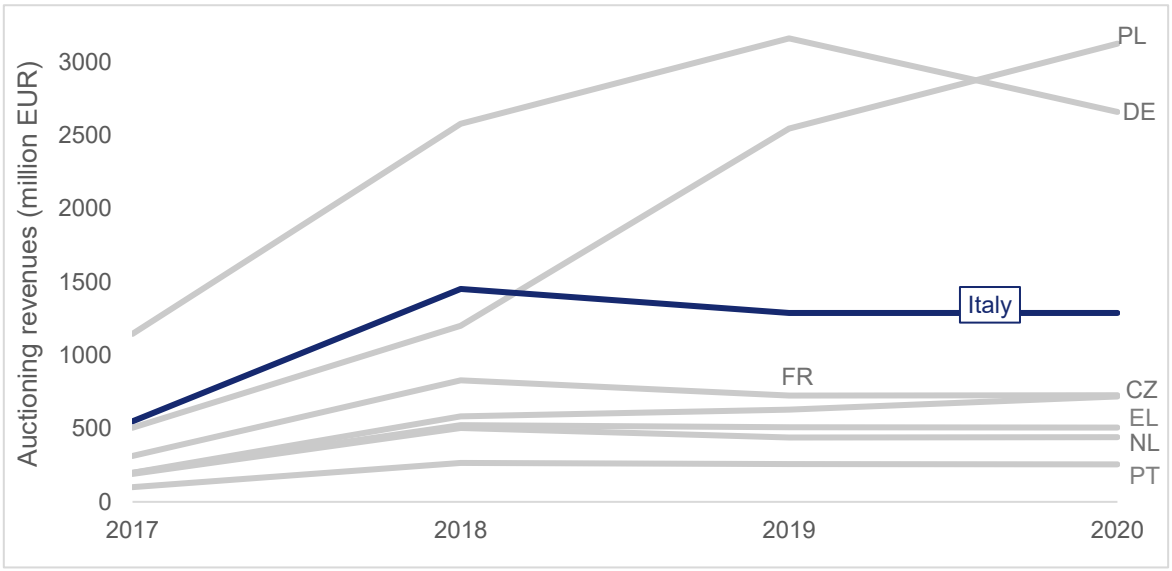
Indicator	Absolute Values	Relative Values
GHG emissions	389 million tonnes	11% of all emissions
ETS allowances	116 million allowances	8.9% of all ETS allowances
Auctioned allowances	52 million allowances	44.4% of Italy's allowances

Source: Eurostat 2021, EEA 2021a,b. All data for 2019.

2.5.1 Total amount of auctioning revenues

In total, Italy received **EUR 6.3 billion of auctioning revenues** between 2013 and 2020. The yearly amount of auctioning revenues increased significantly between 2013 and 2018, from EUR 3 million to EUR 1.4 billion, respectively.

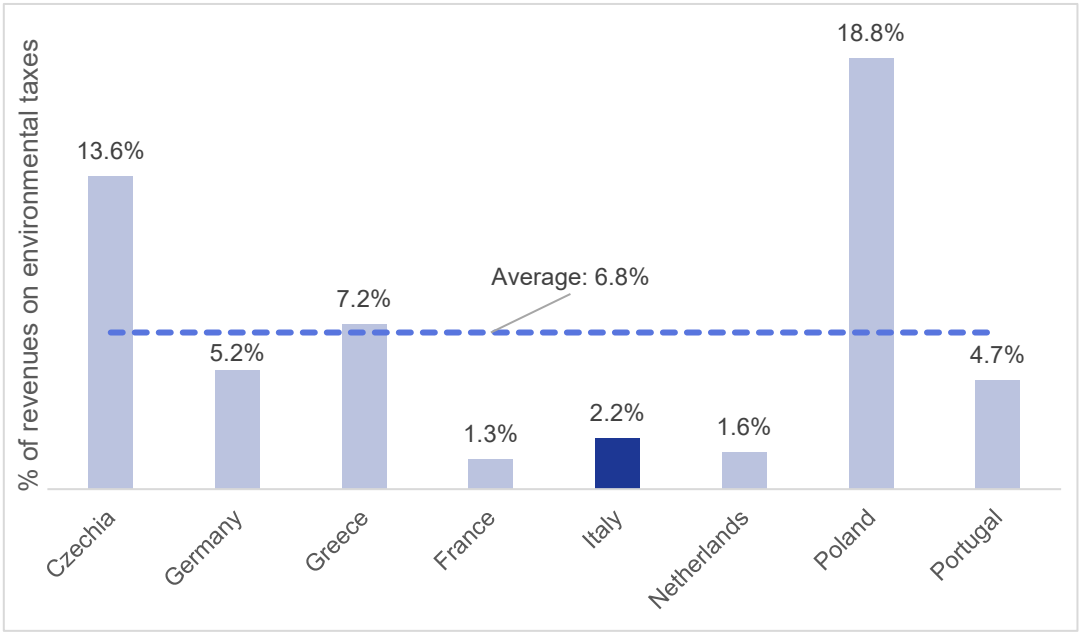
Figure 12: Total revenues from allowance auctioning in case countries (IT highlighted)



Source: Case country's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

In 2019, **auctioning revenues made up 2.2% of Italy's total environmental taxes revenue**, which includes all energy and resources taxes. This is a low share compared to the other countries in this study and the overall average. However, this figure has more than tripled from 0.7% in 2013 to 2.2% in 2019 (Eurostat 2022c, Eionet 2021, Reportnet 2022).

Figure 13: Share of revenues on environmental taxes in case countries (IT highlighted)

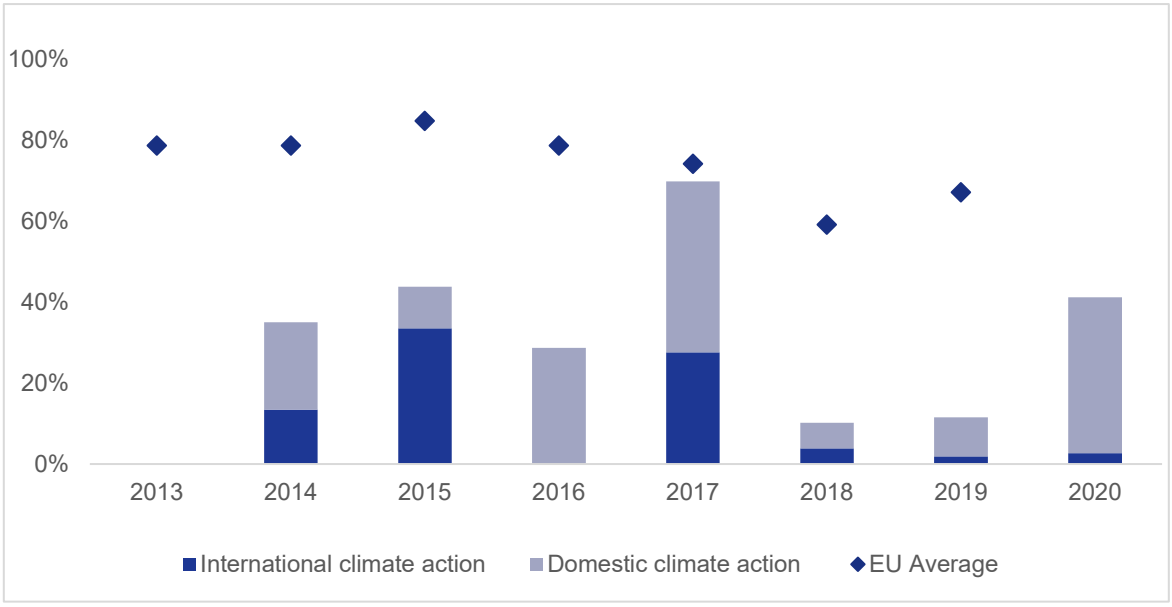


Source: Source: Case country's reporting on the use of auctioning revenues and Eurostat (Eurostat 2022,

2.5.2 Revenue spent on climate action

Italy's revenue spending on climate action was not consistent over the years, as it varied from 69.8% in 2017 to 11.5% in 2019 (Figure 14). This share is significantly lower than the EU average. Italy surpassed the 50% suggested mark for auction revenue share spent on climate action only in 2017. Noteworthy is that a significant part of the revenue went also to international climate action (see 2.5.5 for more information).

Figure 14: Share of revenue spent on climate action in Italy



Data for the EU average is not available for 2020, Source: Poland's reporting on the use of auctioning revenues, WWF Report (Eionet 2020, Reportnet 2022, WWF 2021)

2.5.3 Legal provisions and earmarking

The EU ETS Directive is transposed by Decree n.º 30/2013 (Government of Italy 2013**).** In this decree, Article 19 (3) contains the relevant provisions for the allocation of auctioning revenues, which the government amended several times over the years, the latest being in 2020. **The revenues of the auctions are controlled and reported by the authority of the General Services for Energy ("Gestione Servizi Energetici", GSE)**, which acts under the Ministry for the Economy and Finance. As per the article, the revenues are divided:

- **50% of auctioned revenues are earmarked to be allocated respectively to the Ministry of Economic Development (30%) and to the Ministry for the Environment (70%),** with legally set shares. Article 19(3) specifies that yearly inter-ministerial decrees between the Ministry of Economic Development, Ministry for the Economy and Finance and the Ministry for the Environment determine the amount of and programmes which will benefit from the revenue (Government of Italy 2013);
- The other 50% is dominium of the Ministry for Economic Development for the depreciation of State bonds.

Therefore, the **earmarking occurs through inter-ministerial decrees**, which are agreed upon on a yearly basis.

2.5.4 National action

The list of programmes reported under domestic spending of allowance auction revenue increased with time, from just 4 programmes in 2014 to 30 in 2020. This is a reflection of the growing understanding of the use and advantages of the ETS revenue by the entities involved. Compared to other countries of this study, Italy has an average number of programmes, with an overall total of 100 programmes reported between 2014 and 2020, and only few repetitions.

The following table shows a list of programmes that make up more than 10% of allowance auction revenues spent on climate action in the respective year. There is a certain consistency in the expenditures over the years, such as measures labelled for ETS administrative support (Art.10(3)i Directive) and the National Fund for Energy Efficiency. In particular, the provisions under the legislative decree 102/2014 for energy efficiency are a stable invoice under climate revenue. However, next to these specific funds, smaller programmes have been established such as that for sustainable mobility or climate awareness activities.

Table 11: Share of programmes on total spending on climate action in Italy

Year	Programme (shortened title)	Share of total amount spent on climate action in the respective year	Implementing Agency
2014	PREPAC	22.7%	Ministry of the Environment, Ministry for Economic Development
2014	National Fund for Energy Efficiency	56.7%	Ministry of the Environment, Ministry for Economic Development
2014	Energy Efficiency in SME	17.0%	Ministry of the Environment, Ministry for Economic Development
2015	Energy Efficiency in SME	17.6%	Ministry of the Environment, Ministry for Economic Development
2015	Regional adaptation funds (mitigation to climate change induced landslides in mountain areas)	79.9%	Regional Authorities
2016	PREPAC	20.1%	Ministry of the Environment, Ministry for Economic Development
2016	National Fund for Energy Efficiency	12.7%	Ministry of the Environment, Ministry for Economic Development
2016	*Temporary* National plan for sustainable mobility, home-school and home-work	29.7%	Regional Authorities
2016	PREPAC	18.2%	Ministry of the Environment
2017	Temporary National plan for sustainable mobility, home –school and homework	12.5%	Regional Authorities
2017	National Fund for Energy Efficiency	48%	INVITALIA
2018	Programme to incentivize Sustainable Urban Mobility	16.2%	Regional authorities
2018	Sustainable Mobility for the armed forces in protected areas	11%	Armed Forces and Coast Guard
2018	PREPAC	29.1%	Central Public Administration
2018	National Fund for Energy Efficiency	27.3%	INVITALIA
2019	Energy Efficiency programme for National Park Authorities	63.4%	National Park Authorities
2019	PREPAC	12.1%	Central Public Administration
2019	National Energy Fund	24.4%	INVITALIA
2020	Programme Green Mobility	39.3%	CONSAP

Source: Italy's reporting on the use of auctioning revenues (Eionet 2020, Reportnet 2022)

National Fund for Energy Efficiency

The National Fund for Energy Efficiency (the '**Fund'**) was instituted in **2014** and managed by the Ministry of Economic Development and the Ministry of Environment (Government of Italy, 2014, Article 15(1)). Since 2017, the operations have been delegated to an ad hoc body called INVITALIA, which is part of the Ministry of the Economy and Finance (Government of Italy 2017, Article 4). The Fund has been set up with the transposition of the EU Energy Efficiency Directive and as such refers to initiatives that **aim to reduce energy consumption**. The programme brings together private and institutional investors to allow access of the resources to the widest possible range of initiatives (MISE 2020).

According to Article 15(1b-bis) of the original decree n.102/2014, for the period between 2014 and 2030 the Fund consists of revenues from the ETS allowance auctions. This law requires that **EUR 15 million per year come from the Ministry for Economic Development and EUR 35 million per year from the Ministry of the Environment.** Beyond these allocated quantities, the Ministries may choose to commit other ETS revenues to the Fund. By law, this can be used through two forms of financial support: one through single one-time payments and the other through low interest rates for capital loans.

Within the first type, the National Fund for Energy Efficiency includes, for example, projects for the development or improvement of cooling and heating networks. The **funding occurs on a rotational basis** and the programmes are chosen through an ex-ante screening (Mallone, 2022). The requirements to qualify as a beneficiary first refer to the economic stability of the company and the time of creation of its legal personality, which must date at least to 2 years back. Moreover, not all activities are fundable, and the opportunities also change if the requesting entity is an energy service company or not (Government of Italy 2017). Experts have also explained the different type of costs that the Fund covers for the majority of applying companies, from technical consultation to infrastructure and machinery. The Fund also finances the installation of gas boilers, as they are considered to meet the energy efficiency amelioration objective, which is the ultimate aim of the fund.

Programme for Retrofitting Buildings of the Central Administration - PREPAC

The Programme for Retrofitting Buildings of the Central Administration (the 'Programme' or PREPAC) was set up in 2014 as part of the same legislative framework of the National Fund for Energy Efficiency, under the transposition of the EU Energy Efficiency Directive. In particular, PREPAC aims to render energy efficient at least 3% of the total central administration building surface.

The decree specifies the amounts destined from the allowance auction revenue for the period **2015-2020 at EUR 25 million per year** (Government of Italy 2014, Art. 5.12.b); as the Programme has been extended to 2030, the resources from the carbon market allowances have **been increased to EUR 50 million per year.**

The Programme affects both buildings of the central administration as well as ancillary energy usages (Government of Italy 2014). However, the largest contribution of this Programme is for the insulation and requalification of energy sources in the buildings themselves (Mallone 2022). The chosen projects are defined by exemplary criteria, and they follow specific guidelines (MISE 2017, Government of Italy 2014 Article 8). These set out the scope of the Programme for activities for the reduction of energy consumption at any degree, resulting in the financing of shadowing panels, requalified lighting system and water heating pumps (Mallone, 2022).

Sustainable Mobility and *Buono Mobilita' Verde*

There are two funds that can be grouped under the objectives of **encouraging a shift to low-emissions form of transports**, as classified as climate action in the EU ETS Directive. One refers to the funds devolved to transport in cities (PON METRO 2016), while the other one is the temporary scheme, so-called "Programme Green Mobility" (Buono Mobilita' Verde).

With regards to the first, between 2016 and 2018, a total of EUR 100 million was allocated for the reconstruction of cities to incorporate sustainable means of transport. The carried-out projects resulted in improvement of public transport lines, such as new subway lines, fortification of railway lines and road links. The **resources were not consistent over the years**, from the ETS revenue the amounts devolved were: EUR 40.5 million in 2016, 38.5 million in 2017 and 18.5 million in 2018.

The Green Mobility programme ran for a year in 2020 and was instituted by one of the inter-ministerial decrees for the distribution of the ETS revenue for climate action (Government of Italy 2020b). The aim of the measure was to incentivise the use of sustainable urban means of transport, mainly electric vehicles, such as e-scooter and e-bikes, and overall to reduce CO_2 emissions. The initiative had set aside from the ETS revenue **EUR 215 million for private users** that could have their expense reimbursed once they registered on an online platform. Thanks to the temporary nature and digital character of the scheme, the Ministry has already drawn the conclusions of the measure (MITE 2020). **Only a part of the monetary resources was accessed**: with a little over half a million of beneficiaries, the Ministry has offered refunds for EUR 121 million. The majority of purchases was for e-bikes and e-scooters. While the scheme led overall to a positive outcome, the difficulties encountered in the process of registration made the Ministry reconsider a new round of the scheme to use up the allocated resources (CONSAP 2022).

Regional Adaptation Plans

The **Regional Adaptation Plans are one of the programmes that have benefitted multiple times of the ETS revenue.** In 2015 this expenditure reached a major part of the climate action expenditure and all across the years smaller sums flow consistently to this activity (see Table 9 above). The national entity of the Institute for Environmental Protection and Research (ISPRA) monitors and supervises the distribution of these resources to the respective regional authorities. The engagement of this Institute is regulated by the transposed Directive and maintained in the subsequent amendments (Government of Italy 2020, Article 45). However, **it enjoys a certain degree of freedom** with regards of the expenditures, which are classified as working towards adaptation goals following pre-established guidelines that reflect the national criteria and the Commission's strategy (Giordano et al. 2008). Therefore, ISPRA implements these instructions as it deems most fit based on the yearly context.

In practice, Italy's reporting documents show that the majority of the resources allocated to this entity are **used to contain avalanche hazards and landslide risks.** ISPRA was entrusted with EUR 44.6 million in 2015, but then EUR 148 million in 2018 and EUR 138 million in 2020 for the implementation of adaptation measures, including awareness platforms. These allocations are an example of the wide range of expenditures understood as climate action.

Moreover, the **influx of resources is not guaranteed nor continuous**. The expenditure on adaptation and mitigation measures specifically in natural areas has also been assigned to National Parks, hence alternating the revenue to one entity and the other.

2.5.5 International action

The allocation of the climate revenue is done unequally between domestic and international programmes, as shown in table 21. The different shares of international spending across the 2013-2020 period are as follows:

Table 21: Share of climate revenue spent on international programmes

Year	2013	2014	2015	2016	2017	2018	2019	2020
Share for international spending	n.a.	28.3%	77.6%	0%	39.5%	37.8%	16.7%	6.2%

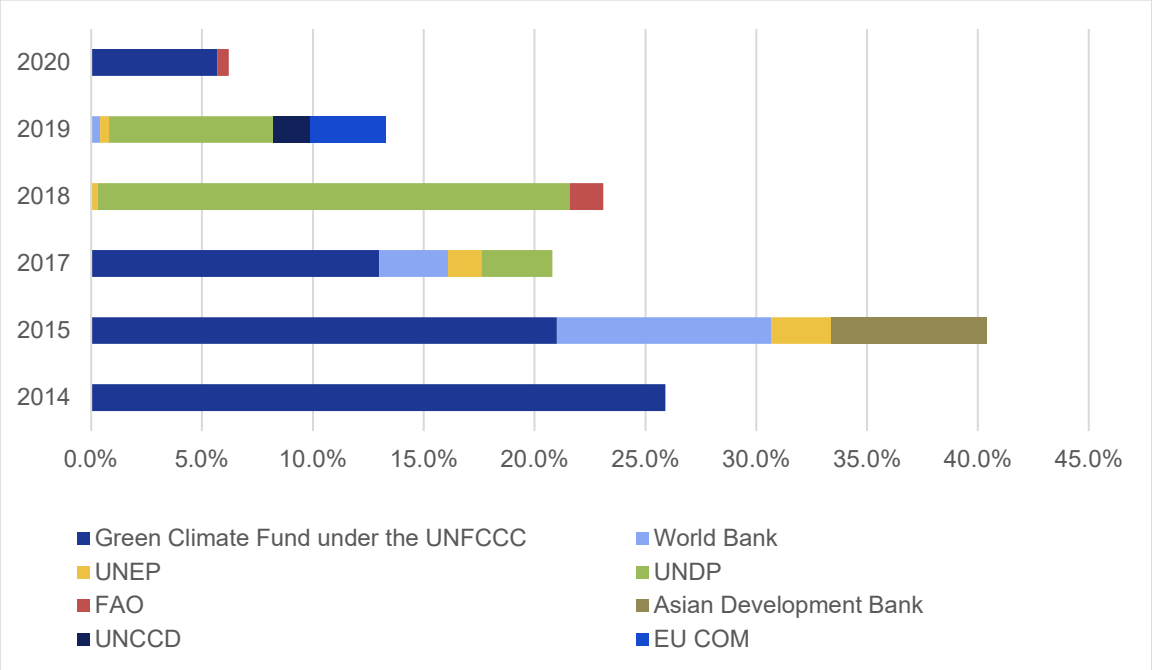
Source: Italy's reporting on the use of auctioning revenues (Eionet 2020, Reportnet 2022)

Italy spent an average of **33.3% of total climate spending on international programmes**. This is a much larger share compared to the other countries involved in the study, such as Portugal (2.5%) and Czechia (0.4%).

Besides its international spending, Italy also allocated part of the climate action revenue to **multilateral programmes and to bilateral programmes**, most commonly with the so-called CARICOM countries, Chad, Cameroon, Libya, Egypt, Ethiopia and Pacific Islands.

With regards to multilateral channels, Italy's ETS revenue went consistently to the Green Climate Fund of the UNFCCC, the World Bank and UNEP.

Figure 13: Share of climate action revenue spent in Multilateral Channels



Source: Italy's reporting on the use of auctioning revenues (Eionet 2020, Reportnet 2022)

2.5.6 Quality of reporting

Overall, the reporting is consistent across the years. The data for 2013 reflects the novelty of the system and of the budgeting mechanism which leaves the tables mostly empty. There is one particular sum which is worth noting, that is **EUR 50 million unaccounted** for in the year 2014. Moreover, at this point it is still unclear which activities benefited from the carried over revenue. Therefore, despite the **online public access** to the State reports, the understanding of the tables is superficial and often lacking a deeper level of information. These deficiencies

were tentatively addressed by the new reporting form from 2020, which aims for more specificity in terms of the compliance of each programme to the objectives.

The attempted degree of specificity is visible in the methodical separation of the revenue from allowances for installations and those from the aviation. This allows to track the entrance of the revenue and the sectors in which it is spent. However, while the numbers add up, the lengthy **list of programmes remains vague and lacks continuity** in both reporting as well as actuality. Moreover, there are incongruences with the international spending. Indeed, this entry in the reporting is not always calculated to include bilateral and multilateral channels. These imprecisions then affect the analysis of the expenditure.

2.5.7 Conclusions

Overall, Italy has not met the voluntary requirement of devolving 50% of its ETS auction revenue to climate action.

Italy earmarks its revenues by inconsistently allocating amounts of the auction revenues to the Ministry of the Environment and the Ministry of Economic Development, through yearly inter-ministerial decrees. The legal earmarking involves these two Ministries as well as the Ministry for the Economy and Finance. However, there is a two-year delay between the auctioning and the allocation of the revenues. This time lag coupled with the discontinuous expenditures **fails to create certainty** in the chosen investments, as the interruption and the inconstant financial support discourages long-term planning. As shown in the example of the Regional Adaptation Plans, the intermittence impedes the creation of long-lasting projects especially for reoccurring damages.

The **reporting** shows how the expenditures are always linked to the requirements of the Directive, but the titles of the programmes are vague and often unclear. The wording of the categories of spending is superficial and often gives no practical information as to the use of the money. Moreover, because of the **lack of continuity, detail and persistency** in the allocated revenue, it is hard to establish a comparison across the years between the differences in amounts devolved to climate action. This reflects the absence of a strict accountability system and internal management of the expenditure reporting.

Overall, Italy received **significant sums from the auctioning of allowances** and, as the expert (Mallone, 2022) noted, the impact on the financing is relevant for the State's investment in climate action and to support the green transition. The incentives might have occurred regardless of the ETS revenue, but not with such numbers.

For the purpose of completeness and accuracy of this study, it is necessary to mention that the most recent events of the energy crisis have required emergency measures that involve redirecting the revenues of the allowance auctioning to alleviate the rising costs of electricity for households and industry (Government of Italy 2021a, 2021b, 2022). This shows the flexibility of the legislative system and the degree of discretion of the national decision-maker.

2.5.8 References

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2.6 The Netherlands

The **Netherlands issued 61 million ETS allowances in 2019**, equal to 4.6% of total allowances in the EU. Of these allowances 29.5% of the issued allowances were auctioned, thereby generating revenues for the country (see Table 12).

Table 12: GHG emissions, total and auctioned allowances in the Netherlands

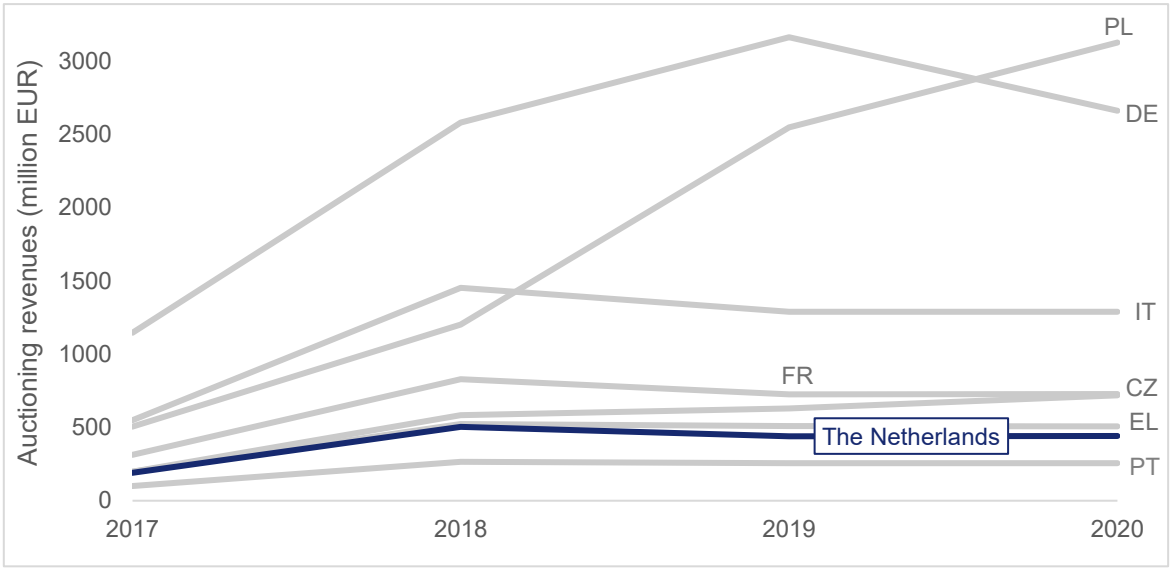
Indicator	Absolute values	Relative values
GHG emissions	185 million tonnes	5.5% of all EU emissions
ETS allowances	61 million allowances	4.6% of all ETS allowances
Auctioned allowances	18 million allowances	29.5% of Dutch allowances

Source: Eurostat 2021, EEA 2021a,b. All data for the year 2019

2.6.1 Total amount of auctioning revenues in the Netherlands

Between 2013 and 2020, the Netherlands received about EUR 2.4 billion auctioning revenues. Therefore, compared to the other analysed cases, The Netherlands's auctioning revenues are on the lower end of the spectrum (see Figure 15).

Figure 15: Total revenues from allowance auctioning in case countries (NL highlighted)



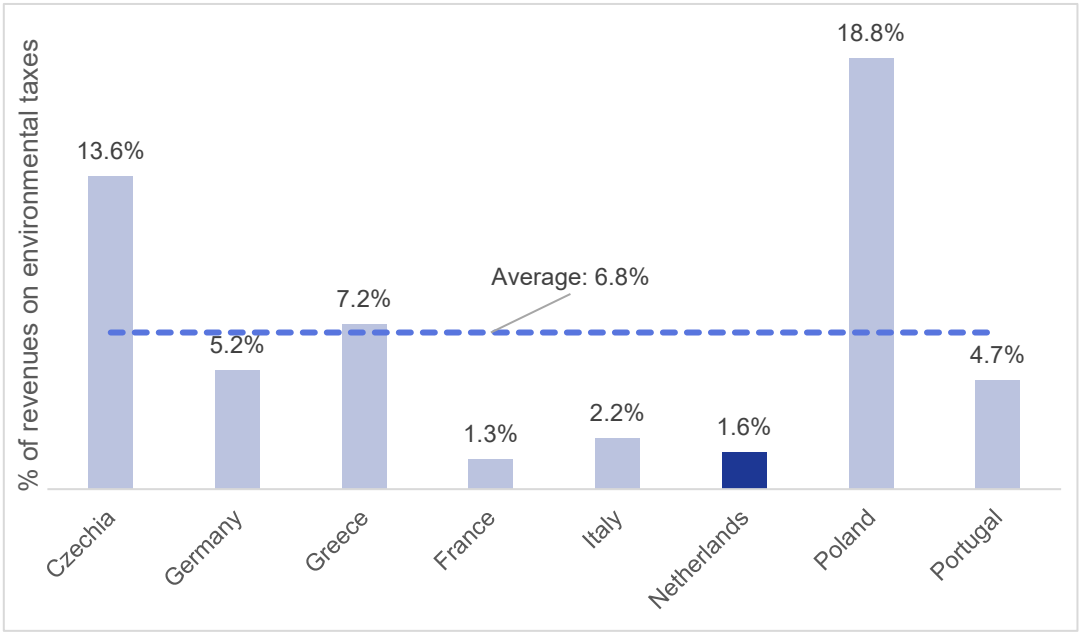
Source: Case country's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

In 2019, **auctioning revenues made up 1.6% of Dutch environmental taxes**, i.e., all energy, transport and resource taxes[7] (Eurostat 2022, Eionet, 2021, Reportnet, 2022). This is less than the average when compared to other case countries (see Figure 15).

Like in all case countries, the relevance of auctioning revenues in the Netherlands has been growing over the last years as their share of the state budget has been increasing. Hence, auctioning revenues could be an increasingly important lever for climate action.

[7] Environmental taxes mean taxes that concern goods that have a harmful effect on the environment, which can be further categorised into the areas energy taxes, transport taxes and pollutant/resource taxes. ETS auctioning revenues are included in this indicator as energy taxes (Eurostat 2013).

Figure 16: Share of revenues on environmental taxes in case countries (NL highlighted)



Source: Case country's reporting on the use of auctioning revenues and Eurostat (Eurostat 2022, Eionet 2021, Reportnet 2022), data for 2019

2.6.2 Revenue spent on climate action

The exact amount or fraction of the ETS auction revenues that the Netherlands spent on climate action cannot be determined. The Netherlands notes within all of their reporting documents that there is a strict separation in the Netherlands of public income and public expenditures, which is one of their budgetary principles. This rule is intended to avoid changes in the government's estimated income immediately leading to discussions about additional expenditure (in the event of higher revenues) or cutbacks (in the event of lower revenues) (The National Academy for Finance and Economics 2013). This is also described as "what comes in does not affect what goes out" (Eionet 2021, Reportnet 2022).

In consequence, this means that there is no direct relation between auction revenues and expenditures on climate action as detailed in the EU ETS Directive. Hence, it is also impossible to determine if the auctioning revenues are contributing to an addition in spending on climate action.

2.6.3 Earmarking and legal provisions

Due to the strict separation in public finance between public income and public expenditures (see 2.6.2), there is no legal obligation for the use of revenues and thus no earmarking for ETS auction revenues in the terms.

2.6.4 National action

Due to the separation of public finance**, it cannot be determined if national action profited from funding originating in ETS auction revenues**. The state budget chapter for the Ministry of Economic Affairs and Climate (XIII) for the year 2020 included over EUR 10.7 billion for energy efficiency and climate change mitigation, renewable energy subsidies, contributions to (inter)national organisations, and other measures for CO_2 emission reduction. Auctioning revenues equalled 4.1% of this spending (Reportnet 2022, Dutch Ministry of Finance 2020).

Additionally, the **Netherlands spent a relatively large amount on industry compensations when compared to the auctioning revenues.** In 2020, the Netherlands spent the equivalent of 25% of their auctioning revenues on industry compensation (Netherlands Enterprise Agency 2020). The following year, the percentage increased to an equivalent of 42%. This was explained[8] as being a result of a relatively high CO_2 forward price used for the compensation, while the total auction revenues remained the same compared to the previous year (Netherlands Enterprise Agency 2021).

2.6.5 Quality of reporting

Reporting quality for the Netherlands is good**, however that is given the relatively lower quantity of reporting that the Netherlands submitted due to the division of public finance** (see 2.6.2). There were inconsistencies within the reporting on the units of euro currency. For 2013, 2019, and 2020, the auctioning revenues were reported in millions of euros, despite being labelled as being reported in 1000s of euros (Eionet 2021, Reportnet 2022).

2.6.6 Conclusions

The lack of comprehensive reporting makes it impossible to assess the state of the Dutch ETS auctioning revenue use. Although this is due to budgetary policy embedded in Dutch finance law, and not exclusive to ETS auctioning revenues, this case study highlights the difficulty of both tracking progress and planning for improvements when reporting information is severely lacking. Within the spectrum of earmarking represented by the case studies, the Netherlands inhabits the far end of complete lack of any form of earmarking or reporting checks. The **inability to track the funds makes it impossible to conclude on the use of revenues and if and how the revenues led to additional climate action**.

Next to this, the **Netherlands spent the equivalent of more than a third of their auctioning revenues on compensation in 2021**.

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[8] Article 10a (6) of the revised EU ETS Directive requires Member States to report annually how much they spent on such industry compensations and to justify the spending if it exceeds 25% of the auctioning revenues.

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2.7 Poland

Poland **issued 166 million ETS allowances in 2019**, equal to 12.6% of total allowances in the EU. Of these issued allowances, 62.8% were auctioned, thereby generating revenues for the country (see Table 13).

Table 13: GHG emissions, total and auctioned allowances in Poland

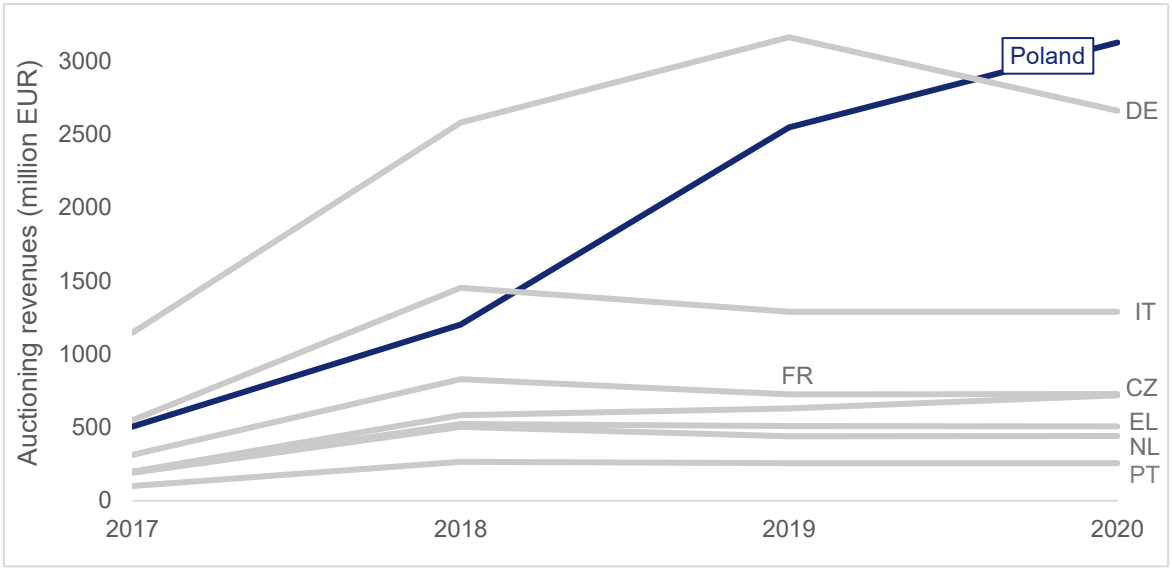
Indicator	Absolute values	Relative values
GHG emissions	375 million tonnes	11.2 % of all EU emissions
ETS allowances	166 million allowances	12.6% of all ETS allowances
Auctioned allowances	103 million allowances	62.8% of Polish allowances

Source: Eurostat 2021, EEA 2021a,b, All data for the year 2019

2.7.1 Total amount of auctioning revenues

In total, **Poland received about EUR 8 billion of auctioning revenues between 2013 and 2020.** This makes Poland's auctioning revenues the highest compared to the other analysed case countries (see Figure 17).

Figure 17: Total revenues from allowance auctioning in case countries (PL highlighted)



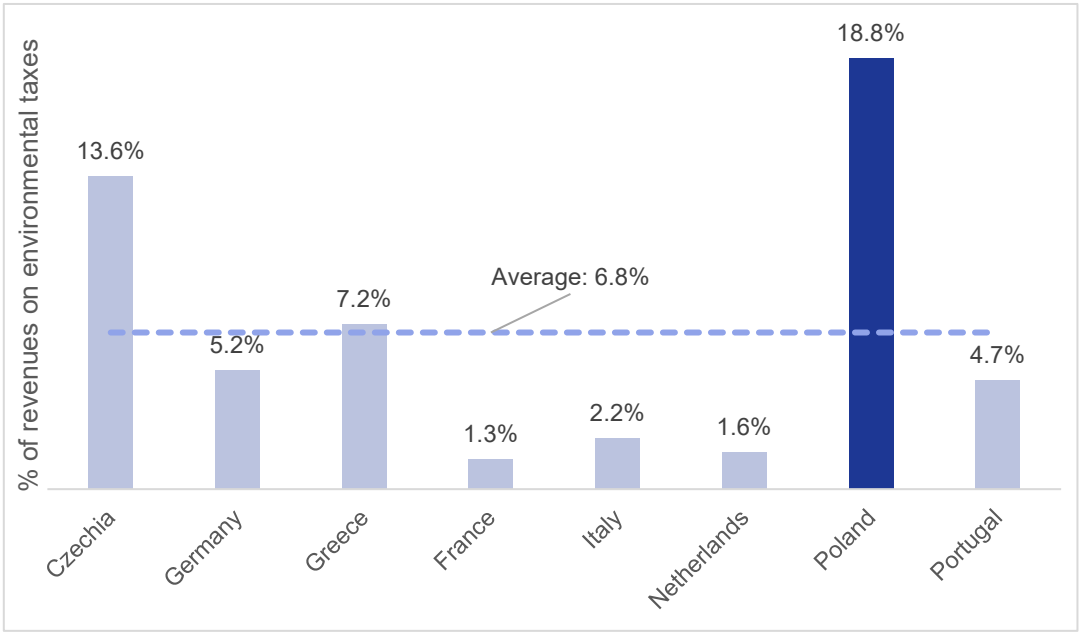
Source: Case country's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

In 2019, **auctioning revenues made up 18.8% of Poland's environmental taxes,** i.e., energy, transport and resource taxes[9]. This is the highest share when compared to the other case countries (see Figure 18, Eurostat 2022, Eionet 2021, Reportnet 2022).

Like in all case countries, the relevance of auctioning revenues in Poland has been growing over the last years as their share of the state budget has been increasing. Hence, auctioning revenues could be an increasingly important lever for climate action.

[9] Environmental taxes mean taxes that concern goods that have a harmful effect on the environment, which can be further categorised into the areas energy taxes, transport taxes and pollutant/resource taxes. ETS auctioning revenues are included in this indicator as energy taxes (Eurostat 2013).

Figure 18: Share of auctioning revenues on environmental taxes in case countries (PL highlighted)

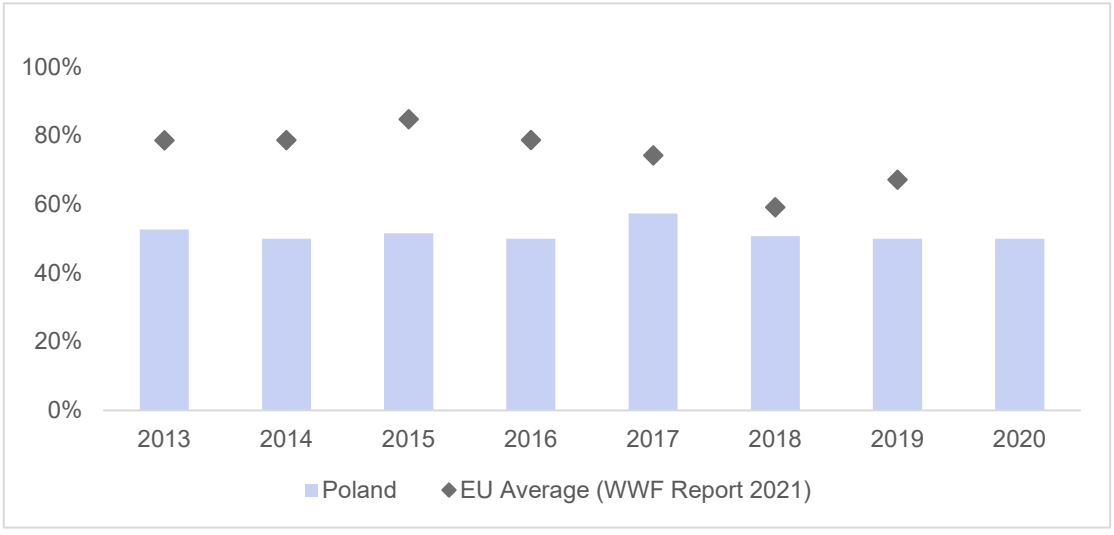


Source: Case country's reporting on the use of auctioning revenues and Eurostat (Eurostat 2022, Eionet 2021, Reportnet, 2022), data for 2019

2.7.2 Revenues spend on climate action

Poland spent about 50% of its auctioning revenues on climate action in each year between 2013 and 2020 (see Figure 19). **This share is consistently lower than the EU average**. All revenues go to domestic climate action; Poland did not spend any of its generated revenue on international programmes.

Figure 19: Share of revenues reported to be spent on climate action in Poland



Data for the EU average is not available for 2020, Source: Poland's reporting on the use of auctioning revenues, WWF Report (Eionet 2021, Reportnet 2022, WWF 2021)

2.7.3 Earmarking and legal provisions

Poland earmarks part of its revenues politically, *i.e.*, it declares their purposes via law. Hence, the auctioning revenues go into the state budget, and the law allocates the respective

amounts to specific funds and programmes. However, the regulations in Poland are not straightforward, as the respective legal provisions have been amended several times (Kobyłka 2022).

The most relevant legislation for the allocation of auctioning revenues is the Act on the Greenhouse gas (GHG) emission allowance trading scheme of June 12, 2015 (Government of Poland 2015), which includes the following:

- Article 49(2) states that the revenues from the allowances auctioning constitute go into the state budget. It also lists specific funds and programmes, provides specific shares in same cases and absolute amounts in others while referring sometimes to revenues from the third trading period, from the fourth trading period, or to the absolute numbers of allowances. The article lists the Indirect Compensation Fund, the National Fund for Environmental Protection and Management (NFEPWM) and the National Center for Emissions Management (for a deeper analysis, see Frączyk 2022).
- Article 49(6) is a transposition of the provisions contained in the EU ETS Directive, as it specifies that 50% of the allowances should be spend on climate action.

In spite of its provisions regulating the use of some of the revenues, **the reported programmes for the period from 2013 to 2020 appear to be merely a freely compiled list.** Thereby, it is expected that the respective bodies might have implemented these in any case (Kobyłka 2022).

As a beneficiary of the Modernisation Fund, the country receives 43.4% of the total funding available to all countries over the period from 2021 to 2030 (Government of Poland 2022). Poland's implementing body is the National Fund for Environmental Protection and Water Management, with the support of the Ministry of Energy and Climate. According to Kobyłka (2022), the process seems to be going well, as the EIB and European Commission approved first investments. However, **Poland decided not to allocate any additional allowances to the Modernisation Fund**, to maintain more control over the spending of the auctioning revenues (COM 2022, Środowisko 2021).

2.7.4 National action

The list of programmes provided in Poland's reporting is lengthy, with 989 programmes listed over the 8 years of reporting. Table 14 shows a list of programmes which received at least 10% of revenues spend on climate action in the respective year.

The NFEPWM and regional funds are the main implementing agencies of the reported programmes. Since 2017, the Ministry of Finance and the Ministry of Energy also increasingly administered financed programmes. It is unclear whether this constitutes a shift in responsibilities, or merely a change in reporting.

Table 14: Selection of reported climate action in Poland and respective share of total revenues

Year	Programme (shortened title) [10]	Share spent on the programme	Implementing Agency
2013	Renewable energy subsidies	26.0%	NFEPWM
2013	Green Investment Scheme in public utility	39.6%	NFEPWM
2014	IT system for protecting the country against extraordinary threats	10.1%	NFEPWM
2014	Building retrofit	21.6%	NFEPWM
2014	'Thermomodernization' of business facilities	19.7%	NFEPWM
2015	Purchase and delivery of low-emission buses for public transport	13.1%	NFEPWM
2016	No programmes over 10% listed		
2017	Tax exemption for renewable energy sources	32.2%	Ministry of Finance
2017	Preferential VAT rate by rail transport companies	43.3%	Ministry of Finance
2018	Tax exemption for renewable energy sources	10.9%	Ministry of Finance
2018	Support for renewable energy producers	45.7%	Ministry of Energy
2018	Support for rail enterprises	21.2%	Ministry of Finance
2018	Support for public transport companies	19.3%	Ministry of Finance
2019	Support for renewable energy producers	84.0%	Ministry of Energy
2019	Clean air priority programme	11.1%	NFEPWM
2020	Support for renewable energy producers	44.0%	Ministry of Development Funds and Regional Policy
2020	Support for rail enterprises	28.30%	Ministry of Development Funds and Regional Policy
2020	Clean air priority programme	10.50%	NFEPWM

Source: Poland's reporting on the use of auctioning revenues (Eionet, 2021, Reportnet, 2022)

In order to provide more in-depth analysis, we examined the programmes either receiving at least 10% of total auctioning revenues spent on climate action or which were deemed especially relevant by experts, for the years 2019 and 2020.

By far the largest share went into a support programme for renewables, which is a scheme that supports renewables through certificates of origin (Act on Renewable Energy Sources, 2015, Article 52). In 2019, 84.0% of auctioning revenues went into this scheme, and 44.0% in 2020. The Polish government is gradually phasing out this scheme and replacing it with auctioning.

The list of programmes furthermore includes the expansion of interregional railway system (see Śmietana 2020). This programme started in 2020, and, according to the reports, received 28.3% of auctioning revenues. Furthermore, Kobyłka (2022) highlighted the 'My

[10] Please note that the titles have been translated using a translating software, thus wording might not be exact.

electricity' programme as a well-designed programme. This programme provides a lump sum payment of EUR 1,000 for PV installations. According to the reporting, 1.3% of auctioning revenues went into financing this programme in 2019 and 7.0% in 2020.

However, at least **two other programmes reported for 2019 and 2020 include actions which should not be considered climate action** (see also Frączyk et al. 2022). The programmes under **'Clean Air Priority'** are listed separately for different municipalities, mainly addresses ambient pollution by financing energy efficiency measures and the exchange of inefficient heating systems. However, while it supports photovoltaic and solar thermal installations**, it also includes grants for gas as well as oil boilers which cannot be considered as climate action** (see 1.3.2, NFEPWM 2022). It received 11.1 % of auctioning revenues in 2019 and 10.5 % in 2020.

The **Indirect Compensation Fund compensates energy-intensive industry. It received 5% of revenues in 2020**. The fund was introduced in 2019 when high electricity prices led to a fear of loss in competitiveness (Kobyłka 2022). The exact allocation is regulated by chapter 3 of the Act on Compensation for energy-intensive sectors and subsectors (Government of Poland 2019). Even though industry compensation is specifically allowed by the EU ETS, counting it as climate action is misleading at best, as the compensation eliminates the carbon price signal from electricity and reduces incentives to improve energy efficiency (see 1.3.2, Woerdmann 2021).

As a side note, the government introduced a freeze of the electricity price for households for the year 2019 using auctioning revenues (Government of Poland 2018). This was not included in the reports – possibly because the government did not consider it as climate action. Hence, it is unknown how high exactly the share of the revenues going into the electricity price freeze was.

2.7.5 Use of auctioning revenues in the fourth trading period

Poland wants to introduce a new fund, **called the Energy Transformation Fund, which marks a shift in the use of auctioning revenues**. The fund is supposed to start in 2022 and is currently in the drafting stage; a public consultation process is ongoing (Polish Ministry of Climate and Environment 2021). For the first time, policymakers actively considered what actions the auctioning revenues should finance that benefit the energy transition (Kobyłka 2022).

According to the legal draft, the Energy Transformation Fund will be financed in part by auctioning revenues, specifically 40% of the auctioning revenues in the fourth trading period as well as the remaining revenues from the third trading period (Government of Poland 2021, Section 8b). **The aim of the fund is to support the transition to a more climate-friendly energy system**. The NFEPWM will develop the programmes and implement them, and the Ministry of Climate and Environment will approve them (Kobyłka 2022). The fund will finance projects in the field of renewable energy, transmission and distribution grid, heating systems, energy storage, innovative technologies, improving energy efficiency, just transition, and carbon dioxide capture and storage. However, **the Energy Transformation Fund also includes support for cogeneration heating systems, gas power plants and nuclear power plants (Government of Poland 2021, Section 8b),** which should not be considered climate action (see 1.3.2).

2.7.6 Quality of reporting

The information in the reporting is difficult to access, due to the overwhelming number of programmes and references of legislation, as well as inconsistencies in the names of the

programmes over the years. The calculations are mostly consistent except for 2014, 2019 and 2020, in which the listed programmes sum up to more than the amount spent on climate action. The deviation was the highest in 2019, but only equal to 0.3% of all auctioning revenues.

2.7.7 Conclusions

While Poland earmarks its revenues, the legislation was amended several times in an inconsistent manner. In addition, the law references different trading periods, as well as different specific shares, absolute values and number of allowances. This **makes it difficult to impossible to understand which revenues needed to be spend on which programme.**

The Polish government did not systematically consider auctioning revenues as an impulse for additional climate action in the third trading period, but rather as a way to allocate funding to already existing programmes. Several **programmes also include financial support for fossil fuels**, e.g., building retrofitting programmes, supporting gas, CHP and oil technologies. Furthermore, while it rightfully did not report the freezing of electricity prices for households as climate action, it did include industry compensation in the reporting.

Recent developments might indicate a change in allocation of auctioning revenues. The Polish government is establishing the Energy Transformation Fund, which seeks to allocate auctioning revenues towards the transformation of the Polish energy system. According to the most recent legal draft, 40% of annual auctioning revenues in the upcoming trading period will go into the fund and auctioning revenues will be the only source of finance. The fund also is supposed to finance fossil fuel technologies, like gas generation power plants.

2.7.8 References

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2.8 Portugal

Portugal issued 21 million ETS allowances in 2019, equal to 1.6 % of total allowances in the EU. Of these issued allowances, 49.5% were auctioned, thereby generating revenues for the country (see Table 15).

Table 15: GHG emissions, total and auctioned allowances in Portugal

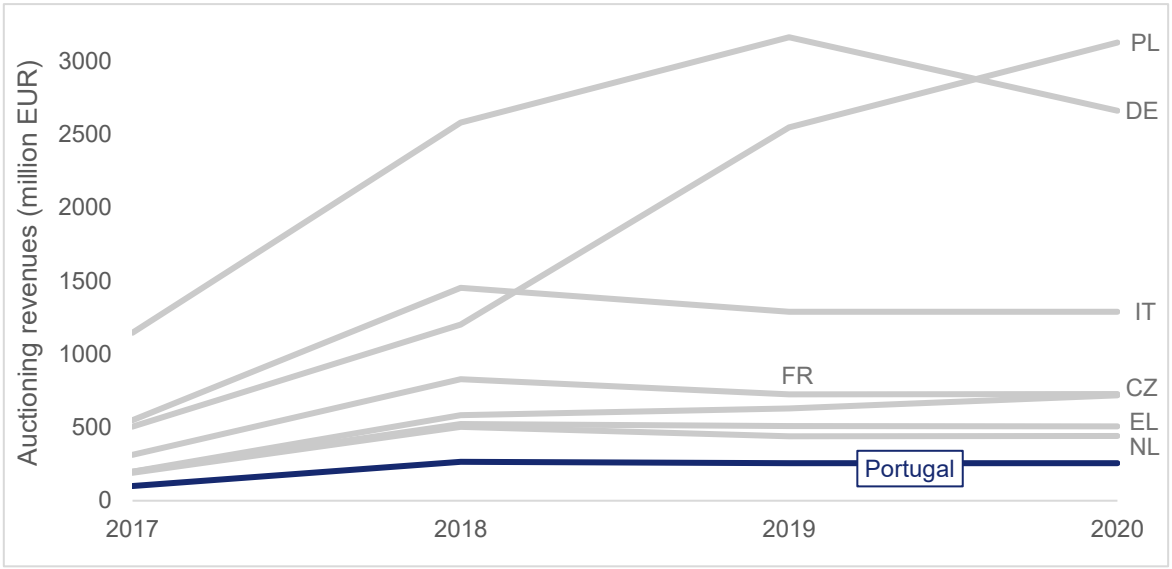
Indicator	Absolute values	Relative values
GHG emissions	56 million tonnes	1.7 % of all EU emissions
ETS allowances	21 million allowances	1.6 % of all ETS allowances
Auctioned allowances	10 million allowances	49.5 % of Portuguese allowances

Source: Eurostat 2021, EEA 2021a,b. All data for the year 2019

2.8.1 Total amount of auctioning revenues

In total, **Portugal received about EUR 1.2 billion of auctioning revenues between 2013 and 2020.** This makes Portugal's auctioning revenues the lowest compared to the other analysed case countries (see Figure 20).

Figure 20: Total revenues from allowance auctioning in case countries (PT highlighted)



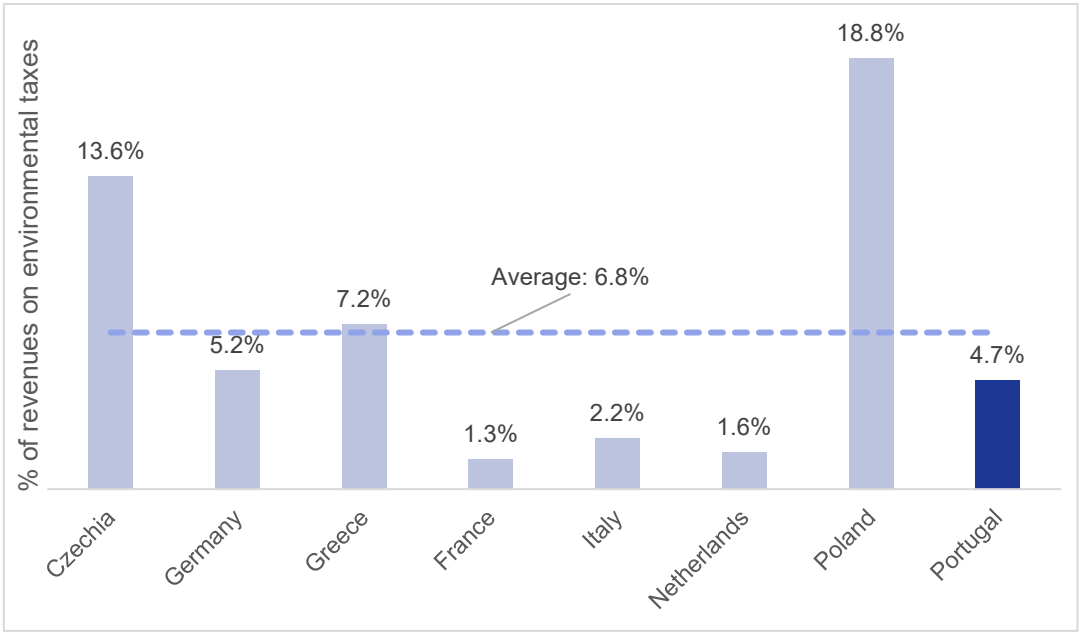
Source: Case country's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

In 2019, auctioning revenues made up 4.75% of Portugal's environmental taxes, *i.e.*, energy, transport and resource taxes[11]. This is slightly less than average when compared to the other case countries (see Figure 21, Eurostat 2022, Eionet 2021, Reportnet 2022).

Like in all case countries, the relevance of auctioning revenues in Portugal has been growing over the last years as their share of the state budget has been increasing. Hence, auctioning revenues could be an increasingly important lever for climate action.

[11] Environmental taxes mean taxes that concern goods that have a harmful effect on the environment, which can be further categorised into the areas energy taxes, transport taxes and pollutant/resource taxes. ETS auctioning revenues are included in this indicator as energy taxes (Eurostat 2013).

Figure 21: Share of auctioning revenues on environmental taxes in case countries (PT highlighted)

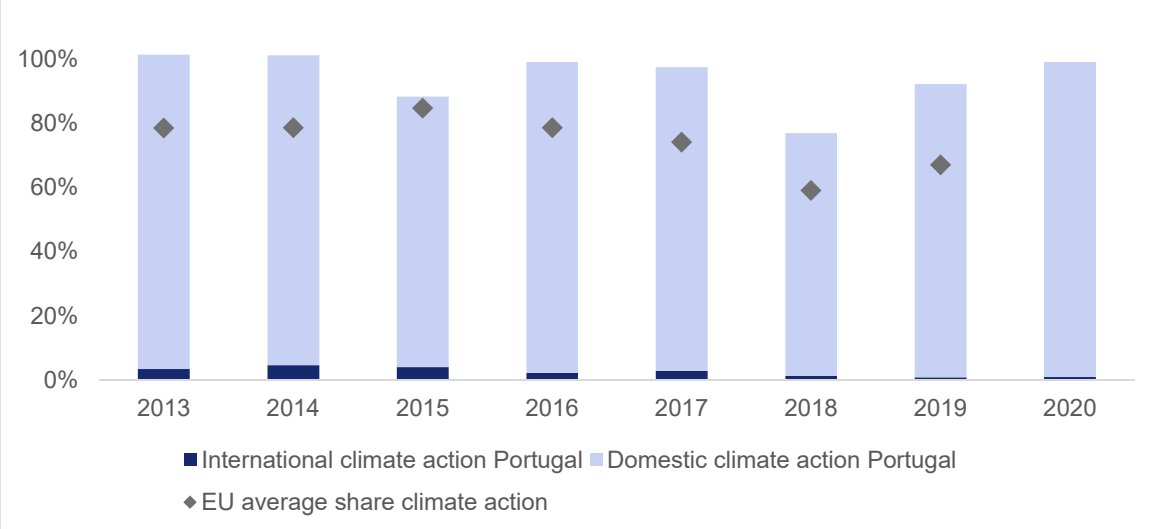


Source: Case country's reporting on the use of auctioning revenues and Eurostat (Eurostat 2022, Eionet 2021, Reportnet 2022), data for 2019

2.8.2 Revenue spent on climate action

The reported share of revenues spent on climate action was generally higher than the European average (see Figure 22). Portugal also spent a small share of its revenues on international climate action, mainly in its former colonies (see 2.8.6).

Figure 22: Share of revenues spent on climate action in Portugal



Data for the EU average is not available for 2020, Source: Portugal's reporting on the use of auctioning revenues, WWF Report (Eionet 2021, Reportnet 2022, WWF 2021)

2.8.3 Legal provisions and earmarking

The EU ETS Directive is transposed by Decree n.º 38/2013 (Government of Portugal 2013). Article 17 (3) of the decree contained the relevant provisions for the allocation of auctioning revenues and has been amended several times since 2013. **In 2020, the relevant provisions**

were replaced through Article 23 of Decree N° 12/2020 (Government of Portugal 2020). It states:

- All auctioning revenues are income for the Portuguese Environmental Fund.
- 60% of it must be used to promote renewable energy by offsetting part of the total extra cost of renewable energy production under the Special Regime programme, including the renewable fraction of renewable co-generation;
- 6% goes into the agency responsible for the management of the ETS,
- the rest goes into the purposes of the Environmental Fund.

This means that **the Environmental Fund is the central institution administering auctioning revenues.** It is one of the biggest funds available to any entity of the Portuguese administration (Barata 2022). The fund was established in 2016, replacing the Portuguese Carbon Fund, the Environmental Intervention Fund, the Fund for the Protection of Hydric Resources and the Fund for the Conservation of Nature and Biodiversity. Auctioning revenues made up 42% of the fund's budget in 2021, the biggest single source of funding. However, this number is down from an average of 55% in the years between 2018 and 2020. This is likely a cause of incorporating more elements in 2021, indicating that the importance of actioning revenues for the fund overall is decreasing (Environmental Fund 2018, 2019, 2020, 2021b).

The Deputy Secretary-General of the Ministry of the Environment is also the director of the Environmental Fund (Government of Portugal 2016). Each year, she submits a set of proposals to the Minister of Environment and Climate Change, who then decides which projects should receive funding. **The yearly budget makes the financed programmes public** (Barata 2022, Ferreira 2022).

However, priority setting as well as the final allocation of funding is opaque and lacks independent oversight as well as comprehensive monitoring. Furthermore, the majority of projects have a duration of a year, sometimes even less due to administrative processes, so it is difficult to implement projects that lead to structural change. Furthermore, the monitoring system of the implemented programmes could be improved (Barata 2022, Ferreira 2022).

2.8.4 National action between 2013 and 2020

Portugal's reporting lists a vast array of programmes. **By far the largest share goes to the Support for Renewables (SEN) programme.** Other individual projects make up a share of 14% or less each year. However, when aggregated, **programmes dedicated to sustainable mobility make up the second largest share from 2017 onwards** (see Table 16). According to the reporting, the revenues are administered through the Portuguese Environmental Agency until 2016, and thereafter by the Environmental Fund.

Table 16: Total climate spending in Portugal

	2013	2014	2015	2016	2017	2018	2019	2020
Support for Renewables (SEN)	78%	59%	92%	84%	59%	80%	64%	60%
Mobility Programmes (*)	4%	2%	0%	0%	30%	20%	30%	36%
Other	18%	39%	8%	16%	11%	0%	6%	4%

Source: Portugal's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022) (*) Charging stations, promotion of electric vehicles, railway expansions, sustainable ticket systems, etc.

The 'Support for renewables' refers to the so-called Special Regime for Renewables, a Feed-in-Premium scheme which started in 2007 and offers support for 12 to 35 years, depending on the technology. While the revenues go through the Environmental Fund, the Sistema Energético Nacional administers this scheme (Environmental Fund 2021b). It covers wind, hydro (up to 10 MW), photovoltaic, biomass, biogas from agriculture, landfill gas, municipal solid waste, waves, geothermal and forest biomass. The scheme also formerly financed cogeneration plants using biogas or natural gas, thereby indirectly subsidizing these technologies (Barata 2022, Portuguese Directorate-General for Energy and Geology 2022). However, the supported for new cogeneration ended in 2015 (Government of Portugal 2015). Theoretically, CHP that operate before 2015 could still benefit from the regime, but as it is largely deemed uneconomic, no plant currently is (Ferreira 2022).

The government initially overestimated the support of the programme for energy producers, **leading to the accumulation of a deficit. This deficit is still being paid off by auctioning revenues** (Barata 2022).

Hence, auctioning revenues were used to support fossil fuel technologies and are still, in part, used to pay off accumulated debt, meaning that a share of the revenues did not finance new investments or programmes that advance the climate transition.

While the renewable support programme has its caveats, other listed programmes are more clearly additional climate action. The second largest share of funding has gone to transport projects, such as the expansion of metro lines in Porto and Lisbon, the exchange of fossil fuel vehicles with electric ones, subsidies for electric vehicles, price-reduced tickets for public transport, etc. Experts criticise the implementation in some cases, for example, the e-vehicle subsidy programme might not be big enough to induce change in consumers (Barata 2022, Ferreira 2022). Nevertheless, auctioning revenues are providing financing for programmes that likely would not have existed otherwise (Barata 2022, Ferreira 2022).

2.8.5 National action after 2020

After 2020, the Portuguese government decided to use the money available in the Environmental Fund to reduce the negative impacts of the energy crisis on the economy and general population (Ferreira 2022).

It first introduced a **EUR 25 million compensation mechanism for electricity intensive industries** and also started to subsidise taxis and busses for public transport in their purchase of gasoline with 30 cents per litre (Government of Portugal 2022). While the latter is beneficial for the public transport sector, it still finances fossil fuel consumption. Both the industry compensation and the subsidies for taxis and busses each make up 2.2% of the Environmental Fund's budget in 2022 (Environmental Fund 2022, own calculations).

In 2022, as a reaction to the gas crisis caused by the war in Ukraine, **Portuguese government also decided to support low-income households in the purchase of gas**. Recipients of social aid can get EUR 10 per month for a bottle of gas (Ministry of the Environment 2022). EUR 4 million are allocated for this, which equates 0.4% of the Environmental Funds' budget in 2022 (Environmental Fund 2022).

While these programmes do not constitute a substantial share of the funds budget, it still means that **the Environmental Fund supports fossil fuels and the compensation for energy intensive industries which is then reported as climate action**. It also shows how, in spite of an established system of earmarking, governments might shift revenues to other purposes to address short-term challenges.

2.8.6 International spending

Portugal spent a share of its auctioning revenue on supporting climate action in developing countries (see Table 17). However, this share has been declining since 2017, and is now below 1%. The decline of support to third countries is most likely only temporary, as clarification on possible misuse of funding in some instances is needed. Because of this, the Ministry of Environment is currently revising its provisions on international spending (Barata 2022). The main recipients for this support were former Portuguese colonies, namely Mozambique, Cabo Verde, São Tomé and Principe, Angola, Guinea-Bissau, and East-Timor. Additionally, Portugal has been supporting programmes in Tunisia in 2020.

Besides bilateral support, Portugal supported multilateral channels two times in the assessed period, once in 2015 (the Green Climate Fund and the Special Fund of the Community of Countries with Portuguese Official Language) and once again in 2020 (Green Climate Fund).

Table 17: Share of international spending on revenues used for climate action in Portugal

Year	2013	2014	2015	2016	2017	2018	2019	2020
Share in total revenue	3.4%	4.6%	4.0%	2.2%	2.8%	1.3%	0.8%	0.9%

Source: Portugal's reporting on the use of auctioning revenues (Eionet 2021, Reportnet 2022)

2.8.7 Quality of reporting

In general, **the quality of reporting is good, as details are comprehensive but not overwhelming**. Calculations are mostly coherent except for the years 2014, 2017 and 2019, in which the revenues allocated to specific programmes (in Table 2 of the reporting) were higher than the aggregated amount reported to be spent on climate action (in Table 1 of the reporting). The deviation was the highest in 2019, equal to 1.3% of all auctioning revenues.

2.8.8 Conclusion

Portugal earmarks its revenues by allocating all of them to the Environmental Fund. **However, the exact priority setting of the Environmental Fund is opaque.** There is no public consultation process or independent oversight of the allocation of projects through the Environmental Fund. Furthermore, **project implementation has some deficits**. Most projects receive only short-term funding, which might hamper the achievement of more structural changes.

Generally, **auctioning revenues made funding available for climate action that might not have been funded otherwise.** It benefitted climate action, especially in the area of sustainable mobility.

The largest share of revenues financed a feed-in-tariff scheme for renewables. **Part of the revenues used for this programme did not lead to any new renewable installations** as they paid off the debt that has been accumulated in the starting phase of the renewable programme. Initially, the scheme supported cogeneration plants as well; however, this support has ended in recent years.

In 2021 and 2022, Portugal **added several programmes to the Environmental Fund as a reaction to the energy price crisis**, for example the compensation of industries or the support for the purchase of gas for low-income households. While these programmes do not constitute a substantial share of the Environmental Funds budget, they still finance fossil-fuel consumption which should not be reported as climate action**.** It also shows how, in spite of an established system of earmarking, governments might shift revenues to other purposes to address short-term challenges.

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3 Findings

The following chapter summarises our findings over the eight case studies.

3.1 Revenues spent on climate action

In total, the eight countries received almost EUR 40 billion in revenues over the period from 2013 to 2020. **Most countries reported to spent at least 50% of their revenues for climate action.** Germany and Greece reported that 100% of their revenues went to climate action, followed by Portugal and France with roughly 90%. However, not all countries reported that they have spent the recommended share of at least 50%. The exceptions were Italy, whose share averaged 36% between 2013 and 2020, and Czechia, which for some years reported a share slightly under 50% (see Table 18). This might be skewed due to the selection of case studies, as Lübbekke et al (2021) found

According to the reporting, **the biggest individual programmes financed with revenues were either renewable support schemes (Czechia, Greece, Poland and Portugal) or energy efficiency programmes for buildings (Germany and France)**. However, most countries also used revenues for support programmes that include subsidies for fossil fuels – most frequently for gas boilers in retrofitting programmes, which exist in Czechia, France, Germany, Italy and Poland. Poland's revenues also financed several programmes that subsidize oil boilers, and its recently introduced Energy Transition Fund also provides support for fossil fuel technologies, such as gas power plants.

3.2 Earmarking and additional climate action

There are **considerable differences in how countries handle auctioning revenues** (see Table 18). Germany and Portugal use budgetary earmarking, i.e., revenues go to a fund separate from the state budget. Czechia, Greece, France, Italy and Poland use political earmarking, i.e., using specific laws for direct allocation. Additionally, Czechia ensures that revenues go to climate action by channelling part of its allowances to the Modernisation Fund. In contrast, the Netherlands directs its revenues to the state budget without any earmarking.

Some countries have overly complicated allocation rules, which makes tracing revenues difficult to impossible. For example, the legislation in Poland refers to different trading periods, and allocates revenues in percentages, absolute numbers, or uses the number of allowances. Likewise, Germany and Italy channel revenues to a great variety of ministries and implementing agencies which adds to the bureaucratic burden and hamper long-term effective financing. In the case of Portugal, its Environmental Fund only offers one year financing for some of its projects, making structural changes difficult to implement.

Earmarking does not guarantee additional climate action, **political will is the decisive factor.** In most countries, at least part of the revenues enabled additional action which most likely would not have happened without them. For example, Portugal used the revenues to improve their public transport system and to make it more financially accessible. Greece used part of the money for a just transition fund, supporting regions most affected by the energy transition. However, in some cases, revenues did not lead to additional climate action. For example, Czechia and Portugal used part of the revenues to pay off the debts of a renewable support scheme, thus not providing additional incentives for new investments.

Moreover, **new political realities can quickly lead to a deviation from the established allocation practice**. For example, Greece, Portugal, and Poland recently started to use revenues to compensate households for increasing energy prices – addressing social impacts of higher prices, but not necessarily incentivising additional climate action.

3.3 Reporting

The reported spending on climate action should be taken with a grain of salt as the analysed reports had several shortcomings.

There was **limited information on revenue allocation and detail of the specific actions.** In most reports, important contextual information was missing, such as relevant laws and institutional set-up, details on the programmes, such as beneficiaries, supported technologies, type of scheme and the size of the whole programme. Thus, additional sources were needed for a good understanding of the use of auctioning revenues in these countries. The Netherlands do not report any programmes.

In addition**, several countries (such as Germany, Greece and Poland) report using ETS revenues for the compensation for indirect costs of industry under climate action**, which should not be considered as such. The Netherlands has no earmarking, but they spend the equivalent of about a third of auctioning revenues on industry compensation.

There were **inconsistencies in almost all of reporting**, such as the total reported amount spent on climate action not matching the sum of listed programmes, errors of conversion and inconsistent use of units, amongst others. These were not corrected afterwards.

Table 18: Overview of case studies

	Share of climate action (*)	Earmar-king	How are revenues allocated?	Financed fossil fuel technologies	Compensation payments for	
					Households	Industry
Czechia	77%	Partially (up to a cap)	Earmarking up to CZK 8 billion, half goes to the Environmental Fund and half to the Ministry of Industry and Trade; plus additional revenues (according to reporting). For 2021-2030, part of allowances goes to the Modernisation Fund.	Gas boilers (Retrofitting programme)	No – Currently being discussed	Payments exist, financed from state budget (**)
Germany	100%	Yes	All revenues go to the Energy and Climate Fund (implemented through several ministries).	Hybrid gas boilers (Retrofitting programme)	Somewhat (revenues for cancelling EEG surcharge)	Yes, 11% of revenues in 2020
Greece	~100%	Yes	Legislation specifies purposes, yearly ministerial decrees decide upon exact allocation.	CHP with gas (RES support scheme)	Yes, 75% of revenues in 2022	Yes, 17% of revenues in 2020
France	91%	Partially (up to a cap)	Allocation of revenues up to a cap to the French Housing Agency, which uses it for a building retrofitting programme. Rest goes into the state budget.	Gas boilers (Retrofitting programme)	Payments exist, financed from state budget	Payments exist, financed from state budget
Italy	36%	Yes	Legislation allocates 50% to climate action and specifies responsible ministries; yearly ministerial decrees decide on amounts per ministry and for certain funds.	Gas boilers (Retrofitting Programme)	Currently discussed	Currently discussed
The Nether-lands	No info	No	Due to the separation of budget and expenditure, there is no earmarking. Everything goes to the state budget.	No info	No info	Payments exist, financed from state budget
Poland	52%	Partially	Poland allocates all revenues to the state budget. Legislation earmarks 50% for climate action and specifies some purposes and funds.	Oil and gas boilers (Retrofitting programme)	Yes, electricity price was frozen for the year 2019	Yes, 5% of revenues in 2020
Portugal	92%	Yes	Legislation allocates all revenues to the Environmental Fund. Yearly decree decides on the specific programmes financed through the fund.	CHP with gas (Support scheme, no longer financed with revenues)	Yes, since 2021	Yes, since 2021

Source: Own compilation based on case studies; without information on international spending. Abbreviations: EEG = Renewable Energy Act, CHP = Combined Heat and Power Plant (*) Average over the years 2013-2020. (**) Grey marked texts highlights information not related to the use of auction revenues

4 Recommendations

Countries should use all auctioning revenues as a lever for additional climate action. To ensure this, stronger external checks are needed. Hence, based on our analysis, we see the following necessary improvements that would facilitate such checks:

The EU ETS Directive should exclude fossil fuels and compensation payments

The EU ETS Directive's current definition of climate action (Article 10 (3)) leaves room for interpretation. Thus, it should clearly exclude programmes that support fossil fuels. In addition, compensation payments for high energy prices for industry and possibly households should not be included if they do not incentivise climate investment.

All revenues must go to climate action

The share of auctioning revenues for climate action must be 100%. This would support the required shift to climate neutrality and would most likely increase public support for carbon pricing (see Maestre-Andrés et al. 2019).

The review of auctioning revenue use only seems reasonable if there is a mandatory requirement for which the countries can be held accountable. Thus, the provision for the share of auction revenue use in the EU ETS Directive needs to change from 'should' to 'shall'. This is in line with the new proposal of the EU ETS Directive of the EU Commission (COM 2021b).

Earmarking must be mandatory and well-designed to allow traceability and checks of revenue spending

Earmarking makes revenue use accountable. While earmarking does not necessarily guarantee that revenues are spent on climate action, it is necessary to make revenue use comprehensible and makes external checks possible.

Good earmarking is straightforward in its points of reference; it should always use the same time frames and units as well as specify the amounts clearly. It should directly refer to specific programmes or funds, rather than to vague purposes. It should stipulate allocation over a longer period and limit the number of actors involved.

The Modernisation Fund should be extended to complement national earmarking

The Modernisation Fund, while it includes support for gas, also contains a system of external checks that aims to ensure good practices. Therefore, expanding it in terms of its volume and number of recipients ensures more revenue is spent on climate action. However, fossil fuel support should be excluded.

The reporting template should cover relevant legislation and specific information on financed actions

An expanded template should request information on relevant laws and legislation which determine yearly allocation of revenues. Moreover, information about the programmes should include the exact support mechanism, recipients, overall size and supported technologies.

Reporting should use digital tools

A more standardised digital tool could help prevent the entry of inconsistent data in the reporting. Moreover, for multi-year programmes, the data entry tool could provide a template and check consistency.

5 Indices of figures, tables and abbreviations

5.1 List of Figures

5.2 List of Tables

5.3 Abbreviations

BAFA	(German) Federal Office for Economic Affairs and Export Control
BMF	(German) Federal Ministry of Finance
BMWK	(German) Federal Ministry for Economic Affairs and Climate Action
DEHSt	German Emissions Trading Authority
EKF	(German) Energy and Climate Fund
EEG	(German) Renewable Energy Sources Act
EU	European Union
EUR	Euro
EU ETS	European Emission Trading System
FART	(French) National Thermal Renovation Aid Fund
FiT	Feed-in-Tariff
DAPEEP/ LAGIE	(Greek) Renewable Energy Sources Operator
MIT	(Czech) Ministry of Industry and Trade
NFEPWM	(Polish) National Fund for Environmental Protection and Management
PV	Photovoltaic
RRF	Recovery and Resilience Facility

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