ETS2 revenue simulation tool

User manual

December 2025

What is the purpose of the ETS2 revenue simulation tool?

- **The Emissions Trading System 2 and Social Climate Fund**
  - → From 2028, suppliers of fossil fuels for road transport, buildings and small industries in the European Union will be required to purchase and surrender allowances to cover their downstream emissions in the new emissions trading system (ETS2). The revenues will be split among the Member States (MS), to be used for climate action and social measures.
  - → A share of these revenues will flow into the Social Climate Fund (SCF) from 2027 to 2032 and be split among countries according to a predefined solidarity principle with the aim to support vulnerable households and micro-enterprises. The SCF amounts will be released based on the national Social Climate Plans (SCP) submitted by MS to the EU Commission.
- **Research question**
  - → Alongside uncertainties about the future carbon price – regularly projected by various actors and which depends on several factors such as effective emissions reductions by the countries and mechanisms foreseen in the Market Stability Reserve (MSR) – public debate focuses on the revenue and their use. The ETS2 and SCF revenue should be spent to reduce emissions in a socially fair way while shielding the vulnerable population from potential negative impact.
  - → Discussing this issue requires having visibility on the funds available yearly in each country and how much specific support measures would cost based on assumptions such as the amount and number of beneficiaries.
- **Objective**
  - → Agora Energiewende has developed this Excel tool to support these discussions with a solid factual basis.
  - → The tool estimates, for each Member State: the revenues available each year between 2026 and 2032 under different price scenarios; the share of the SCF within those revenues; and the portion that widely discussed support measures would require based on input assumptions.

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Functionalities of the ETS2 revenue simulation tool

1. Calculation of the total and per capita yearly revenue for each MS between 2026 and 2032 under exogenous price scenarios. 4 types of revenues:
   - → SCF: A maximum of EUR 65 bn, spread over 2026-2032 and split among MS as per the SCF Regulation. At least 150 million allowances will be auctioned for the SCF, and more if necessary depending on the market price.
   - → “Own contribution”: Countries must bring at least 25% of their SCF spendings from own revenues outside of the SCF as defined in the ETS Directive. This share can be modified by the user.
   - → ETS2 revenue: Auction revenues split between MS based on their average historic emissions in the period 2016-2018, excluding those going into the SCF. Own contributions to the SCF by MS in the tool have been taken from ETS2 revenues whenever available.
   - → Revenue frontloading: Revenues from 2030-2035 brought forward to 2026-2027 in the form of a loan from the EIB to MS.
2. Calculation of the yearly cost of 3 support measures to households: direct income support, social leasing for electric vehicles (EV) and social financing for heat pumps (HP).
3. Calculation of the maximum per capita amount that can be spent on direct income support from the SCF and other revenues, considering only a share of the SCF can be spent for this purpose.

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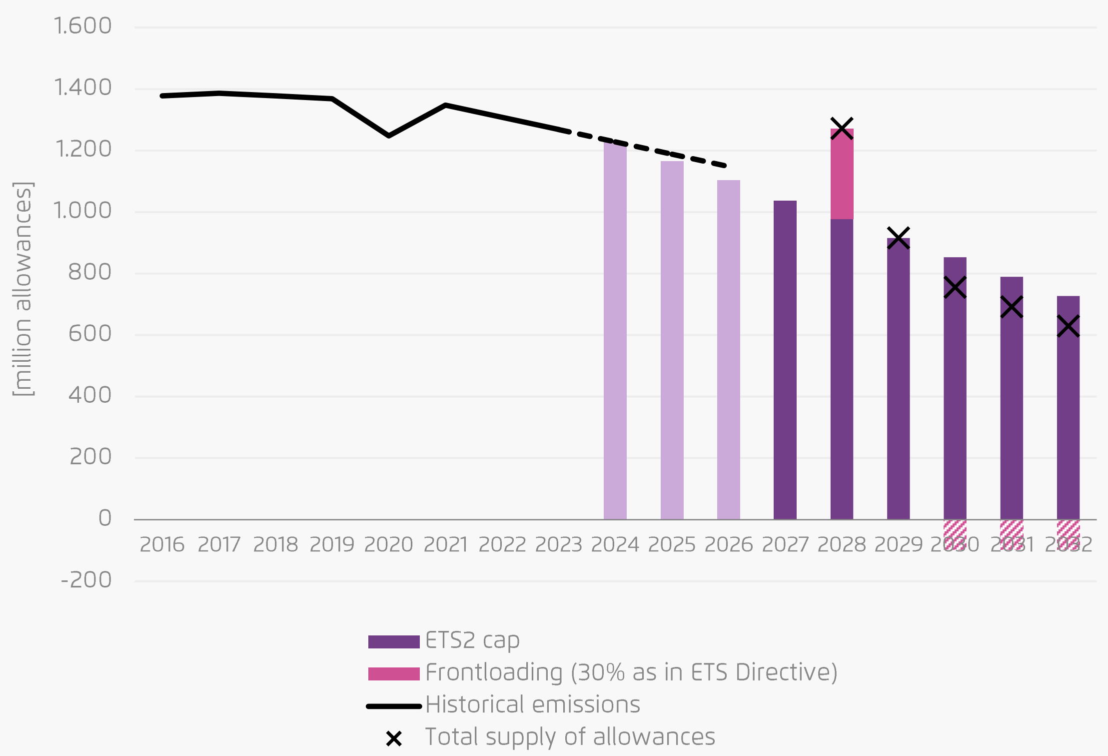
Key parameter - emissions trajectory

ETS2 emissions cap and supply of allowances in the tool if the ETS2 starts in 2028 (in million allowances)



- The cap, i.e., the number of allowances to be auctioned in 2027, was published by the EU Commission on 3.12.2024 at 1,036 million.
- The ETS Directive (article 30c) foresees a decrease in allowances in 2027 by a linear reduction factor of 5.10% of the 2024 emission limits and, starting in 2028, an annual linear reduction factor of 5.38 % of the average emissions for the years 2024 to 2026. Both were estimated to be respectively -57.95 Mt and -62.76 Mt.*
- Additionally, the ETS Directive (article 30d[2]) foresees the auctioning of an amount corresponding to 130% of the auction volumes for the first year of operation of the ETS2. The additional 30% shall be deducted in equal shares from the auction volumes for the period from 2029 to 2031.
- From the Market Stability Reserve (MSR), the tool only takes into account Article 30h(2), i.e., the release of 40 million allowances when the average allowance price exceeds EUR_{2020} 45 for more than two consecutive months, maximum twice per year**.
- The resulting emissions cap trajectory and auctioned allowances are included in the tool; extra allowances released from the MSR are only added if the average yearly price exceeds the threshold.

*Based on German Environment Agency, Interim report - Supply and demand in the ETS 2, 9.2024
**New provisions based on the proposals by the EU Commission from 27.11.2025 that are not yet final.

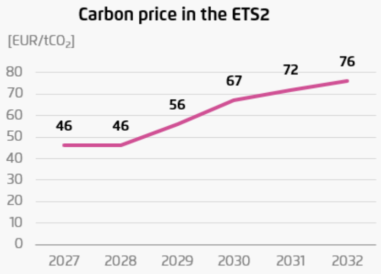
Key parameters – carbon price

The parameter in the cells in purple can be modified

Assumptions – REVENUES

Choose start	2028	
Choose carbon price in 2027 and trend	48 [EUR/t] in 2027	Veyt MSR changes + 2028 start

	Carbon price trend	
Stable	Price remains stable 2027–2035	
Steady increase	Price increases each year by	20%
Exponential	Price stable until 2028 then rapid increase by	30%
BNEF incl. MSR reform		
Clear Blue Markets		
Veyt MSR changes + 2028 start		
Maximum carbon price		EUR 275



The tool allows users to select and customise the following parameters:

- **Start of ETS2:** 2027 or 2028
- **Carbon price**:
  - → Free price setting: the user can choose the start price and rate of increase, as well as a maximum price.
  - → Alternatively, 3 scenarios are built in:
    - ClearBlue Markets price forecast from the ICE webinar *Driving decarbonization with ETS2*, 04.2025 (Link)
    - BNEF price forecast from the report *EU ETS II Pricing Scenarios*, 09.2025 (Link): the price scenario with no extension on frontloading and fixed MSR adjustment was considered for 2027-2029, prolonged with the base case for 2030-2032.
    - Veyt price forecasts from the report *Changes to the ETS2 framework, An impact assessment*, 12.2025 (Link): price scenario with MSR changes + delayed start to 2028 (only from 2028 onwards). The price applying to early auctions in 2027 is considered to be the same as in 2028.

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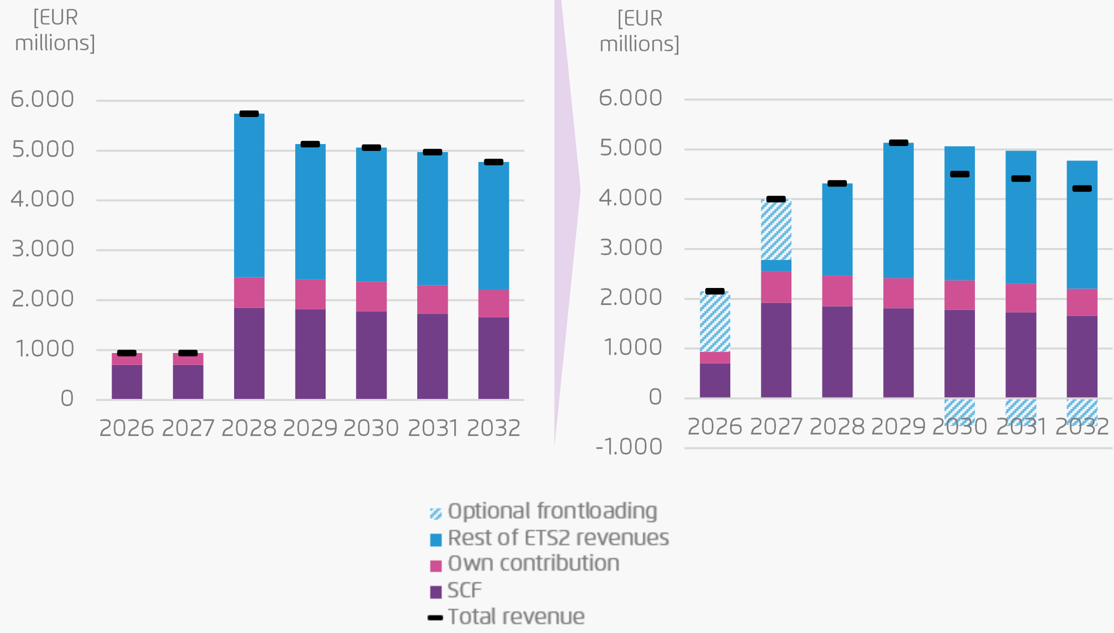
Key parameters - revenues

Assumptions – REVENUES			
Frontloading revenues from 2030–2035 to 2026-2027:	30%	of allowances at	EUR 40
Early auctions:	30%	of allowances from 2028 in 2027 (only if ETS2 delayed to 2028)	

Example: Poland

Without frontloading/early auctions — With frontloading & early auctions



- **SCF:**
  - → 2026: up to EUR 4 bn are foreseen, provided by ETS1 revenues (50 million allowances auctioned in 2025).
  - → 2027: SCF revenues come from ETS2 auctions. It is to remain as planned in the SCF Regulation at EUR 10.9 bn in total, even with a delayed start of the ETS2 to 2028. With the delay, some additional ETS1 revenues are currently being discussed to provide this amount for 2027, similarly to 2026 (50 million allowances auctioned in 2026). The residual amount would come from early auctions.
  - → Without early auctions, only the EUR 4 bn from ETS1 revenues would be available for the SCF in 2027. Own contributions from MS are then considered to come from other revenues (e.g. ETS1).
- **Early auctions** of 2028 allowances in 2027 with an ETS2 start in 2028:
  - → The percentage of allowances from 2028 can be chosen.
  - → The revenues first fill the SCF; the remainder is split between the MS based on their average historic emissions in 2016-2018.
- **Optional revenue frontloading** to 2026-2027:
  - → Mechanism allowing MS to use their future revenues earlier, which will be repaid from the sales revenues in the period 2030-2035 at an interest rate that we have set at 2.70%.
  - → Users can specify the percentage of allowances from this period to be used (maximum 50%) as well as the price at which they will be valued in 2026.
  - → The revenues are equally split between 2026 and 2027. If the ETS2 starts in 2027, it is fully allocated to 2026.
  - → The revenues first go into the national own contributions to the SCF.

Key parameters – spendings

Assumptions – SPENDING

Share of SCF that can be redistributed	37,5%	
Min. own contribution to expenses by Member States to SCF	25%	

Income support	EUR	70	per person to	50%	of population, declining by 2% per year. Indexed to carbon price

Social leasing – EV		0,5%	of population each year (incremental)
(3 years)	EUR	200	Reference monthly leasing cost
	EUR	4.200	Reference initial spending (covered by the state)
	EUR	100	Remaining monthly expense for household
		45.790	new beneficiaries per year

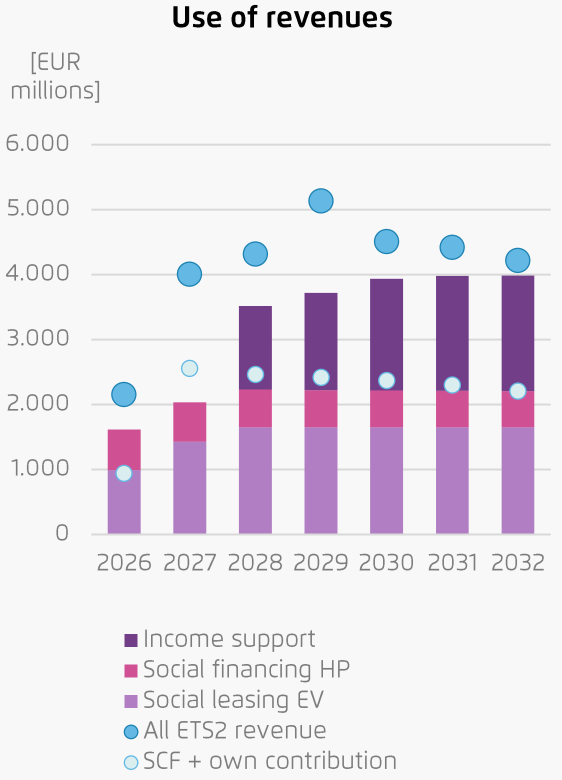
Social financing – heat pumps			
		10%	of the yearly heating market
		50%	covered by grant on upfront costs
		50%	Zero-interest loan
		15	years (loan duration)
		3%	Interest rate
	EUR	69	Max. remaining monthly expense for household

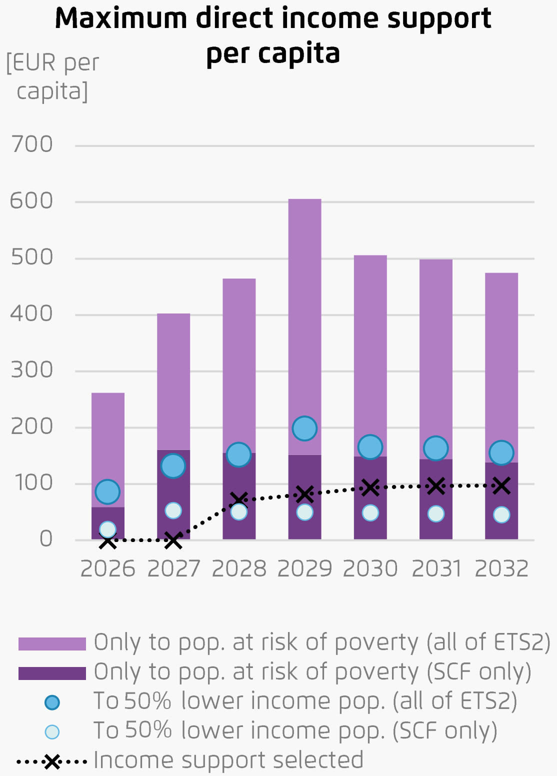
- **Direct income support** starting in the year of introduction of ETS2
  - → The amount and share of the population benefiting can be set by the user. The amount is automatically indexed to carbon price after its start. The share of beneficiaries in the population declines by 2 percentage point per year to reflect the fuel switch achieved through social leasing of EV and social financing of HP.
  - → The share of the SCF that can be used for direct income support is limited to 37.5% of the SCF in the ETS Directive, while it is unlimited in the rest of the ETS2 revenues. In the tool, this share of the SCF can be varied.

- **Social leasing for EV:** assumes a three-year lease for a small size EV, with a grant covering part of the upfront cost and public support for a share of the monthly lease payment for the residual amount paid by the household, to be chosen by the user.
  - → The percentage of the population benefiting from social leasing can also be varied.
  - → Default value: 4,200 EUR initial spending and 50% of the monthly lease payment covered by public funds.
- **Social financing for HP:** assumes a social financing mechanism, including a grant for the upfront cost (investment + installation costs) complemented with a zero-interest loan for the residual amount over the lifetime of the heat pump (interests paid to the lender by public authorities).
  - → The cost share financed through a grant as well as the conditions of the loan can be chosen by the user.
  - → The share of the yearly heating market covered by social financing can also be varied.
  - → Default value: 50% of upfront costs covered as a grant + zero-interest loan for the residual amount over 15 years with interests of 3% paid by the state.

Results

Example for Poland with the settings in the previous slides





- The graphs show:
  - → Left: The cumulative cost of the support programmes compared to the available revenues in the SCF and the rest of the ETS2.
  - → Right: The maximum direct income support that could be paid out if all the revenues were spent for this purpose considering:
    - the share of the SCF revenue and the rest of the ETS2 revenue
    - the percentage of the population at risk of poverty and social exclusion*
    - the set share of the population (here 50%)
- Interpretation of the Polish example:
  - → At carbon prices between 46 and 76 EUR/t, the SCF (excl. own contribution) represents on average about 40% of the revenues.
  - → 900,000 households could benefit from the social financing of HP in 2026-2030 for 13% of the revenues (EUR 3 bn). That is a large share of the ~2.5 million coal heating systems currently still in operation.
  - → With ETS2 revenues, a significant share of the population could also benefit from transitional direct income support (50% with, e.g., a premium for coal users until they get a heat pump) and social leasing for EV, with further investments possible.

 *Population at risk of poverty and social exclusion according to Eurostat (2023): EU average 21%; Poland 16.3%

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Imprint

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