EU Emissions Trading System 2

Fact Sheet

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EU's ETS2 Directive (EU) 2023/959	
Link	➢ EUR-Lex - 02003L0087-20240301 - EN - EUR-Lex
Key Dates	➢ ETS2 was introduced through **Directive (EU) 2023/959** amending the existing **Directive 2003/87/EC**. ➢ The monitoring and reporting requirements and the obligation to hold a permit commence on 1 January 2025. ➢ The ETS2 will become fully operational in 2027

Introduction

This factsheet provides a short overview of the operation of the original EU Emissions Trading System including recent changes and its interaction with the EU Cross Border Adjustment Mechanism. It then provides an outline of the operation and current status of the new Emissions Trading System 2 which has been recently introduced to deliver emissions reductions in the road transport and buildings sectors.

The EU Emissions Trading System

Overview of EU ETS

The original EU Emissions Trading System (EU ETS) covers around 45% of the EU's greenhouse gas emissions, primarily from power generation and heavy industry along with aviation and maritime emissions[1]. In 2024, Irish power generation and industrial companies covered by the EU ETS reduced their emissions by 7.3%[2][3], with overall emissions reductions of approximately 50% since its establishment in 2005.

The EU ETS sets an overall limit, or cap, on allowed greenhouse gas emissions each year which decreases annually[4]. In the period from 2024-27, this cap is reducing by 4.3% per year (in line with the Linear Reduction Factor or LRF) and the total auctioning volume is determined annually in line with this under the ETS Directive. Companies which fall under the EU ETS are required to acquire and surrender carbon allowances to account for their greenhouse gas emissions, which can be purchased through ETS auctions or through secondary trades on carbon markets. The European Energy Exchange (EEX) holds regular auctions of European Union Allowances (EUAs)[5].

Where an entity's emissions exceed the number of allowances they hold, they must purchase additional allowances. If it reduces its emissions, it can sell any surplus allowances it holds or keep these surplus emissions for surrender in future years. The price is established through

[1] Activities listed under Annex 1 of the EU ETS Directive are included in scope.
[2] https://www.epa.ie/news-releases/news-releases-2025/irelands-power-generation-and-industrial-greenhouse-gas-emissions-down-by-seven-per-cent-in-2024--.php
[3] This included a 7.3% reduction from electricity generation installations and a decrease in industrial emissions of 6.9%, mainly due to lower cement production levels.
[4] One emission allowance gives the holder the right to emit 1 ton of CO_2 equivalent. The rules in relation to monitoring, reporting and verification of emissions are set out under the Monitoring and Reporting Regulation and Accreditation and Verification Regulation.
[5] https://www.eex.com/fileadmin/EEX/Downloads/Markets/Environmentals/20240905_EU_ETS_-_Participation_in_the_auctions_and_outlook_secondary_market.pdf

a market mechanism whereby companies will either purchase allowances (if reducing emissions is more expensive) or abate their emissions (if buying allowances is costlier). As caps tighten to meet targets, the cost of achieving deeper reductions increases and the ETS price is expected to rise[6].

A review of the EU ETS is scheduled for 2026 in order to align the ETS with the 2040 climate target (which has not yet been finalised) and the Commission has recently launched a consultation on the performance of the ETS, Market Stability Reserve[7], Innovation Fund[8] and Modernisation Fund[9][10].

Free allocation of allowances and recent changes

Some allowances are allocated to certain regulated entities for free however free allocations have decreased under Phase IV of the EU ETS from 2021-2030. Free allocation was intended to reduce the risk of 'carbon leakage', where companies based in the EU could move carbon-intensive production abroad, or EU products could be replaced by more carbon-intensive imports. From 2026, free allocation under the EU ETS to installations producing goods covered under the Carbon Border Adjustment Mechanism (CBAM) will be phased out, reducing to zero from 2034.

One of the primary ongoing changes to the ETS is the phase out of free allowances for aviation (EU Aviation Allowances or EUAAs), a sector that has been included in the ETS since 2012[11]. From 2026, aviation companies will have to buy 100% of allowances.

Maritime companies were also included in scope of the ETS from January 2024 and reported verified emissions under the EU ETS for the first time[12]. Obligations to surrender allowances will be phased in from 40% of emissions for 2024, 70% for 2025 and 100% for 2026.

Interaction of EU ETS with CBAM

The Carbon Border Adjustment Mechanism (CBAM) will gradually replace free allocation for certain goods, including iron, steel, aluminium, cement, fertilisers, electricity and hydrogen under the EU ETS. The CBAM system mirrors the EU ETS and is applied on the actual

[6] https://www.climatecouncil.ie/councilpublications/otherpublications/Ireland%E2%80%99s%20climate%20action%20and%20the%20potential%20costs%20of%20missing%20targets%20FINAL.pdf
[7] The Market Stability Reserve adjusts the supply of allowances to be auctioned each year to balance supply and demand. More information is available here; https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/market-stability-reserve_en
[8] The Innovation Fund focuses on development of solutions to decarbonise energy and industry and is financed through the EU ETS from 530 million ETS allowances. More information is available here; https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/innovation-fund/what-innovation-fund_en
[9] The Modernisation Fund supports the modernisation of energy systems and the improvement of energy efficiency in 13 lower-income EU Member States and is financed by revenues from the auctioning of emission allowances under the EU ETS. More information is available here; https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/modernisation-fund_en
[10] https://climate.ec.europa.eu/news-your-voice/news/commission-launches-public-consultation-eu-emissions-trading-system-and-market-stability-reserve-2025-04-15_en
[11] Emissions from aviation reported to Ireland come from aircraft carriers assigned to Ireland under the EU ETS and includes flights to and from Ireland and within the European Economic Area (EEA).
[12] This initially applies to cargo and passenger ships above 5000 gross tonnage that call at European economic area ports.

embedded emissions of goods imported to the EU, determined in line with the reporting of emissions under the EU ETS for the production of the same goods in the EU.

From the start of the definitive period of CBAM in 2026, EU importers will buy CBAM certificates corresponding to the carbon price that would have been paid, had the goods been produced under the EU's carbon pricing rules[13]. The price of CBAM certificates will mirror the ETS allowance price. The European Commissions' recent Omnibus proposal looks to fully exempt small importers of goods covered by CBAM from compliance and reporting obligations.

Importation of electricity from other countries outside the EU will require a carbon price to be paid for imports in 2026 and onwards, under the EU's Carbon Border Adjustment Mechanism. This is expected to impact on electricity trading between Ireland and the UK, however discussions have begun on linking of EU and UK ETS[14]. A recent EU-UK summit included an early-stage agreement to link both emissions trading systems, including reciprocal exemptions from carbon border adjustment mechanisms once the linked markets become operational. The timing of this is currently unclear however[15].

The EU Emissions Trading System 2

Overview of the EU ETS2

To address emissions from the road transport and buildings sectors, the EU decided to create a separate but adjacent system to the ETS, the EU Emissions Trading System 2 (ETS2)[16]. This market will cover some of the emissions included under the Effort Sharing Regulation and aims to provide an incentive for investments in building renovations and low-emissions mobility[17]. The ETS2 aims to reduce emissions in these sectors by 42% by 2030 compared to 2005 levels. The Directive was transposed in Ireland by way of Statutory Instrument No 470 of 2024[18]. For comparison as of 2022 across the EU, emissions from buildings were 18% lower than in 2005 while transport emissions were 5% lower[19].

The ETS2 operates as a carbon trading scheme in the same way as the EU ETS but the regulated entities are upstream fuel suppliers, generally those registered with Revenue for Mineral Oil Tax, Natural Gas Carbon Tax or Solid Fuel Carbon Tax. It covers a range of fuels including petrol, gas oil, kerosene, LPG, natural gas, heavy fuel oil, coal and coke used in buildings and transport. Certain fuels like peat, waste used as fuels, solid biomass, and charcoal from wood are excluded[20]. An overview of sectors included in ETS2 is shown in Table 1.

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[13] https://taxation-customs.ec.europa.eu/document/download/013fa763-5dce-4726-a204-69fec04d5ce2_en?filename=CBAM_Questions%20and%20Answers.pdf

[14] https://carbon-pulse.com/392711/

[15] https://carbon-pulse.com/398830/

[16] This has been designed to address emissions from fuel combustion in sectors including road transport, buildings, energy, manufacturing, and construction (which includes small industry sectors which are not covered under the EU ETS).

[17] https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/ets2-buildings-road-transport-and-additional-sectors_en

[18] https://www.irishstatutebook.ie/eli/2024/si/470/made/en/pdf

[19] https://www.eea.europa.eu/en/analysis/indicators/progress-towards-national-greenhouse-gas

[20] In the case of biomass, under Annex III of the EU ETS Directive, the release for consumption of fuels for which the emission factor is zero, is not considered in the scope of ETS2. The emission factor is

Overarching sector	Included	Excluded
Buildings *CRF 1A4a & CRF 1A4b*	• **Fuel combustion** in **residential/commercial/institutional buildings** (space heating, water heating, cooking). This includes **households** fuel combustion • Also, off-road vehicles and machinery used in the buildings sector	• Any emissions from fuel combustion in **agriculture**, forestry, fishing and fishing industries (*1A4c*): • E.g. also <20 MW combustion units (incl. CHP) in agriculture sector • All **ETS1** emissions: • Energy production and manufacture industries • Usually large >20MW combustion units (e.g. in large building complexes)
Road Transportation *CRF 1A3b*	• All **combustion and evaporative CO_2 emissions** arising from fuel use, such as from: • Cars • Motorcycles • Light-and heavy-duty vehicles • Busses • Trucks • Catalyst additives	• Other modes of transport: • Aviation (mostly covered by ETS1; *1A3a*) • Off-road vehicles in agriculture (*1A4c*) • Railways (diesel trains) (*1A3c*) • Maritime transport (mostly covered by ETS1; *1A3d*) • Military operations (*1A5b*)
Other sectors: Mainly (small-scale) industry *1A1, 1A2*	• **(Small-scale) industry**, all energy industries (*1A1*) and manufacturing industries and construction (*1A2*) that are not in ETS1	• **Majority** (especially >20 MW installations) **included in ETS1**, and therefore excluded from ETS2 • Non-energetic purposes excluded (e.g. process emissions, chemical reactant, reducing agent)

Table 1, Fuel supplies covered under ETS2[21]

The Environmental Protection Agency (EPA) is the National Competent Authority for Ireland for the EU ETS and ETS2. Regulated entities will be required to purchase carbon allowances from 2027, while trading and surrender of allowances will be required by 2028[22]. A number of member states have recently pushed for reform or delay to the introduction of ETS2, with national concerns in relation to price volatility and impacts on households. The ETS2 contains an existing mechanism to delay compliance obligations by one year if there are exceptionally high wholesale oil or gas prices, but this is not currently expected to apply. The European Commission has stated that there is no review of the scheme planned before 2028[23].

The European Commission is required to report to the European Parliament and to the Council by the end of 2027 on the implementation of the ETS2. It is also required to assess the feasibility of integrating the ETS I and ETS II systems by 31 October 2031[24].

Future Pricing under ETS2 and Market Stability Reserve

There is significant uncertainty around expected pricing under ETS2. In its impact assessment the European Commission expected prices in the scheme to fall between €45-€80 from 2027-30. The cap on allowances in 2027 has been set based on the average emissions from fuel combustion from 2016-2018[25]. The Market Stability Reserve includes a number of mechanisms to address fluctuations in market prices by adjusting the supply of allowances. This includes three mechanisms under Article 30(h) of the Directive;

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zero only for biomass that complies with the sustainability and greenhouse gas emission-saving criteria established by RED II.

21 https://www.epa.ie/publications/licensing--permitting/climate-change/Workshop_ETS2_slidedeck_IE.pdf

22 Monitoring and reporting requirements along with an obligation to hold a GHG permit commenced in January 2025.

23 https://carbon-pulse.com/399314/

24 https://www.gov.ie/en/department-of-the-environment-climate-and-communications/policy-information/eu-and-international-climate-action/#eu-emissions-trading-scheme

25 See: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202402951

1. If ETS2 prices exceed €45/tonne of CO_2 over two months (in 2020 prices, adjusted for inflation), the mechanisms' Market Stability Reserve will release 20 million additional permits to the system.
2. If the average price of allowances is more than twice the average price compared to the six preceding months, 50 million allowances can be released (In 2027 and 2028 this condition can be triggered if the price is 1.5 times higher).
3. If the average price of allowances is more than three times the average price compared to the six preceding months, 150 million allowances can be released.

These additional permits may reduce prices, but concerns have been raised on how effective the three price stability mechanisms included in the ETS Directive will be as they cannot be triggered simultaneously and can be activated once every 12 months[26][27].

Recent research using the PRIMES energy system model assessed a number of scenarios with ETS2 prices varying between €71/tCO_2 to €261/tCO_2 in 2030[28], with lower prices associated with more stringent energy efficiency policies. For example, if energy demand for heating and cooling is decreased through significantly improved energy performance standards for buildings, the demand for ETS2 allowances would be reduced. Other estimates from Vertis Environmental Finance and Bloomberg have forecast prices of €111.7/tCO_2 to €259/tCO_2 and up to €149/tCO_2 by 2030. Energy and fuel suppliers are likely to pass on the cost of ETS2 allowances to final consumers.

Allowance futures contracts for ETS2 launched in early May from the ICE exchange with EEX due to launch futures products in July. While volumes were low, initial futures prices for 2028 came in at €73.57/tCO_2 [29]. This compares to predicted ETS (1) prices in 2027 of €78.5[30].

Interaction of ETS2 with Ireland's Carbon Tax

EU ETS2 extends emissions trading to sectors currently covered by Ireland's domestic carbon tax, effective from 2027. Under Article 30e of the ETS Directive[31], Member States with a carbon tax rate which is equivalent or higher than the average ETS II auction price may exempt regulated entities subject to a national carbon tax from the obligation to surrender allowances for the years 2027 to 2030. The Directive notes that regulated entities may be exempted for a given reference year where the national carbon tax paid by a regulated entity is higher than the average auction clearing price.

Ireland notified the Commission in 2023 of its application for a derogation under this provision of the Directive given the trajectory of its carbon tax up to €100 per tonne of CO_2 by 2030. If approved, all other obligations of the directive such as monitoring and reporting of emissions will apply to Ireland, and compliance with those obligations is also necessary to obtain the derogation.

Social Climate Fund (SCF)

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[26] https://www.tandfonline.com/doi/full/10.1080/14693062.2025.2485196#summary-abstract
[27] https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/772878/EPRS_BRI(2025)772878_EN.pdf
[28] https://www.tandfonline.com/doi/full/10.1080/14693062.2025.2485196#abstract
[29] https://carbon-pulse.com/394515/
[30] https://www.climatecouncil.ie/councilpublications/otherpublications/Ireland%E2%80%99s%20climate%20action%20and%20the%20potential%20costs%20of%20missing%20targets%20FINAL.pdf
[31] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02003L0087-20230605

The majority of revenue generated through the EU ETS2 will go directly to Member States to be spent on climate and energy related measures, while €65 billion will be allocated to the Social Climate Fund. The EU adopted Regulation 2023/955 on the Social Climate Fund along with the revision to the EU ETS Directive. This will be funded through 50 million allowances from the EU ETS, revenues from ETS2 and a mandatory 25% contribution by Member Staes to their Social Climate Plans[32]. It is expected to mobilise €86.7 billion in public funding between 2026-2032.

Member States will be required to use any remaining ETS2 revenues for climate action and social measures and report on how this money is spent. In order to access funding under the Social Climate Fund, Member States are required to draft Social Climate Plans setting out measures to support vulnerable transport users and households in consultation with local and regional authorities, civil society and other stakeholders. Member States were required to submit these plans to the European Commission by June 2025 for assessment and payments will only be made to Member States if milestones and targets set out in the plan are achieved. Ireland's maximum financial allocation under the Fund is set out in Annex II of the Regulation[33] at 1.02% of the total or approximately €663,390,868. The risk of a number of Member States failing to provide their plans on time has been highlighted in a recent Briefing to the European Parliament[34].

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32 https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/social-climate-fund_en
33 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32023R0955
34 https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/772878/EPRS_BRI(2025)772878_EN.pdf