EU Emissions Trading System (EU ETS)

Summary

General Information

Status: ETS in force

Jurisdictions: Member states: 28 EU Member States and three European Economic Area-European Free Trade Association (EEA-EFTA) states: Iceland, Liechtenstein and Norway

The European Union Emissions Trading System (EU ETS) represents the central pillar of the EU climate change policy and is the oldest and still largest ETS for GHGs operating worldwide. Introduced in 2005 and now in its third phase, the system has gone through several reforms and will change again with the start of phase 4 in January 2021. The system covers emissions from the power, industrial, and aviation sectors, with the aviation sector being limited to flights within the European Economic Area (EEA). In 2017, the EU and Switzerland signed an agreement linking the Swiss ETS to the EU ETS—the first such agreement for the EU.

Overall GHG emissions (excluding LULUCF)

General Information

Emissions: 4,353 $MtC0_2e$ (2016)

Overall GHG emissions by sector

General Information

Sector Name	MtCO2e
Energy	3391
Industrial Processes	386
Agriculture	436
Waste	140

Overall GHG reduction target

General Information

By 2020: 20% below 1990 GHG levels

By 2030: At least 40% below 1990 GHG levels

By 2050: EU leaders have committed to reducing emissions by 80-95% below 1990 GHG levels

Emissions covered by the ETS

ETS Size

0.40

GHG covered

ETS Size

CO2, N2O, PFCs

Sectors covered and thresholds

ETS Size

PHASE 1 (2005-2007): Power stations and other combustion installations with >20MW thermal rated input (except hazardous or municipal waste installations), industry (various thresholds) including oil refineries, coke ovens, iron and steel plants, as well as production of cement, glass, lime, bricks, ceramics, pulp, paper, and board.

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Sectors covered and thresholds

ETS Size

PHASE 2 (2008-2012): Aviation was introduced in 2012 (>10,000 tCO_2/year for commercial aviation; >1,000 tCO_2/year for non-commercial aviation since 2013) (see below). Nitrous oxide emissions from the production of nitric acid were included by a number of countries. The EU ETS also expanded to include Iceland, Liechtenstein, and Norway.

PHASE 3 (2013-2020): Carbon Capture and Storage installations, production of petrochemicals, ammonia, nonferrous and ferrous metals, gypsum, aluminum, as well as nitric, adipic, and glyoxylic acid (various thresholds) were introduced.

PHASE 4 (2021-2030): No changes to the scope are envisaged for phase 4.

International Aviation: Emissions from international aviation were included in the EU ETS in 2012. In November 2012, the EU temporarily suspended enforcement of the EU ETS requirements for flights operating from or to non-EEA countries ("stop the clock") while continuing to apply the legislation to flights within and between countries in the EEA. Exemptions for operators with low emissions have also been introduced.

In light of the progress made under the International Civil Aviation Organization towards a global measure to reduce emissions from the aviation sector (the Carbon Offsetting and Reduction Scheme [CORSIA]), the EU will maintain the intra-EEA scope for the ETS Aviation until 31 December 2023. A further review and assessment will be carried out once there is clarity surrounding the content and nature of CORSIA, as well as the extent of participation by Europe's international partners.

Point of regulation

ETS Size

Downstream

Number of liable entities

ETS Size

More than 11,000 power plants and manufacturing installations. Aircraft operators are covered for all flights. However, a temporary exemption applies to flights between the EEA and a third country.

No information available yet.

Allocation

Phases & Allocation

PHASE 1 (2005-2007): Allocation established through the Member State National Allocation Plans. Nearly 100% free allocation through grandfathering. Some Member States used auctioning and some used benchmarking.

PHASE 2 (2008-2012): Similar to Phase 1 with ~90% of allowances allocated for free. Some benchmarking for free allocation and some auctioning in eight Member States (Germany, United Kingdom, The Netherlands, Austria, Ireland, Hungary, Czech Republic and Lithuania), constituting ~3% of total allowances.

PHASE 3 (2013-2020): Over the entire trading period, 57% of allowances will be auctioned, while the remaining allowances are available for free allocation.

Electricity Sector: 100% auctioning with optional derogation for the modernization of the electricity sector in certain Member States. Those Member States whose GDP per capita was below 60% of the EU average in 2013 may continue to make use of this optional free allocation in phase 4.

Manufacturing Sector: Free allocation is based on product-based benchmarks. Benchmarks are based on activity levels in 2007-2008 and are set at the average of the 10% most efficient installations in the (sub)sector.

Subsectors deemed at risk of carbon leakage receive free allocation at 100% of the predetermined benchmarks. Subsectors deemed not at risk of carbon leakage have free allocation phased out gradually from 80% of the benchmarks in 2013 to 30% by 2020. In the event that free allocation exceeds the amount reserved for free allocation, a cross-sectoral correction factor is applied.

Carbon leakage risk is assessed against criteria of emissions intensity and trade exposure.

Aviation Sector: In 2012, 85% of allowances were allocated for free, based on benchmarks. In phase 3, 15% of allowances are auctioned and 82% allocated for free, based on benchmarks. The remaining 3% constitute a special reserve for new entrants and fast-growing airlines. As a consequence of the temporary derogation applying to flights with third countries, the allocation is adjusted to the intra-EEA scope.

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Allocation
Phases & Allocation

Backloading: Taken as a short-term measure to address a growing surplus in the EU ETS, it was agreed to postpone the auctioning of 900 million allowances from 2014-2016 to 2019-2020. Auction volumes were reduced by 400 million allowances in 2014, 300 million in 2015, and by 200 million in 2016. In line with the decision to create an MSR, the back-loaded allowances will be placed in the MSR.

New Entrants Reserve: 5% of the total allowances are set aside to assist new installations coming into the EU ETS or covered installations whose capacity has significantly increased since their free allocation was determined.

PHASE 4 (2021-2030): One of the central components of the phase 4 revision package is to ensure that the declining number of free allowances is distributed in the most effective and efficient way. To this end, in phase 4:

· Benchmark values will be updated twice during the phase to reflect technological progress in the different sectors.

· Free allocation may be updated annually to mirror sustained changes in production (if the change is more than 15% compared to the initial level, on the basis of a two-year rolling average).

· Carbon leakage rules will be more robust, as the number of sectors classified at risk of carbon leakage will be reduced, and the free allocation for other sectors will be discontinued by 2030 (except district heating).

· Carbon leakage will be assessed against a composite indicator of trade intensity and emissions intensity.

· As an additional safeguard for industry, the agreement foresees a “free allocation buffer” of over 450 million allowances initially earmarked for auctioning, to be made available if the initial free allocation is fully absorbed (thereby avoiding or reducing a correction factor).

In addition, two new multi-billion Euro funds will be established to help the industry and the power sectors meet the innovation and investment challenges of the transition to a low-carbon economy (for more, see Use of Revenue).

Monitoring, Reporting, Verification (MRV)
Compliance

REPORTING FREQUENCY: Annual self-reporting based on harmonized electronic templates prepared by the European Commission.

VERIFICATION: Verification by independent accredited verifiers is required before 31 March each year.

MRV FRAMEWORK: Since phase 3, the MRV framework for the EU ETS has been further harmonized. European Commission regulations now apply for emissions monitoring and reporting, as well as verification and accreditation of verifiers. A monitoring plan is required for every installation and aircraft operator (approved by competent authority).

Enforcement
Compliance

Entities must pay an "excess emissions penalty" of EUR 100/tCO2 (USD 118/tCO2) for each tCO2 emitted for which no allowance has been surrendered. The name of the noncompliant operator is also published. Different penalties exist at the national level for other forms of noncompliance.

Institutions involved
Other Information

The European Commission and the relevant authorities of the 28 Member States, Iceland, Liechtenstein, and Norway.

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