

# EMISSIONS TRADING SCHEME



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# EMISSIONS TRADING SCHEME ('ETS')

## WHAT IT IS, HOW IT WORKS, THE ACCOUNTING IMPLICATIONS AND HOW IT AFFECTS THE SHIPPING INDUSTRY

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It is generally accepted that every ton of greenhouse gas emissions has a detrimental effect to the environment as well as incurring a cost to society. In traditional market transactions, these costs are ignored. Putting a price on greenhouse gas emissions obliges us to deal with some of the cost of the emissions associated with what is produced and what is consumed. It also influences us to choose lower-emission alternatives.

### ETSs, the EU, the UK and the shipping industry

The shipping industry is a crucial component of global trade, but it also contributes to greenhouse gas emissions. The maritime transport sector accounts for approximately 90% of world trade and plays a key role in the EU's economy. It is also responsible for approximately 3% of the EU's total CO2 emissions annually. The maritime industry, like other industries, is facing an increasing number of regulations and reporting requirements. For example, the European Union ('EU') has taken a momentous step towards a greener future by expanding its European Union Emissions Trading System ('EU ETS') to include the shipping industry. This extension reflects the EU's dedication to reducing carbon emissions and promoting sustainable practices within this industry. The inclusion of the shipping industry in the EU ETS has marked a significant milestone for this sector as it will trigger meaningful outcomes and evolutionary changes. Prior to the inclusion of the shipping industry, this industry operated with relatively fewer regulations and mechanisms to address its carbon emissions.

In 2021, the European Commission advanced a series of legislative proposals targeting the shipping industry to deliver the 'European Green Deal', EU's long-term growth strategy to make Europe climate-neutral by 2050. Besides extending the emissions trading scheme to maritime transport, the EU has proposed boosting demand for maritime renewable and low-carbon fuels and setting mandatory targets for shore-side electricity supply at ports.

Starting in 2024, shipping entities will have to buy carbon permits to cover at least 40% of their emissions. By 2026, these will have to cover 100% of emissions. The decision to include the maritime sector in the EU ETS effectively forces vessels to pay for their carbon dioxide, methane, and nitrogen

dioxide emissions for voyages within the bloc, thus adding pressure to scale up green infrastructure and technologies.

### The EU ETS

The EU ETS is currently the world's second largest system, launched in 2005; China, being the largest, after launching the China National Emissions Trade Scheme ('CNETS') in 2021. The EU ETS operates in all 27 EU countries and includes Iceland, Liechtenstein and Norway, limiting emissions from more than 11,000 heavy users of energy including power stations and industrial plants and airlines, operating between the ETS member countries. In total, it covers around 45% of the EU's greenhouse gas emissions. The European Union describes its emissions trading system as 'a cornerstone' of its climate change policy. Research has also shown that the EU emissions trading system has helped to drive innovation in low-carbon technologies such as renewable power sources and energy efficiency, one of the original objectives of the system. Increased use of these technologies also helps to reduce greenhouse gas emissions.

The allowances within the EU ETS can be traded on several exchanges, including the European Energy Exchange ('EEX'), which has been awarded the role as the common auction platform to auction the said allowances.

### The United Kingdom Emissions Trading Scheme ('UK ETS')

The UK ETS has been running since May 2021. The UK used to be part of the EU ETS, but left when the UK left the EU at the end of 2020. As a result, the UK ETS was created to fill the gap. In 2019, the UK made a legally binding pledge to reduce its emissions to net zero by 2050. The UK Emissions Trading Scheme works in a very similar way to the EU scheme, except

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that the UK ETS only applies to the UK and is slightly more ambitious about emissions reductions.

The UK ETS, like other cap and trade systems, is compatible with a free market economy because it does not seek to control how and where emissions are created, it just allocates a financial value to each unit of emissions and lets the market do the rest. Crucially, every year the overall cap will be lowered, which means the cost of emissions allowances will go up. At this moment (2023), the UK ETS applies to three specific sectors, namely, energy-intensive industries (such as steelmaking and meat processing), power generation and aviation. But the scope of the scheme is set to expand to include more high-emitting areas of the UK economy. From 2026, the scheme will be applicable to large maritime vessels of 5,000 gross tonnage and above. From 2028, the scheme will include waste incineration and energy generated from waste. Trading under the UK's Emissions Trading Scheme is done through auctions of carbon allowances. Auctions take place every Wednesday on the ICE Futures exchange. ICE publishes the auction calendars every year.

### **An Emissions Trading Scheme – What it is and how it works**

An emissions trading system is a market mechanism that allows countries, companies or manufacturing plants which release greenhouse gases into the atmosphere, to buy and sell these emissions, as permits or allowances, amongst themselves. Emissions mean the release of greenhouse gases and / or their precursors into the atmosphere over a set area and period of time.

Emissions trading is widely considered a key part of efforts to reduce the manmade greenhouse gas emissions that are causing climate change. Emissions trading, as mentioned above, is a market-based approach used to control pollution by providing

economic incentives for reducing the emissions of pollutants such as CO<sub>2</sub>. It is a cost-effective way of reducing greenhouse gas emissions. The concept is also known as 'cap and trade' ('CAT') or emissions trading scheme ('ETS'). Carbon emission trading for CO<sub>2</sub> and other greenhouse gases has also been introduced in China and other countries (e.g., Australia, South Korea, New Zealand and, certain US states and Canadian provinces) as a key tool for climate change mitigation. Other such schemes include sulfur dioxide and other pollutants.

Basically, in an ETS, a governmental body or central authority allocates or sells a limited number (a "cap") of permits (also called "allowances") that allow a discharge of a specific quantity of a specific pollutant over a set time period. The setting of caps is based on scientific evidence of the emissions cuts needed to limit climate change, including meeting the Paris Agreement target of keeping the temperature rise well below 2°C this century. Polluters are required to hold permits in amount equal to their emissions. Polluters that want to increase their emissions must buy permits from others willing to sell them.

Emissions trading is a type of flexible environmental regulation that allows organisations and markets to decide how best to meet policy targets. This is in contrast with Carbon Taxes, 'command-and-control' environmental regulations such as best available technology ('BAT') standards and, government subsidies.

Under an ETS, what motivates companies and other entities to cut emissions is profit and the potential for it to rise or fall, rather than tackling pollution with the traditional threat of penalties. The carbon market was thus formed as a result of carbon being traded just like any other commodity.

Globally, ETSs generally operate along similar straits by utilising the 'cap and trade' system.



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The sectors and extent of emissions covered however, are usually where the various systems differ.

Emissions trading schemes can help achieve cost-effective emissions reductions, encourage innovation, and generate revenue for governments. However, they also face challenges such as setting the right cap, allocating permits, ensuring compliance, and avoiding 'leakage' and fraud.

The overall goal of an ETS is to minimise the cost of meeting a set emissions target. In an ETS, the government or central authority:

- sets an overall limit on emissions, and
- defines permits / allowances, or
- limits authorisations to emit, up to the level of the overall limit.

The government may sell the permits, but in many existing schemes, it gives permits to participants (i.e., 'the regulated polluters') equal to each participant's baseline emissions. The baseline is determined by reference to the participant's historical emissions. To demonstrate compliance, a participant must hold permits at least equal to the quantity of pollution it actually emitted during the time period. If every participant complies, the total pollution emitted will be, at most, equal to the sum of individual limits. Because permits can be bought and sold, a participant can choose either to use its permits exactly (by reducing its own emissions); or to emit less than the permits it holds, and perhaps sell its excess permits. The participant can also emit more than its permits, and therefore buy permits from other participants. In effect, the buyer pays a charge for polluting, while the seller gains a reward for having reduced emissions.

In many schemes, organisations which do not pollute, and therefore have no obligations, may also trade in

permits and financial derivatives of permits. In some schemes, participants can "bank" allowances to use in future periods. In some schemes, a proportion of all traded permits must be retired periodically, causing a net reduction in emissions over time. Thus, environmental groups may buy and retire permits, driving up the price of the remaining permits according to the law of demand. In most schemes, permit owners can donate permits to non-profit entities and receive tax deductions. Usually, the government lowers the overall limit over time, with an aim towards a national emissions reduction target.

### How can an ETS be effective?

- **A hard limit and the market** - according to its theorists, an ETS works effectively not only because of the 'hard' limit it sets, but also because it lets the market decide how best to reduce emissions, at the lowest possible cost.
- **A price on carbon** - by nature of creating a market for greenhouse gas emissions, an ETS sets a clear and agreed-upon price for carbon. This means that much of the costs incurred by greenhouse gas emissions, such as the detrimental impact to both public human health and wildlife extinction, are taken into account when pricing other goods and services.
- **Strict reduction quota** - unlike other forms of carbon pricing (such as a carbon tax) that have been criticised for their lack of strict targets for emission reduction, an ETS allots a strict requirement for reduction via the setting of a maximum.
- **Flexibility in a variety of contexts** - an ETS works well and can adapt to a range of different socioeconomic settings. Worldwide, a number of national and sub-national jurisdictions have implemented or are planning to implement carbon pricing tools, including emissions trading systems and taxes.



### How can an ETS be ineffective?

- **Lenient caps** - many caps set by governments have been deemed to be weak, and ineffective in curbing emissions at any meaningful rate.
- **Purchases of “offsets”** - carbon credits have been bought from countries not included in ETSs and emission reduction programs in the developing world.
- **Prone to lobbying** - like any other legislation, cap and trade systems are susceptible to influence, and thus reduction targets are not often reached due to corporate and political interests / lobbying.

### Does emissions trading impact the economy negatively?

One criticism is that participating firms could lose out to firms lying outside the scheme that are not subject to the regulations, whose costs are lower. However, research has found, in the case of the EU ETS at least, there is very little evidence for negative economic impacts.

### Accounting for emissions trading schemes (ETS)

This article discusses, amongst other issues, the key elements as well as the fundamental accounting issues of ‘cap and trade’ programmes as they are the main market mechanism employed globally to limit greenhouse gas emissions. To date, there is no authoritative accounting guidance in this area and this has led to diverse accounting practices globally.

### International Financial Reporting Standards (‘IFRS’)

The International Financial Reporting Interpretations Committee (‘IFRIC’) of the International Accounting Standards Board (‘IASB’), in an attempt to fill the existing void in authoritative accounting guidance, issued IFRIC 3 (Emissions Rights) in December 2004. However, in June 2005, IFRIC 3 was withdrawn due to the many objections raised, although the IASB affirmed that it was an appropriate interpretation of existing IFRSs for accounting for ETSs, including the EU and UK ETSs. Some of the criticisms being that IFRIC 3 created unsatisfactory measurement, timing and reporting mismatches, more specifically:

- A measurement mismatch between the assets and liabilities recognised in accordance with IFRIC 3.
- A mismatch in the location in which the gains and losses on those assets are reported. And

- A possible timing mismatch because allowances would be recognised when they are obtained (typically at the start of the year), whereas the emission liability would be recognised during the year as it is incurred.

It should be noted that the guidance in IFRIC 3 still remains valid, but entities are free to apply variations, provided that the requirements of all relevant IFRSs are met. Where an entity opts to develop its own accounting policy for ‘cap and trade’ schemes, the authoritative guidance in IAS 8 (Accounting Policies, Changes in Accounting Estimates and Errors) must be followed.

Several approaches have emerged in practice under International Financial Reporting Standards. Most notably the ‘net liability’ approach and the ‘government grants’ approach (see below).

A typical ‘cap and trade’ scheme can result in the recognition of assets (permits or allowances), expense of emissions, a liability (obligation to submit allowances) and, potentially, a government grant.

### The following is a summary of the key accounting recommendations that can be followed when accounting for ETSs:

- The allowances that are held are considered intangible assets that should be recognised in the statement of financial position, in accordance with IAS 38 (Intangible Assets) – often presented as part of inventory (see below) – and are recognised at cost if separately acquired. Allowances received free of charge or less than fair value from the government (or government agency) are recognised in accordance with IAS 20 (Accounting for Government Grants and Disclosure of Government Assistance) either:
  - at fair value, with a corresponding deferred income (liability) in the statement of financial position, or
  - at cost (nil).

The deferred income is subsequently recognised in the statement of profit or loss as income on a systematic basis over the compliance period for which the allowances were issued, regardless of whether the allowances are held or sold. When allowances are issued to a participant for less than their fair value, the difference between the amount paid (if any) and their fair value is considered a government grant that is accounted for in accordance IAS 20.

The allowances recognised are not amortised, provided the residual value is at least equal to the carrying value. The allowances are recognised in the statement of profit or loss, because they are delivered to the government in settlement of the liability for emissions on a 'units of production' basis.

If initial recognition at fair value under IAS 20 is elected, the government grant is amortised to the income statement on a straight-line basis over the compliance period. An alternative to the straight-line basis can be used if it is a better reflection of the consumption of the economic benefits of the government grant.

The entity may choose to apply the revaluation model in IAS 38 for the subsequent measurement of the emissions allowances only if the fair value can be determined by reference to an active market.

The revaluation model requires the carrying amount of the allowances to be restated to fair value at each balance sheet date, with changes to fair value recognised directly in equity (except for impairment, which is recognised in the income statement).

- The recognition of a liability and expense for actual emissions should follow the guidance in IAS 37 (Provisions, Contingent Liabilities and Contingent Assets). A provision is recognised for the obligation to deliver allowances or pay a fine to the extent that pollutants have been emitted because an obligation is created by the emission of the greenhouse gas. The provision is commonly measured at the cost of the certificates acquired, including those acquired for at no cost (for example, under government grants) or the contracted purchase price for the planned purchases of certificates.

The liability is measured as the present obligation needed to satisfy actual emissions made at the balance sheet date. Essentially, it represents the fair market value of allowances to be delivered at the end of the compliance period.

The allowances reduce the provision where they are used to satisfy the entity's obligations through delivery to the government at the end of the scheme year / compliance period. However, the carrying amount of the allowances cannot reduce the liability balance until the allowances are delivered.

- Brokers and traders that are not themselves participants in a 'cap and trade' scheme, but hold emission rights as assets held for sale in the ordinary course of business meet the definition of inventories in IAS 2 (Inventories). IAS 2 permits commodity

brokers / traders, when measuring emission rights, to choose between the lower of cost and net realisable value or at fair value less costs to sell. When such inventories are measured at fair value less costs to sell, changes in fair value less costs to sell are recognised in profit or loss in the period of the change.

Where an entity trades in derivatives that are based on emission rights, such derivatives fall within the scope of IFRS 9 (Financial Instruments) and are accounted for at fair value through profit or loss unless they hedge the fair value of the emission rights granted to the entity or qualify for the 'own use exemption'.

When the entity holds emission rights for own use and also has a trading department trading in emission rights, the entity is required to keep separate records (i.e., 'split the books') for those emission rights held for own use and those that are held for trading. Here the entity, can elect as its accounting policy, to classify those emission rights held for own use as either intangible assets or inventory (if they are held for sale in the ordinary course of business or to settle an emissions liability in the ordinary course of business). The emission rights held for trading must be classified as inventory. The resulting income from the sale of emission rights that are classified as inventories, is recognised as revenue in accordance with IFRS 15 (Revenue from Contracts with Customers).

**Please note that the netting of assets and liabilities related to emissions is not permitted!**

- The 'net liability' approach

Under this approach, emission allowances received by way of grants are recognised at nominal amounts and a liability will only be recognised once the actual emissions exceed the emission rights granted and still held, thereby requiring entities to purchase additional allowances in the market or incur regulatory fines. Purchased grants are initially recognised at cost. Under IAS 37, a provision can only be recorded if the recognition criteria contained in the standard are satisfied. It should be noted that an entity cannot recognise a provision for any anticipated future shortfall of emission rights, nor can it 'build up' a provision over the period of the expected shortfall.

- The 'government grant' approach

This approach recognises the emission rights granted by the government initially at their value and

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the corresponding credit as a government grant in the statement of financial position. The government grant element is subsequently recognised as income in accordance with the requirements of IAS 20. This is similar to the approach followed in IFRIC 3. The liability portion is measured by reference to the amounts recorded when those rights were first granted instead of measuring the liability for the obligation to deliver allowances at the present market price of those allowances.

### **Conclusion**

The inclusion of the shipping industry into the EU and UK ETSs represents a significant milestone in the pursuit of a sustainable maritime sector. By introducing emissions monitoring and providing economic incentives, both the EU and UK ETSs hope to facilitate transparency, accountability and environmentally responsible practices, not only within the shipping industry but within other industries as well.

Both schemes encourage entities to reduce emissions, promote innovation, and contribute to the global effort to combat climate change. The EU and UK ETSs not only promote environmental sustainability, but going forward, also position the shipping industry for a more sustainable and prosperous future.

Emissions trading provides greater environmental certainty in controlling overall emissions compared to emissions taxes, which defines a fixed emission price without restricting the quantity of greenhouse gasses emitted over a certain time period.



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