

Carbon pricing: in the firing line but still better than alternatives

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Summary

Carbon pricing is increasingly in the spotlight. It is becoming a political target as part of the narrative against climate action. However, it needs to be seen in the context of bigger, longer running challenges to industrial competitiveness, such as gas prices, labour costs and decades without a proper industrial strategy.

Exxon Mobil and a string of politicians last month blamed the impending closure of its Mossmorran chemicals plant in Scotland on carbon and energy costs. But in reality the differential between gas costs in the UK and US last year for a site like Mossmorran were ten times what it paid in carbon costs. The site is also old and needs substantial upgrades.

Meanwhile, the UK Emissions Trading Scheme (UK ETS), through which carbon prices are set, is one of very few policies aimed at lowering industrial emissions and futureproofing the economy. It is also consistent with the 'polluter pays' principle. Changing tack would undermine companies that have acted to cut their emissions and there is no credible alternative that offers the stability needed for investment and is affordable for government.

Scrapping the scheme would also leave a £6 billion black hole in the government's finances. Once the EU's Carbon Border Adjustment Mechanism (CBAM) is fully in place, a sizeable portion of that money could go to the EU instead.

The UK ETS has its flaws, particularly around so called 'carbon leakage', and further efforts to address them are needed through measures like free allocation, a CBAM and re-linking the scheme to the EU ETS.

Recycling the UK ETS revenues into helping industry to decarbonise, as the EU does, would also help to support UK businesses and meet climate goals.

Carbon pricing is under political pressure

The impending closure of ExxonMobil's Mossmorran ethylene plant in Scotland and INEOS's complaints about ETS costs at Grangemouth, where it has a similar plant, have focused media and political attention on carbon pricing.

Coverage of the closure of Mossmorran cited the £16 million it spent on allowances in 2024 (often misreported as £20 million) and INEOS complained earlier this year about the £15 million cost of ETS allowances for its operations at Grangemouth.

While these costs are significant, they need to be seen in context and weighed against the benefits of addressing industrial emissions. ExxonMobil, for instance, made £26 billion profit last year while being responsible for hundreds of millions of tonnes of carbon dioxide emissions.

From the start of 2026, the EU CBAM will place charges on the import of some types of goods. This is likely to increase costs for some UK companies exporting goods to the EU, opening up further debate about carbon pricing.

What is driving industrial pressure?

Energy prices

The cost of energy in the UK, relative to other countries, is a particular issue for companies trying to compete globally. Policies manage electricity prices for the most exposed industries but this doesn't help gas intensive sectors like chemicals, which use gas as a feedstock as well as an energy source, and ceramics.

Although the UK continues to report lower [industrial gas prices](#) than many other European countries, they shot up when Russia invaded Ukraine. That, and the US shale gas boom, mean European prices were twice those in the US in 2022 and almost five times higher in 2023. If the Mossmorran chemicals plant had been operating in the US, its gas bill would have been £160 million lower.¹ This is ten times the amount it spent on ETS allowances over the same period.

Structural issues

Labour costs are also higher in the UK than in some other countries. Decades without a real industrial strategy has led to ageing uncompetitive plants across a range of industries. Age and layout were the reasons Petroineos gave for the closure of its [refinery at Grangemouth](#) earlier this year.

Relative carbon costs

Although not the biggest issue for manufacturers, the relative cost burden of emissions trading has always been a concern: UK manufacturers must pay for carbon, while their competitors – for instance in the Middle East – face far weaker or non-existent regulatory regimes. The risk that businesses and their emissions will move offshore as a result, a phenomenon known as ‘carbon leakage’, is one that looms large in policy makers’ minds (see below).

Why price carbon?

Carbon pricing, at its most theoretical, forces companies to price in their externalities. In other words, the costs they impose on society through their emissions.

It is also intended to help futureproof the economy. Whatever the current geopolitical situation, it is likely that, as the impacts of climate change become more extreme, it will become increasingly important for companies to produce low carbon products.

Under a ‘cap and trade’ scheme, like the UK ETS, the collective emissions participants are allowed to produce are limited and fall annually. Firms must surrender enough of the limited pool of their ‘allowances’ at the end of every year to cover their own emissions. They can reduce their emissions where this is possible and affordable, meaning they don’t need to buy allowances, or otherwise buy them from the government or other participants.

In theory, the system finds the right price for carbon to meet the cap and, by trading allowances, delivers the lowest cost pathway to reducing emissions across the economy.

This price seeking aspect is one of the theoretical advantages of a trading scheme over a carbon tax which is often proposed as an alternative. The fact that Europe has been trading emissions for over 20 years, with a complex set of regulations governing it, provides useful stability. Carbon taxes, on the other hand, would be exposed to the whims of successive UK chancellors.

Where the ETS falls short

In practice, over the time the UK has been involved in emissions trading, multiple fixes have been needed to make schemes work well.

Investment signals

An early issue was that companies don’t tend to invest in big infrastructure changes years ahead or speculatively, so if the price signal isn’t strong, they

won't change their behaviour. This is where subsidies and creating markets for low carbon goods – 'carrot' type policies – are a vital complement

to the ETS. Mechanisms are also in place to ensure ETS price signals aren't too volatile.

Carbon leakage and free allocation

Carbon leakage has been a bigger headache, particularly for goods regularly traded beyond Europe. That's why many of the allowances industrial emitters need are given to them free. There's still a benefit in cutting emissions as they can sell spare allowances on, but the upfront signal isn't as strong as it would be without free allocation. (The power sector and airlines, which also participate in the UK ETS, must buy their allowances as it's harder for them to move operations overseas.)

The proportion of free allowances a site receives is based on several factors including its carbon intensity compared to best performing similar sites. This approach is meant to encourage carbon reduction, despite the free allocation. Unpicking exactly what each site gets and the equity of that is complex.

The Mossmorran plant only received around 40 per cent of its allowances free, but that could be because there are other processes onsite that don't qualify.

Looking at the [ETS data](#) for Grangemouth's equivalent ethylene plant, it received roughly 90,000 more free allowances than it needed in 2024, but the onsite combined heat and power plant still had to buy allowances (like other power plants), hence the company's claim about carbon costs.

CBAM integration

Carbon border adjustment mechanisms (CBAMs) are a new attempt to address carbon leakage by charging importers the same carbon prices that domestic producers must pay. This should eventually end free allowance allocation. However, the CBAMs being set up now in the UK and EU will only apply to a limited set of sectors and wrinkles in their design need to be monitored and ironed out, such as the potential for importers to shuffle their products so they send the cleanest to Europe. The EU's CBAM will start in 2026 and the UK's equivalent begins in 2027.

Potential complications around the introduction of two adjacent CBAMs has also hastened conversations about linking the UK and EU ETSs which were separated by Brexit. This should bring more stable carbon prices in the long run and lower cost emissions reductions for industry. However, the prospect

has pushed up UK ETS prices in the short term. A EU-UK recent [joint statement](#) has promised alignment by the time of their next summit.

What are the alternatives?

If the ETS was scrapped, it would leave little policy aimed at futureproofing industry and it would cost the government billions.

The UK ETS could be replaced with more ‘carrot’ style policies. However, this would eliminate the one big consistent policy signal to decarbonise industry. Firms that had invested in efficiency and emissions cutting technologies as a result of the ETS would gain advantage from doing so in the long term, but they could be punished financially in the short term while laggards could be rewarded. Scrapping the scheme would also break with the polluter pays principle which is popular with the public and a mandatory consideration in government policy design.

The government would also have to forfeit the money it receives from selling allowances – [£6 billion in 2023-24](#) – and the full cost of the EU CBAM would apply to UK goods sent to the EU meaning higher payments to EU nations and central EU funds.

The track record on other UK industrial decarbonisation policies is patchy. Very few plants are currently benefitting from subsidies for developing carbon capture and storage (CCS) and hydrogen as an alternative power source. The main source of funding for other industrial decarbonisation measures – the [Industrial Energy Transformation Fund](#), which provided grants – was axed this year.

What next?

EU alignment

The government had been reviewing free allowance allocation rules over the past couple of years, with a view to better targeting free allocation to sectors most at risk of carbon leakage. While polluters must not be given a free ride, this made sense in a challenging operating environment, particularly for those emitters with no cost effective routes to cutting emissions who will only ever see the scheme as a burden. However, it is [now preparing](#) to use EU benchmarks to aid carbon price alignment.

Given that free allocation can be used as a buffer to protect companies while costs are high, while not completely removing the incentive to decarbonise, this should be kept under review.

The CBAM could also be extended to protect more sectors. At the moment, for instance, ethylene production won't be covered. That would help to level the playing field in terms of regulatory costs. Even so, older, poorly performing UK plants will still have to invest to keep up with the efficiencies of newer facilities overseas.

The government should also hypothecate ETS revenues, recycling them to support industrial decarbonisation. The EU ETS dedicates a share of its receipts to a €40 billion [Innovation Fund](#) which supports innovation across a range of sectors. But, in the UK, the Treasury retains all ETS revenues, making the scheme a harder sell to industrial emitters.

Carbon pricing is just one lever

Even with reform, there's only so much that carbon pricing can and should do to encourage low carbon industry. Where companies are struggling with high energy prices, those should be addressed through energy policy and not the ETS. For gas prices, for instance, a support mechanism is needed for gas intensive firms that could kick in when prices are particularly high. This could be very targeted, and it would cost the government less than scrapping the ETS.

For companies to want to invest in lower carbon technologies, upfront capital costs must be overcome with loans or grants, and markets need to be stimulated for lower carbon goods and services.

Carbon pricing plays an important role in preparing industry for a lower carbon future, but it cannot be the only driver of the industrial transition. Reforming the UK ETS, linking it to the EU ETS and recycling revenues is a more credible and effective path than abandoning it.

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Endnote

¹ This figure is based on the assumption that all CO₂ emitted from the site arises from gas consumption, and that the site is converting gas to CO₂ at standard combustion emissions rates, see: Department for Energy Security and Net Zero (DESNZ) 'Greenhouse gas reporting: conversion factors 2024'. Since the Mossmorran ethylene plant runs on ethane and natural gas, this is a reasonable assumption. It is also assumed that the prices the site buys gas at the market rate in the UK, as per DESNZ figures for International non-domestic energy prices. A projection for 2024

industrial gas prices in the US was made using the trends observed by the US Energy Information Administration.