

# A TALE OF TWO PRICES

What higher energy costs and the ETS price mean for a just transition

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# A tale of two prices: What higher energy costs and the ETS price mean for a just transition

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## Summary

A steep rise in energy prices is currently making news headlines across Europe, with the costs of natural gas and electricity being keenly felt by consumers and industry. Moving away from the news cycle though, the underlying forces at work behind these increases are complex and nuanced. They are also intertwined with the various EU mechanisms being employed to help it become carbon neutral, such as the emissions trading system (ETS), the focus of this paper.

Through the analysis presented here, the key takeaway messages can be summarised as:

- Carbon, electricity and energy prices are interrelated but also have their own dynamics. The ETS price has been gradually rising since 2017 to reflect climate policy fundamentals while energy (i.e. natural gas) markets face an economic shock.
- Energy prices faced by consumers and industry are determined by many factors of which carbon is only a minor one.
- Distributional impacts for citizens should be managed, and ETS auction revenues provide member states with the funds to do so
- The ETS price supports investments in the decarbonisation of the energy system.

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The EU's carbon price in its emissions trading system (EU ETS) reached €62 per tonne in September 2021. This ETS price is slightly over three times higher than in March 2020, when pandemic panic gripped global markets. However, compared to 2008, the price of an ETS allowance (European Union Allowance – EUA), then at an inflation-adjusted level of €35, has to date not yet doubled (see figure 1). In the decade following 2009, the EU's economy expanded by 16%, stock market indices such as the DAX30 or CAC40 tripled while the EUA price reached as low as €2.90 by 2015.

Whether carbon prices are low or high thus depends on the timeframe examined and perceptions about the role of carbon pricing in the economy. Appraisals of the ETS price always therefore remain normative and political.

Nevertheless, the trends in the carbon and energy markets are different, even if partially overlapping. The ETS price has been steadily increasing since 2017 – only interrupted by the pandemic –, reflecting long-term climate policy fundamentals. The gas market, however, is experiencing a supply shock, one that is the opposite to the pandemic-induced shock of spring 2020. Global gas demand is also higher, reflecting the rebounding economy. The gas price, furthermore, started its steep upward trajectory in late May 2020, while the ETS price has been appreciating for longer, but more gradually.

Figure 1. EUA price 2008-2021 (DEC21 ICE Future – not inflation-corrected; volume below)



Source: [Barchart.com](https://www.barchart.com).

## Why the EU has a carbon price signal

The current situation of high energy prices is the result of the interaction of four markets: gas, coal, electricity and ETS allowances. This creates dynamics that are difficult to predict, now as well as in the future. In 2020, Europe had record low gas prices (see figure 2).

Figure 2. Natural gas price (USD/MMBtu), last 5 years



Source: [Trading Economics](#).

The ETS price is both affected by wider energy prices and it, in turn, affects them. The carbon price is undoubtedly influenced by the high price for natural gas now. The natural gas price affects the fuel switching level between coal and gas. With high gas prices, the carbon price level which drives fuel switching also increases, as more European Union Allowances (EUAs) are demanded to cover the CO<sub>2</sub> emissions from increased coal use in the power mix. This does not mean that a carbon price below the level that triggers fuel-switching is ineffective at promoting emissions reductions. Quite the contrary. The current continued use of gas for electricity generation is good for the climate. In the absence of a carbon price – or with reduced scarcity or credibility in the carbon market –, the use of coal would be far higher.

A carbon price signal, no matter how high or low, will primarily act as a disincentive for carbon-intensive production, whether in electricity or industry<sup>1</sup>. The exact impact depends on the efficiency and economics of individual sites, which vary considerably. But beyond this disincentive effect, the carbon price can also be an incentive to invest in low-carbon production such as renewables. For electricity producers, an increased carbon price makes it more attractive to invest in renewables not just to avoid carbon costs, but also because wholesale electricity prices increase with higher carbon prices, thereby raising their revenues/incomes. In the longer term, more renewables can also benefit electricity consumers' bank balances:

<sup>1</sup> The role of the ETS price signal is reviewed in more detail in the [following CEPS Policy Brief](#).

renewables such as solar-PV and wind have 'zero marginal costs'. Once up and running, producing more energy with e.g., a wind turbine does not require extra input and therefore no extra costs, as is the case with fossil fuels.

It is true that increased energy prices – for electricity but also heating – can have adverse distributional impacts for some groups in society, whether citizens or industry. This creates macroeconomic effects and can pose significant political challenges, especially as citizens increasingly feel the impacts of higher energy prices. However, the composition of energy prices (for final consumers) comprises far more than carbon prices alone. The main cost factor by far is the commodity price itself, followed by taxes and the cost of regulation, both imposed by governments. European Commission First Vice President Timmermans [attributes](#) only a fifth of the rise in energy prices to the carbon price.

In fact, one could also argue that the high energy prices faced by households should be a reason for member states to redouble their efforts to deploy more renewables by addressing the real bottlenecks related to permits, land-use and assorted 'NIMBY-isms'. The economics does not deter renewables deployment; witness the International Energy Agency (IEA) saying in its 2020 World Energy Outlook that solar PV energy is the cheapest electricity source in history.<sup>2</sup> Increased renewables capacity can also support the electrification of heating. The cheap electricity from renewables combined with increased electrification could therefore benefit consumers in the future, even if today they are paying more for public support to deploy these technologies.

### Cui bono? One word: Treasuries

It is often overlooked that higher ETS prices also increase the auction revenues for member state governments with which they can defray the costs for citizens. These auction revenues are not small pocket change: for 2021, the cap on emissions in the ETS is 1.57 billion. At the current carbon price level of €62 this makes the EU's carbon market a nearly €100 billion per annum market. Around €55 billion in revenues are collected annually by national treasuries via auctions.

The Spanish government announced on 14 September to use €900 million in auction revenues to compensate households for rocketing energy prices. This is in line with the ETS Directive's suggested use of auction revenues, which supports "financial support in order to address social aspects in lower- and middle-income households"<sup>3</sup>. For electro-intensive industries, EU state aid guidelines have long permitted aid to be granted to safeguard the competitiveness of these industries (e.g., aluminium producers – the price of aluminium has also recently increased). In addition, hundreds of millions of allowances<sup>4</sup> (worth over €40 billion) are given to industry for free every year, essentially to mitigate the risk of carbon leakage.

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<sup>2</sup> See <https://www.iea.org/reports/world-energy-outlook-2020/outlook-for-electricity>.

<sup>3</sup> See Art. 10 (3h) of the consolidated EU ETS Directive.

<sup>4</sup> A small percentage of EUAs are also set aside to create funds such as the Innovation Fund and Modernisation Fund.

Whether this transfer from EU taxpayers to industry is desirable is up to EU legislators to determine when agreeing on the proposed Fit-for-55 legislative package, a major component of the EU's Green Deal. With the social impacts of energy prices becoming more critical in some member states, the relative treatment of regular citizens *vis-à-vis* industry may have to be re-examined. The proposed extension<sup>5</sup> of the EU ETS to fuel for road transport and heating, which directly affects households' energy costs, makes this yet more important<sup>6</sup>.

In the context of the Fit-for-55 package, some further impacts on the ETS price could be foreseen. Some member states, as well as the Commission itself<sup>7</sup>, make use (or plan to make use) of subsidies based on the carbon price – so-called carbon contracts for difference<sup>8</sup>. For these subsidies, a strike price<sup>9</sup> is agreed so that a given investment becomes profitable. The subsidy then consists of the difference between the agreed strike price and the ETS price. With the ETS price increasing, the expenditure for such subsidies can decrease, reducing government subsidies, or the number of projects supported can increase.

## Conclusion: Whither markets?

Well-functioning markets for electricity or carbon have not always been a given. The EU ETS is by now a more credible, better functioning market with the 2018 introduction of the supply mechanism – the market stability reserve – as well as the political consensus on the higher 2030 and 2050 climate targets.

The energy price environment may rapidly change again, as commodity markets are wont to do so. This does not do away with the need to examine the distributional impacts of the price signals that these markets deliver. While the impacts on some groups in society may be detrimental, there may nevertheless be positive impacts for others, or indeed, for society and the environment in the longer term, regardless of short-term pain. The counterfactual proposition – no markets and price signals for electricity, energy, and carbon – should therefore not be pursued but at the same time, should not be ignored as part of this debate. The trends we're seeing today do not mean that the markets are not functioning, and that intervention is necessary, even as some policymakers may be tempted to argue for this in the coming months. Rather, the 'just transition' dimension of the Green Deal and Fit-for-55 package will need to be treated as the critical core issue it is and not just as an afterthought with merely some tinkering on the margins.

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<sup>5</sup> See Art. 30 of the [proposal](#) for a revision of the EU ETS Directive.

<sup>6</sup> See <https://www.ceps.eu/fit-for-55-is-the-european-green-deal-really-leaving-no-one-behind/>.

<sup>7</sup> Via the ETS Innovation Fund.

<sup>8</sup> Regular contracts for differences (CFDs) also exist in electricity markets. With these CFDs, the strike price determines the electricity price for generators by paying the difference with the wholesale electricity price as a subsidy. As the carbon price pushes the wholesale electricity price up, the subsidy payments decrease.

<sup>9</sup> The strike price will be agreed between the regulator and the investor and will be roughly equal to the abatement costs, i.e. the costs to reduce a tonne of greenhouse gas emissions at the production site (e.g., a cement or steel production facility).