

Carbon Markets: Another frontier for finance*

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Carbon prices in the European Union (EU), or the value of one unit of an EU allowance (EUA) that gives the holder the right to emit one tonne of carbon dioxide (or its equivalent of other greenhouse gasses), are soaring. From 33.69 euros per tonne at the beginning of the year, the prices of EUAs traded through the EU's emission trading system (ETS) had risen to a high of 62.75 euros on September 9, or by more than 80 per cent.

Since the ETS was created to generate market-driven price signals that would influence the volume of emissions by firms, a rise in market prices should be welcomed as it would trigger emissions reduction. Combining that with lower caps on total emissions, it is argued, would help move in the direction of goals for emission reduction being set as part of an effort to keep global warming below 2°C and as close to 1.5°C as possible. If permits to pollute are more expensive, it would make business sense to reduce emission levels, by investing in emission reducing technologies and processes and exiting from emission-intensive sectors.

Based on this perspective, a strong market-mediated component as an instrument to curb emissions and limit global warming has been embraced by many governments. High carbon prices in that market are seen as needed to trigger the necessary investments in carbon saving technologies and the transition out of carbon-intensive sectors. In fact, an international carbon-pricing commission chaired by Nicholas Stern and Joseph Stiglitz had argued in 2017 that even with substantially enhanced carbon emission reduction efforts, the social cost of carbon in 2030 would be closer to \$100 a tonne of CO₂ equivalent, as opposed to the \$50 estimate that came from the Obama administration. Putting carbon prices on a trajectory that takes them close to such an appropriate social cost of carbon emissions, triggering an adequate emission reduction response, would require limiting the supply of carbon allowances. If the ambition is right and allowances are reined in, the market can deliver the desired result, the argument went.

However, matters are not as simple as that. In practice, the prices of EUAs appear to be rising not only because of excess demand from those who would use these allowances to back their emissions, but because of the entry of financial firms wanting to play with this new commodity—carbon—and the tradable securities—carbon allowances—deriving from it. Looking to profit from an environment in which enhanced climate ambition is likely to lead to a significant lowering of the cap on the available number of EUAs, they expect the market to tighten and prices to rise into the future. These players—energy traders, hedge fund managers, and banks such as Morgan Stanley, Goldman Sachs and JPMorgan—have been in the carbon market for long, often moving in when prices tended to rise and pulling out when prices fell. But the prospect of a tightening of emission regulations has heightened investor interest. Financial investors are betting on prices rising in the medium and longer term and rushing into the carbon market, pushing up prices even though the current demand-supply balance at the level of actual user firms is not one that would deliver a spike. Once they enter, the spiral of speculation unfolds. Thus, in August 2020 the New York Stock Exchange launched a carbon derivative, the KFA Global Carbon ETF, an exchange-traded fund that aims to track the performance of the world's three most

liquid markets for carbon credits. Increasingly the activity of these speculative players, rather than carbon credit demands from emitting firms, is the determining influence on the price of carbon allowances.

In fact, for some time now, the situation in the EU carbon market was on one of excess supply, which kept carbon prices low. Surpluses began accumulating after 2009 because of the recession that followed the Global Financial Crisis. That had brought prices down. The surplus amounted to around 2 billion allowances at the start of Phase 3 of the EU ETS that was to stretch from 2013 to 2020. The problem of excess supply has plagued carbon trading regimes since their inception. Carbon trading was launched following the signing of the Kyoto Protocol, which required emission curtailment commitments on the part of the developed countries that could partly be met by acquisition at a cost of Certified Emission Reductions (CERs) generated through projects funded in developing countries under the Clean Development Mechanism (CDM). But factors that undermined the role of carbon trading as an instrument for emissions control were the excessive offsets permitted and the ease of generation of carbon credits because of inadequate verification of their quality. The result was an oversupply of CERs reflected in the low prices of carbon credits. A UN high level panel examining the performance of the CDM in 2012 concluded that it had near collapsed. This meant that the carbon market could not play the role it was expected to.

Confronted with a similar problem afflicting the ETS in 2013, the European Commission decided to hold back the flow of allowances into the system by “backloading” the issue of new allowances, or reducing annual issues during 2014-2016, by postponing the scheduled issue of 900 million allowances to 2019-20. In 2019, the Commission set up a market stability reserve to which a rule-determined number of surplus allowances were transferred, some of which were to be eventually withdrawn if the surplus crossed a certain threshold. Managing the EUA surplus to make ETS effective was the main concern of those overseeing the regime. However, the situation of excess supply was only aggravated by the production declines and demand recession that followed the onset of the COVID-19 pandemic.

Given this background, the sharp increase in prices during 2021 is indeed surprising. As noted, one explanation seems to be the role of financial investors, soaking in cheap liquidity, who have discovered and rushed into this new ‘commodity’ or alternative asset. The role of these investors in driving prices is also indicated by the fact that the prices of carbon credits have been rising also in other jurisdictions outside the EU, where emission reduction ambition falls short of that in the EU, and where the rules governing carbon markets are not as compelling. The World Bank reports on 29 ETS initiatives covering 38 national and 29 subnational jurisdictions. There is no ‘global’ carbon market, but only regional, national, or subnational markets.

But the ETS, established in 2005, is the most developed of these markets and the test case. All EU countries and Iceland, Liechtenstein and Norway participate in the ETS, which accounts for close to 90 per cent of the global carbon market valued at Eur229 billion (\$272 billion) in 2020 by Refinitiv. The ETS also accounts for an overwhelming share of the 10.3 billion allowances traded globally. The rules that apply under the ETS are tightened across phases, with the fourth such phase having begun in 2021. Tightening involves hastening the pace of reductions in permitted emissions, increasing the share of allowances available at a price determined in

auctions rather than free of cost, and raising the penalty for non-compliance (specified in dollars per tonne of carbon equivalent). In the fourth phase of the EU ETS, beginning this year and stretching to 2028, the total number of emission allowances will decrease at an annual rate of 2.2 per cent, compared to 1.74 per cent during the period 2013-2020. This is seen as in keeping with the July 2021 decision of the European Commission to legislatively bind itself to achieving net zero emissions in 2050, with an intermediate target of an at least 55 per cent net reduction in greenhouse gas emissions by 2030. To realise the latter, the sectors covered by the ETS must reduce their emissions by 43 per cent compared to 2005 levels.

It is this ambition that has whetted the appetite of financial investors, as they expect the heightened emission reduction commitment to support an increase in EUA prices. Their intervention amplifies that price increase. It could be argued that by raising EUA prices, speculators play a positive role. But there are two problems here. First, financial investor presence increases price volatility, to a far greater degree than results from changing production and emission levels associated with the business cycle. Periods of recession see a decline in demand for permits and a fall in prices. And demand for EUAs spikes in buoyant economies, raising prices. Superimposed on this 'fundamental' volatility is the volatility which results from the speculative forays of financial investors. Such speculation induced volatility is hardly suited to a smooth market-led transition to a climate-friendly economic structure. Carbon prices that trigger a switch out of coal, say, could subsequently fall to levels where from a pure profit maximisation perspective the switch may appear completely unwarranted. What such uncertainty would do to business decisions is unclear.

Second, with widely different emission reduction targets and the uneven spread of regulatory carbon trading systems across jurisdictions, businesses in some locations would face greater pressure to transition to high-cost technologies and processes that reduce emissions or shift out of carbon intensive sources of energy supply. European businesses, for example, may find the asks they face much more stringent than their global competitors, leading to them being outcompeted by imports. However, the push-back from the profit-driven private sector can trigger responses that could be destabilising. One example of this is the EU decision to institute the carbon border adjustment mechanism (CBAM), which, starting 2026, would impose levies linked to the level of EU carbon prices on imports of steel, aluminium, fertiliser and cement seen as originating from factories that do not meet EU emission standards. The initiative threatens to trigger a trade war, with many nations exporting to the EU raising objections, despite the EU's claims that the levy is not a protective tariff against a nation but a penalty imposed on individual polluting firms.

The fundamental problem lies in the position that in an increasingly integrated world of nation states with different laws and rules, carbon markets and the prices they throw up can be expected to incentivise profit-seeking firms to smoothly transit to climate friendly technologies and sectors. That is a difficult ask in itself given the fundamental instability of market economies. If in addition, carbon markets are allowed to be distorted by speculative investors who expect to reap profits by out-guessing rivals, volatility and uncertainty are likely to inflict much collateral damage even when the objectives with which those markets were created remain unrealised.

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