TRADING

Carbon markets to surge in 2020

The drive to decarbonise is seeing carbon trading and pricing schemes develop across the globe. *Nnamdi Anyadike* takes a closer look at what is happening in the UK, Europe, the US and China.

Carbon trading schemes are emerging all over the world as governments try to meet their various greenhouse gas (GHG) emissions reduction targets. Indeed, even OPEC kingpin Saudi Arabia, the world's largest exporter of crude oil, has announced plans to launch a carbon trading scheme.

Most recently, on the sidelines of the December 2019 United Nations Climate Change Conference (COP25) in Madrid (see **bit.ly/EW_Feb_Carbon**), discussions under the moderation of Stefano De Clara, Director of International Policy, International Emissions Trading Association (IETA), considered the effectiveness of current climate pricing schemes. So far, a total of 57 national governments around the world have implemented or scheduled emissions trading schemes (ETSs) or carbon taxes. The most significant include:

Carbon trading schemes are developing across the globe as governments strive to meet greenhouse gas emissions reduction targets
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- China, which is expected to launch a national ETS this year. This follows several pilot schemes in provinces and cities including Beijing, Chongqing, Guangdong, Hunan, Shanghai, Shenzhen and Tianjin.
- The European Union (EU) has the world's largest ETS, which is mandatory for all 28 EU members, plus Iceland, Liechtenstein and Norway.
- South Korea's scheme covers around 70% of the country's annual emissions.
- The US does not have a national ETS, but many regions and states, such as California, use carbon pricing, under the Regional Greenhouse Gas Initiative (RGGI).

One COP25 success was the Partnership for Market Implementation (PMI), unveiled by the World Bank and country partners including Canada, Chile, Germany, Japan, Norway, Spain and the UK. The PMI will provide technical assistance to countries to design, pilot and implement carbon pricing and market instruments. It will also support the implementation of carbon pricing in developing countries.

Post-Brexit UK carbon price anxiety

However, in the UK there is a growing fear among energy companies that carbon pricing mechanisms may be one of the casualties in a post-Brexit world. At the end of 2019, energy companies Orsted, SSE and Drax, together with non-profit climate change think-tank Sandbag, wrote to UK Chancellor of the Exchequer Sajid Javid and urged him to 'maintain the UK's robust approach on carbon pricing'. The letter, which praises the Powering Past Coal Alliance and net zero commitment, says: 'Providing certainty and stability is crucial when the government sets the carbon price support (CPS) rate for April 2021 and beyond.'

The CPS for full year April 2019–April 2020 is £18, and has already been set at the same rate for the 2020–2021 period. However, it is yet to be set for 2021–2022, which would begin in April 2021, just four months after the UK finishes its implementation period with the EU. And this is where there is some concern, with the companies worried that the UK government may reduce its rate to assist energy intensive industry in the wake of Brexit. They are calling on the UK to continue to show that it is committed to reducing emissions ahead of the COP26 meeting in Glasgow in November 2020.

'Robust carbon pricing is one of the most effective tools to enable a zero carbon, lower cost energy future and it's vital that the UK government continues to support it so we can meet our Paris Agreement climate targets. Since the carbon floor price was introduced in the UK in 2013, coal use has fallen by around 80% and capacity from renewables

Carbon trading defined

- ***Carbon emissions trading*** – a form of emissions trading that specifically targets carbon dioxide (CO_2). It is a trade that has become a common method for countries to meet their obligations specified by the Kyoto Protocol, namely the reduction of carbon emissions. It currently constitutes the bulk of emissions trading.
- ***Carbon pricing*** – an instrument that captures the external costs of greenhouse gas (GHG) emissions and ties them to their sources through a price, usually in the form of a price on the CO_2 emitted.
- ***Emissions trading***, also known as ***cap-and-trade*** – a market-based approach to controlling pollution by providing economic incentives for achieving reductions in the emissions of pollutants. The EU emissions trading system (EU ETS) is a cornerstone of the EU's policy to combat climate change and its key tool for reducing GHG emissions.
- ***Carbon price*** – a cost applied to carbon pollution to encourage polluters to reduce the amount of GHGs they emit into the atmosphere. A carbon price is widely seen to be the single most effective way for countries to reduce their emissions.
- ***Carbon emissions tax (CET)*** – a tax levied on the carbon content of fuels (transport and energy sector). Like carbon emissions trading, it is a form of carbon pricing.
- ***Carbon price support (CPS)*** or ***carbon price floor*** – designed to reduce GHG emissions from electricity generation in the UK, this first appeared in UK Chancellor of the Exchequer George Osborne's budget speech in March 2011. It is essentially a top-up tax to bolster the existing EU price of carbon.
- ***Carbon offsetting*** – the reduction in emissions of CO_2 or other GHGs made in order to compensate for emissions made elsewhere. Offsets are measured in tonnes of carbon dioxide-equivalent (CO_2eq).

has more than tripled,' a Drax spokesperson said.

There is a further concern surrounding the carbon emissions tax (CET) rate for 2020, should the UK leave the EU without a deal. This will replace the EU ETS in the event of no deal. It has been set at £16/t for 2019, compared to today's EU price of above £22/t. The letter warns that in order to minimise the potential divergence between the CET and the EU ETS over 2020, 'it is vital that the CET is set at a level for 2020 that is comparable with recent EU ETS pricing'. As an EU member, the UK represented about 10% of the EU ETS compliance market.

EU ETS eyes bullish 2020

The EU market concluded 2019 in bullish mode ahead of the final part of Phase III of the EU's ETS. The prices of EU allowances hovered at around €25 (£21; $28), in marked contrast to previous years. In 2016 the EU ETS closed at €6.57 and in 2018 it opened at less than €10/t.

Given the market's strength in 2019, the consensus opinion is that there is no reason to believe this isn't going to continue in 2020. Phase IV of the EU ETS is scheduled to begin in 2021 and is expected to run to 2030.

Although a recent S&P Global report predicts a period of weakness in EU carbon allowance prices in early 2020, it believes they could rise later in the year as supply cuts continue. 'The downside risk in the next few months is pretty heavy. And, of course, a lot will depend on a potential recovery in gas prices at some point next year,' says Jeff Berman, Director of Emissions and Clean Energy at S&P Global Platts Analytics.

California holds 2020 auction

At the time of writing, the California and Quebec Western Climate Initiative (WCI) linked cap-and-trade programmes were scheduled to hold a joint GHG allowance auction on 19 February. A total of 57,090,077 allowances were to be offered for sale under the 'current auction', with 8,672,250 offered under the 'advance auction'. The California annual auction reserve price was US$16.68 for both the current auction and advance auctions, while the Quebec annual auction reserve price was C$16.34 for both the current and advance auctions (1 US$= 1.31 C$). Participants submit bids (each bid lot equal to 1,000 allowances) manually and can upload bid schedules during the bidding window.

One criticism of the WCI programme is that it has been skewed slightly since the departure of the Canadian province of Ontario in July 2018. It has also been rocked by legal action issued against it and the state of California in October 2019 by the US federal government. The filing argues that the linkage with Quebec is an international treaty, which cannot be enacted independently by a state. The case is ongoing. David McCullough, Partner at Eversheds Sutherland, told Environmental-Finance.com: 'There's a lot of time for it to play out, at least three years if not more when you factor in appeals to the district court and the 9th Circuit, and possibly ending up in the Supreme Court... at this time we don't think it has much likelihood of success.'

Meanwhile, Randy Lack, Founder and Chief Marketing Officer at Element Markets, added that the market in the US is being characterised by new money. 'We've seen several entities enter the market, searching for yield. We saw in the middle of the year [2019] a big run-up in pricing, we've seen it pull back towards the end of the year, but we think that that has volatility as normal, and we are certainly expecting a strong year in 2020.'

In the north-eastern US, the Regional Greenhouse Gas Initiative (RGGI) – the US mandatory market based programme to reduce GHG emissions – has been buoyed by the planned re-entry of New Jersey into the scheme from 2020, and perhaps even more notably Pennsylvania, the US's third biggest coal producing state, agreeing to join in October 2019. From January to November 2019 the price per tonne of CO_2 emissions in the RGGI was always in the region of $5–6.

China's ETS set to come onboard

China's much delayed national cap-and-trade market that was originally expected in 2017, should be launched this year. It will be by far the world's largest national carbon trading scheme, covering a quarter of global CO_2 emissions. However, it will face challenges. One of the biggest will be successfully transitioning from the country's more limited, provincial pilot programmes to a fully fledged national ETS. This is in part because the pilot programmes were implemented with key variations based on the economy and size of each province.

There are also unanswered questions with respect to China's national ETS carbon price. In its seven regional carbon trading pilot projects, the price range was between $1–9/t. This compares to the EU ETS carbon price of $16/t and this year's California auction reserve carbon price of $16.68/t. However, Jiang Zhaoli, Deputy Head of the National Development Reform Commission's (NDRC) climate change department, believes that companies will not feel real pressure to cut emissions until the carbon price hits $31–47/t. This is not expected to happen until after 2020.

A growing number of company start-ups are moving in to the carbon offset space
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Carbon offset start-ups

A growing number of start-ups like Project Wren (**www.projectwren.com**), Pachama (**www.pachama.com**) and Cloverly (**www.cloverly.com**) are moving in to the carbon offset space.

Wren is a subscription service web app that allows users to understand and then offset their carbon footprint, if they are unable to reduce them.

Cloverly provides a service platform that enables carbon offsets to be made for everyday activities like ecommerce deliveries and ridesharing. It can be integrated directly into the checkout experience as customers have the option of paying a little extra to offset their carbon footprint. Cloverly will also purchase wind or solar energy credits on customers' behalf.

Meanwhile, Pachama was launched to support global reforestation through carbon markets. It claims to have raised $4.1mn so far to create a marketplace where companies can support carbon offset projects. The company currently has 23 forest projects – three in the Amazon rainforest in Brazil and Peru, and projects in the US in California, Vermont, New Jersey, Connecticut and Maine.

Market outlook

A recent report on the global activated carbon market projects a compound annual growth rate (CAGR) of 9.1% to 2025. This will bring its valuation to $10.73bn, up from $5.41bn in 2017.

But as the report makes clear, one of the most obvious solutions to tackling GHG emissions – namely establishing a global carbon market – is also proving to be one of the most difficult for the international community to agree on.

In its stead, the growing collection of regional schemes combined with technology start-ups like Project Wren, Pachama and Cloverly are providing some hope. World Bank data shows that countries raised about $44bn in revenues from carbon pricing in 2018, an increase of $11bn. More than half came from carbon taxes.