

Financial institutions:

The ligaments of carbon markets

Much like a body's ligaments, financial institutions play an important role in connecting buyers with sellers, and can support the rapid growth of carbon markets that many now predict, say **Anya Nelson** and **Martin Berg**

IETA and the University of Maryland (UMD) estimate that if Parties to the Paris Agreement work cooperatively under an international mechanism such as Article 6 and engage in emissions trading to reach net-zero emissions, then the carbon markets could facilitate transactions of approximately \$1 trillion per year by 2050.¹ These transactions would lead to significant emission reductions and, depending on the type of projects, support for local communities, sustainable development, conservation and restoration and renewable energies, in addition to a huge redistribution of capital across regions from buyers to sellers.

However, looking at today's fragmented carbon markets, we are currently far from this. There are regional compliance carbon markets, valued at \$272 billion in 2020², and voluntary carbon markets, which although growing (from \$146 million just four years ago and on track to exceed \$1 billion this year³), still have a long way to go.

To reach \$1 trillion of transactions per year, this huge volume of capital flows will require more carbon market regulations and infrastructure to support it, alongside a robust and efficient financial system to support it.

Financial institutions such as commercial banks, investment banks, investment managers, exchanges, and brokerage firms play a critical role in society: they act as facilitators and intermediators, transfer risks, create liquidity and transparency, and build capacity. Their role in carbon markets should be no different. These core functions will help transition voluntary

carbon markets currently characterised by opaque over-the-counter (OTC) trades to a widely accessible liquid and transparent market with fair pricing.

Whilst some compliance markets have been liquid and transparent for many years, the huge surge in carbon trading activity that is expected to come from increasing regulation will create many opportunities for financial institutions. How the financial sector reacts to this increased activity will ultimately lay the foundations for a functioning Article 6 market, when carbon markets are no longer fractured and siloed.

There is a plethora of roles for the financial sector in both compliance and voluntary carbon markets, with brokers, banks, and institutional investors visible across the carbon credit creation process – from project development to secondary trading.

Financial institutions as facilitators and intermediators

COMPLIANCE MARKETS

Within compliance markets, carbon is traded like any other commodity. Brokers, traders and banks with carbon trading desks act as intermediaries between buyers and sellers and facilitate trading. These trading desks were prevalent in the early 2000s with Phase 1 of the EU Emissions Trading Scheme (ETS) and as the Kyoto Protocol's Clean Development Mechanism (CDM) took off. However, from 2012 onwards, with low prices in the EU ETS, the demise of the CDM and the end of the Kyoto Protocol era, many banks dramatically reduced their carbon trading operations, shifting activity from banks to other trading houses.

However, in the current Paris Agreement era, banks are beginning to redevelop this functionality and rebuilding their expertise, and are consequently taking a large and increasing share of compliance market trading.⁴ Global carbon markets have seen an influx of financial players in recent months, from California to New Zealand, which have driven prices to record highs.

The huge surge in carbon trading activity that is expected to come from increasing regulation will create many opportunities for financial institutions

[1] Assuming rising marginal abatement costs and an increase in the global carbon price to \$620/tCO₂e by 2050. Source: IETA & University of Maryland, The Potential Role of Article 6 Compatible Carbon Markets in Reaching Net-Zero, October 2021 [2] S&P Global Platts, Global carbon market grows 20% to \$272 billion in 2020, 27 January 2021 [3] Ecosystem Marketplace, State of the Voluntary Carbon Markets, September 2021 [4] Johanna Cludius and Regina Betz, The Role of Banks in EU Emissions Trading, The Energy Journal, International Association for Energy Economics, vol. 01(Number 2), pages 275-300, 2020.

FACILITATORS / INTERMEDIARIES	LIQUIDITY PROVIDERS	TRANSFERRING RISKS	CAPACITY BUILDING
INVESTORS / ASSET MANAGERS			
COMMERCIAL BANKS / INVESTMENT BANKS			
TRADERS			
BROKERS			
	EXCHANGES		

VOLUNTARY MARKETS

The pricing of voluntary carbon credits is currently much more complex than that of compliance carbon credits; the frequent and liquid trading of compliance markets means prices are based on the dynamics of supply-and-demand.

There is currently no liquid market for voluntary carbon credits and there are very few transparent reference points to allow a buyer to differentiate between quality and risk of various projects and ascertain a price – although there are efforts such as S&P Platts’ weekly assessments and standardised contracts on CBL, amid thin volumes though. Voluntary carbon credits are not homogenous goods and valuing them is more like valuing a house – with factors such as preferences over location, scarcity and quality indicators such as additionality, permanence, leakage, co-benefits, and other vernacular that many buyers do not understand, making price discovery very difficult.

This complexity means that costs and perceived risk can be too high for buyers to enter the market. For example, building a team of carbon market specialists to source and execute on transactions will incur significant costs and/or take employees away from their day jobs.

There are many issues on the supply side too. Carbon prices are currently too low for many projects to be viable (ie, nature-based solutions, technology or engineered solutions). Carbon project developers lack access to finance to develop projects because of market opacity and low investor risk appetite. Furthermore, they lack the capacity to efficiently market their credits to multiple buyers.

Financial institutions have an important role to play in reducing these frictions for both buyers and sellers. Given the largest buyers of voluntary carbon credits are corporates, banks and asset managers have far greater access to and knowledge of potential buyers than project developers, creating a more efficient matching process between buyers and sellers. Experienced asset managers, brokers, or trading desks at large banks can help facilitate price discovery and reduce the need for companies to develop specialist “in house” expertise. In addition, pooling resources from multiple buyers or multiple sellers can create economies of scale and reduce transaction costs on both sides.

Then there are those institutions that can provide finance, including asset managers, banks, and investment banks. These actors can source and originate deals, providing the much-needed capital to scale the market through sophisticated financial instruments which buyers may not be able to structure themselves.

However, the nascency of the market and the current inconsistency of demand is acting as a barrier. As corporates continue to refine and begin to execute on their decarbonisation and net zero strategies, demand signals for voluntary carbon credits will become clearer and more structured, allowing financial institutions to invest in and scale their carbon operations, and provide this vital service of facilitating and intermediating transactions.

There is a plethora of roles for the financial sector in both compliance and voluntary carbon markets, from project development to secondary trading

Financial institutions as liquidity providers

COMPLIANCE MARKETS

Liquidity and transparency are necessary for efficient trading – discovering price, reducing costs and volatility. In addition to acting as intermediaries, exchanges, brokers and banks’ carbon trading desks act as market-makers that can trade on their own account to increase market liquidity.

VOLUNTARY MARKETS

One of the key issues identified by the Taskforce for Scaling the Voluntary Carbon Markets (TSVCM) is the lack of efficient trading with illiquidity in the voluntary carbon market. This is largely because of the heterogeneity of carbon credits and the discrepancies in pricing as outlined earlier.

Banks' low cost of capital and ability to use their own balance sheet allows for the design of sophisticated products which aim to reduce risks for buyers

However, efforts are being made to overcome this. Earlier this year, NatWest, NAB, CIBC and Itaú Unibanco formed Project Carbon – a marketplace for voluntary carbon credits with the hope of supporting price discovery. Similarly, CIX, supported by several financial institutions including DBS Bank, Standard Chartered, and Singapore Exchange, recently held an auction to create a competitive price discovery mechanism.

As these initiatives and pilots are expanded and others appear and are made more widely available, we are likely to see a much greater frequency of trading and market liquidity, which will lead to pricing transparency and reduced volatility for both buyers and sellers.

Financial institutions' role in transferring risks

COMPLIANCE MARKETS

Financial institutions play an important role in facilitating effective compliance markets. Banks' low cost of capital and ability to use their own balance sheet allows for the design of sophisticated products which aim to reduce risks for buyers.

For example, EU ETS auctions are conducted at spot pricing, but energy companies need to match their future electricity sales with forward EUA purchases – this creates a mismatch between spot supply and forward demand. Banks can alleviate this by forward selling carbon certificates whilst dynamically hedging their own exposure and minimising transaction costs and future price and supply risks for compliance buyers.

VOLUNTARY MARKETS

As mentioned above, CBL lists Global Emissions Offset Futures and Nature Based Global Emissions Offset Futures, however volumes are currently low. A liquid forward market could help companies to manage the carbon price risk associated with a decarbonisation strategy that includes voluntary offsetting.

Let's assume a company has residual unavoidable emissions of 1 million tCO₂e in 2030. Currently, that 1 million tCO₂e could cost them just over \$3 million⁵, but they don't need to offset 1 million tCO₂e right now. The company could be looking at a future liability of \$90 million if the price of carbon rises to the IETA/UMD estimate of \$90/tCO₂e in 2030⁶. As consensus over future carbon credit prices becomes clearer and trading becomes more liquid, financial institutions may have the opportunity to offer hedging and derivative products within the voluntary carbon market to manage these future price risks.

Financial institution's role in capacity building

Financial institutions do not just write cheques, they also write reports, analyse data, and synthesise market information in a way that the "layperson" buyer may not be able to do (or at least in a cost-efficient way). Educating stakeholders can help to remove frictions and reduce information asymmetries, leading to smoother market functioning.

Financial institutions can also provide finance and build capacity within ancillary services that support and innovate carbon markets. As GreenBiz recently wrote: "Carbontech is getting ready for its market moment."⁷ Financial institutions can supply seed or growth capital to these pioneering ventures that will become an integral part of the carbon markets.

Reaching a \$1 trillion market

Carbon markets are currently siloed, illiquid, opaque, and volatile. The decisions on Article 6 taken in Glasgow have the potential to change this and prompt the proliferation of carbon markets.

Voluntary carbon markets in particular have a long way to go before they reach efficiency and scale of compliance markets, let alone form part of a \$1 trillion market. And whilst activity from companies, project developers, and financial institutions is increasing, like everything climate-related, the pace of development of these functionalities will depend on market signals and regulation.

Should Article 6 be used by governments and corporates to link compliance markets and voluntary schemes into larger connected carbon markets, this will bring a huge amount of opportunity for asset managers, banks, brokers, exchanges, and other financial institutions to invest in the infrastructure to connect global carbon markets and achieve net zero.

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[5] Based on an average price of \$3.13 in 2021 from Ecosystem Marketplace's State of the Voluntary Carbon Market, 2021 [6] IETA & University of Maryland, The Potential Role of Article 6 Compatible Carbon Markets in Reaching Net-Zero, October 2021 [7] Greenbiz, Carbontech is getting ready for its market moment, 28 October 2020.



**2021
GREENHOUSE GAS
MARKET REPORT**

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