



Carbon Pricing

Why should investors care

Priti Shokeen,
Head of ESG Research
and Engagement

Hussein Allidina,
Managing Director and
Head of Commodities

John McHughan,
Senior Portfolio
Research Analyst

At a glance

- Economic growth, up until the last decade, happened without acknowledgement of environmental and social costs, better known as the externalities of doing business.
- As countries across the globe recognize the challenge of climate change, there is a growing recognition that putting a price on pollution or green house gas emissions is both important and necessary.
- At TD Asset Management Inc. (TDAM) we believe it is becoming increasingly important and valuable for investors to measure and hedge the carbon exposure in their portfolios.

There is a broad consensus that to limit the worst effects of climate change the world must limit global warming to 1.5 degrees, and to achieve this goal, the world must reach a state of net-zero Green House Gases (“GHGs”) by around 2050.¹ The scale and urgency of emissions reductions required to reach net-zero by 2050 means that governments across the world will further incentivize optimal economic activities through policy and regulatory measures. Economic growth, up until the last decade, happened without acknowledgement of environmental and social costs, better known as the externalities of doing business. There is a growing recognition that putting a price on industry generated GHG emissions is both important and necessary.

Mechanics of carbon pricing

Putting a price on carbon is viewed as one of the most effective measures to incentivize polluters to lower their GHG emissions. Carbon pricing currently exists or is planned in some capacity within 45 countries, including Canada, the European Union (EU), the United Kingdom (UK), and China, among many others.² In 2021, it was estimated that carbon pricing mechanisms covered some 22% of global GHG emissions. The Network for Greening the Financial System's (NGFS) Net Zero Scenarios estimate that carbon prices will need to rise to between \$100-\$200 USD per tonne of CO₂ by 2030, and upwards of \$600/t by 2050, in order to limit warming to 1.5 degrees Celsius in line with the goals of the Paris Agreement.³ For context, the current price of EUA carbon credits is about \$85 USD per tonne, at the time of writing.

In its most basic form, a carbon price places a cost on emitting GHG emissions. This cost can be implemented through a carbon tax, as seen federally in Canada, or through an Emissions Trading Scheme (ETS), often referred to as 'Cap and Trade,' as seen in Europe, California, and Quebec. The theory behind carbon pricing is rooted in traditional economics; as the price of a good increases, consumption decreases and as the price of emitting GHGs increases, polluters will be incentivized to pollute less.

The transition away from a carbon intensive economy can also take many forms. Some companies find lower carbon alternative sources of energy to power their business; other companies will invest in technology that ultimately lowers the amount they pollute, such as Carbon Capture and Storage (CCS); while end-users of products that get built through carbon-intensive processes shift their behaviours as costs get passed on to them.

Against this backdrop, the relative simplicity of carbon pricing and low cost of implementation for governments is seen as an advantage over other climate change abatement mechanisms. Crucially, any government revenue gained through a price on carbon can be redirected towards building long-term climate solutions.

Market-based regulations, such as carbon pricing, can be an effective tool for reducing emissions and mitigating climate change.

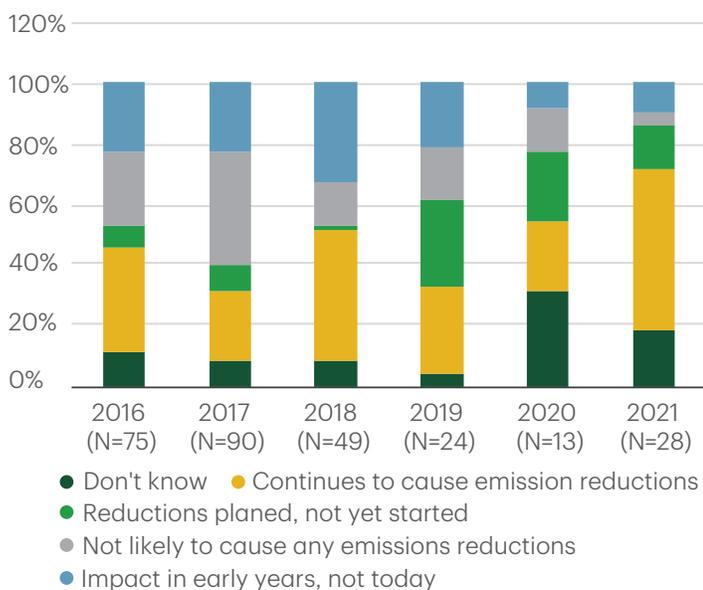
In its most basic form, a carbon price places a cost on emitting GHG emissions.

Carbon price

Why carbon pricing is an effective tool in reducing emissions

Evidence suggests that carbon pricing has been an effective policy tool at reducing GHG emissions in the EU. In Europe, companies regulated under the EU's Emission trading system (EU ETS) were incentivized to reduce emissions by an average of 8-12% when compared with companies not regulated by the EU ETS, including accounting for emissions that may have shifted to unregulated jurisdictions as a result.⁴

To what extent has the EU ETS caused your company to reduce emissions?



Source: REFINITIV. Data as of December 31, 2021.

Investing in cleaner production processes was the main pollution abatement tactic used by regulated businesses in the EU, rather than 'carbon leakage', or emissions simply shifting from one regulated jurisdiction to another, demonstrating that market-based regulations, such as carbon pricing, can be an effective tool for reducing emissions and mitigating climate change.

Other evidence demonstrates that the EU ETS has effectively saved 1.2 billion tons of carbon from reaching the atmosphere between 2008 and 2016.⁵ Revenues generated from the EU ETS primarily go back to EU member states, and at least 50% of the revenue must be

put towards other GHG emissions technologies, such as deploying renewable energy, increasing CCS capacity, and focusing on energy efficiency in buildings.

According to EU data, between 2018 and 2020 revenues from their EU ETS amounted to between €14-16 billion annually and on average member states spent 70% of their revenues on climate and energy related initiatives.⁶ Remaining proceeds from the EU ETS are put into an Innovation Fund and a Modernisation Fund, which go towards breakthrough technologies in the EU and modernizing the power sector in lower-income member states.

Carbon Credits vs. Carbon Offsets

Carbon credits and carbon offsets are different tools aimed at incentivizing emission reductions. Carbon credits tend to be representative of 'permission to emit carbon', often with a finite amount allocated out to a specific industry (e.g., EU ETS market), while a carbon offset refers to giving 'credit' for an activity that avoids or removes carbon from the atmosphere.

An offset can be classified as either "emissions avoided" (e.g., installing renewable energy asset) or "emissions removed" (e.g., planting a tree).

The future of carbon pricing in the EU

Through phase four of the EU ETS which spans 2021 through 2030, the overall number of emissions allowances afforded to industry will drop at a rate of 2.2% annually, up from the 1.7% prescribed in phase three.⁷ Additionally, in 2021 the European Commission introduced their 'Fit for 55' plan that is focused on reducing the EU's net GHGs by at least 55% by 2030, relative to 1990 levels.

As part of this plan, new legislation has been introduced that, if passed, will further strengthen the climate impact of the current ETS by setting more ambitious decarbonization pathways and expanding the scope to include new sectors.⁸ Under the new plan, the EU is exploring implementing a Carbon Border Adjustment Mechanism (CBAM), that would ultimately attempt to prevent relocating GHG emissions to jurisdictions without carbon pricing, through additional tariffs being placed on the import of those products.

What this means for investors

We think it is becoming increasingly important and valuable for investors to both measure and hedge the carbon exposure in their portfolios. Historically, carbon was an externality that few companies and even fewer investors had to concern themselves with. However, the proliferation of carbon programs (be it cap-and-trade or carbon taxes) and the expected increases in carbon prices in the future may, have an increasingly negative impact on companies and governments with a carbon footprint. We see value in calculating this footprint and mitigating the risk associated with higher carbon prices on equity and fixed income valuations by taking long exposure to carbon. ■

Connect with TD Asset Management



¹ IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp. <https://www.ipcc.ch/sr15/chapter/spm/>

² https://carbonpricingdashboard.worldbank.org/map_data

³ https://www.ngfs.net/sites/default/files/media/2021/08/27/ngfs_climate_scenarios_phase2_june2021.pdf

⁴ Does Pricing Carbon Mitigate Climate Change? Firm-Level Evidence from the European Union Emissions Trading Scheme https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4026889#

⁵ <https://www.pnas.org/doi/10.1073/pnas.1918128117>

⁶ https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_3542

⁷ https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/revision-phase-4-2021-2030_en

⁸ https://ec.europa.eu/clima/eu-action/european-green-deal/2030-climate-target-plan_en

The information contained herein has been provided by TD Asset Management Inc. and is for information purposes only. The information has been drawn from sources believed to be reliable. Graphs and charts are used for illustrative purposes only and do not reflect future values or future performance of any investment. The information does not provide financial, legal, tax or investment advice. Particular investment, tax, or trading strategies should be evaluated relative to each individual's objectives and risk tolerance. Certain statements in this document may contain forward-looking statements ("FLS") that are predictive in nature and may include words such as "expects", "anticipates", "intends", "believes", "estimates" and similar forward-looking expressions or negative versions thereof. FLS are based on current expectations and projections about future general economic, political and relevant market factors, such as interest and foreign exchange rates, equity and capital markets, the general business environment, assuming no changes to tax or other laws or government regulation or catastrophic events. Expectations and projections about future events are inherently subject to risks and uncertainties, which may be unforeseeable. Such expectations and projections may be incorrect in the future. FLS are not guarantees of future performance. Actual events could differ materially from those expressed or implied in any FLS. A number of important factors including those factors set out above can contribute to these digressions. You should avoid placing any reliance on FLS. TD Asset Management Inc. is a wholly-owned subsidiary of The Toronto-Dominion Bank. ©The TD logo and other TD trademarks are the property of The Toronto-Dominion Bank or its subsidiaries. (0522)