



NOTHING BUT NET ZERO

While skeptics assert voluntary carbon offsets are a questionable tool for fighting climate change, the global carbon credit market is enjoying a spike in popularity, setting the stage for its greater role in 21st-century business

BY JOHN LORINC

ILLUSTRATIONS BY SÉBASTIEN THIBAULT

IN

fiscal 2023, the Royal Bank of Canada reported that it had acquired 88,729 carbon credits (each the equivalent of a tonne of carbon dioxide), a figure that was fully 30 per cent higher than the banking giant's 2021 purchase. Those acquisitions, intended to offset a portion of RBC's emissions, represent but one element of the bank's sustainability program, which also includes power purchase agreements that allow RBC to claim it uses only renewable electricity and new disclosures about the amount of emissions resulting from its oil and gas underwriting.

Canada's other big banks have a range of approaches to carbon offset credits. Scotiabank, for its part, didn't purchase any at all in fiscal 2023. Its counterparts, however, seem more bullish. BMO, for instance, has acquired a carbon offsets advisory business. TD Bank set up its own offsets advisory practice. TD also reports that it has invested about \$10 million in a wide range of carbon offsets since 2010—everything from tree planting and landfill gas capture to schools in remote communities—and claims those investments have offset over one million tonnes of carbon dioxide since 2010. "In terms of what's happened in the last 12 to 18 months, I think, really is this mainstreaming of carbon markets," predicted Andrew Hall, managing director of TD's new carbon markets advisory unit, in the *Canadian Press* two years ago. "We've seen it grow very, very quickly, and I expect that trend to continue."

While these kinds of granular details about the ESG programs of very large firms are no longer unusual, there is something noteworthy about offsets and Canada's banking sector. According to research conducted jointly by CPA Canada, the International Federation of Accountants (IFAC) and the Institute of Sustainable Finance (based in Smith School of Business at Queen's University), publicly traded Canadian financial services firms and software firms together represented (between 2020 and 2022) by far the largest purchasers of carbon offsets among those companies that disclose such investments. Among large global companies, by contrast, the sectors that invest most heavily in carbon offsets are fossil fuels, manufacturing, services and transportation.

"Canadian corporate buyers have a strong 'home bias' when sourcing projects," a soon-to-be-released research paper adds. "Half of the credits are generated in North America—0.3 million (38.7 per cent) in Canada, followed by 0.1 million (11.48 per cent) from the United States. In contrast, globally, most purchased credits originate from developing countries."

This activity is yet another data point in the fairly recent global resurgence of voluntary carbon markets (VCM)—the discretionary buying and selling of offsets by firms that are eager to demonstrate, to both investors and customers, that they've got some kind of net-zero or carbon-neutrality plan in motion. For years, the voluntary offset market limped along, hampered by insistent questions about the credibility of these instruments.

Yet since about 2020, the global market for voluntary carbon offsets has spiked, to almost US\$2 billion, and some analysts see it growing explosively over the next two decades. In 2015, Mark Carney, in his capacity as the chair of the Financial Stability Board, set up a broad-based task force to scale voluntary carbon markets. Some analysts see the growth as almost inevitable. "By the middle of the century, Bloomberg expects that demand will rise from today's 127 million tons to at least 3.4 billion tons or as much as 6.8 billion tons," observed climate policy researcher Nicolas Kreibich of the Wuppertal Institute for Climate, Environment and Energy in Germany, in a paper published last year.

The current figure isn't huge, but it does mark a notable turning point for a corporate approach to fighting climate change that has attracted far more skepticism than capital since the concept of voluntary offsets was first popularized around 1995, following the adoption of the Kyoto Protocol. Widely publicized journalistic investigations, such as a 2023 deep dive by *The Guardian* into the problems with offsets based on claims about Amazon rainforest protection, have cast a pall over the far-flung VCM sector, which encompasses investors, offset project developers, underwriters, brokers, third-party

assessors, carbon credit rating agencies, sell-side marketers and various coalitions advocating for more robust standards.

The second life of carbon offsets is also attracting the attention of the accounting profession, as well as competition regulators worried about ESG greenwashing. "Carbon offsets can be used to incentivize climate action and support decarbonization efforts," says Taryn Abate, director of research and thought leadership at CPA Canada, and the collaborator of three papers on offsets, the second of which was published this fall. "As professional accountants, we focus on the transparency and quality of information, and concerns have been raised regarding transparency and integrity of voluntary carbon credits."

The original idea looked good, at least on paper: companies could reduce their carbon by investing in abatement technologies, switching to low-carbon energy or, in the case of so-called hard-to-abate emissions, mitigating their greenhouse gas releases through the purchase of offsets—basically, investments in activities that cancelled out whatever was escaping from an industrial process. Over time, some jurisdictions—both sub-national, as in Alberta, and transnational, as in the European Union—established regulated cap-and-trade markets that required participating emitters that couldn't bring down their own carbon releases to purchase offset credits from firms that had succeeded in making improvements.

But outside these regulated, and primarily industrial, markets, some climate-minded companies opted to promote their own versions—for example, airlines offering passengers a way of voluntarily offsetting the jet-fuel-generated carbon associated with a particular trip by paying into a fund that would do things like sponsor tree planting campaigns or protect rainforests.

Yet questions swirled around the quality of such offsets: Did these projects actually store carbon in ways that wouldn't have happened on their own—the so-called "additionality" principle? How do purchasers know they weren't buying a credit that had already been sold—the double-counting problem? And will the promised carbon reductions endure?

After all, a consumer or a firm may invest in a forest protection project one year, but then all of the promised benefits could literally go up in smoke the next if fires ravage the area.

Irene Herremans, a professor of accounting at the University of Calgary's Haskayne School of Business, points to the problems with low or no "tillage" credits that became popular in Alberta after the province in 2007 created an offset market for natural gas emitters. The idea was that if a farmer is paid

to minimize the amount of soil disturbance, those practices will result in lower emissions that can be converted into offset credits, which would be listed on a provincially maintained registry. As of 2014, 182 million carbon offset credits—each apparently equivalent to a tonne of CO₂—had been registered. Since then, that figure has leaped to over 800 million.

"The utility companies would [sign] agreements with a lot of the farmers not to till their land or to do low till and there was a protocol set up indicating how much GHG emissions were reduced if the farmer used that process," Herremans says. The wrinkle, she adds, is that those emissions had to be "additional"; they couldn't be business as usual. However, a growing number of Alberta farmers were shifting to low-tillage practices because it made sense for them economically. According to Alberta's rule, if more than 40 per cent of a sector was engaged in a particular practice, such as low-tillage, that activity could no longer be considered "additional" for the purpose of calculating offset credits. In short, all those offsets no longer corresponded to carbon that wouldn't have been emitted, raising doubts about the buyers' reduction claims. In other cases, firms that switched from diesel or oil-burning boilers to natural gas for heating qualified as producers of carbon offsets, even though such changes were already taking place.

As Herremans and two colleagues noted in a 2018 study of Alberta's system, regulatory fuzziness about the definition of what does and does not qualify produced a market hobbled by uncertainty for firms that wanted or needed to invest in offsets. "For the offset market to be effective," they wrote, "investors must be willing to support the innovative and truly additional projects where offsets make up a significant and reliable part of the project revenue."

Troubling revelations have dogged the voluntary offset market for years, especially those involving difficult-to-assess projects in remote developing world regions that rely on calculating a counter-factual—in other words, what kind of emissions *won't* happen as a result of an investment in an offset project? This past summer, the Science-Based Targets initiative, an organization that advocates for empirically rigorous corporate carbon reduction strategies, released a literature review that found there was no clear scientific evidence showing that carbon offsets could be treated as a viable alternative to emission abatement investments.

Then there's the mischief. As recently as this past fall, the U.S. Securities and Exchange Commission launched a lawsuit alleging fraud against a U.S. firm called CQC Impact Investors LLC, which, according to the filings, "sponsored projects that led to the issuance of carbon credits, charged management



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fees to develop, sustain, and monitor those projects, and then sold the projects' carbon credits to corporations such as airlines and technology companies." The SEC's statement of claim alleges that senior CQC executives "orchestrated a scheme to manipulate and falsely inflate the amount of carbon credits generated by and estimated from C-Quest cookstoves projects in Africa, Asia, and Central America." (The charges haven't yet been proven in court.)

"One of the biggest issues I do want to highlight here is that there is a loss of confidence in this market right now," says Yingzhi Tang, a senior research associate at the Institute for Sustainable Finance and another co-author of the CPA/IFAC research papers. But, she adds, there's rapidly growing interest in "carbon removal" technology, such as direct air capture and various forms of carbon sequestration. "The market is seeing removal as synonymous to high quality [offsets], while on the other end of the spectrum, avoidance [for example, a pledge to discontinue a carbon-emitting process] is questionable quality." Tech giants like Amazon, Shopify and Microsoft are investing heavily in these kinds of carbon offset projects as a way of neutralizing the massive amount of energy they require to cool data centres that represent the physical heart of the artificial intelligence revolution. The big tech firms, she adds, "are very bullish on removal right now, and that is very representative of the ecosystem."

Carbon prices reflect that bullishness. In the past three years, the price gap between removal offsets and all other forms, including avoidance offsets, nature-based offsets and aviation-related offsets, has widened steadily, an indication that the market has coalesced around the most reliable form.

The CPA Canada/IFAC studies have identified some key approaches that are relevant to accounting professionals who may encounter voluntary carbon offsets listed in corporate sustainability reports and then grapple with reporting questions such as materiality, disclosure and standards compliance.

Some involve the precise definition of offset-related terms, such as "additionality," "carbon leakage" and "permanence." Others have to do with issues such as the pricing and valuation approaches used by project developers, as well as core accounting questions, such as whether offset credits should be considered inventory-like assets or business expenses (the jury is out). A third is the problem of double-counting. In theory, an offset credit, once purchased ("retired" is the term of art), should not be resold; after all, it represents a tonne of carbon that *hasn't* been released into the atmosphere thanks

An investigation revealed that
90%
of Amazon rainforest offsets were worthless



MIXED REVIEWS FOR ANTI-GREENWASHING LAW



Earlier this year, the Liberal government passed Bill C-59, Canada's first anti-greenwashing legislation. The law is an amendment to federal competition laws that prohibit companies from making current and future claims about their product's carbon mitigation performance in the absence of proof of those pledges. To help companies comply, the Bureau of Competition Policy released some suggestions on how to carry out this kind of verification:

- ▶ **Conducting the testing before making the claims**
- ▶ **Testing under controlled circumstances to eliminate external variables**
- ▶ **Eliminating subjectivity as much as possible**
- ▶ **Reflecting the real-world usage of a product (such as in-home or outdoor use)**

With this law, Canada joins a growing number of jurisdictions—California and the European Union—that enacted anti-greenwashing laws in the aftermath of wide-ranging concerns about the use of ESG claims in the investment industry.

Reviews have been mixed. In its September 2024 brief to the Competition Bureau, CPA Canada stressed that “the development of international sustainability reporting standards is a key tool to mitigate greenwashing and promote reliable, accurate, and consistent sustainability reporting.” But CPA Canada’s assessment of the new rules is that they’ve mainly added confusion and uncertainty for firms trying to comply with an increasingly complex thicket of regulations and environmental accounting standards.

Wren Montgomery, an associate professor of sustainability and general management at Western University’s Ivey School of Business, points to a shift in the nature of greenwashing, from corporate claims about their products to corporate claims about future carbon reduction plans over the next 20 or 30 years. “What they were doing is moving the greenwashing out to the future, where it’s much harder to prove and it’s much harder to be called out,” says Montgomery, who has studied the legislation. “The second part of the new Canadian law is that it’s going after those net-zero or carbon-neutral claims, and saying it has to meet an international standard. I think [that’s] necessary, because that’s really been a huge growth in greenwashing in net-zero claims, and the vast majority are without evidence.” —John Lorinc

to some specific form of activity—tree planting, direct air capture, etc. Various organizations have established registries to ensure that a developer doesn’t resell a credit, but the reality of the offset sector is that there are multiple markets and multiple registries, and this fragmentation of the market could potentially risk double-counting, worrying observers as this can hamper credibility.

Tang also points to the validation and verification of offsets, a task that involves third-party organizations, engineers and specially trained auditors who can determine that an offset credit is what it purports to be. “They are supposed to look at the documents and the design of the project, and also they are supposed to go on the ground to measure the impact,” she says.

The offset validation sector today essentially consists of four leading carbon crediting programs—Verra’s Verified Carbon Standard, Gold Standard, Climate Action Reserve and the American Carbon Registry. “They are supposed to give independent opinions [and] are trained as assurance professionals,” says Tang. These outfits will offer assessments about the quality of the offset and the accuracy of the claims.

But the sector has faced probing questions about its independence and conflicts of interest because the offset producers both choose and then pay the assurance firms. A widely read investigative series published last year by the *Guardian* (U.S. edition), *Die Zeit* and SourceMaterial, a journalism non-profit, alleged that 90 per cent of the Amazon rainforest carbon offsets purchased by multinationals were effectively “worthless” because they did almost nothing to meaningfully reduce deforestation. The investigation, buttressed by University of Cambridge research, laid the blame at the feet of Verra, a non-profit established in 2007 by climate activists and business leaders, based in Washington, D.C., and which is considered to be one of the top third-party validators. As the reporting pointed out, Gucci, Salesforce, BHP, Shell, EasyJet, Leon and the band Pearl Jam “were among dozens of companies and organizations that have bought rainforest offsets approved by Verra for environmental claims.” (Verra has denied what it calls “the *Guardian* attack” and threatened legal action.)

As Abate notes, the CPA/IFAC research papers avoid describing the offset validation/verification organizations as auditors. “Verification and validation as it relates to the voluntary carbon market ecosystem is different from traditional financial statement auditing,” she says. “We are very interested in understanding how to ensure there is rigour in the verification process, considering things such as: What standards are being applied? How is the integrity of the carbon credit being defined and how do you prove ‘additionality’?”

With all the anticipated growth in voluntary offsets, the accounting profession recognizes it needs to seek out answers to these kinds of questions. “We are very focused on the purchaser,” she adds. “As a company, if you have a net-zero target, or a target to reduce your emissions, and you were thinking of using these, what are some things to consider?” ♦