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Mobilizing Voluntary Carbon Markets to Drive Climate Action

Trends in the Voluntary Carbon Markets: Where We Are and What's Next

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Introduction

This is the second in a series of papers that Environmental Defense Fund and ENGIE Impact, with support from the High Tide Foundation, have developed to chart a path for voluntary carbon markets in the post-2020 world. This paper focuses on the growth in the voluntary carbon market and factors that may affect the market.

Historically, the voluntary carbon market has grown alongside the Kyoto Protocol's Clean Development Mechanism (CDM) until the early 2010s and then declined in the aftermath of the global recession, worsened by persistent concerns about credit quality and market gaming. The downturn enabled the voluntary offset standard organizations to focus on improving their systems, increasing the rigor of their accounting methodologies and developing innovative approaches to address challenges concerning the environmental integrity of carbon credits. Like the CDM, the voluntary standard organizations were building the plane while flying it. As a testament to the improvements made, both the State of California and the International Civil Aviation Organization (ICAO) borrowed heavily from the voluntary carbon standards when establishing their regulatory offsetting systems. Furthermore, ICAO's market-based emission reduction program for international aviation, known as CORSIA, has approved seven voluntary standards in 2020 as eligible for use by airlines to meet their emission-cutting obligations.[1]

As the need to rapidly and dramatically reduce global emissions and atmospheric concentrations of greenhouse gases (GHGs) increasingly comes sharply into focus, many companies are looking to offsetting as a way to make meaningful near-term progress on climate change commitments while they establish internal decarbonization strategies. This paper explores recent trends in the voluntary carbon market, future projections of the market, and some emerging issues facing companies as they engage, or re-engage, with the voluntary carbon market to meet their climate commitments.

Where are we now?

The voluntary market is growing. Ecosystem Marketplace reports that voluntary credit transaction

[1] https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/TAB%202020/ICAO_Doc_CORSIA_Eligible_Emissions_Units_November_2020.pdf

volumes more than doubled between 2017 and 2018 and continued to grow in 2019.[2] Even more telling, requests for issuance of credits — a clear sign that a company has a buyer lined up — nearly doubled from 2018 to 2019.

The number of companies purchasing credits is also increasing. In 2018, 20% of companies listed on major global exchanges (FTSE-DOW-IBEX-CAC companies) were purchasing credits. In 2019, that number rose to 32%.[3] Anecdotal evidence indicates that many new companies not listed on those exchanges have also begun to purchase credits and are actively designing their offsetting strategies.

Interest in carbon credit project types is also shifting. Ecosystem Marketplace found that the volume of credits from forestry and land use projects increased 264% between 2016-2018, while other project types grew by only 21%. This is not surprising. In 2018, the Intergovernmental Panel on Climate Change (IPCC), a global authority on climate science, highlighted the importance of "carbon sinks" in meeting the goals of the Paris Agreement. A carbon sink is any reservoir that absorbs more carbon than it releases, thereby reducing the concentration of carbon dioxide in the atmosphere. The most popular types of carbon sink projects include REDD+ projects, which aim to Reduce Emissions from Deforestation and Degradation, and afforestation/reforestation projects (A/R), which focus on tree planting.

After falling to second place in 2017 and 2018, renewable energy projects (primarily solar and wind) once again were the most popular credit type in 2019.[4] The resurgence can likely be attributed to a surge in demand from new buyers entering the market without clear preferences except price. That resurgence may be short-lived, due to the growing popularity of carbon sink credits and the challenges many new renewable energy projects have proving additionality given increasing commercial viability without carbon market finance.[5]

Credit prices in 2019 remained low on average but highly variable based on project type and year of issuance (older credits tend to be less expensive). Prices are expected to rise in the future as net zero goals in the public and private sectors drive up

demand. As always, credits that come with additional health, biodiversity or other community development co-benefits will likely trade at a premium.

Where are we going?

Demand for carbon credits is going up. EasyJet, Shell, BP, Microsoft, Google, Amazon, Nestlé, Unilever, Disney and many other companies have made major announcements over the last year about their intention to invest in carbon credits and the underlying projects, making it clear that offsetting is key to their sustainability strategies. Exactly when and how much carbon credit demand will rise is highly uncertain, however, as few companies have released estimates of their expected need for credits or the timing of these purchases.

Corporate carbon neutrality and net zero targets will increasingly drive carbon credit demand. Over 1,000 companies have committed to achieving net zero by 2050 or earlier. Evidence thus far suggests that few companies have a concrete plan to achieve those goals, including their intended emission

[2] Ecosystem Marketplace, State of the Voluntary Carbon Market 2019
[3] https://unfccc.int/sites/default/files/english_paris_agreement.pdf
[4] Ecosystem Marketplace, Voluntary Carbon and the Post Pandemic Recovery, September 2020
[5] Additionality is a core carbon credit quality criteria to ensure environmental integrity. See our recommendations report for more information: https://www.edf.org/climate/voluntary-carbon-markets

reduction trajectory or the role of carbon credits in their pathway. To give a sense of magnitude, the combined Scope 1-3 emissions of the 54 Global Fortune 500 companies that committed to net zero by 2050 or earlier stands today at approximately 2.5 gigatonnes of CO_2 equivalent, annually, or about 7% of global annual emissions in 2019.[6] This means that those companies will need to internally reduce or offset a collective 2.5 gigatonnes of CO_2 equivalent, annually, by 2050 or earlier depending on the end date of their target. That is a laudable and ambitious task. As these companies begin to develop their emission reductions strategies, they are likely to turn to carbon credits to enable them to:

- Achieve neutrality sooner.
- Buy time to invest in the technologies and operational changes needed for full internal transformation.
- Address residual emissions in their operations or in their value chain (i.e., upstream/ supply chain or downstream emissions) for which abatement solutions do not yet exist.

Insetting will also play an important but unpredictable role. Many net zero companies have also signed on to targets advocated by the Science-Based Targets Initiative (SBTI). Guidance from SBTI requires intense internal reductions by 2035, without the use of credits. While this subset of companies is moving swiftly to make reductions in their operations, many of them are also considering opportunities for "insetting" — or targeted emission reduction or sequestration interventions within their supply chain — to reduce their Scope 3 emissions. In particular, the regenerative agriculture industry is seeing an uptick in activity as global companies with ambitious emission reduction goals invest in targeted insetting interventions to reduce their Scope 3 emissions in the agriculture sector. As the science behind measuring and monitoring regenerative agriculture projects continues to improve, specialist project developers are receiving corporate support for their efforts, buoyed by the certainty that agriculture emissions must be addressed to enable many companies to reach net zero and achieve science-based targets. It is not yet clear whether most companies will register insetting projects with voluntary carbon standards or simply adjust related emissions factors when calculating Scope 3 inventories, but work like the Value Chain Interventions Guidance developed by Gold Standard, the SBTI, the Livelihoods Funds, Mars, Danone and TREES Consulting is helping to put guardrails around how this still-developing concept can be used when reporting towards corporate emission reduction targets.[7]

Interest in carbon removal will intensify while renewable energy shrinks. Carbon removal will play a central role in "balancing" global emissions by mid-century. Natural carbon sinks (e.g., forests, prairies, mangroves, tidal marshes) and technology-based removal technologies (e.g., direct air capture, carbon capture, utilization and storage [CCUS]) are expected to play an increasingly large role in current and future voluntary market activity. Recent developments, like ICAO's approval of forest credits for use to meet airline offsetting requirements under CORSIA, suggest that REDD+ credits and those derived from efforts to restore and regenerate degraded ecosystems are also set to play a leading role in future markets.[8] Conversely, fewer and fewer renewable energy projects will be able to prove that carbon finance is key to their viability in the upcoming years, meaning continued declines in newly registered renewable energy projects. This reduced activity should align with declining company interest in such projects given concerns about their additionality as well as their lack of highly marketable co-benefits.

Large companies are aiming for greater impact through larger investments, game-changing technologies and government partnerships. In the forestry sector, some companies are teaming up with governments to originate projects. They are making significant investments in hopes of driving lasting sectoral and social change, and generating credits that meet or exceed their long-term offsetting needs. There is also growing interest in advanced

[6] The GHG Protocol divides GHG emissions into three Scopes. Scope 1 covers all direct GHG emissions by a company, including fuel combustion, company vehicles and fugitive emissions. Scope 2 covers indirect GHG emissions from consumption of purchased electricity, heat or steam. Scope 3 emissions (also known as value chain emissions) covers other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution [T&D] losses) not covered in Scope 2, outsourced activities, waste disposal, etc. Scope 3 emissions often represent the largest source of GHG emissions and in some cases can account for up to 90% of the total carbon impact.

[7] https://www.goldstandard.org/sites/default/files/documents/2018_09_scope_3_guidance_testing_draft_v1pdf.pdf

[8] https://www.artredd.org/wp-content/uploads/2020/11/ART-Approved-to-Supply-Units-to-CORSIA-FINAL.pdf

technology projects, including direct air capture (DAC), green hydrogen and synthetic fuels. All of these project types, especially those that require regulatory changes or new infrastructure, may require, or at least benefit from, direct cooperation with governments. Governments can provide critical policy support, potentially in furtherance of their own industrial policy and/or emission reductions targets. The coming years will likely bring more joint public-private efforts, designed to leverage voluntary carbon markets to drive scaled transformation in key sectors.

What else might impact the market going forward?

Increased interaction and convergence across voluntary and regulatory markets. The State of California Emission Trading System paved the way for the integration of voluntary offset standards into a compliance scheme, but ICAO's CORSIA is the latest and first example with global application to thoroughly blur the line between voluntary and compliance carbon markets. CORSIA incorporates a great deal of learning from the voluntary carbon standards and has approved seven voluntary standards as eligible for use by airlines under the scheme. Due to COVID-19, ICAO's governing body made changes to the regulation, which make it unlikely to drive much demand in the market for the next few years.[9] Nonetheless, given its integration of voluntary standards into its compliance requirements, CORSIA demand and its future regulatory decisions are expected to significantly impact the direction of the voluntary market.

Nationally Determined Contributions (NDCs) under the Paris Agreement. The Paris Agreement requires each country to submit, every five years, an NDC outlining its emission reduction commitment and to "account for" progress towards achieving that NDC, including by accounting for emission reductions it authorizes for use towards another Party's NDC (or CORSIA). Put simply, a country cannot use an emission reduction it sells to another country to also meet its own NDC. The Paris Agreement does not subject the voluntary carbon market to the same rules, but this new reality of near-universal, increasingly ambitious emission reduction commitments will inevitably shrink the pool of available emission reduction opportunities for the private sector as more countries take action themselves to reduce emissions. In addition, countries can use credits issued by a voluntary standard to meet their NDC, if those credits are authorized and accounted for by the host country through a "corresponding adjustment," further impacting voluntary market supply.[10] Demand will likely grow as we approach 2030 — the date when most NDCs "come due" — in unpredictable ways, as most countries also lack concrete plans to meet their NDCs and government interest in offsetting is likely to increase as implementation plans are put in place and the gap between the expected emission reductions and the NDC targets becomes clearer.

Failure to agree on implementing guidance for the Paris Agreement's Article 6.[11] Article 6 recognizes that countries may use "cooperative approaches" (i.e., carbon markets or carbon trading) to meet their NDCs under the Paris Agreement, sets out basic rules of the road to guide those approaches — including a key prohibition on "double counting" of emission reductions — and calls on member countries to develop guidance to flesh out those rules. It also establishes a new global emissions reduction mechanism to replace the Kyoto Protocol's CDM, as one option for countries to use when achieving NDC targets. It calls on countries to undertake significant work to uphold that new mechanism. In 2018 and 2019, however, governments hit a political logjam in finalizing the work to operationalize Article 6. The absence of Article 6 guidance means that government interest in the carbon market may be stifled and, where it proceeds, government-to-government projects are unlikely to follow a consistent, transparent standard. Opaque government deals may crowd out corporate deals and impact carbon market demand. Similarly, the lack of a functional replacement for the CDM means there is no global standard for carbon credits or a "compliance-grade" fallback for credit purchases, as the CDM once was, leaving judgements on quality and process in the hands of the voluntary standards and their corporate buyers. Many see this as a positive development, noting that association with government does not necessarily equate to higher quality.

[9] https://www.edf.org/media/icao-council-bows-aviation-industry-request-rewrite-first-three-years-climate-program-rules
[10] See the Mobilizing Voluntary Carbon Markets to Drive Climate Action: Recommendations for an in-depth look at the concept of "corresponding adjustments."
[11] http://blogs.edf.org/climate411/2019/12/02/what-you-need-to-know-about-article-6-of-the-paris-agreement/

Overlapping NDCs and corporate commitments. As explained in *Mobilizing Voluntary Carbon Markets to Drive Climate Action: Recommendations*, "a carbon credit used only by a company and counted towards a host party NDC is not double counted at a country/NDC level because it is only counted towards the NDC of the host country. At the same time, in the absence of a corresponding adjustment, it is possible that an emission reduction/removal/avoidance is used by both a company towards its net zero carbon goal and by the host country towards its NDC."[12] Some companies have expressed interest in avoiding those overlapping uses because they want their corporate commitments to help fill the gap between the reductions promised by current NDCs and those required to meet the Paris Agreement goals. In other words, they want their climate contributions to be on top of those promised by governments. The primary way to facilitate such a corporate contribution would be for companies to purchase carbon credits associated with a corresponding adjustment. Unfortunately, the failure to finalize the Article 6 guidance means the world lacks a universal, transparent way for countries to indicate how and when they authorize emission reductions for use by another country towards its NDC — or have accounted for authorized reductions through a corresponding adjustment. If Article 6 guidance is adopted – or if corporates and governments work together to develop an alternative administrative infrastructure in line with emerging international guidance on transparency and accounting as recommended by the *Mobilizing Voluntary Carbon Markets to Drive Climate Action: Recommendations* – then we can expect to see an increase in demand for such credits by companies aiming to show climate leadership. Credits with a corresponding adjustment are expected to trade at a premium in the voluntary market (similarly to CORSIA-eligible credits). If pursued at significant scale, they could have some impact on the broader market, effectively squeezing available supply, since countries will need to make up for the authorized credit with an additional reduction. That said, levels of uptake capable of impacting prices seems highly unlikely in the foreseeable future.

Conclusion

The role of the voluntary carbon market in the net zero transition and the global fight against climate change is strengthening and expected to continue to grow. As evidenced above, the trends are apparent, but their exact impacts remain impossible to predict. One thing seems sure, however: demand and prices for high quality credits, especially carbon sinks, will go up. Companies seeking to show leadership on climate change will need to develop carefully considered carbon credit strategies to guide their voluntary market investment or acquisition strategies in the coming decade if they want assured access to the credit types, amounts and other attributes (like corresponding adjustments) they value. Finally, companies seeking particularly large volumes of credits or credits with corresponding adjustments will likely want to jumpstart engagement with governments now in order to ensure they have the time to build the partnerships they need to meet their ambitious climate commitments in the future.

[12] https://www.edf.org/climate/voluntary-carbon-markets