

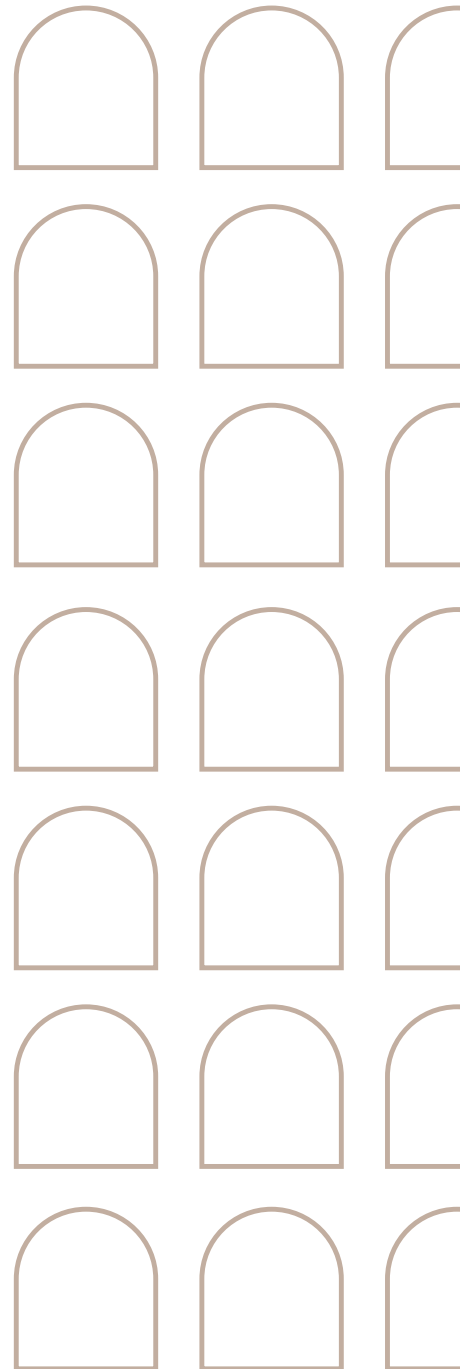
STG Policy Papers

# POLICY BRIEF

## WHAT FUTURE FOR VOLUNTARY CARBON MARKETS?

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## EXECUTIVE SUMMARY

While much interest is being shown for ‘climate neutral’ pledges by companies, and voluntary carbon markets, both can be confusing. This Policy Brief looks at the definitions and governance characteristics needed to deliver on both fronts. Successful markets need rules and oversight to function properly. Environmental integrity and robust carbon accounting lie at the heart of any markets that claim to benefit the environment. This Policy Brief sets out the building blocks of success, based on actual experience, and makes a number of recommendations on how to learn from the mistakes of the past.

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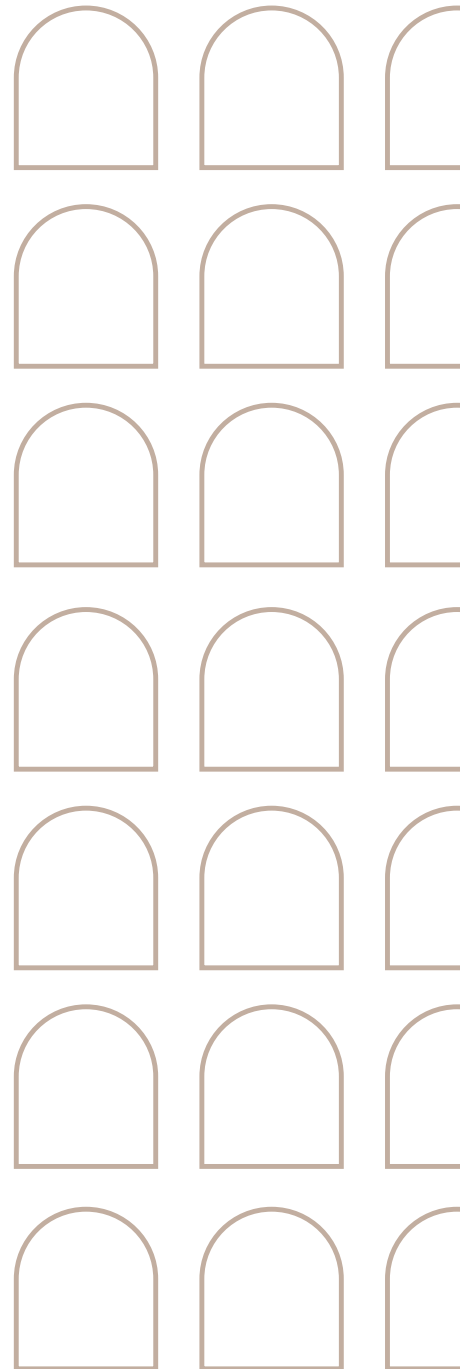
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## 1. INTRODUCTION

In recent months, an increasing number of private companies and public bodies seek to demonstrate their support for the Paris Agreement by showing willingness to take action beyond their existing obligations. To do this, many are turning to the voluntary carbon market to use carbon credits to 'offset' their emissions, and in some cases claiming that their products, services, or businesses are carbon- or climate- 'neutral'.

Voluntary carbon markets originate on the basis of voluntary commitments. This is in contrast to compliance carbon markets that are based on obligations created by regulation, such as the European Union's Emissions Trading System (EU ETS). A high-profile report under the leadership of Mark Carney has called for a major expansion of voluntary carbon markets.<sup>1</sup> A 15-fold increase of this market is envisaged so as to reach a market value of between US\$5-50 billion by 2030. In comparison, the EU ETS had a market value of €200 billion in 2020.<sup>2</sup>

In many countries climate policies are only now being established and a voluntary carbon market may contribute to stepping up climate ambition. This policy brief explains what voluntary carbon offsetting involves and what the opportunities and risks are. It also proposes key elements for a solid governance system.

## 2. HOW VOLUNTARY CARBON MARKETS WORK: SUPPLY AND DEMAND

Over the long-term, the consensus in macroeconomics has constantly evolved, chiefly in response to crises or to an apparent

disconnect between theory and reality. In this vein, the global financial crisis led to a change of the thinking around a number of issues. Chief among these is the insufficient focus on the complex role of banks and of financial institutions in the economy, and the associated risks related to liquidity and solvency for economic stability. The nature of macro financial linkages have become more important in economic discourse.

### Supply

Carbon offset credits are supposed to each represent one tonne of reduced or removed carbon dioxide equivalent (CO<sub>2</sub>e). Credits are generated from projects that claim to have reduced greenhouse gas emissions or to have removed carbon dioxide (CO<sub>2</sub>) from the atmosphere, in comparison to what would have happened in a baseline scenario.<sup>3</sup> There are multiple project types – from renewable energy to industrial gas capture, energy efficiency, or forestry initiatives including avoided deforestation – but they all have one thing in common. They all claim to have only been realised as a result of the provision of finance via the carbon offset mechanism: that is to say, in the jargon, that the projects are 'additional', and that they would not have happened if it were not for the offset finance.<sup>4</sup>

Additionality and other methodological questions are checked by a standards organisation. In the case of the UN Clean Development Mechanism (CDM) and Joint Implementation (JI), which were created under the Kyoto Protocol, oversight bodies fulfilled this role under UN auspices.<sup>5</sup> In today's voluntary markets, this role is often assumed

1 Taskforce on Scaling Voluntary Carbon Markets, *Taskforce on Scaling Voluntary Carbon Markets Final Report*, 2021. [https://www.iif.com/Portals/1/Files/TSVCM\\_Report.pdf](https://www.iif.com/Portals/1/Files/TSVCM_Report.pdf)

2 Refinitiv, 'Carbon Market Year in Review 2020', 1-20 [https://www.refinitiv.com/content/dam/marketing/en\\_us/documents/reports/carbon-market-year-in-review-2020.pdf](https://www.refinitiv.com/content/dam/marketing/en_us/documents/reports/carbon-market-year-in-review-2020.pdf)

3 The baseline scenario is a projection of what would have happened in the absence of the project.

4 This is known as demonstrating that the project is 'additional', i.e., that it would not have happened otherwise.

5 The UN was offering an oversight system in form of an Executive Board for the CDM and a Supervisory Committee for JI (track II) and a central register for international transfers of those credits. These credits were used in compliance carbon markets, including the EU ETS, for several years. However, the UN approach struggled to address environmental integrity concerns with the offsets it credited, which led to regulators turning against these systems and to a lack of global demand. Particularly track I implementation of JI proved that light international oversight undermines the credibility of these systems – track I JI had no international oversight structures.

by a private sector carbon standards body. The body assesses the claims of project developers, which are normally validated by accredited third-party auditors.

After a project passes the additionality tests and other methodological rules set by the standard, the project can issue carbon credits. The credits, whether removals or reductions, are often aggregated and can be sold and traded in the voluntary carbon market, until the time when a company buys and 'retires' the credits. Retiring a credit means it is logged on a registry, so that it cannot be used again. By retiring the carbon credit, a firm may claim to have caused the emissions reduction or carbon dioxide removal: in other words, they claim that the reduction or removal is *theirs*.

## Demand

Private and public bodies often retire carbon credits voluntarily to make claims about 'carbon neutrality'. This involves calculating the emissions associated with some or all of their activities and comparing them with emissions reduced or removed by the offset project. If the body retires an equivalent amount of carbon offset credits, they will typically claim the activities are 'carbon neutral'.<sup>6</sup> Examples of company or public bodies' claims involve carbon neutrality of their air travel, of headquarter operations, of specific products, of an entire supply chain, or even all of their activities.

## 3. RISKS VOLUNTARY CARBON MARKETS NEED TO ADDRESS

A well-functioning market system hinges on trust. Buyers of carbon credits need to believe what they pay for is real, even if they may be looking for credits at the least cost. Sellers have to demonstrate that what they sell should earn the trust of the buyer. That is why markets function well when there is a neutral referee guaranteeing trust by providing independent oversight.

In compliance markets, trust is based on a public regulation that is being enforced.

Sanctions exist and in case of disagreement a court decides. EU ETS prices today are beyond €40 per tonne CO<sub>2</sub>e, and emissions reductions have been significant. For the CDM and JI instruments, the UN created a system with oversight bodies that in the eyes of many failed to act as an independent and neutral referee with the capability to guarantee the environmental integrity of its credits. As a consequence, the necessary market trust evaporated and prices for CDM credits have been below US\$1 for almost a decade. The EU believed in these credits at the outset when it linked its carbon market to the CDM and JI, but then closed the door of its ETS for the use of such offset credits entirely due to mounting concerns about the environmental integrity of these credits.

Based on this experience, the effectiveness of a major expansion of the voluntary carbon market seems to hinge on five fundamental issues:

1. Setting a credible baseline scenario and establishing '*additionality*' are core tasks that need to be entrusted to a standards organisation with excellent credentials. For example, the deployment of solar energy where such technology is already cost-competitive with fossil fuel, should not be considered as "additional" as compared to a counterfactual business-as-usual scenario. Without robust standards the creation of credits can easily be inflated. There are solid examples available, but there are also less robust methodologies that continue to operate. Standards organisations must therefore create full transparency on their baseline and additionality assessments, and make them publicly available.
2. The definition of *carbon neutrality* used in voluntary carbon markets is quite different from the guidance offered by the Intergovernmental Panel on Climate Change (IPCC). The IPCC defines net zero CO<sub>2</sub> emissions as follows: "Net zero carbon dioxide (CO<sub>2</sub>) emissions are achieved when anthropogenic CO<sub>2</sub> emissions are balanced

<sup>6</sup> For this comparison, the scope of emissions considered is key, in terms of their source (controlled emissions, indirect emissions from energy input and value chain) and in terms of type of greenhouse gas covered (CO<sub>2</sub> and others).

globally by anthropogenic CO<sub>2</sub> removals over a specified period”, which it also refers to as ‘carbon neutrality’.<sup>7</sup> In the voluntary carbon market, the words ‘carbon neutral’ and ‘net-zero’ are used according to a variety of definitions. It needs highlighting that ‘reduction credits’ are different from ‘removal credits’: the former is an estimated avoidance of emissions, the latter removes emissions from the atmosphere, with varying degrees of permanence. Many companies and governments are now pledging to achieve ‘net zero CO<sub>2</sub> emissions’ by a certain date through buying offsets, without always specifying whether the offset credits represent reductions or removals. Regulatory trading standards should therefore clearly specify and distinguish between those different types of credits to avoid confusion. If the private sector cannot sort this out on its own, then a government or group of countries should settle those definitions, for example in the context of discussions on a green taxonomy.

3. Many more *methodological uncertainties* in the generation of carbon credits need to be addressed. Beyond the additionality issue many carbon credits have been created that do not credibly represent the claimed quantity of emissions reductions or removals.<sup>8</sup> This applies to many forestry and other land-based projects, and in particular to so-called ‘avoided deforestation’, representing a large share of today’s corporate offsets. Estimating the achieved mitigation in the land sector is associated with uncertainty, because it is inherently complex to accurately monitor and verify carbon fluxes, and due to risks of non-permanence of the carbon sequestered and possible carbon leakage effects. These risks and uncertainties contrast with the certainty of the emissions being offset, creating a problem of non-equivalence. Therefore, those taking voluntary action should prioritise emissions reductions at source, as far as possible, and only turn to land-based offset credits for residual emissions that cannot be reduced at reasonable cost. Tighter rules on credit eligibility, liability issues and full transparency will also be necessary. Moreover, some standardisation is necessary to help clarify whether a ‘carbon neutral’ voluntary objective applies to the emissions related to production only, or also to the emissions covering the whole supply chain, often covering a large number of companies.
4. Voluntary carbon markets often claim to contribute to the goals of the *Paris Agreement*. This is probably true in general terms but substantiating this claim is complex. A central principle of the Paris Agreement is that the emission reduction or removal in carbon offsetting should only be claimed only once by a Party. All countries are required to report on their Nationally Determined Commitments (NDCs) via their national inventory. Double claiming of emissions reductions or removals can occur if a country reduces its claimed emissions on the basis of a credit it acquired from a project that has reduced or removed emissions, and the host country government also claims to have reduced or removed its emissions due to that same project’s activities. A common set of rules implementing the Paris Agreement will be necessary to ensure that offset reductions and removals are accounted for only once. The agreement of Parties involved is so important because the reduction or removal should not be claimed by the host country in its report of emissions if that the reduction or removal is claimed by another country as an offset for its emissions. This explains the specific reference in the Paris Agreement that emissions reductions “shall not be used to demonstrate achievement of the host Party’s NDC if used by another Party to demonstrate achievement of its NDC”.<sup>9</sup> Where emissions reductions or removals from a project fall outside the scope of the host country’s NDC, and the reductions or removals are not claimed to contribute towards fulfilment of

7 IPCC, 2018: Annex I: Glossary [Matthews, J.B.R. (ed.)]. In: *Global Warming of 1.5°C. An IPCC Special Report* [Masson-Delmotte, V., P. et al. (eds.)]. Box SPM.1, p.24, and Annex 1, p.555.

8 Martin Cames and others, *How Additional Is the Clean Development Mechanism? Analysis of the Application of Current Tools and Proposed Alternatives* (Berlin: Oeko-Institut, 2016) <<https://doi.org/CLIMA.B.3/SERI2013/0026r>>.

9 This is stated in Article 6(5) of the Paris Agreement. Article 6(2) also says “Parties shall... apply robust accounting to ensure, inter alia, the avoidance of double-counting...” and Article 6(3) says that “The use of internationally transferred mitigation outcomes to achieve NDCs under this Agreement shall be voluntary and authorised by participating Parties”. The modalities for ensuring the implementation of these rules have yet to be confirmed

its own NDC through domestic offsets, only then may the offset credits generated be used towards fulfilment of the purchasing country's NDC.

5. Addressing the *legacy of the past*. There are large numbers of carbon offset credits, mostly belonging to the CDM and JI mechanisms, that do not represent credible, high-quality emissions reductions or removals. Estimates vary, but there are likely to be hundreds of millions of credits with low environmental integrity.<sup>10</sup> This large oversupply is likely to undermine any new more credible future for carbon offsetting, and is likely to obstruct the emergence of higher offset prices. As the second Kyoto Protocol commitment period ran to 2020, it might be reasonable to allow CDM and JI credits to be used up to that date but not beyond. In the voluntary market, governance bodies that oversee market integrity could issue guidance to registries and buyers to help restrict the eligibility and desirability of legacy credits, and particularly those of low environmental integrity.

#### 4. TOWARDS A STEP CHANGE IN MARKET OVERSIGHT?

Today we can already benefit from important real-life experiences with carbon markets. Compliance markets, such as the EU ETS, only work well if underpinned by solid regulatory structures, such as robust compliance provisions. This may explain the limited enthusiasm for voluntary markets by public authorities in the EU compared to other parts of the world. In addition, we now have nearly 15 years of practical experience with CDM and JI offsetting under the Kyoto Protocol. We have observed the consequences of under-developed market oversight, that has often closed glaring loopholes too slowly, but, more positively, the Kyoto Protocol's flexible

mechanisms have contributed towards the development of mandatory national carbon markets in countries such as China. Familiarity with these mechanisms has also created the perspective in many countries of how domestic offset schemes might be used for compliance under national regulations, and therefore contribute to fulfilment of their own NDCs.

Once countries get serious in implementing their commitments under the Paris Agreement, pure voluntary carbon markets may give way to mandatory compliance markets. In the meantime, voluntary carbon markets will exist because some countries will not move to compliance markets any time soon, and some companies, pressurised by their shareholders or clients, will want to move to net zero faster than regulation foresees.

A voluntary carbon market requires solid quality control and strong independent oversight. The past has shown that lax rules and weak enforcement compromises the long-term viability of carbon markets. Some organisations and standards setting bodies already perform useful oversight roles, but much more is needed. On the basis of a radical boost in transparency of basic data, definitions and assessments of offset projects, rating agencies could play a significant role in sanctioning differences in quality standards. In addition, an independent mechanism to deal with complaints of market participants is necessary to facilitate dispute-settlement. The real open question is whether the drive to self-regulation implicit in the concept of voluntary carbon markets will be strong enough to take on these herculean tasks.

An even more complicated question is the relation between voluntary carbon markets and the Paris Agreement. The Gold Standard, the second largest standards body in the voluntary carbon market, proposed a strategy to avoid double claiming. For new offset projects an adjustment by the host country NDC would

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<sup>10</sup> Guy Turner and others, *The Global Voluntary Carbon Market - Dealing with the Problem of Historic Credits*, Trove Research, 2020.



be sought.<sup>11</sup> If the host country would not alter its NDC, then the Gold Standard proposes that carbon credits be deployed to support an altered corporate claim. The language of 'carbon neutrality' would not be used, instead the company could claim to have supported mitigation activities by providing results-based climate finance for projects advancing sustainable development.

Altered voluntary market claims could helpfully reduce the amount of confusion generated through using 'carbon neutral' labels in a range of circumstances, including when emissions reduction or avoidance offsets are used instead of removals, and when removals credits face substantial risks of reversal (i.e., non-permanent carbon storage). However, altered claims would not remove all risks and any results-based finance model for voluntary markets still needs to demonstrate additionality and must take steps to avoid perverse incentives which could encourage host country governments to reduce climate policy ambition in order to attract finance from the voluntary carbon market. Dialogues with host country governments should be pursued to ensure that voluntary carbon offsets can be deployed in ways that encourage greater ambition from governments.<sup>12</sup>

For the international transfer of carbon offsets, the CDM/JI experience showed the usefulness of a central register. If voluntary markets and offset credits want to be linked to the Paris Agreement, both a central register and strong independent market oversight seem indispensable. It remains to be seen whether this degree of complexity and ambition can still be incorporated into the already fraught negotiations on Article 6 of the Paris Agreement. In the absence of a negotiated outcome at UN level, only constructions related to climate clubs may be able, to some extent, to overcome the opacity of the current situation. It is therefore likely that in the near-term the development of voluntary carbon markets may find itself disconnected from the

legal implementation of the Paris Agreement.

The EU may want to influence the integrity of global voluntary carbon markets. For that, it could start by regulating key elements that the market itself may find difficult to establish, for example though the implementation of its green taxonomy system. It could create its own version of a voluntary carbon market that hangs between its well-established compliance market ETS and the additional voluntary commitments its global companies want to develop. Based on proven success, high quality, and solid credibility, it could then gradually open its market to international activities, based on strict criteria. A useful development in this regard is the regulation the EU recently adopted on the mandatory disclosure of climate risks in corporate reporting of financial companies. Companies engaging in offset markets could be requested to deliver key information on the risk factors outlined above.

There is potentially a new future for voluntary carbon markets. Many developments are promising but for the time being many key issues remain unanswered. It is essential to avoid the useful concept of voluntary commitments falling into the trap of greenwashing. A solid market oversight system still needs to be created in order to gain public trust.

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11 Reporting and accounting emissions and removals from the LULUCF (Land Use Land Use Change and Forestry) sector is generally recognized to be associated with a high level of uncertainty. This can compromise the solution of a corresponding adjustment.

12 Aki Kachi and Thomas Day, *Results-Based Finance in the Paris Era: Considerations to Maximise Impact*, New Climate Institute, 2020.

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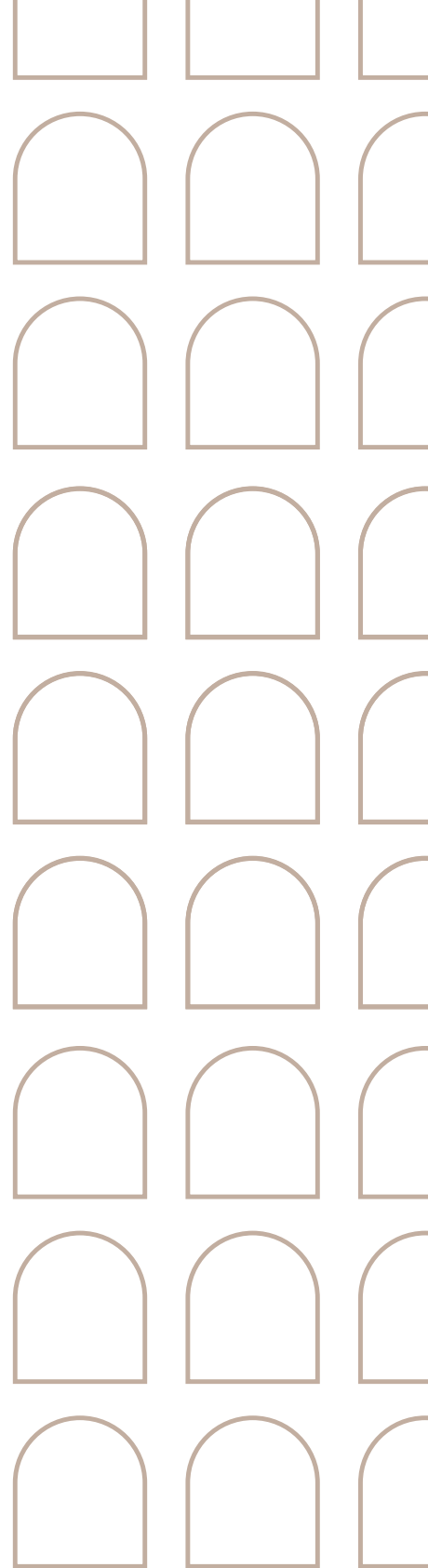
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