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# Governing the VCM

## How initiatives shape the future of the voluntary carbon market

Nicolas Kreibich

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Nicolas Kreibich

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# Summary


Ever more companies are pledging to become climate neutral. As entirely eliminating all emissions will presumably not be possible for all of these corporates, the voluntary carbon market (VCM) has recently experienced increased attention as a means for companies to achieve part of their targets through mitigation activities beyond their value chain. At the same time, however, this market is confronted with fundamental challenges on both, the supply and the demand side: On the supply side, there is a risk that credits generated lack quality and integrity while on the demand side these credits could be used to supporting greenwashing activities. Both carries a high reputational risk for the market as a whole and could put at risk the current dynamic of companies setting neutrality targets. Instead of contributing to meeting the targets of the Paris Agreement the VCM even undermine the integrity of the new regime.

***The potential of the VCM and its challenges fostering the emergence of initiatives***

The assumed huge potential of the voluntary carbon market together with the challenges this market is confronted with has led to the emergence of numerous initiatives which to varying degrees aim at governing the future of the VCM. This paper analyses a selection of these initiatives. It finds that the ongoing discussions about the future of the voluntary carbon market and the emergence of various initiatives has linked two communities that have been operating in parallel for numerous years: the voluntary carbon market and corporate climate action. Linking both communities has also resulted in mutual learning effects and convergence in various areas.

***Different focus areas covered by various forms of governance***

The analysis further indicates that the focus of individual initiatives as well as their depth varies significantly. While some cover many of the steps of corporate climate action and offset use, others focus on selected aspects only. Governance in these areas can take various forms. Building on the five governance functions by Oberthür et al. (2021) allowed to identify how different forms of governance are used and combined by the initiatives. This leads to a division of tasks and also allows for collaboration between different initiatives. In terms of addressing the open questions the voluntary carbon market is confronted with, some areas of convergence could be identified, while there are other aspects where further work of initiatives and the VCM more broadly is needed.

***Clarity on double claiming needed***

The analysis indicates that there is still no common ground on whether double claiming between corporates and countries should be allowed. What seems to be clear is that the answer will have to be provided by the voluntary carbon market itself. The VCM must not (and should not) wait for the international climate negotiations to find common ground on Article 6. Building on its self-image as a pioneer and incubator that develops new solutions the VCM should make a step forward and agree on the exclusion of double claiming between corporate and national targets in the context of offsetting. By agreeing on the exclusion of double claiming, VCM actors could send a clear message to international policy makers that an accounting framework that is accessible for voluntary carbon market operations is required.

### *Beyond offsetting: Finding a place for non-offset climate action in the net-zero world*

With the development of an accounting framework presumably taking several years, there is a growing interest in alternatives to the existing offsetting approach, which would allow companies to invest in mitigation activities outside their value chain without claiming to have offset their own emissions. While such a non-offset approach would address the double claiming issue, it is still unclear how it aligns with companies' neutrality targets and what kind of claims it could allow. Exploring these key questions with greater depth will presumably become easier once key players on the VCM have endorsed the approach as one possible field of future market operation.

### *Words matter: Towards comprehensible claims and a terminology based on science*

While there seems to be a growing consensus that corporate targets must be based on science, there is no such agreement with regards to corporate claims and the underlying terminology. In order to achieve claims based on science, greater consideration of the scientific findings as well as inclusion of climate scientists in the debate could be a way forward. However, claims will at the same time have to be comprehensible for its recipients, in particular for investors and final consumers. Strengthening interdisciplinary research and taking into account findings from other fields such as environmental psychology or linguistics could provide important insights and ultimately allow for the development of claims that can be easily understood and which provides for the highest clarity of what these claims encompass.

### *Policing the use of credits*

Agreeing on credible claims is a necessary yet insufficient condition to ensure the VCM actually contributes to the achievement of the Paris Agreement's objectives. In addition, monitoring how companies communicate their climate change mitigation efforts and the use of carbon credits is required. This issue will even become more salient if different types of units are introduced such as carbon credits that are backed by corresponding adjustments and those whose mitigation impact has not been accounted for by the host country. In addition to certification standards, suppliers and other actors from the voluntary carbon market, national governments should proactively engage in establishing best practice guidance and standards as well as provide a legal basis for respective legal claims.

### *The need for orchestration of initiatives*

The emergence of ever new initiatives focusing on the future role of the VCM is a consequence of the urgent need to solve the challenges this market is confronted with. In order to allow outcomes to inform decisions on the future of the VCM, there is a need for orchestration of these initiatives. The new governance body formed by the TSVCM could adopt the role of such an orchestrator of initiatives. In order to ensure legitimacy of this new governance framework, inclusiveness and representation of diverse stakeholders should be ensured, while means to appropriate deal with potential conflicts of interest are needed. In addition, the governance body should also remain open to integrate new initiatives that will presumably continue to emerge in the future.

# 1 Introduction

Almost three decades after the United Nations Framework Convention on Climate Change was adopted with the objective of stabilizing GHG emissions at a level that would prevent dangerous climate change, emissions continue to rise (UNEP, 2020). In light of the limited effectiveness of the UNFCCC in tackling climate change, we are currently experiencing a proliferation of initiatives at various governance levels with different degrees of international scope and involvement of public as well as private actors. This has led to what Keohane and Victor (2011) ten years ago termed the climate regime complex, a loosely-coupled set of specific regimes. In parallel to the proliferation of government-driven initiatives, sub-national and non-state actors are playing an increasingly important role, a trend that has further intensified under the Paris Agreement (Hale, 2016).

One subarea of non-state climate action is the voluntary carbon market (VCM). A predecessor or pioneer of this market was the US American power supplier AES, which decided to offset its emissions from a new power plant by supporting a forestry project in Guatemala as early as 1989 (Bellassen & Leguet, 2007). Within the climate regime complex, the voluntary carbon markets started to evolve since around 2006 against the backdrop of rising criticism against offsetting with the creation of certification standards which developed outside of formal state-based regulation (Bumpus et al., 2010). Voluntary carbon market activities grew from the late 1990s and over the years turned into a lively market with an cumulative value of 6.7 billion USD whose annual value in terms of market transactions will in 2021 for the first time lie above USD 1 billion (Donofrio et al., 2021).

This market has recently experienced increased attention due to the proliferation of corporate net-zero targets. Ever more companies are announcing that they are willing to become climate neutral. The sheer scale of this development is impressive: 482 major companies, each with an annual turnover of more than 1 billion US dollars, have already set themselves net zero targets. And they are being joined by new businesses almost every week. Together, these companies have an annual turnover of 16 trillion US dollars, which is more than the gross domestic product of China (Kreibich & Hermwille, 2021). As entirely eliminating emissions will not be possible for all of these corporates, many will have to implement mitigation activities beyond their value chain. This is where net zero targets and the voluntary carbon market meet: Many corporates can be expected to rely on the VCM for delivering these emission reductions.

## 1.1 Corporate net zero targets and the VCM project cycle

The process of developing net zero targets consists of numerous steps a simplified representation of which is included on the left side in Figure 1 below. Companies start off with calculating their own current climate footprint that can be used as a baseline for future reductions in greenhouse gas emissions. Based on a robust inventory, they can then set their net zero target in line with science. To allow for comparability and thorough understanding, the target as well as the progress towards achieving it should be reported transparently. Reporting should include aspects such as coverage of the target (which emission sources and GHG gases are covered?), timeframe (by when will the target be achieved and what baseline is used?), the role of carbon credits (what contribution do carbon credits make?) as well as the rationale behind the target (is it fair and ambitious?). This step is followed by the implementation of investment into prioritised mitigation activities that achieve steep and fast emission reductions. For residual emissions, companies may purchase offset credits which are then used and accounted against the companies' neutrality target. This will allow the company to make a claim on the achievement of its target.

This process is connected to the voluntary carbon market project cycle through the purchase of offsets. Offset credit supply is mostly driven by private companies: Suppliers can be brokers, who only buy certificates from mitigation projects and resell these to their customers. As an alternative, suppliers can also develop their own mitigation activities and directly sell the certificates to the market. This is particularly the case for large suppliers. The development of the mitigation activities that generate the carbon credit traded on the market are developed and implemented by project developers based on a project idea document which has to be validated according to the provisions of one of the private certification standards. If successfully implemented and monitored, the mitigation impact of the activity is then verified allowing for the issuance of credits that can be used by the corporate buyer for attainment of its neutrality target.

In the past, the process of corporates setting climate targets and the voluntary carbon market generating carbon credits could operate largely independently. As will be shown in the following, this has, however, changed with the adoption of the Paris Agreement.

Against this backdrop, this paper explores how initiatives from both, the voluntary carbon market and corporate climate action are engaging in the governance of the VCM. A particular focus is put on the different governance modes of the initiatives and on the action areas addressed.

## 1.2 Key challenges of the voluntary carbon market

The Paris Agreement (PA) has put the voluntary carbon market in limbo due to two major paradigm shifts:

First, the new regime is truly global by requiring all Parties to adopt nationally determined contributions (NDCs) and implement activities intended to achieve them. It thereby significantly reduces the so called 'uncapped environment', the emissions not covered by carbon regulation, which have so far been the main source of supply for the VCM. And this uncapped environment is set to become even smaller in the future as Parties are required to expand the scope of their NDCs and move towards economy-wide NDCs.

Second, the Paris Agreement introduced what can be termed 'transformative ambition' by recognizing that addressing climate change requires a fundamental transformation of economies and societies. The transformational ambition of the agreement is implicit in its long-term objective of limiting global warming to "well below 2 °C and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels" (Art. 2.1a, PA, UNFCCC, 2016).

Both paradigm shifts represent a challenge to the voluntary carbon market that requires the market to rethink its current business model. This model is mainly based on the idea of generating low-cost emission reductions in developing countries and selling them to private companies for offsetting their emissions. The paradigm shifts of the Paris Agreement put this model into question on both, on the supply and the demand side of the market:

On the supply side, emission reductions will in the future be more difficult to generate and presumably become more expensive. If the voluntary carbon market aims at maintaining the same rigour in terms of avoiding double counting as under the pre-2020 era, emission reductions would have to be backed by corresponding adjustments (Kreibich & Hermwille, 2021). Hence, host country governments would need to deduct the emission reductions achieved by VCM projects from their emissions balance, which could adversely impact the host country's ability of NDC attainment (Kreibich & Brandemann, 2021). Therefore, host countries will presumably limit the supply of offsets to those emission reductions that are particularly difficult (read: expensive) to achieve. This will impact both, price and quantity of certificates.

On the demand side there is a growing demand for certificates, mainly driven by the growing adoption of corporate net zero targets and the increasing number of companies offering carbon neutral products and services. While this potential future demand obviously offers a huge potential in terms of market growth, it also puts at risk the credibility and legitimacy of the voluntary carbon market: Ensuring high quality of credits becomes ever more important and more difficult with the growth of the market, while stakes also become higher: There is a risk that the VCM is being considered a means to support companies' greenwashing activities if companies instead of reducing their own emissions simply choose to purchase carbon credits generated elsewhere in order to achieve their net zero targets. This carries a high reputational risk for the market as a whole and could put at risk the current dynamic of companies setting neutrality targets. An even higher risk is that the VCM instead of contributing to meeting the PA targets leads to a procrastination of corporate climate action. If double counting of emissions is not avoided, the VCM could even undermine the integrity of the Paris Agreement.

At the same time, the VCM has the potential to grow significantly and become an important tool in supporting corporate climate action. Figure 1 below illustrates the interaction between corporate climate action and the VCM as well as the double claiming risk induced by the Paris Agreement's paradigm shift.

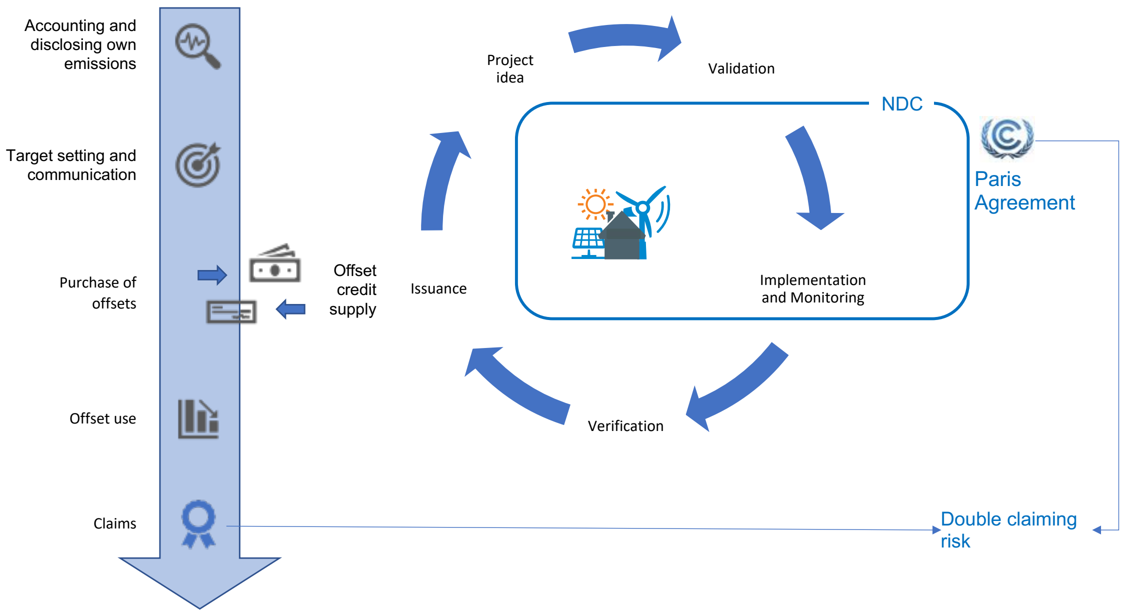


Figure 1: Illustration of the interaction between the corporate climate action and the VCM with the double claiming risk adding an additional layer of complexity. Source: Own illustration.

# 2 Mapping Initiatives

The assumed huge potential of the voluntary carbon market together with the challenges under the Paris Agreement has led to the emergence of numerous initiatives which to varying degrees aim at governing the future of the VCM. This section presents a selection of these initiatives in order to provide insights into how different types of initiatives are intending to govern / shape the VCM with different approaches. The initiatives selected have the following commonalities:

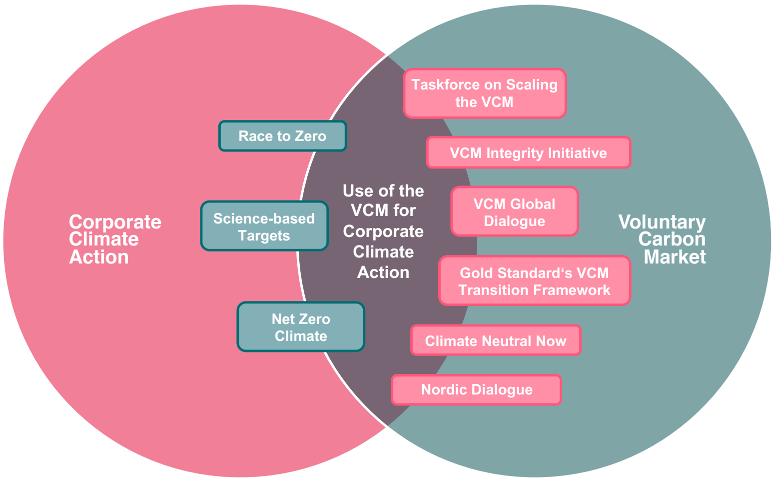


Figure 2: Overview of the initiatives analyzed. Source: Own illustration.

**Relevance for the VCM:** All initiatives analysed discuss or develop provisions or principles to guide the role of the voluntary carbon market units in corporate climate strategies.

**International:** The initiatives are international by involving entities from more than one country.

**Broad thematic scope:** The analysis explores initiatives that are not focused on specific activity types or sectors. Therefore, initiatives such as the Architecture for REDD+ Transactions (ART, 2021) are not part of the analysis.

**High degree of interaction**: The focus is on initiatives that are involved in shaping the future of the voluntary carbon market and actively involve other actors. Involvement can take different forms and range from participation in public consultations to joining the initiative by signing a declaration and adhering to established principles.

A total of nine initiatives have been analysed. With this selection, we are not providing a complete picture of the landscape of initiatives. This is particularly true for initiatives that aim at collating corporate climate action.

The initiatives can be broadly differentiated according to their origins. While some are directly related to the voluntary carbon market, others have emanated from the field of corporate climate action. Figure 2 illustrates this differentiation used for structuring the following section.

## 2.1 Initiatives from Corporate Climate Action

### 2.1.1 Race to Zero Initiative

Race to Zero is a UN-backed initiative mobilizing non-state actors to take climate action for "halving emissions by 2030 and achieving net zero carbon emissions by 2050 at the latest" (Race to Zero, 2021a). It is an umbrella campaign launched and led by the global High-Level Champions for Climate Action, which are nominated by national governments following a decision taken at the UNFCCC climate conference held in Paris (Decision1/CP.21, para 121, UNFCCC, 2016). The initiative cooperates with other networks and initiatives and aggregates their commitments. In order to join Race to Zero, networks and initiatives must meet the following meta-criteria: *Pledge* to reach net-zero as soon as possible and set an interim target for fair share of a 50% reduction by 2030. *Plan* future actions that will be taken to achieve the pledges. *Proceed* by taking immediate meaningful action and *Publish* the progress made. In addition, so called Leadership Principles define areas where networks and initiatives must reach current best practice. These principles also address the issue of how to use carbon credits in the transition towards net zero and afterwards (Race to Zero, 2021c, 2021b).

### 2.1.2 Science-Based Targets Initiative

The Science-Based Targets Initiative (SBTi) is a partnership between CDP (formerly Carbon Disclosure Project), Global Compact, World Ressources Institute (WRI) and the World Wildlife Fund for Nature (WWF) that defines and promotes best practices in corporate emission reduction targets. Originally, the focus of SBTi was on supporting companies set robust short and medium-term targets for the achievement of which the use of offsets was explicitly ruled out. With the initiative's current efforts to establish a standard for corporate net-zero targets, rules on how carbon credits can be used in the context of achieving these targets are being developed. Building on an initial paper published in 2020 (Carrillo Pineda et al., 2020), the SBTi had initiated a process to develop the world's first Net Zero Standard. After two public consultations and a road-testing process of the draft target setting tool with companies, SBTi launched its Net Zero Standard on 28 October 2021, just before COP26 (SBTi, 2021a, 2021c).

### 2.1.3 Oxford's Net Zero Climate

Net Zero Climate is a research initiative aimed at informing governments and institutions setting net zero targets. The initiative provides principles, policies and practical tools to assist in implementing climate action and further tracks progress towards of net zero pledges by countries, sub-national entities and corporations around the globe. For the setting of net zero targets, the initiative builds on the four criteria adopted by the Race to Zero initiative: pledge, plan, proceed, publish and further provides principles for net zero-aligned investing and offsetting (Net Zero Climate, 2021). The Oxford Principles for Net Zero Aligned Carbon Offsetting (Allen et al., 2020) outline in greater detail how offsetting is to be approached to ensure it helps in achieving the global net zero target.

## 2.2 Initiatives with a VCM background

### 2.2.1 Taskforce on Scaling the Voluntary Carbon Markets (TSVCM)

The Taskforce on Scaling the Voluntary Carbon Markets (TSVCM) was formed in September 2020 by Mark Carney, UN Special Envoy for Climate Action and Finance Advisor to UK Prime Minister Boris Johnson for COP26. The private sector-led initiative sponsored by the Institute of International Finance (IIF) aims at scaling an effective and efficient voluntary carbon market. It identifies numerous challenges of the VCM and develops solutions for addressing them, including the development of core carbon principles to ensure quality of offsets. In September 2021, the initiative has formed a new independent governance body, which is to ensure the integrity of the voluntary carbon market.

### 2.2.2 The Voluntary Carbon Markets Integrity Initiative (VCMI)

The Voluntary Carbon Markets Integrity Initiative (VCMI) is a multi-stakeholder platform co-funded by the Children's Investment Fund Foundation (CIFF) and the UK Government Department for Business, Energy, and Industrial Strategy (BEIS). It was established in 2021 with the objective "to drive credible, net-zero aligned participation in voluntary carbon markets". The initiative's initial work was led by a consortium headed by Meridian Institute. The VCMI considers itself an umbrella initiative that seeks to connect with and strengthen existing initiatives that share its vision for high integrity voluntary carbon markets. In July 2021, the VCMI published its consultation report which proposes ten principles for high integrity climate action. While the initiative also explores the supply-related aspects, a focus is put on the categorization and utilization of claims related to the voluntary carbon markets.

### 2.2.3 The Voluntary Carbon Markets Global Dialogue (VCM-GD)

The Voluntary Carbon Markets Global Dialogue is an initiative supported by VERRA that is being implemented by Climate Focus, the Indonesia Research Institute for Decarbonization, South-SouthNorth and Transforma. The VCM Global Dialogue is to complement other initiatives by focusing on the supply-side of the VCM. The initiative has published five position papers, that draw from interviews held with over 350 stakeholders. On the basis of these papers, the VCM Global Dialogue has develop a final report which sets-out the supply-side perspectives on the future of the VCM (VCM Global Dialogue, 2021b).

### 2.2.4 Gold Standard's VCM Transition Framework

The VCM Transition Framework is supported by the German Environment Ministry and implemented by the Gold Standard in partnership with atmosfair. The Framework is based on proposals outlined in consultation documents the Gold Standards had published in February 2021 (Gold Standard, 2021b, 2021d, 2021e). The focus of this initiative is on aligning the voluntary carbon market with the new framework and rules of the Paris Agreement. The initiative explores and collates information on numerous issues, such as how to avoid double counting, how to promote sustainable development and more broadly how to design activities that are in line with the new framework of the Paris Agreement (Gold Standard, 2021f). In addition, the Gold Standard has started numerous other activities that run in parallel to this initiative, such as the recent consultation on the standard's claims guidelines and double counting requirements and procedures (Gold Standard, 2021a, 2021c). These activities are however not considered part of the VCM Transition Framework in this analysis.

### 2.2.5 Carbon Credit Quality Initiative

The Carbon Credit Quality Initiative (CCQI) is a joint initiative by WWF, EDF and Öko-Institut. The initiative aims at helping buyers identify high-quality credits by providing scorings to assess the quality of carbon credits as well as additional guidance. By applying the assessment criteria at different levels (project type, crediting programme, methodologies, host countries) the initiative also aims to encourage market participants to pursue highest standards related to climate as well as social and environmental impacts (CCQI, 2021b, 2021a).

### 2.2.6 Climate Neutral Now

The Climate Neutral Now initiative is a workstream launched in 2015 by the UNFCCC secretariat with the objective of promoting the voluntary use of the CDM and has since evolved to become a tool to encourage companies and other non-Party stakeholders to increase climate ambition by becoming participants in the initiative. New participants must sign the Climate Neutral Now pledge (Climate Neutral Now, n.d.-a), which is a public commitment to *measure* emissions, to act to *reduce* them, to optionally *contribute* by offsetting emissions and to *report* annually on these activities. Participants can reach different levels within each of the steps of measure, reduce and contribute. For instance, in order to achieve the highest level of recognition, the participant must provide a verified inventory that includes all material sources in scope 3, achieve at least 5% average emission reductions and offset at least 100% of its residual emissions. Participants that meet some minimum criteria can claim to be carbon neutral. However, the initiative does not certify the climate neutrality status of its participants. Climate Neutral now allows organizations to embark on the journey towards net-zero with having to make that commitment at the outset. (Climate Neutral Now, n.d.-b).

### 2.2.7 Nordic Dialogue on Voluntary Compensation

The Nordic Dialogue on Voluntary Compensation (Nordic Dialogue) is an initiative funded by the Nordic Council of Ministers. It aims to inform Nordic and international stakeholders on using voluntary compensation of emissions. The initiative defines voluntary compensation to include both offsetting and non-offsetting use of mitigation outcomes. The Nordic Dialogue is managed by Perspectives Climate Research and facilitated by a team of experts from Perspectives Climate Research, IVL Swedish Environmental Research Institute, Carbon Limits and Tyrsky Consulting. The initiative pursues three objectives: the first objective is to map Nordic stakeholder's views on key issues through an online survey as well as through interviews with key stakeholders. The survey was open until end of August 2021. In the context of the second objective, which is to develop a broad knowledge base, the initiative published an initial report in the run-up to COP26 which provides an overview of key concepts and maps international guidance and initiatives (Nordic Dialogue on Voluntary Compensation, 2021b). On the basis of these two activities, the initiative aims at developing a Nordic Code of Best Practice and an action plan for voluntary compensation (Nordic Dialogue on Voluntary Compensation, 2021a).

# 3 Analysis of the initiatives

This section provides an analysis of the different initiatives selected. It explores their origin, the actors behind the initiatives, their level of institutionalisation as well as the main governance functions they fulfil.

## 3.1 Thematic origins and direction of travel

All initiatives analysed discuss or develop provisions and principles to guide the use of the VCM by corporates. Despite this commonality, there is a large diversity in terms of the background these initiatives have.

On the one end of the spectrum, there are initiatives that have a background in corporate climate action. One illustrative example is the Science-based Targets Initiative (SBTi): The SBTi supports companies in defining emission reductions pathways that are aligned with what climate science deems necessary to meet the objectives of the Paris Agreement. The initiative's guidelines are hence focusing on corporate's internal emissions while the use of offsets for meeting these targets was explicitly ruled out in the past. With the global expansion of net-zero targets, the SBTi is now exploring how offsets could be integrated into a broader strategy towards net-zero (Carrillo Pineda et al., 2020).

On the other end of the spectrum there are initiatives that have aim at defining the rules of the voluntary carbon market. As a certification standard in the VCM, the Gold Standard's original focus is defining the rules for project implementation. Since 2017, the certification standard has entered the discussion about how to deal with the challenges of the Paris Agreement. With the VCM Transition Framework, the Gold Standard does not only continue elaborating its own governance framework but also more broadly provides input into the debate about the future role and use of the VCM by corporates. Hence, both initiatives are approaching the question about the future role of the VCM from two sides and different backgrounds.

## 3.2 Initiators and promoters of the initiatives

The analysis displays a large diversity in terms of the actors that gave birth to and drive the initiatives.

Surprisingly, **public governance actors**, be it international (e.g. the UNFCCC), regional (Nordic Council of Ministers) or national (UK, Germany) have been actively involved in some of the initiatives: the Race to Zero campaign has been initiated by the High-Level Champions for Climate Action, which are nominated by national governments following a decision taken at the UNFCCC climate conference held in Paris (Decision1/CP.21, para 121, UNFCCC, 2016). Similarly, Climate Neutral Now was launched in 2015 by the UNFCCC secretariat based on a UN mandate (Climate Neutral Now, n.d.-b). Individual national governments are also promoting some of the initiatives: the UK government is one of the supporters of the VCMI, while the work undertaken under the Gold Standard's VCM Transition Framework is supported by the German Environment Ministry.

**Businesses** are playing a strong role in most initiatives: Some initiatives such as the Taskforce on Scaling the VCM are entirely promoted by busines actors while others, such as the SBTi have a diverse support structure that includes companies as well as philanthropic organisations and corporate foundations.

**Research institutions** are actively involved in the work of most initiatives but only some are being promoted by research institutions. The Carbon Credit Quality Initiative is inter alia being promoted by the Öko-Institut and WRI is the research institution behind SBTi. One of the initiatives analysed has been promoted by academia: Net Zero Climate was launched as an interdisciplinary research initiative by the University of Oxford. **Civil society** is also promoting several initiatives. Examples include the GS Transition Framework SBTi and VCM-Global Dialogue.

## 3.3 Governance functions

As outlined above, all initiatives are somehow related with the future role of the voluntary carbon market (see selection criterion 1). However, they do this with by exerting one or several different governance functions. In order to discern the functions of the initiatives analysed, we will build on the five governance functions identified by Oberthür et al. (2021):

1. Providing guidance and signal to actors
2. Setting rules to facilitate collective action
3. Enhancing transparency and accountability
4. Providing financial, technological and capacity building support
5. Promoting knowledge and learning

Oberthür et al. (2021) use these functions for assessing the potential of sectoral institutional complexes to advance decarbonisation. We will in the following use these functions to analyse the different VCM initiatives, which requires slight adaptations in the underlying definitions.

The function of initiatives to **provide guidance and signal** to members and actors mainly derives from their principles and objectives. All initiatives analysed provide some sort of signal by highlighting different aspects: While the TSVCM underlines the need for upscaling an effective and efficient market, the VCMI aims to drive credible, net-zero aligned participation in high integrity voluntary carbon markets. The VCM Global Dialogue, in contrast, puts the supply-side of the voluntary carbon market into the center of discussion. Gold Standard's VCM Transition Framework is an initiative aimed at ensuring integrity and relevance for VCM projects. This is similar to the objective pursued by the Carbon Credit Quality Initiative which aims to enhance the integrity of carbon credits transacted in the market.

By nature, the signal and guidance from initiatives that originated from the field of corporate climate action are much broader: Net Zero Climate's aim is to address the issue of how to limit the cumulative net total $CO_2$ in the atmosphere, in line with the goals of the Paris Agreement, while SBTi's goal is to drive ambitious climate action in the private sector by supporting companies to set science-based targets.

One peculiarity relates to Climate Neutral Now. This initiative has its origins in the voluntary use of the CDM but has significantly broadened its scope. This is also reflected in its objective: It aims at increasing climate action by engaging non-Party stakeholders (sub-national governments, companies, organizations, individuals).

**Setting rules to facilitate collective action** is at the core of the SBTi Net Zero Standard. With its new framework, SBTi intends to set a standard for setting of net-zero targets and their validation. Similarly, the TSVCM establishes Core Carbon Principles and standards for carbon credits (TSVCM, 2021b). Gold Standard's VCM Transition Framework aims at developing new rules for post-2020 VCM activities. The Nordic Dialogue aims at establishing a Code of Best Practice for the use of the VCM.

**Enhancing transparency and accountability** is a key function for many initiatives analysed. Initiatives can exert a transparency function by collating data from actors and making these publicly available and further enhance accountability by holding actors accountable if they fail to implement the action required. Enhancing transparency is at the core of Oxford's Net Zero Climate initiative. It regularly collates and analyses corporates net zero targets and publishes the findings to allow for an assessment of where we are on the global path to net zero. However, the initiative does not hold corporates accountable for their actions and has until now not published the results from its assessments. The Race to Zero initiative as well as Climate Neutral Now also aim at enhancing transparency by bringing companies together that adhere to common principles.

The function to **provide financial, technological and capacity-building support** is related to the need of developing countries for means of implementation. From the initiatives analysed, only one can be considered to provide capacity building **support for developing countries**: the VCM Global Dialogue. This initiative aims at putting the supply side in the centre of the debate in order to support a VCM can assist developing countries in obtaining flows of finance, technology, and capacity. While this is the background of the initiative, it should be noted that capacity building support is not provided directly but as part of a broader dialogue with developing countries.

**Promoting knowledge and learning** is the focus of the Carbon Credits Quality Initiative, which aims at supporting corporate buyers in purchase of high-quality credits. Fostering a common knowledge base is also an explicit objective of the Nordic Dialogue. However, as many activities collate existing approaches and gather and publish feedback on their own proposals, they are indirectly also contributing to knowledge and learning.

# 4 Action Areas

## 4.1 Accounting and disclosing own emissions

Net zero targets require companies to determine their current carbon footprint as a reference for future greenhouse gas (GHG) reductions. One of the industry standards is the Greenhouse Gas Protocol, which has developed principles, standards and tools to help companies in developing robust inventories of their GHG emissions. In addition to using the GHG Protocol, companies can further certify their inventory through an independent third-party verifier.

While none of the initiatives analysed develops detailed guidance on how to account and disclose emissions, many initiatives require companies to measure their emissions and to disclose their GHG inventory. The GHG Protocol is often referred to as a standard. This is particularly true for initiatives that focus on corporate climate action (SBTi Net Zero Standard, Climate Neutral Now, Race to Zero and Oxford Net Zero Climate). However, also initiatives that focus on the VCM (TSVCM, VCMI, Nordic Dialogue) stress the relevance of robust inventories, transparent reporting, also as a basis for the use of offsets. An overview is provided in Figure 3.

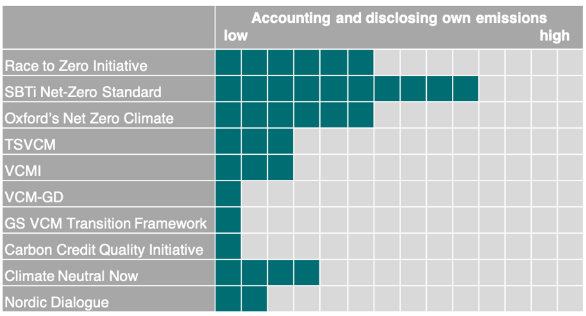


Figure 3: Coverage of "Accounting and Disclosing Emissions" by different initiatives

## 4.2 Target setting

Target setting lies at the heart of SBTI's Net Zero Standard: It is the first global science-based standard to guide corporates in setting net-zero targets. The draft standard contains detailed guidance on how to set near-term and long-term targets and outlines individual steps on the selection of the base year, setting target boundaries and the calculation of targets (SBTi, 2021b). Climate Neutral Now, Race to Zero and Oxford Net Zero Climate provide principles and criteria for developing net zero targets that are, however, more generic than the guidance by SBTi. From the initiatives with an VCM background, the issue of target setting is only covered with some more detail by the VCMI. An overview on the coverage of "target setting" is provided in Figure 4.

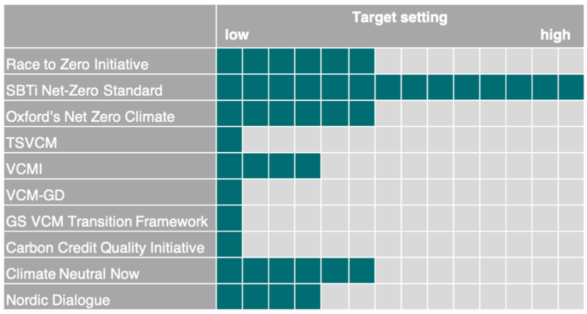


Figure 4: Coverage of "Target Setting" by different initiatives

## 4.3 Offset generation

The quality of credits used by companies for offsetting their residual emissions is a key aspect that is being covered by most initiatives, although to varying degrees.

The quality of offsets is the main focus of the Carbon Credit Quality Initiative, which provides criteria and scorings to assess the quality of carbon credits as well as additional guidance for buyers. Similarly, offset generation is one of the TSVCM main areas of action: its Core Carbon Principles (CCPs) define threshold quality criteria for carbon credits and the TSVCM aims at developing standards to ensure adherence to these CCPs. Rules for offset generation are also the focus of the Gold Standard’s VCM Transition Framework. This initiative aims at providing guidance on the main changes the Paris Agreement brings about and how they impact the VCM, in particular the rules for the design and implementation of mitigation activities. The Nordic Dialogue, in contrast, summarizes the current state of the discussion and key aspects relevant for ensuring credit quality (Nordic Dialogue on Voluntary Compensation, 2021b).

Some initiatives focus on a specific aspect of offset generation: The VCM-GD aims at identifying measures that would enhance the mitigation potential of the VCM by focusing on supporting climate action in developing countries. In this regard, some commonalities with the VCMI can be observed: While the VCMI's focus is on the demand side, the initiative also aims at promoting supply side integrity in particular by engaging with countries to develop policies and strategies to enhance access to the voluntary carbon market. Figure 5 shows the coverage on “offset generation” by the initiatives analysed.

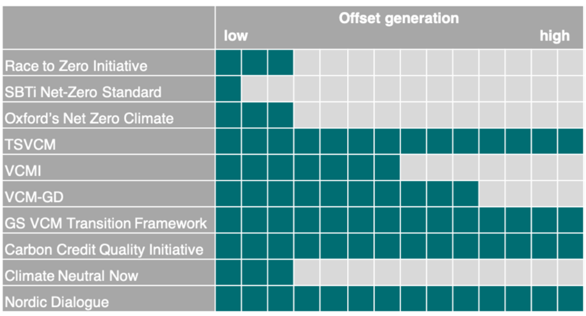


Figure 5: Coverage of "offset generation"

## 4.4 Trading of offsets

Lack of transparency of voluntary carbon markets transaction has been identified as a key concern several years ago (Gillenwater et al., 2007). With the current expansion of corporate net zero targets and the potential role the VCM is to play in achieving these targets, calls to strengthen the transparency of the market have become louder, as lack of transparency is being considered one impediment for market scalability. Developing a robust, transparent and liquid market is one major objectives of the TSVCM. With its work on legal principles and contractual terms, the Taskforce is the only initiative focusing the trading of offset credits. The need to further strengthen transparency is, however, also highlighted by other initiatives. As such, the VCMI calls for the development of tools to enhance trading transparency while not developing such tools on its own. It will further "continue to engage in, collaborate with, and monitor the TSVCM’s activities on supply-side integrity and governance” (VCMI, 2021a). Figure 6 provides an overview on the coverage of “offset trading”.

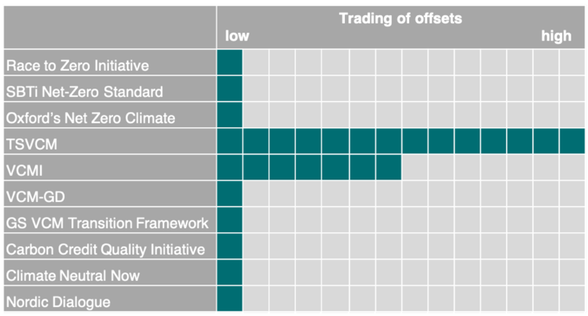


Figure 6: Coverage of "trading of offsets" by different initiatives

## 4.5 Offset use

The question of *how* offset credits are used by companies is key as it is influences the (perceived) overall legitimacy of offsetting as a climate change mitigation tool. With “offset use” we refer to the conditions under which (and the emissions for which) carbon credits can be used by companies. Offset use is closely related to the question of which claims companies may use in the communication of their climate action after having used offset credits (see next section). With the exemption of the Carbon Credit Quality Initiative and GS's VCM Transition Framework, all initiatives analysed address the issue of offset use, though to varying degrees.

The topic is at the centre of SBTi's Net Zero Standard. SBTi uses the term "beyond value chain mitigation" as an umbrella term to cover actions taken by companies on their way towards net zero. For this purpose, carbon credits as well as investments into climate mitigation activities and technologies outside the companies value chain may be used (SBTi, 2021a). This is an important change from an earlier draft version of the Net Zero Standard from September 2021, which still used the term compensation and which was limited to the use of carbon credits for such compensation. The second concept introduced by the SBTi is neutralisation, which relates to those mitigation activities used when the company is at net zero. For neutralisation, the Net Zero Standard requires companies to support measures that permanently remove carbon from the atmosphere. SBTi expects neutralisation to lie at a maximum of 10% of a company's base year emissions (SBTi, 2021a).

Offset use is also clearly at the centre of the VCMI, which aims at developing high integrity demand-side guidance and a categorization scheme for legitimate voluntary use of carbon credits and related claims. Notably, the VCMI makes reference to the terminology introduced by the SBTI and further states that the "use of carbon credits should be additional to abatement and should be carefully managed to avoid replacing other forms of public and private action" (VCMI, 2021a). With these activities, the VCMI builds on and further develops the recommended actions and principles the TSVCM had proposed in its report from January 2021 (TSVCM, 2021a). Legitimate and credible offset use is also covered in the Nordic Dialogue's report, which summarizes key positions of stakeholders. However, greater focus is put on related claims (see next section). While the TSVCM touches upon the question of offset use, this remains rather limited.

The Race to Zero initiative requires members to limit residual emissions to those that are not feasible to eliminate. While the initiative has not (yet) adopted the terminology proposed by SBTi, its requirements align with those of SBTi: Members must inter alia clarify how sinks and credits are used both on the path to net zero, and after net zero is obtained. Furthermore, any neutralization of residual emissions must transition to permanent removals by the time net zero is achieved (Race to Zero, 2021b). Shifting towards carbon removal and long-lived storage are also two of the principles for net zero aligned offsetting by the Net Zero Climate initiative (Net Zero Climate, 2021; see also: Allen et al., 2020).

Participants of the Climate Neutral Now initiative can optionally offset part or all of their emissions. The initiative does not limit the type of carbon offsets but only states that "compensation of emissions needs to evolve towards long-term carbon capture projects" (Climate Neutral Now, n.d.-b). Figure 7 provides an overview on the coverage of "offset use".

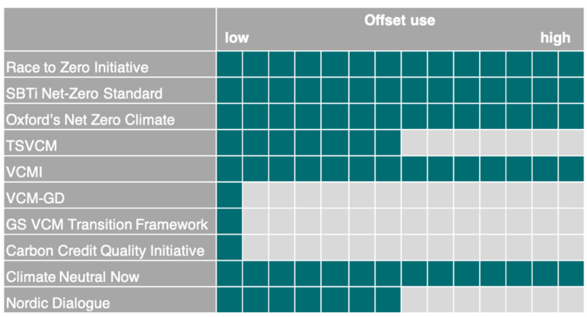


Figure 7: Coverage of "offset use" by different initiatives

## 4.6 Claims

One important driver for companies to set carbon neutrality or net-zero targets is the possibility to use respective claims in their communication. Despite its key relevance, the issue of claims is still associated with a lack of clarity and transparency, in particular with regard to the role of offsets (see e.g. Kachi et al., 2020).

Corporate claims are one of the key action areas of the VCMI, which aims at developing "options for legitimate and credible claims regarding the use of carbon credits" (VCMI, 2021b). In its consultation document, the VCMI establishes criteria for transparent claims and further proposes an initial categorization that differentiates between commitment claims and achievement claims. With its (ongoing) work on corporate claims, the VCMI closes an important gap that the TSVCM had identified in its report and for which it had recommended further work. In its recently published report, the Nordic Dialogue covers the question of claims in quite some detail by summarizing the positions of key actors (Nordic Dialogue on Voluntary Compensation, 2021b). Claims will also be an important element of the initiatives work on a code of best practice.

In principle, corporate claims are also within the scope of the work undertaken by the Science Based Targets Initiative. However, while further guidance is announced in SBTi's consultation document (see reference to section on Communication, Claims, and Validity in: SBTi, 2021b), neither the consultation document nor the Net Zero Standard itself does contain further details but simply states that companies cannot claim to have achieved net-zero before having achieved their long-term science-based target (SBTi, 2021a). The need to intensify work on and clarify the issue of claiming carbon neutrality also becomes evident when looking into how this issue is dealt with by other initiatives: Climate Neutral Now allows companies to claim to be carbon neutral if they meet certain minimum criteria, while other companies can claim to be contributing and being on the road to climate neutrality/net zero (Climate Neutral Now, n.d.-b). Race to Zero does not provide such a differentiation of claims but simply states that members need to inter alia specify what credits are used to make neutralization claims (Race to Zero, 2021b). Other initiatives are developing approaching the issue by exploring possibilities on how to deal with double claiming of emission reductions. The Gold Standard, for instance, differentiates between offset claims and alternative claims (contribution claims) while the VCM-GD calls for a distribution to be made between offset claims and non-offset claims (VCM Global Dialogue, 2021a). Claims are not within the scope of work of Net Zero Climate and CCQI. Figure 8 provides an overview on the coverage of "claims".

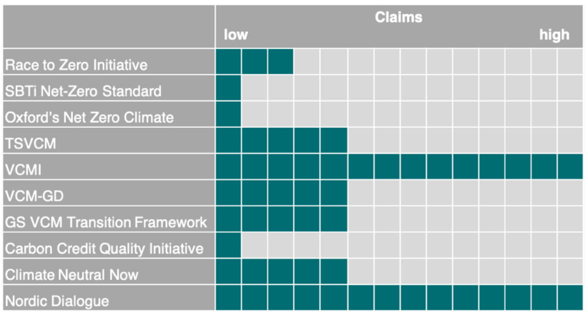


Figure 8: Coverage of "claims" by different initiatives

# 5 Discussion and Conclusions

How can companies contribute to curbing climate change? How can the Paris objectives be translated into the private sector? And how can the voluntary carbon market assist companies in their journey towards meeting individual as well as collective climate targets? These and other questions gave birth to numerous initiatives, a selection of which has been analysed in this paper.

## 5.1 Linking two communities and seeking convergence

The initiatives analysed can be roughly assigned to two fields: the voluntary carbon market and corporate climate action. The focus of individual activities as well as their depth varies significantly across the different initiatives explored. While some have broad coverage of the different issues other focus on one specific aspect. The analysis further showed that key aspects are being approached from both sides. In particular the question of how offsets should be used by corporates has linked two communities that have been operating in parallel for numerous years. Linking both communities has also resulted in mutual learning effects and convergence in various areas. For instance, the need of developing a robust inventory is being considered by initiatives irrespective of their background, as well as the need to limit the use of offsets to unavoidable emissions. Other areas of growing consensus concerning the future role of offsets include the integration of offsets into corporate pathways and the role of removals. With regards to the latter, there seems to be growing consensus that offsetting will have to move from emission reductions towards removals and long-lived storage of carbon in the long run.

## 5.2 Governance can take various forms

The analysis has not only shown that initiatives originate from different fields but also that governance can take various forms. The five governance functions by Oberthür et al. (2021) informed the analysis of the initiatives and allowed to identify the key functions exerted. It should be noted, though, that a clear-cut differentiation between the individual functions is not always possible.

While all initiatives provide some form of **guidance and signal** by highlighting specific aspects that they consider particularly relevant, the other governance functions are only exerted by some of the initiatives analysed. Enhancing **transparency and accountability** is a key function for many initiatives (Net Zero Climate, SBTi, Climate Neutral Now, Race to Zero, CCQI). Some initiatives (TSVCM, SBTI and Gold Standard VCM Transition Framework) are actively engaging in **setting rules to facilitate collective action**. This function is particularly strong for the TSVCM. As can be seen from the overlaps in initiatives, these two functions are closely linked, as common rules do enhance transparency and accountability. From the initiatives analysed, providing **support to developing countries** is the explicit objective of only two initiatives (VCMI and VCM-GD). By collating different existing approaches and gathering views on new ideas, many initiatives are also exerting the **knowledge and learning function**, which can be considered to be the focus of two initiatives (CCQI, Nordic Dialogue).

## 5.3 The most pressing issues that need to be resolved

The emergence of and collaboration between initiatives is steadily contributing to the search of solutions for the challenges the voluntary carbon market is confronted with. While some areas of convergence have been identified, further work is needed to explore what a common agreement could look like.

### *Double claiming as a cross-cutting issue that requires clarity*

Whether double claiming between corporates and countries should be allowed is still a question that needs to be answered. The analysis indicates that there is still no common ground on this topic and it remains to be seen whether initiatives such as the VCMI will be able to find a position that can be agreed on by the broader community. What seems to be clear is that the answer will have to be provided by the voluntary carbon market itself. The VCM must not (and should not) wait for the international climate negotiations to find common ground on Article 6. The voluntary carbon market has in the past considered itself a pioneer and incubator that develops solutions which could later on be adopted by the international compliance market.

It is in this spirit that the VCM should now make a step forward and agree on the exclusion of double claiming between corporate and national targets in the context of offsetting. In order to implement this approach and to issue credits that are backed by corresponding adjustments, the VCM will however have to rely on a robust accounting framework adopted by the UNFCCC. By agreeing on the exclusion of double claiming, VCM actors could send a clear message to international policy makers that an accounting framework that is accessible for voluntary carbon market operations is required.

### *Beyond offsetting: Finding a place for non-offset climate action in the net-zero world*

The development of an accounting framework that allows for the application of corresponding adjustments to effectively address the issue of double claiming will presumably take several years. Against this backdrop, there is a growing interest in alternatives to the existing offsetting approach, which would allow companies to invest in mitigation activities outside their value chain without claiming to have offset their own emissions. Since there is no transfer of mitigation outcomes and the ownership of the mitigation outcome remains with the host country, no corresponding adjustments are required, allowing to circumvent the double claiming issue. Another benefit of such an approach is that activities could be designed in a way that allows for a more systemic long-term transformational impact, instead of having to achieve an immediate short-term effect.

However, the approach is confronted with its own challenges: First, there is still no broad recognition of this approach within the VCM and many market players put into question its marketability. While companies could use these investments to make so called 'contribution claims' and showcase how they have supported climate action elsewhere, the acceptance of these claims among companies is still uncertain. Second, it is still unclear how these investments align with companies' neutrality targets. While SBTi's Net-Zero Target encourages companies on their way towards net zero to take climate action beyond their value chains that is not limited to the purchase of carbon credits, the exact nature of this beyond value chain mitigation actions is still to be explored further (SBTi, 2021c). One key question that has to be answered is what relationship these investments should have towards companies' net-zero targets and what kind of claims they could allow. Exploring these questions with greater depth will presumably become easier once key players on the VCM have endorsed the approach as one possible field of future market operation.

### *Words matter: Towards comprehensible claims and a terminology based on science*

The comparison of different initiatives indicates that corporate claims are another topic that needs to be explored further. While there seems to be a growing consensus that corporate targets must be based on science, there is no such agreement with regards to corporate claims and the underlying terminology.

Climate Neutral Now, for instance, uses the term carbon neutrality to denote what scientifically speaking is GHG neutrality: "a state in which the *GHG emissions* released to the atmosphere by a stakeholder […] have been reduced or avoided and the remaining ones are compensated with carbon credits" (Climate Neutral Now, n.d.-b, emphasis added). Climate neutrality, in turn, is used to denote a balance between emissions and removals of GHG from the atmosphere. This usage does not align with the scientific meaning of the term, which would not only include a balance of GHG emissions but also take into consideration local or regional biogeophysical effects of human activity (IPCC, 2018).

Corporate claims should hence be developed on the basis on a terminology that is grounded on science. In order to achieve this, greater consideration of the scientific findings as well as inclusion of climate scientists in the debate could be a way forward.

Ensuring that corporate claims are based on science is, however, not sufficient. Claims will at the same time have to be comprehensible for its recipients, in particular for investors and final consumers. Strengthening interdisciplinary research and taking into account findings from other fields such as environmental psychology or linguistics could provide important insights and ultimately allow for the development of claims that can be easily understood and which provides the recipient (consumer, shareholder, investor) with the highest clarity of what these claims encompass. It remains to be seen which criteria will be applied during the development of a new international standard on claims. A key future process in this regard will be the ISO Standard 14068 on carbon neutrality, which is being developed by the UK's national standard body BSI and will be published in 2023 after a round of public consultation to be held in 2022 (BSI, 2021).

### *Policying the use of credits*

Agreeing on credible claims is a necessary yet insufficient condition to ensure the VCM actually contributes to the achievement of the Paris Agreement's objectives. In addition, monitoring how companies communicate their climate change mitigation efforts and the use of carbon credits is required. This issue will even become more salient if different types of units are introduced such as carbon credits that are backed by corresponding adjustments and those whose mitigation impact has not been accounted for by the host country.

Private certification schemes could be assumed to have an intrinsic interest in ensuring that the certificates they are issuing are not misused, since the improper use could undermine the value of their products in the long-term. If, for instance, units intended to be used for contribution claims are used for offsetting claims, this could undermine the credibility of the entire system. And indeed, the Gold Standard for instance is currently seeking to update its guidelines to provide guidance on the responsible use of its credits (Gold Standard, 2021a). However, the possibilities to actually control and sanction misuse seem to be limited and are possibly beyond the control of certification standards.

Another player in the VCM that could contribute to avoiding misuse of carbon credits are the suppliers of carbon credits. Since suppliers and the companies purchasing the credits close a legal contract, additional provisions on the correct use of the product could be included. Until now, such provisions do not seem to be part of the contractual arrangements, as the case of TOTALEnergies shows: the energy company uses carbon credits supplied by South Pole to market natural gas as 'carbon neutral', a claim which the supplier does not support (Bloomberg, 2021). Inclusion of provisions into purchase agreements that clearly state how carbon credits supplied can be used could help avoid such a misuse of credits by allowing suppliers to take legal action if the terms of the contract are breached. It should be noted, however, that monitoring the correct use of offsets can be expected to require significant capacities and may become too cumbersome in particular if the numbers of buyers are large and amounts of credits purchased are small. Furthermore, not all companies buy the credits from large suppliers.

Public scrutiny as well companies' self-regulation may also play an important role in the future, as two recent legal processes in the Netherlands and Germany show. In the Netherlands, the Dutch Advertising Code Committee, a watchdog overseeing the self-regulation system of advertising, has urged the fossil fuel company Shell to stop promoting fuel purchases as carbon neutral after a group of nine law students had made a respective complaint (Euractiv, 2021). A similar process can be observed in Germany, where an association responsible for the self-regulation of the economy and strengthening of fair competition (the so called Wettbewerbszentrale) has filed a lawsuit against four companies that have labelled their products as "carbon neutral" (Knuth, 2021).

These examples indicate that there is not only a pressing need for oversight of offset use and respective corporate communications but also that legal clarity is required. National governments should hence engage proactively in establishing best practice guidance and standards as well as provide a basis for respective legal claims.

## 5.4 The need for orchestration of initiatives

The emergence of ever new initiatives focusing on the future role of the VCM is a consequence of the urgent need to solve the challenges this market is confronted with. While the large number of initiatives might raise efficiency concerns and make it difficult for outsiders to follow the ongoing discussions, the findings show that each initiative has its specific governance mode and action area. This leads to a division of tasks and allows for collaboration between different initiatives.

At the same time, there is a need for orchestration of these initiatives in order to allow outcomes to inform decisions on the future of the VCM. The new governance body formed by the TSVCM could adopt the role of an orchestrator of VCM initiatives. In order to ensure legitimacy of this new governance framework not only inclusiveness and representation of diverse stakeholders should be ensured but the body should also remain open to integrate new initiatives that will presumably continue to emerge in the future.

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