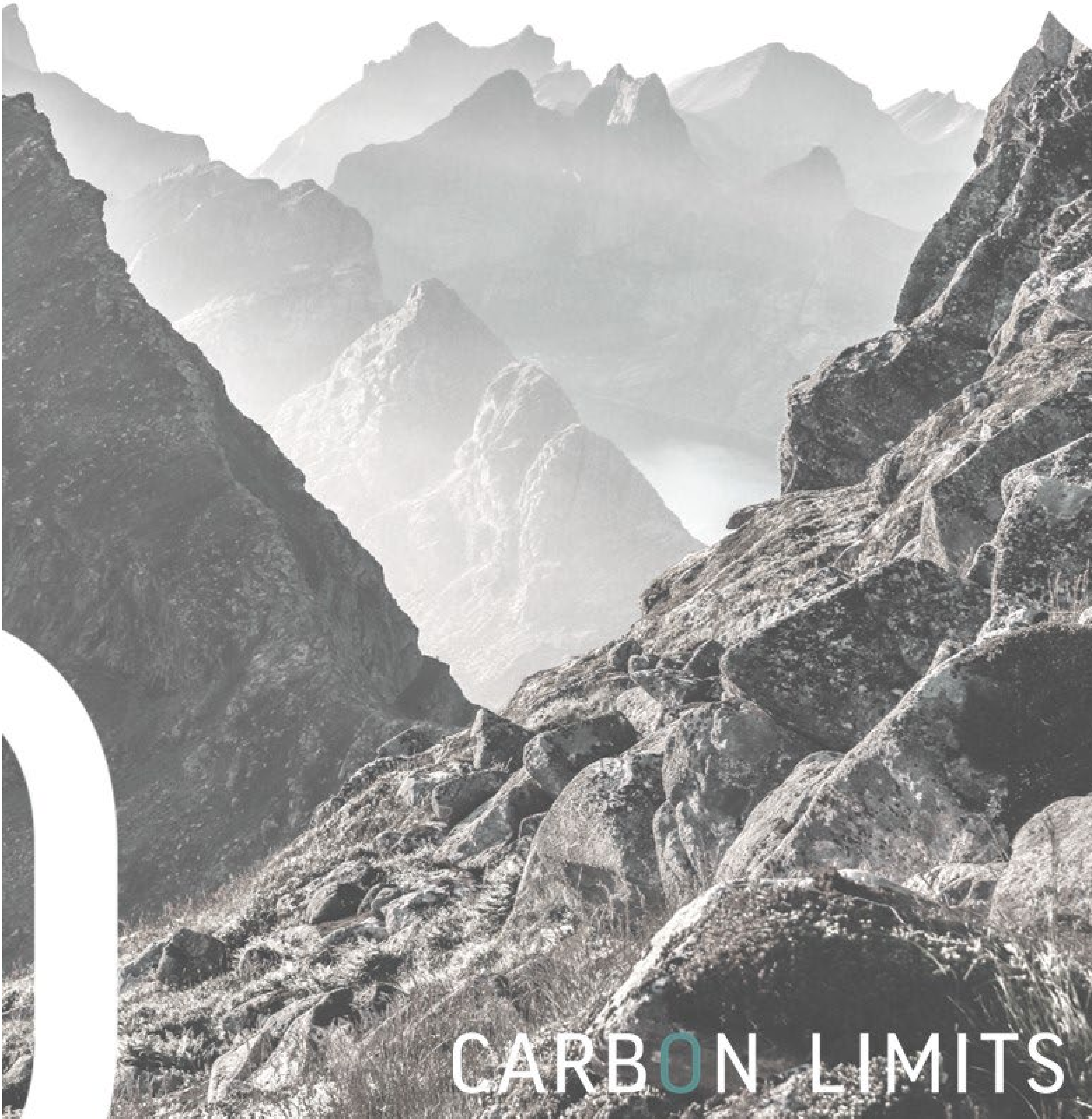
# Linkages between Article 6 of the Paris Agreement and Voluntary Carbon Markets

## Nordic Perspectives and Points of Convergence

June 2025



CARBON LIMITS

This report was prepared by Carbon Limits AS for the Nordic Initiative for Cooperative Approaches (NICA), which was launched in collaboration between Finland, Norway, Sweden and the Nordic Environment Finance Corporation (Nefco).

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Carbon Limits works with public authorities, private companies, finance institutions and non-governmental organizations to reduce greenhouse gas emissions from a range of sectors. Our team supports clients in the identification, development, and financing of projects that mitigate climate change and generate economic value, in addition to providing advice on the design and implementation of climate and energy policies and regulations.

## Abstract

Successfully addressing the threat of climate change to reach the goals of the Paris Agreement necessitates rapid emissions reductions and achieving net zero by 2050. International carbon markets can contribute to this goal by creating a system to trade in greenhouse gas mitigation. However, international carbon markets have fragmented significantly since their first introduction under the Kyoto Protocol prompting the emergence of voluntary carbon markets (VCM). Initially, the VCM encompassed both independent crediting mechanisms governed by private or non-profit entities as well as the voluntary demand for mitigation by corporate actors and even governments (i.e., those wanting to go beyond their). For many years, the VCM operated somewhat separate from the international crediting mechanisms of the Clean Development Mechanism (CDM) and Joint Implementation (JI), where the international mechanisms primarily served the compliance needs of national climate change goals and regulated entities in some countries.

The agreement on rules for market-based cooperation under Article 6 of the Paris Agreement at COP26 and subsequent decisions established important new links between regulated and voluntary carbon markets, including the possibility to use independent crediting mechanisms (e.g., Gold Standard, Verified Carbon Standard, etc.) as the basis for Article 6 trading. These interactions – spanning voluntary and regulated crediting mechanisms and diverse sources of national, international and private demand for mitigation – will shape the trajectory of global climate action in the coming years. This paper presents both the opportunities and challenges from the relationship between Article 6 and VCMs, offering a Nordic perspective on potential pathways to maximize the synergies. It identifies Nordic points of convergence in the quickly evolving field of international carbon markets, focusing on common desired outcomes as well as areas of uncertainty.

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# Abbreviations

| | |
|---|---|
| A6.4ERs | Article 6.4 Emission Reductions |
| BAU | Business-As-Usual |
| BECCS | Bioenergy with Carbon Capture and Storage |
| BECCU | Bioenergy Carbon Capture and Usage |
| CAR | Climate Action Reserve |
| CCS | Carbon Capture and Storage |
| CDM | Clean Development Mechanism |
| CDR | Carbon Dioxide Removal |
| CERs | Certified Emission Reductions |
| CMA | Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement |
| CO2e | Carbon Dioxide Equivalent |
| COP | Conference of the Parties |
| CSR | Corporate Social Responsibility |
| DACCS | Direct Air Carbon Capture and Storage |
| DNA | Designated National Authority |
| EU | European Union |
| GHG | Greenhouse Gas |
| GS | Gold Standard |
| ICAO | International Civil Aviation Organization |
| ICM | Independent Crediting Mechanism |
| ICVCM | Integrity Council for the Voluntary Carbon Market |
| ITMO | Internationally Transferred Mitigation Outcome |
| JI | Joint Implementation |
| LULUCF | Land Use, Land Use-Change, and Forestry |
| MBM | Market-Based Mechanism |
| MoU | Memorandum of Understanding |
| NAMA | Nationally Appropriate Mitigation Action |
| NDC | Nationally Determined Contribution |
| Nefco | Nordic Environment Finance Corporation |
| NMAs | Non-Market Approaches |
| OIMP | Other International Mitigation Purposes |
| PACM | Paris Agreement Crediting Mechanism |
| SB | Supervisory Body |
| SBTi | Science Based Targets Initiative |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VCM | Voluntary Carbon Market |
| VCMI | Voluntary Carbon Market Integrity Initiative |
| VCS | Verified Carbon Standard |

# 1 Introduction

Carbon markets are a system for trading in greenhouse gas (GHG) mitigation - usually through the generation of 'carbon credits' that represent a unit of emission reductions or removals and have played a key role in addressing climate change. The Kyoto Protocol, negotiated under the United Nations Framework Convention on Climate Change (UNFCCC), introduced the first international crediting mechanism – the Clean Development Mechanism (CDM) and Joint Implementation (JI) – as an economic instrument in 1997,.[1] Both the CDM and JI issued carbon credits that could be used by countries to comply with part of their legally binding emission reduction obligations.

Since their introduction under the Kyoto Protocol, the international carbon markets have undergone a process of fragmentation and today are divided into various strands that have fared different fates.[2] The decrease of activities under the CDM of the Kyoto Protocol in the early 2010s and the lack of a clear agreement on the rules for market-based co-operation under Article 6 of the Paris Agreement prior to the agreement on the rules on Article 6 of the Paris Agreement (Article 6 rules) at the Twenty-Sixth Conference of the Parties in Glasgow in 2021 (COP26) have generated uncertainties relating to the internationally regulated market regimes during that time period. In parallel, the private-led Voluntary Carbon Markets (VCM) saw record-high transaction volumes in the years up to 2023.[3] Contrary to the internationally regulated market regimes, the VCM was originally designed to cater to voluntary support for climate action. It does not directly build on regulation and was mostly governed through bottom-up processes by voluntary certification standards and crediting programs (herein referred to as independent crediting mechanisms or ICM) without any international regulatory oversight.

The agreement on the Article 6 rules COP26 revived the old liaison between internationally regulated market mechanisms and the international climate change regime. Under Article 6, all Parties to the Paris Agreement may participate in voluntary cooperation to achieve and enhance the mitigation commitments made in their nationally determined contributions (NDCs).[4] Two market-based mechanisms (MBMs) for voluntary cooperation are available to Parties: The Article 6.2 'cooperative approaches', involving the generation and use of internationally transferred mitigation outcomes (ITMOs) and the centralized mechanism for market-based cooperation under Article 6.4, the Paris Agreement Crediting Mechanism (PACM).

The clear intention of some Parties to make use of market-based cooperation under Article 6 and the growing number of Article 6 deals, has initiated an ongoing process of navigating the alignment of the VCM with the implementation of NDCs and the governance structure of Article 6, and the Paris Agreement more generally. Both host and acquiring countries are implementing policies and taking steps that are likely to influence the future of Article 6, the VCM, international carbon markets, and global climate action more generally. This paper discusses the emerging features of this process from a Nordic perspective, focusing on the countries of Denmark, Finland, Iceland, Norway, and Sweden. It explores the question of whether there are points of convergence among the Nordic countries, both in terms of harnessing the opportunities and addressing the challenges arising from the interplay of the VCM and market-based cooperation under Article 6.

The paper starts by providing an overview of the Article 6 MBMs, the VCM and their interplay (Section 2). Section 3 considers the relationship of Nordic countries with the Article 6 MBMs and the VCM,

[1] Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entry into force 16 February 2005) 2303 UNTS 162 (Kyoto Protocol).

[2] Hanna-Mari Ahonen and others, 'Governance of Fragmented Compliance and Voluntary Carbon Markets Under the Paris Agreement' (2022) 10 Politics and Governance 235

[33] According to Ecosystem Marketplace's 'State of the Voluntary Carbon Market 2024', in 2023, the volume of the VCM saw a 56 percent drop compared to 2022 levels, mainly due to negative perception of carbon credits, driven by media reports highlighting unethical or ineffective projects and standards, see Ecosystem Marketplace, 'State of the Voluntary Carbon Market 2024' (Forest Trends, 30 May 2024) https://www.forest-trends.org/publications/state-of-the-voluntary-carbon-market-2024/.

[4] Ibid, art 6.1.

highlighting common desired policy outcomes while Section 4 discusses the associated areas of uncertainty. The article finalizes with concluding remarks.

# 2 Interplay between Article 6 of the Paris Agreement and Voluntary Carbon Markets

## 2.1 Market-based cooperation under the Paris Agreement

Article 6 of the Paris Agreement establishes flexible mechanisms for countries to cooperate internationally in the implementation of their NDCs with the aim to "allow for higher ambition in their mitigation and adaptation actions as well as promote sustainable development and environmental integrity".[5] Three key approaches for voluntary cooperation are available to Parties. Two approaches take the form of market-based cooperation and are enshrined in Articles 6.2 and 6.4. A third approach is set out by Articles 6.8 and 6.9 and takes the form of non-market approaches (NMAs) to international cooperation on climate change mitigation. The NMAs will not be given further consideration in this article.

Article 6.2 allows Parties to engage, on a voluntary basis, in bilateral, regional, or multilateral cooperative approaches that involve the use of ITMOs.[6] An ITMO is broadly defined as a real, verified, and additional emissions reduction or removal – including mitigation co-benefits resulting from adaptation actions and/or economic diversification plans or the means to achieve them – that is generated from 2021 onwards and is authorizedby the host party for use towards an NDC, other international mitigation purposes or other purposes (OIMP).[7]

The use of ITMOs towards NDCs is voluntary and is subject to authorization by the Party(ies) participating in the transfer.[8] This underlines the decentralized and country-led governance approach of Article 6.2 and means that cooperative approaches are generally not subject to international oversight.[83] However, Parties who wish to engage in cooperative approaches need to satisfy various participation requirements.[9] Moreover, Article 6.2 prescribes several safeguards to ensure the integrity of ITMOs.[10] In this regard, the establishment of robust and transparent government processes and accounting is of

Box 1 Double counting and corresponding adjustments (Heras, 2023)

**Double counting** refers to a situation in which a single emissions reduction or removal is counted more than once towards a mitigation target, which can occur either through double issuance, double use or double claiming of a credit. The rules for transferring ITMOs under Article 6 ensure that emissions reductions or removals are not double counted by requiring corresponding adjustments for all transfers.

**Corresponding adjustments** mean that the transferring country (i.e. the host country) adds back the amount of transferred ITMOs into its NDC GHG inventory to create an 'emissions balance' that is compared to the NDC goal. The acquiring country subtracts the transferred ITMOs from its NDC GHG inventory when creating the emissions balance.

[5] Paris Agreement, art 6.1.
[6] Paris Agreement, art 6.2.
[7] Decision 2/CMA.3, Annex , paras 1 (a) (b) (d) (e) (f).
[8] Paris Agreement, art 6.3.
[9] E.g. concerning NDCs, national inventory reports, arrangements for the authorization and tracking of ITMOS - including the designation of a national authority (DNA) for the mechanism, - as well as consistency with the guidelines and decisions of the CMA, Decision 2/CMA.3, Annex, paras 3, 4, and 5.
[10] Paris Agreement, art 6.2.

major importance, including to guarantee the avoidance of double counting through the application of corresponding adjustments (CAs) to Parties emissions balances (see Box 1)[11, 12]

The Article 6.4 mechanism, or PACM, is a centralized international baseline-and-crediting mechanism subject to the authority and guidance of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA) and the supervision of a designated body, the PACM Supervisory Body (SB.[13] The PACM certifies emission reductions and removals (A6.4ERs) in a centralized UN system. For that purpose, the Article 6.4 rules set forth requirements for activities seeking to be registered under the PACM and to issue A6.4ERs as well as the aspects that need to be developed to make the PACM operational. Most requirements and processes necessary to operate the PACM are developed by the PACM SB.[14] When authorized for the use towards NDC achievement or OIMP, A6.4ERs are ITMOs, consistent with the provisions for authorized ITMOs of Article 6.2.[15] Non-authorized A6.4ERs are termed 'mitigation contribution A6.4ERs' and reduce emission levels in the host country and count towards the host country's NDC.[16]

## 2.2 Voluntary Carbon Markets

Today's VCM[17] developed from the early 2000s onwards.[18] The starting point was a collaboration of market actors (i.e. business associations representing corporate credit buyers, project developers, and non-governmental organizations (NGOs)) that set up ICMs for the generation of voluntary emission reduction or emission removal credits (VCM credits) in a baseline-and-credit system.[19] Several privately-organized ICMs emerged, including those dominating the market today: the American Carbon Registry (ACR),[20] the Climate Action Reserve (CAR),[21] the Gold Standard (GS),[22] and the Verified Carbon Standard (VCS)[23].

Typically, ICMs develop and administer the rules and requirements for the generation, certification (verification), issuance, and trade of VCM credits, often together with governments, civil society, and corporations. They also account for the issuance, trade, and use of VCM credits in respective registries (i.e., ICM registries). The roles of project validation and verification are usually outsourced to accredited independent auditors who examine if VCM projects and programs (i.e., mitigation activities) comply with the ICMs' processes, rules, requirements, safeguards, etc.

Since there is no single or centralized VCM regulatory authority, the rules and requirements for VCM projects and programs as well as for their validation and the verification, certification, issuance and trade of VCM credits may differ among ICMs. For example, ICMs diverge in terms of eligible types of activities, location of projects, or project requirements. However, in general, a VCM credit represents an emission

[11] For more detail, see i.e. Charlotte Streck, Melaina Dyck and Danick Trouwloon, 'The Voluntary Carbon Market Explained (VCM Primer)' (Climate Focus 2021).

[12] Respectively, Decisions 2/CMA.3 and 6/CMA.4 contain rules on the accounting of ITMOs through the avoidance of double counting reporting guidelines; review processes and the tracking of ITMOs; as well as rules on raising ambition in mitigation and adaptation action. In fact, reporting and review cycles are key features for ensuring the integrity of Co- operative Approaches.

[13] Paris Agreement, art 6.4.

[14] Decision 3/CMA.3, Annex, para 24 (a).

[15] Decision 3/CMA.3, Annex, para 43.

[16] Decision 7/CMA.4, Annex I, para 29 (b).

[17] In this article, the term VCM refers to the voluntary generation of GHG emissions reductions or removals by one party and their subsequent sale or transfer to another party. Furthermore, reference to the term encompasses the infrastructure that facilitates these operations.

[18] Alice Valiergue and Véra Ehrenstein, 'Quality Offsets? A Commentary on the Voluntary Carbon Markets' (2022) 0 Consumption Markets & Culture 1, 5.

[19] Axel Michaelowa and others, 'Pocket Guide to Article 6 of the Paris Agreement' (European Capacity Building Initiative 2022) https://ercst.org/wp-content/uploads/2022/11/Pocket_Guide_to_Article_6.pdf

[20] 'About Us' (ACR) https://acrcarbon.org/about-us/.

[21] 'About Us' (Climate Action Reserve) https://www.climateactionreserve.org/about-us/.

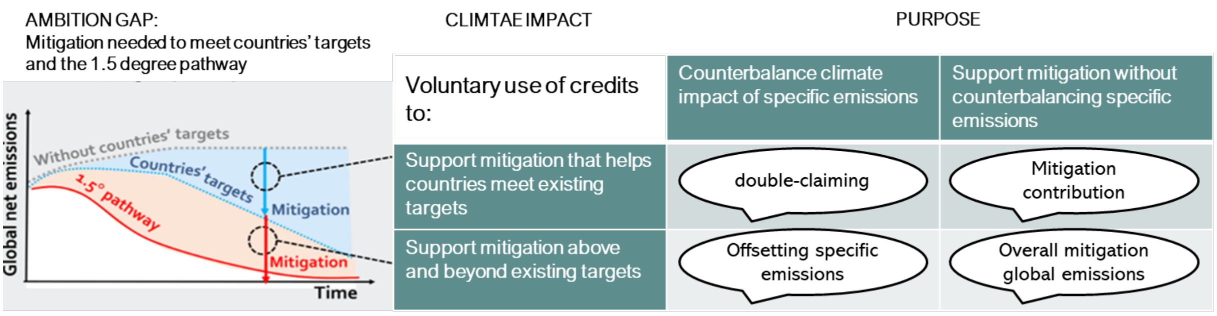
[22] 'Who We Are and What Drives Us' (The Gold Standard) https://www.goldstandard.org/about.

[23] 'Overview' (Verra) https://verra.org/about/overview/.

reduction or removal of one metric ton of $CO_2$-equivalents ($CO_2e$) and is generated through mitigation activities, i.e. in, e.g., the forestry, land-use, agriculture, renewable energy, or waste sector.[24]

'Retiring' or 'cancelling' VCM credits may allow buyers to claim the underlying emission reductions or removals and use them to balance out unabated emissions.[25] In addition, credits may be retired without claiming the underlying mitigation outcomes, i.e. to claim to have contributed to reductions in the host country ('mitigation contribution'), to an overall reduction in global emissions (OMGE) or to finance other environmental and social benefits.

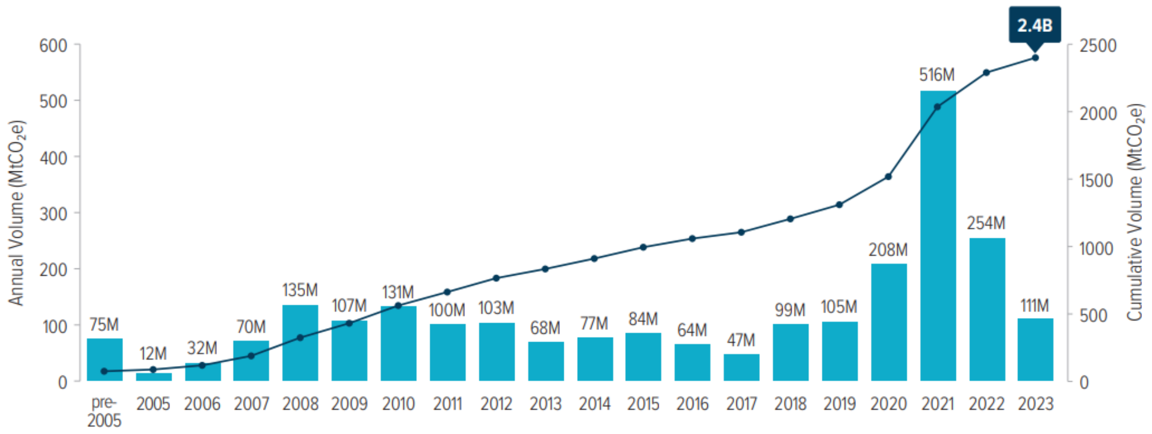
Figure 1 Claims relating to the voluntary use of carbon credits[26]




The private sector, including companies, institutions, and individuals, have developed a strong interest in using VCM credits, primarily for voluntary offsetting.[27][28] The interest in VCM credits is mostly motivated by corporate social responsibility (CSR) concerns, environmental ethics, climate-oriented business models, and the sale of products and services with attached climate attributes.[29] Sometimes it can, however, also be attributed to the anticipation of future subjection to mandatory mitigation and compliance markets (often called 'pre-compliance obligations'). Many corporations buy VCM credits to make corporate climate claims such as carbon or climate neutral[30], e.g. in response to initiatives such as the United Nations-backed Race to Zero Campaign[31] or the Science Based Targets Initiative (SBTi)[32]. As a result, the volume of carbon credits traded in the VCM has been increasing in the years up to 2022, when transaction volumes of Forestry and Land Use and Renewable Energy credits (the most popular project types) dopped sharply due to negative public perception, driven by media reports highlighting unethical or ineffective carbon projects and standards (see Figure 2). Transaction volumes of other project categories (i.e. Energy Efficiency/Fuel Switching, Agriculture, and Household/Community Devices categories) continue to increase.

[24] Derik Broekhoff and others, 'Securing Climate Benefit: A Guide to Using Carbon Offsets' [2019] Stockholm Environment Institute & Greenhouse Gas Management Institute 60, 11.
[25] Ibid.
[26] Adapted from Ahonen H-M and others, Harnessing Voluntary Carbon Markets for Climate Ambition : An Action Plan for Nordic Cooperation (Nordisk Ministerråd 2022) <https://urn.kb.se/resolve?urn=urn:nbn:se:norden:org:diva-12669.
[27] The term 'offsetting' refers to the use of an equal proportion of external GHG reductions to counteract the harm of GHG emissions emitted by business, governing, livelihoods and leisure activities. Voluntary offsetting implies that the choice to offset emissions was not motivated by mandatory mitigation obligations.
[28] Danick Trouwloon and others, 'Understanding the Use of Carbon Credits by Companies: A Review of the De- fining Elements of Corporate Climate Claims' n/a Global Challenges 2200158.
[29] Ibid.
[30] Carbon or climate neutrality claims express that an organization, product, service or activity has a neutral impact on global GHG emissions levels. Such claims often rely substantially on the use of carbon credits for offsetting and therefore do not necessarily represent a move away from business as usual and towards global net zero emissions, 'Achieving Carbon Neutrality' (Carbon Offset Guide) <https://www.offsetguide.org/understand- ing-carbon-offsets/the-role-of-offsets-in-carbon-management-strategies/achieving-carbon-neutrality/>
[31] 'Race to Zero' (Climate Champions), https://climatechampions.unfccc.int/system/race-to-zero/.
[32] 'Ambitious Corporate Climate Action - Science Based Targets Initiative', https://sciencebasedtargets.org/.

Figure 2 VCM size by volume of traded carbon credits, pre 2005 to 2023[33]



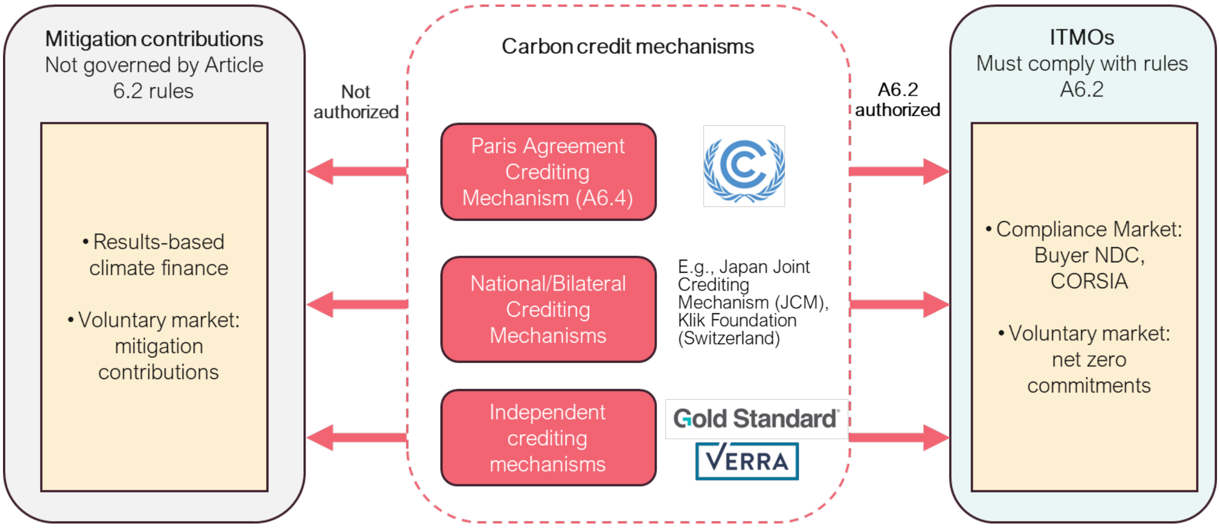

Even though ICMs (i.e. the "supply side" of the VCM) mainly served voluntary corporate buyers, more recently eligible credits issued under ICMs have also been approved for use towards emission reduction obligations under national emission trading schemes,[34] climate policies such as carbon tax schemes,[35] or the International Civil Aviation Organization's (ICAO) mandatory Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)[36]. Conversely, credits or allowances issued under regulated carbon pricing systems have been used for voluntary offsetting or to dispense climate finance.[37] This is evidence of a growing trend of greater interactions between VCM and (internationally) regulated carbon markets.

## 2.3 The growing interplay between Article 6 and the VCM

Article 6 introduces critical changes to the international climate change regime that have implications for the VCM, both in terms of new opportunities as well as novel challenges (see Table 1 below). The framework and rules of Article 6 establish new forms of activity in the international carbon markets and create a linkage between the VCM and Article 6 (see Figure 1 and explanation below).

Figure 3 Sources of supply and demand for ITMOS and non-authorized credits

[33] Ecosystem Marketplace, "State of the Voluntary Carbon Market 2024."
[34] 'Offset Use Across Emissions Trading Systems | International Carbon Action Partnership' (24 January 2023) https://icapcarbonaction.com/en/publications/offset-use-across-emissions-trading-systems.
[35] For instance, the Colombia and South African government have linked their mandatory carbon tax schemes to the VCM, allowing liable entities to use VCM credits from GHG carbon crediting programs to meet their carbon tax obligations, Congreso de La República de Colombia, 'Ley 1819 de 2016 "Por Medio de La Cual Se Adopta Una Reforma Tributaria Estructural, Se Fortalecen Los Mecanismos Para La Lucha Contra La Evasión y La Elusión Fiscal, y Se Dictan Otras Disposiciones"'; The Parliament of the Republic of South Africa, 'Act No. 15 of 2019: Carbon Tax Act, 2019'
[36] For example, CERs issued from CDM may be used for voluntary offsetting and have become a source of supply for the VCM, see 'CDM: How to... / Guidance', https://cdm.unfccc.int/Registry/guidance/draft_index.html
[37] For example, CERs issued from CDM may be used for voluntary offsetting and have become a source of supply for the VCM, see 'CDM: How to... / Guidance' https://cdm.un- fccc.int/Registry/guidance/draft_index.html. Another example is the collaboration between Rwanda and the Gold Standard on the generation and issuance of correspondingly adjusted, Paris-aligned credits for use in the VCM, see "Rwanda, Gold Standard, GenZero to Collaborate on Article 6 Carbon Credit Projects | Rwanda Green Fund," accessed January 10, 2025, https://greenfund.rw/rwanda-gold-standard-genzero-collaborate-article-6-carbon-credit-projects.



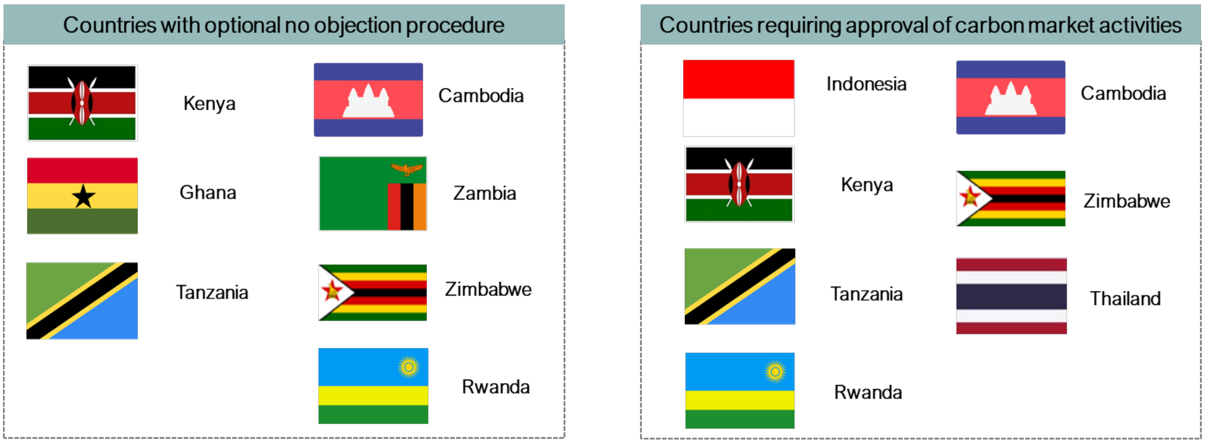

On the supply side, linkage points include the possibility to use ICMs as the basis for Article 6 trading. The ICMs can support the design and implementation of Article 6.2 cooperative approaches and play a valuable role in facilitating access to domestic mitigation opportunities and the channelling of knowledge, technologies and investment into host countries.[38] Where ICMs amend their quality criteria and governance features to meet Article 6 requirements, host countries may recognize the ICMs for the generation and issuance of credits eligible for authorization as ITMOs under Article 6.2.[39] Host countries may also consider outsourcing some of the infrastructure required for Article 6 transactions to an ICM or its technical service providers (e.g. by using the ICM's bespoke registries).

On the demand side, VCM participants have the option to purchase and use ITMOs for voluntary offsetting or to buy non-authorized credits to support national climate targets on a voluntary basis (also referred to as 'mitigation contribution'). ITMOs may be perceived as higher quality by voluntary credit buyers (as further discussed below). Voluntarily cancelling non-authorized credits to support the achievement of national mitigation targets as part of or beyond the NDC contributes to global climate change mitigation.

The Paris Agreement with its rules and governing bodies has no jurisdiction over the VCM. It is therefore up to buyer and seller countries to regulate the linkages between the Article 6 and the VCM, i.e., whether and how Article 6 rules would apply to VCM supply and demand. Notably, more and more host countries are requiring VCM projects to register, seek government approval, or obtain a "letter of no objection" as part of a unified carbon market framework covering all types of (international) carbon markets (see Figure 4). Some host countries also regulate the sectoral scope for VCM projects that may be implemented in the country or set requirements for environmental and social safeguards, the payment of fees or share of proceeds used to support adaption. While all countries will have to apply corresponding adjustments if they authorize and transfer ITMOs based on carbon credits from ICMs, no country requires that all ICM credits be authorized. In other words, these credits may still be used as non-authorized credits as shown in the left side of Figure 3.[40]

[38] See also, The VCM Global Dialogue, 'The Voluntary Carbon Market as a Catalyst of Climate Ambition in Developing Countries' <https://vcm-gd.org/wp-content/uploads/2021/10/VCM_Consolidated_final.pdf>.
[39] Ahonen H-M and others, 'Raising Climate Ambition with Carbon Credits - Exploring the Roles and Interplay of the Voluntary Carbon Markets and Article 6 in Contributing to the Implementation of National Climate Targets and Raising Global Ambition, https://www.energimyndigheten.se/49e25f/globalassets/klimat--miljo/internationella-klimatinsatser/raising-climate-ambition-with-carbon-credits.pdf>
[40] E.g. 'Ghana's Framework on International Carbon Markets and Non-Market Approaches' <https://cmo.epa.gov.gh/wp-content/uploads/2022/12/Ghana-Carbon-Market-Framework-For-Public-Release_15122022.pdf

Figure 4 Examples of host countries requiring no objection or approval for all types of carbon market activities




Where national regulation is absent, VCM operations may, in principle, continue according to 'business-as-usual' (described in Section 2.2). However, this 'business-as-usual' is under scrutiny within scholarly and market debates, where reservations have been expressed regarding both the supply-side and demand side integrity. In relation to the demand side, debates revolve around the danger of 'greenwashing', a situation in which climate mitigation-related claims made by credit buyers are misleading, e.g., using low-quality credits for offsetting, mislabelling non-authorized credits as 'offsets', using credits for offsetting without being on a net zero trajectory for internal value chain emissions, or giving consumers the false impression that the value chain lifecycle emissions of a product are zero[41].[42] Such misrepresentations of the climate impact of credit buyers' practices and mitigation actions could lead to an overestimation of the climate mitigation actions taken.[43] This could disincentivize further efforts and, in the worst case, undermine the achievement of the Paris Goals.

The fear that 'business-as-usual' VCM practices could negatively impact climate ambition under the Paris Agreement peaks in discussions on the issue of 'double claiming', i.e., whether offsetting claims by corporate buyers should be allowed despite the lack of unique ownership of the mitigation outcomes. The mitigation activities underlying offsetting claims of VCM credit buyers are most likely carried out within a country that is a party to the Paris Agreement. Since all signatory states are expected to report all emissions in GHG inventories and report these under the UNFCCC, the GHG measurement, reporting, and counting of emissions reductions or removals between national accounting systems would overlap those used in VCM.[44] For instance, as national GHG inventories do not account for the voluntary use of credits, there is a danger that after the transfer of VCM credits without authorization both the credit user and the host country could claim the emission reductions towards their respective targets. Where both host country and VCM credit buyer claim the same mitigation outcome towards their respective targets, this would result in an overstatement of the overall global mitigation impact, the latter being perceived as larger than its actual magnitude.

On the supply-side of the VCM, the ICMs have developed a significant infrastructure of accounting standards, methodologies, protocols, and registries to quantify, verify and track real emissions reductions and removals over the past two decades. Nevertheless, disparities in the interpretation and

[41] See e.g. "Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 Amending Directives 2005/29/EC and 2011/83/EU as Regards Empowering Consumers for the Green Transition through Better Protection against Unfair Practices and through Better Information" (2024), http://data.europa.eu/eli/dir/2024/825/oj/eng.

[42] Danick Trouwloon and others, 'Understanding the Use of Carbon Credits by Companies: A Review of the De-fining Elements of Corporate Climate Claims' n/a Global Challenges 2200158.

[43] Ibid.

[44] Under the KP, developing countries (non-Annex I countries) were not bound by mandatory decarbonization targets, allowing them to export carbon credits without impacting their national GHG accounting. However, under the Paris Agreement, all countries have pledged to contribute to the collective global long-term goals.

operationalization of environmental integrity persist[45] and recent media scrutiny has repeatedly questioned the additionality[46], correct estimation of baselines, and governance of certain VCM projects, creating confusion among buyers.[47] In the context of the Paris Agreement, concerns about the quality of credits are particularly strong around attributes such as additionality and the determination of baselines, and whether these are 'Paris-aligned', referring to their consistency with the transformational change needed to shift to 1.5 - 2 °C emissions pathways (see Box 2).

Many ICMs allow for the use of CDM methodologies or have methodologies building on CDM principles. These do not yet reflect the additional requirements under Article 6 of the Paris Agreement. As a result, key carbon market principles such as additionality, baseline setting but also lock-in effects would need to be redefined, to reflect the fact that host countries have their own climate targets. While there is the assumption that the VCM will transition towards new and Paris-aligned methodologies and principles with the operationalization of the PACM (just as it historically recognized and applied methodologies developed for and under the CDM), this process is still in its infancy.[48]

Box 2 Additionality and baseline setting in the context of the Paris Agreement

**Additionality in the context of the Paris Agreement**

The Paris Agreement builds on the 'ambition cycle" according to which Parties must communicate more ambitious NDCs every five years and should eventually move towards 'economy wide' NDCs. Consequently, one challenge is to assure that the VCM – which traditionally sourced credits from low-cost activities outside of the scope of countries' mitigation commitments – does not disincentivize the move to more ambitious NDCs but instead secures the equitable distribution of additional emissions reductions between them and their host countries. This can be done, e.g., through the demonstration of regulatory additionality, showing that activities are additional to the effect of any policy in place or planned within the host country. This concept of "regulatory additionality" is not new to the VCM but was not always required and was not explicit in the CDM.

**Baseline setting in the context of the Paris Agreement**

Baselines in traditional international carbon markets, e.g. under the CDM or the ICMs, are typically set as GHG emissions for unit of production and are linked to business-as-usual (BAU) developments. While this incentivizes performance improvements, it allows absolute emissions to increase if production grows faster than the rate of emission intensity reduction. Moreover, in a context where all countries have NDCs, update them every five years, and implement domestic measures to achieve these, baselines need to dynamically consider host country policies and their impacts. As a result, the Article 6.2 cooperative approaches and the PACM call for baselines that are set 'below BAU', i.e. more stringent than BAU, also considering the long-term goals of the Paris Agreement. This requires adopting new approaches to the determination of baselines, some of which have already been proposed by the Article 6.4SBM in the context of the PACM. Some of these may already be reflected within the in the VCM, but not verv often.

The concerns about the integrity of both the demand and supply side of the VCM are driving efforts to harmonize and align it more closely with Article 6 of the Paris Agreement. On the demand side, industry-wide initiatives such as the Voluntary Carbon Market Integrity Initiative (VCMI) now provide guidance on

[45] Within carbon markets, the term environmental integrity is often used to refer to the level confidence one can have in that a credit provides real, quantifiable and verifiable emissions reductions or removals. Criteria for determining the environmental integrity of a carbon credit are typically based on similar attributes. The latter include additionality (the corresponding emissions reductions or removals would not have occurred without the possibility to market them as offset credits), reliability of baselines and carbon stocks (correct estimation of emission scenarios in absence of the project and no overestimation of the corresponding climate impact), permanence (sufficient longevity of the carbon sink), single issuance or no 'double counting' (the credit must convey an exclusive claim to the underlying GHG reduction) and a positive net social and environmental impact. See Broekhoff D, 'Securing Climate Benefit: A Guide to Using Carbon Offsets', https://www.sei.org/publications/guide-to-using-carbon-offsets/

[46] Additionality' is traditionally defined as the requirement that the emissions reductions underlying VCM credits would not have occurred without the possibility to market them as credits, i.e. if mitigation activities were legally required, See Broekhoff and others (n)

[47] Ecosystem Marketplace, 'State of the Voluntary Carbon Market 2024' (Forest Trends, 30 May 2024) <https://www.forest-trends.org/publications/state-of-the-voluntary-carbon-market-2024/.

[48] Hanna-Mari Ahonen and others (n 2).

how to make voluntary use of carbon credits while contributing to credible, science aligned net-zero pathways, and the achievement of the Paris goals. Other initiatives such as the Integrity Council for the Voluntary Carbon Market (ICVCM) focus on the supply side, aiming to evaluate and promote the integrity of VCM credits, including their alignment with Article 6.[49] Market actors also recognize the new roles for the VCM in the 'Paris Era'. For instance, the Gold Standard has published a practitioner's guide 'Aligning the Voluntary Carbon market with the Paris Agreement' to "introduce practitioners and other interested readers to the main changes that will, or are likely to, be needed to existing approaches within the voluntary carbon market in order to align with the Paris Agreement".[50] Already in 2021, the Gold Standard affirmed its intention to require corresponding adjustments when carbon credits are used to offset emissions.[51]

Table 1 Opportunities and challenges from interlinkages between Article 6 and the VCM

| | Opportunities | Challenges |
|---|---|---|
| **Supply side** | Facilitate access to (domestic) mitigation opportunities by contributing knowledge, technology and investment or providing carbon market infrastructures | Alignment of operations, governance frameworks and methodologies with the architecture of the Paris Agreement and the Article 6 rules |
| **Demand side** | Contribute to NDC or generate additional carbon and climate finance purchasing ITMOs or acquiring mitigation contributions | Avoid double counting, navigate the debates around corporate climate claims (double claiming) and mitigate reputational risks |

# 3 Nordic Perspectives: Common desired policy outcomes

## 3.1 Emphasizing high-quality carbon credits under Article 6 of the Paris Agreement as buyers and hosts

All Nordic countries and the EU have set ambitious climate targets (see Figure 2 below). In a joint Declaration on Nordic Carbon Neutrality (hereafter referred to as the 'Helsinki Declaration'), the Nordic countries emphasized their commitment to "catalyze global mitigation efforts to limit the increase in the global average temperature to 1.5°C" and "continue to engage with partners across the world to support the transition to climate neutrality, by offering support in developing appropriate policy frameworks, financing climate action as well as through the innovative solutions".[52] To that end, Nordic regional cooperation also explores participation in international carbon markets. In 2021, the Nordic Ministers for Climate and Environment jointly affirmed to "continue developing pilot projects to explore modalities for implementing Article 6 of the Paris Agreement, highlighting the need for robust rules contributing to increased ambition and appropriate safeguards".[53]

Since 2018, the Nordic Environment Finance Corporation (Nefco), through the Nordic Initiative for Cooperative Approaches (NICA), has promoted a common vision, priorities and goals for Nordic Article

[49] Admin, 'How Article 6 & the CCPs Work Together for Climate Action' (ICVCM, 7 November 2024) <https://icvcm.org/article-6-of-the-paris-agreement-and-the-integrity-councils-work/.
[50] 'Aligning the Voluntary Carbon Markets with the Paris Agreement' (Gold Standard) <https://www.goldstandard.org/publications/a-practitioners-guide-aligning-the-voluntary-carbon.
[51] 'Comment: We're Still in – Let's Align the Voluntary Carbon Market with Paris Rather than Play by Our Own Rules' (Gold Standard) <https://www.goldstandard.org/news/comment-were-still-in--lets-align-the-voluntary.
[52] 'Declaration on Nordic Carbon Neutrality | Nordic Cooperation' <https://www.norden.org/en/declaration/declaration-nordic-carbon-neutrality.
[53] 'Nordic Ministers for Climate and Environment – the Road to COP26 and Beyond' <https://www.norden.org/en/news/nordic-ministers-climate-and-environment-road-cop26-and-beyond> accessed 13 November 2024

6 cooperation and operationalization.[54] Through NICA, Nordic countries can participate in Article 6 information sharing for future piloting and ITMO purchases. NICA provides targeted capacity building by supporting several Article 6.2 pilot activities in the waste, rural electrification and sustainable transport sectors (Table 2). It also facilitates knowledge sharing though organizing workshops, side events or expert roundtables on Article 6.

Table 2 NICA Article 6 related activities

| Article 6 pilot activity | Host country |
|---|---|
| Peruvian waste sector (SWS NAMA ITMO) | Peru |
| Vietnam cement sector | Vietnam |
| Uganda rural electrification | Uganda |
| Uganda sustainable transportation | Uganda |

NICA has developed an early framework to guide Nordic participation in Article 6, emphasizing key criteria such as ensuring environmental integrity, promoting ambition, applying robust accounting, avoiding double counting and promoting sustainable development and gender equality.[55] This "Nordic approach for ambitious and inclusive carbon market cooperation" is also reflected in individual carbon market policies of Nordic countries, e.g. several Nordic countries have signed up to the international San José Principles for High Ambition and Integrity in International Carbon Markets.[56]

At the national level, some of the Nordic countries have indicated that they intend to make use of Article 6 market-based cooperation to meet their climate targets and are separately implementing activities in this regard (see Figure 5).

[54] Nordic Initiative for Cooperative Approaches and NEFCO, 'Nordic Approach for Ambitious and Inclusive Carbon Market Cooperation' <https://www.nefco.int/wp-content/uploads/2022/10/nordic-approach-for-carbon-market-cooperation-fact-sheet-october-2022_.pdf>
[55] Nordic Initiative for Cooperative Approaches and NEFCO, 'Nordic Approach for Ambitious and Inclusive Carbon Market Cooperation' <https://www.nefco.int/wp-content/uploads/2022/10/nordic-approach-for-carbon-market-cooperation-fact-sheet-october-2022_.pdf>
[56] 'The San José Principles' (Dirección de Cambio Climático) <https://cambioclimatico.minae.go.cr/sanjoseprinciples/about-the-san-jose-principles/; 'Countries backing the Principles' (Dirección de Cambio Climático) <https://cambioclimatico.minae.go.cr/sanjoseprinciples/countries-backing-the-principles/.

Figure 5 Nordic countries' climate targets and intended use of ITMOs

| | Sweden | Norway | Denmark | Finland | Iceland | European Union |
|---|---|---|---|---|---|---|
| **National climate target** | Net zero goal by 2045. Reduce emissions by a minimum of 85% compared to 1990 levels | Climate neutral from 2030 onwards. At least 55% emissions reduction target by 2030 compared to 1990 levels and low-emission society target by 2050. | Climate neutrality goal by 2045 and emission reduction target of 110% by 2050 | Climate neutrality goal by 2035 and emission reduction targets of 60% by 2030, 80% by 2040 and 90-95% by 2050 compared to 1990 levels. | Climate neutrality goal by 2040. Reduce emissions by 55% by 2030, compared to 1990. The target is to be reached in cooperation with the EU. | Emissions reduction target of 55% by 2030, compared to 1990-Net zero by 2050. In 2024, the EU Commission proposed a new reduction target of 90% by 2040. |
| **Use of ITMOs to achieve climate targets** | ✓ | ✓ | ✕ | ? | ✕ | ✕ |

✓ yes ✕ no ? Under consideration

Both Sweden and Norway have been among the few active early movers driving Article 6 piloting (see Figure 6). Denmark and Iceland have not explicitly declared their intention to use ITMOs to achieve their individual climate targets, while Finland may plan to reconsider the use of Article 6 in 2025 and its role for meeting Finnish climate neutrality goals.

Figure 6 Article 6 procurement Sweden and Norway[57]

Sweden is supporting several Article 6 pilot activities and initiatives aiming to create favorable framework conditions, in close cooperation with international organizations such as the World Bank, Asian Development Bank, United Nations Development Program, Global Green Growth Institute (GGGI), the Article 6 Implementation Partnership, UNEP CCC. It has already signed bilateral cooperation agreements with three other counties (Ghana, Zambia and Nepal) as well as three Memorandums of Understanding (Dominican Republic, Switzerland and Rwanda). Sweden is also cooperating with ICMs to facilitate the Swedish Government's acquisition of ITMOs, thereby not only leveraging the linkage points between Article 6 and the VCM to reduce transaction costs but also driving key values of Swedish carbon credit procurement. For example, cooperation with Gold Standard entails the development of a digital Sustainable Development Goals (SDG) Impact Tool to help project developers quantify, verify, track and report on SDG impacts. Sweden aims to use ITMOs to supplement the achievement of its ambitious national net-zero target by 2045, which extends beyond the EU NDC, or cancel them to contribute to global ambition-raising.

Under the Norwegian Global Emission Reduction (NOGER) Initiative, Norway is pursuing carbon procurement under Article 6.2 to meet its climate neutrality target for 2030. In addition, Norway has indicated its intention to use Article 6 carbon procurement to cover any shortfall in meeting Norway's 2030 target under the Paris Agreement in a situation where the cooperation with the European Union does not fully achieve a 55 percent emission reduction compared to 1990. As an acquiring country of ITMOs, Norway so far centered its efforts around transactions of ITMOs resulting from policy implementation rather than from individual project activities, i.e. through participation in GGGI's Designing Article 6 Policy Approaches (DAPA) program and the World-Banks Transformative Carbon Asset Facility (TCAF), but seeks cooperation at the project and program level. At present, Norway has signed bilateral cooperation agreements with Benin and Zambia as well as several MoUs, including with Jordan, Morocco, Senegal, Zambia and Indonesia.

Nordic countries are also looking into the possibility of acting as host countries for the Article 6 trading, with a particular focus on the use Article 6 cooperation in contribution to the deployment of carbon capture and storage (CCS) and novel carbon dioxide removal (CDR) methods. Recently, Sweden, Norway and Iceland each signed a Memorandum of Understanding (MoU) or Declaration of Intent with Switzerland to engage in pilot activities that include early transfers of a symbolic amount of ITMOs as per Article 6.[58] According to the already mentioned Helsinki Declaration, the Nordic countries aspire to "lead by example" and intensify cooperation to scale up the further development of CCS, including BECCS technologies, resolving remaining technical challenges and developing business models for their implementation.

The Declarations of Intent with Switzerland can be seen in this context. When moving from intention to reality, it is possible that these Article 6 pilots will also draw on linkage points with the VCM. For example, the Norwegian - Swiss Declaration specifically states that "pilot activities (…) intend to involve private sector and other stakeholders in both countries and to facilitate joint learning and exchange".[59] The Swedish-Swiss MoU similarly signals the intention "to engage with private stakeholders to advance the use of Article 6 of the Paris Agreement for development and deployment of carbon removal

[57] Swedish Energy Agency, 'Sweden's Programme for International Climate Initiatives International Emissions Trading' https://www.energimyndigheten.se/en/cooperation/swedens-program-for-international-climate-initiatives/; Ministry of Climate and Environment, 'Norwegian Carbon Credit Procurement Program' (Government.no, 29 January 2024) <https://www.regjeringen.no/en/topics/climate-and-environment/climate/innsiktsartikler-klima/norwegian-carbon-credit-procurement-program/id2415405/; Ministry of Climate and Environment, 'Norwegian Global Emission Reduction Initiative' (Government.no, 15 November 2024) https://www.regjeringen.no/en/topics/climate-and-environment/climate/norwegian-global-emission-reduction-initiative/id3074249/.

[58] 'Sweden and Switzerland Pave the Way for International Trade with Carbon Removals' <https://www.energimyndigheten.se/en/news/2023/sweden-and-switzerland-pave-the-way-for-international-trade-with-carbon-removals/; Energidepartementet, 'Strengthened Cooperation between Norway and Switzerland on CCS and CDR' (Government.no, 14 May 2024) <https://www.regjeringen.no/en/aktuelt/styrket-samarbeid-mellom-norge-og-sveits-knyttet-til-ccs-og-cdr/id3039363/; swissinfo.ch SWI, 'Switzerland and Iceland Join Forces to "Capture" CO2' (SWI swissinfo.ch, 2 August 2021) <https://www.swissinfo.ch/eng/business/switzerland-and-iceland-join-forces-to-capture-co2/46835456>.

[59] 'Declaration of Intent between the Ministry of Energy and the Ministry of Climate and Environment of Norway and the Swiss Federal Department of Environment, Transport, Energy and Communications on Cooperation on Carbon Capture and Storage and Carbon Dioxide Removals' (14 May 2024) <KM_C654e-20240514155239>.

technologies”.[60] It is conceivable that this could also encompass the involvement of ICMs in the development and application of standards for Article 6 pilot projects in Nordic countries. Currently, most standards, methodologies and protocols for CCS and CDR methods are being developed in a VCM context.[61] The technical expertise, technological innovation, and capital within the VCM could inform a pipeline of initiatives for Article 6 cooperation, enabling the private sector to play a pivotal role in project development.

## 3.2 Acknowledging the need for close cooperation with voluntary carbon markets

The publication ‘Harnessing voluntary carbon markets for climate ambition: An action plan for Nordic cooperation’, commissioned by the Nordic Council of Ministers, emphasizes: “The voluntary use of carbon credits could serve as a tool for Nordic countries and non-state actors for taking responsibility for emissions and catalyzing mitigation within and beyond the Nordic region”.[62] Indeed, Nordic governments recognize the potential and the need for private sector investment through the VCM for unleashing mitigation opportunities, especially for high risk, high CAPEX projects, i.e. carbon removal with geological storage such as bioenergy with carbon capture and storage (BECCS), direct air carbon capture and storage (DACCS) or bioenergy carbon capture and usage (BECCU). There is a demand-shift and a projected growth on the VCM towards carbon credits representing durable CDR, potentially making the VCM a significant contributor to CDR financing in the future.[63]

Norway, Sweden and Denmark welcome the issuance of BECCS credits for sale in VCMs to support more, earlier and faster mitigation,[64,65,66] and are already hosting early-mover projects combining or aiming to combine government subsidies with VCM finance, including the Ørsted Power Station BECCS project (Denmark),[67] the Stockholm Exergi BECCS project (Sweden),[68] or the Hafslund Celsio BECCS project (Norway).[69] Similarly, the Finnish government lately affirmed its intention to promote the VCM with the aim to “create long-term business opportunities related to carbon sequestration”, emphasising Finland’s potential in relation to BECCU and the land-use sector.[70] Iceland is preparing to provide services centred around onsite $CO_2$ mineralization, involving $CO_2$ sequestration through mineralization

[60] Swedish Energy Agency, Federal Department of Environment, Transport, Energy, and Communications of the Swiss Confederation, “Memorandum of Understanding between the Swedish Energy Agency and the Federal Department of the Environment, Transport, Energy and Communications of the Swiss Confederation on a Cooperation for International Transfer of Industrial Carbon Removals,” September 12, 2023, https://www.energimyndigheten.se/4aebc0/globalassets/webb-en/cooperation/international-climate-cooperation/mou-on-bilateral-cooperation-under-article-6-of-the-paris-agreement---sweden-and-switzerland.pdf.

[61] See, e.g. ‘Standards, Methodologies, and Protocols of Durable Carbon Removal’ <https://www.cdr.fyi/blog/standards-methodologies-and-protocols>.

[62] Ahonen H-M and others, Harnessing Voluntary Carbon Markets for Climate Ambition: An Action Plan for Nordic Cooperation (Nordisk Ministerråd 2022) <https://urn.kb.se/resolve?urn=urn:nbn:se:norden:org:diva-12669>.

[63] Frontier, ‘Funding Tracks’ <https://frontierclimate.com/apply>; Office of Fossil Energy and Carbon Management, ‘Carbon Negative Shot’ (Energy.gov) https://www.energy.gov/fecm/carbon-negative-shot; ‘Why the Voluntary Carbon Market Is Key to Carbon Dioxide Removal’ (World Economic Forum, 6 September 2024) <https://www.weforum.org/stories/2024/09/voluntary-carbon-market-carbon-dioxide-removal-net-zero/>.

[64] Norwegian Environment Agency, ‘Industrien Kan Fjerne CO2 Med Nye Virkemidler - Miljødirektoratet’ (Miljødirektoratet/Norwegian Environment Agency, 13 March 2023) https://www.miljodirektoratet.no/aktuelt/fagmeldinger/2023/mars-2023/industrien-kan-fjerne-co2-med-virkemidler/.

[65] Svante Söderholm, Swedish Energy Agency, retrieved from https://www.linkedin.com/feed/update/urn:li:activity:7096709529014312961/

[66] ‘FEATURE: Denmark’s Move to Set up Carbon Removals Fund Creates Emissions Accounting Headache for Brussels « Carbon Pulse’ <https://carbon-pulse.com/283771/> accessed 14 November 2024

[67] ‘Ørsted Enters into New Major Agreement on Carbon Removal with Microsoft’ <https://orsted.com/en/media/news/2024/05/oersted-enters-into-new-major-agreement-on-carbon--13859979>.

[68] Stockholm Exergi, ‘Stockholm Exergi och Microsoft tecknar världens hittills största avtal för permanenta minusutsläpp’ (6 May 2024) https://www.stockholmexergi.se/nyheter/stockholm-exergi-tecknar-varldens-hittills-storsta-avtal-med-microsoft-for-permanenta-minusutslapp/

[69] Hafslund Celsio, ‘Karbonfjerningssertifikater Fra Avfallsforbrenning’ (31 May 2024) <https://celsio.no/oslo-ccs/karbonfjerningssertifikater-fra-avfallsforbrenning>.

[70] ‘Minister Mykkänen: Work on Voluntary Carbon Markets Continues – Finland Has Potential Related to Technical Carbon Sequestration Solutions’ (Finnish Government) <https://valtioneuvosto.fi/en/-/1410903/minister-mykkanen-work-on-voluntary-carbon-markets-continues-finland-has-potential-related-to-technical-carbon-sequestration-solutions>.

in basalt rock formations.[71] Since 2012, the company Carbfix develops this unique technology for $CO_2$ storage and is currently preparing a $CO_2$ storage hub with a terminal to enable the import of $CO_2$ to Iceland via ships. Furthermore, Iceland is positioning itself as a forerunner in DACCS technology, hosting the world's largest DAC plant, Orca, operated by the Swiss company Climeworks.[72] CDR credits generated by the Orca project are sold in the VCM.

In recent years, the Nordic countries have made continuous efforts to complement their support for the VCM with good practice guidance. In 2021, a Nordic Dialogue on Voluntary Compensation was initiated to develop a strong and unified Nordic framework for the voluntary use of carbon credits in alignment with the Paris Agreement. The dialogue resulted in the Nordic Code of Best Practice for the Use of Carbon Credits (the 'Nordic Code'), which provides VCM stakeholders with best practice requirements and recommendations for high integrity carbon credits, their voluntary use and related claims.[73]

Among other things, the Nordic Code places the expectation on credit users to lower their emissions in line with a 1.5 °C-aligned pathway and to differentiate their claims based on whether credits have been authorized or not by the host country of the underlying mitigation outcomes. Nordic authorities have also individually developed guidance on climate related claims, e.g. in a joint Nordic statement on climate compensation claims in marketing made in 2024.[74]

Nordic countries' efforts to guide VCM behaviour can be seen as a recognition that the success of the VCM to support global climate depends on the ability of credit buyers and sellers to trust the market. They are also a recognition of the need for alignment between the VCM and Article 6 of the Paris Agreement, including the debates around double-claiming and the integrity of environmental claims based on credit-uses.

# 4 Nordic Perspectives: Associated areas of uncertainty

## 4.1 Mitigation contribution versus double-claiming

As mentioned in Section 2.3, double claiming of mitigation outcomes can occur, e.g. if VCM buyers purchase and claim VCM credits and the underlying emission reductions or removals are also claimed by the host country towards national climate targets. To avoid this, the host country may authorize the mitigation activity for OIMP under Article 6 and apply a corresponding adjustment to its emissions balance, thereby ensuring the emission reductions are accounted for accurately and only once in the global effort to combat climate change. This has sparked debates as to whether non-authorized mitigation outcomes can be counted towards the host-countries' (and host regions') climate targets while also being claimed as offsets against buyers' voluntary climate targets. From the perspective of Nordic governments, these debates translate into uncertainties regarding how mitigation outcomes generated within their jurisdiction and sold in the VCM can be counted towards national mitigation targets and international commitments.

Nordic countries are required to submit their national GHG inventories under the UNFCCC and the EU's Climate Monitoring Mechanism. In general, it is in Nordic countries' interests to count emissions reductions or removals, e.g. from BECCS projects, towards their climate targets. Applying corresponding adjustments, i.e. by making additions to the reported emissions that correspond to the credits authorized

[71] Kenneth Möllersten et al., "Carbon Dioxide Capture and Storage (CCS) and Carbon Removal in the Context of Nordic Zero Net Greenhouse Gas Emissions," Copenhagen: Concito., 2023, https://www.researchgate.net/publication/375970963_Carbon_dioxide_capture_and_storage_CCS_and_carbon_removal_in_the_context_of_Nordic_zero_net_greenhouse_gas_emissions.

[72] Kenneth Möllersten et al.

[73] Ahonen H-M and others, Harnessing Voluntary Carbon Markets for Climate Ambition: An Action Plan for Nordic Cooperation (Nordisk Ministerråd 2022) <https://urn.kb.se/resolve?urn=urn:nbn:se:norden:org:diva-12669, Annex 1.

[74] Swedish Consumer Agency Consumer Ombudsman et al., "Nordic Statement on Climate Compensation Claims in Marketing," April 18, 2024, https://forbrugerombudsmanden.dk/media/4aabj0ja/20240507-nordic-statement-on-climate-compensation-claims-in-marketing.pdf.

for the use by voluntary buyers under Article 6, they could no longer be used by the country to achieve its own and the EU's climate targets.

According to the Nordic Code, "Claims about offsetting shall be based on the use of High-Integrity Carbon Credits representing mitigation outcomes that are exclusively claimed for offsetting and not claimed towards any other mitigation purpose, *including towards any country's existing mitigation targets*".[75] This suggest that the use of carbon credits for offsetting claims would have to be associated with a corresponding adjustment to meet the Code's requirements. Alternatively, the use of carbon credits would lead to a mitigation contribution claim (see Figure 2). In 2023, the Swedish Energy Agency stated that the use of VCM credits must contribute towards the attainment of the Swedish net-zero target, an approach that also appears to require a mitigation contribution claim.[76] However recent developments highlight that there are different interpretations to the Swedish approach.

In December 2023, the Swedish government proposed in its strategic climate action plan to permit entities receiving state funding for BECCS to sell CDR credits in the VCM.[77] The document states that Sweden will claim the resulting CDRs towards its national mitigation targets, while suggesting that buyers of CDR credits should also be able to claim the underlying mitigation outcomes towards their voluntary climate targets. This lends weight to the assumption that the Swedish government permits the potential use of CDR credits for voluntary offsetting, as long as credit buyers make clear in their climate reporting that the underlying mitigation outcomes are counted towards Swedish mitigation targets.[78] It is furthermore in line with the position of other Nordic countries, such as Norway, who argue that businesses provide carbon finance through the purchase of VCM credits, and that double-claiming of credits (Figure 4) does not lead to the double counting of emissions as companies' climate targets and the country's NDC are accounted for in separate, parallel accounting systems.[79] According to the Danish government, "a full or partial ban [on corporate climate claims based on the use of VCM credits at the company level] would risk slowing down the financing of climate measures through carbon credits".[80] The government is therefore proposing to work towards a "more transparent and credible marketing framework" to ensure the environmental integrity of corporate climate claims and their benefits to the consumer.[81]

Unlike Sweden, Norway and Denmark, Finland is taking a more cautious approach. In an open letter submitted in 2021, Finnish forest owners opposed the government counting sink enhancements in its national GHG inventory and towards the EU Land Use, Land Use-Change, and Forestry (LULUCF) target, arguing it prevents them from selling these mitigation outcomes in the VCM without corresponding adjustments.[82] However, the Finnish government is reliant on counting all available sink enhancements in Finnish forests to ensure that it meets its EU LULCF target. Instead of explicitly endorsing co-claiming practices, like its Nordic peers, Finland has, so far, tried to meet this tension by further strengthening VCM guidance. Examples include a study commissioned in 2021 by the Finnish Ministry of Environment

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[75] Ahonen H-M and others, Harnessing Voluntary Carbon Markets for Climate Ambition: An Action Plan for Nordic Cooperation (Nordisk Ministerråd 2022) <https://urn.kb.se/resolve?urn=urn:nbn:se:norden:org:diva-12669, Annex 1, Requirement 5.3 (emphasis added).
[76] Carbon Pulse, 'Sweden May Allow Subsidised Bio-CCS Removals for Sale on Voluntary Carbon Market' (15 February 2023) https://carbon-pulse.com/192036/..
[77] Government of Sweden, 'Swedish Government's Strategic Climate Plan (Regeringens skrivelse 2023/24:59 Regeringens klimathandlingsplan – hela vägen till nettonoll)' (21 December 2023) https://www.regeringen.se/contentassets/990c26a040184c46acc66f89af34437f/232405900webb.pdf.
[78] Malin Dufour, Kenneth Möllersten, and Lars Zetterberg, "How to Maintain Environmental Integrity When Using State Support and the VCM to Co-Finance BECCS Projects - a Swedish Case Study," Frontiers in Environmental Science 12 (July 26, 2024): 1387138, https://doi.org/10.3389/fenvs.2024.1387138.
[79] Norwegian Environment Agency, 'Industrien Kan Fjerne CO2 Med Nye Virkemidler - Miljødirektoratet' (Miljødirektoratet/Norwegian Environment Agency, 13 March 2023) https://www.miljodirektoratet.no/aktuelt/fagmeldinger/2023/mars-2023/industrien-kan-fjerne-co2-med-virkemidler/.
[80] Miljøministeriet Departementet, "SAMLENOTAT TIL FOLKETINGETS EUROPAUDVALG Om Kommissionens Forslag Til Europa Parlamentet Og Rådets Direktiv Om Underbygning Og Kommunikation Af Udtrykkelige Miljøanprisninger (Direktivet Om Grønne Anprisninger)," April 18, 2024, https://www.eu.dk/samling/20231/kommissionsforslag/KOM(2023)0166/bilag/3/2853644.pdf.
[81] Miljøministeriet Departementet.
[82] 'Kompensaatiovetoomus Aidon Ilmastovaikutuksen Varmistavan Päästökompensaatiomarkkinan Puolesta - Compensate' https://compensate.com/articles/kompensaatiovetoomus>.

(FMOE) to explore options to regulate voluntary offsetting,[83] followed by a good practice guidance on the use of VCM credits, published in 2023.[84] The FMOE also commissioned a report on prerequisites for Finland for make corresponding adjustments to the EU NDC.[85]

Figure 7 Approaches for the use of VCM credits and respective claims towards national and voluntary climate targets

| Mitigation contribution | Offsetting claims with corresponding adjustments | Double-claiming |
|---|---|---|
| Credits contribute to the achievement of the project host country's NDC or national targets beyond an NDC but cannot be used for offsetting purposes | The project host country adjusts its emissions balance for credits used in the VCM for offsetting, so that it does not count the underlying removal towards its national target | Credits are used in the VCM for offsetting without associated corresponding adjustment by the project host country. They are also claimed by the project host country |

Regardless of the approaches currently under consideration by Denmark, Finland, and Sweden, EU legislation will ultimately override any national frameworks on corresponding adjustments and double claiming. At the EU level, voluntary use of carbon credits is addressed in two separate pieces of EU legislation. The first is the Directive on Empowering Consumers for the Green Transition, adopted and published in early 2024, which prohibits companies from making offsetting-based claims about products, e.g., labelling a product as "climate neutral" based on GHG offsetting. This provision effectively bans the use of carbon credits for product-level offsetting claims.[86] However, it does not explicitly cover broader claims made at the corporate level, such as companies declaring themselves "carbon neutral".[87] A second instrument, the proposed Green Claims Directive, aims to strengthen consumer protection against misleading environmental claims.[88] As a 'lex specialist', the Green Claims Directive is intended to provide more detailed rules and may supersede the broader Empowering Consumers Directive in areas it specifically addresses. However, the negotiating positions adopted by the European Parliament and the EU council does not fully address the issue of double claiming between actors in the VCM and the EU's NDC or EU Member States' targets.[89]

Uncertainties are further aggravated by the fact that current EU legislation does not provide arrangements for authorizations for ITMO transfers under Article 6 or corresponding adjustments.[90] Since the EU and its Member States have a joint NDC, corresponding adjustments would have to be applied at the EU level. Consequently, accounting arrangements must be put in place to apply corresponding adjustments for Member-State-specific targets in the EU-level emissions balance. Although EU legislation is currently being revised to align with the requirements of the Paris Agreement, it remains unclear if making a corresponding adjustment at the EU level will be possible, and in particular when (if at all) it will be possible for Nordic EU Member States to make a corresponding adjustment at

[83] Anna Laine et al., "Vapaaehtoisten Päästökompensaatioiden Sääntely" (Ympäristöministeriö Miljöministeriet, 2021), https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/163347/YM_2021_26.pdf?sequence.

[84] Anna Laine et al., "Guide to Good Practices for Voluntary Carbon Markets : Supporting Voluntary Mitigation Action with Carbon Credits," serial publication (Valtioneuvosto, March 15, 2023), https://julkaisut.valtioneuvosto.fi/handle/10024/164732.

[85] "Finnish Report Flags Gaps in EU Law on Domestic Offsetting « Carbon Pulse," accessed January 15, 2025, https://carbon-pulse.com/174372/.

[86] Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information.

[87] Dr. Hannes Böttcher, Dr. Lambert Schneider, Hauke Herrmann, Wolfram Jörß, and Felix Fallasch, The EU Carbon Removal Certification Framework: Options for using certified removal units and funding mitigation activities (Umweltbundesamt, 2024), https://www.umweltbundesamt.de/publikationen/the-eu-carbon-removal-certification-framework.

[88] European Parliament, "'Green Claims' Directive," March 2024, https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/759609/EPRS_ATA(2024)759609_EN.pdf.

[89] Dr. Hannes Böttcher, Dr. Lambert Schneider, Hauke Herrmann, Wolfram Jörß, and Felix Fallasch, The EU Carbon Removal Certification Framework.

[90] Ahonen H-M and others, 'Raising Climate Ambition with Carbon Credits - Exploring the Roles and Interplay of the Voluntary Carbon Markets and Article 6 in Contributing to the Implementation of National Climate Targets and Raising Global Ambition' <https://www.energimyndigheten.se/49e25f/globalassets/klimat--miljo/internationella-klimatinsatser/raising-climate-ambition-with-carbon-credits.pdf>.

the EU level based on their individual overachievements, to not undermine the achievement of the EU NDC targets.[91] This presents a challenge for approaches to the use of VCM credits requiring corresponding adjustment but also the voluntary purchase of ITMOs and Nordic EU Member State's bilateral cooperation under Article 6 foreseeing the transfer of ITMOs based on the crediting of CDR in these countries.

## 4.2 Blending subsidies with carbon finance

As outlined in Section 3.2, Nordic countries are embracing the VCM in its contribution to the timely investments and upscaling of novel CDR methods. At the same time, government financing schemes are being prepared and implemented to support CDR deployment.[92] Increasingly, this leads to the co-financing of CDR projects that combine state support schemes with VCM finance for the same mitigation outcome.[93] The intersection between state aid and VCM finance is a relatively fresh and unvalidated situation, triggering further uncertainties around the environmental integrity of the resulting VCM credits.

Nordic countries' interest in counting the emissions reductions or removals from a co-financed project towards national mitigation targets is arguably larger where they have contributed financial resources. The blending of public finance with VCM revenue therefore results in discussions around a government's and VCM credit buyer's respective rights to claim emissions reductions or removals from a co-financed project. These discussions are not new, and it was already pointed out in the previous section that there are different approaches for the use of carbon credits and respective claims towards national and voluntary climate targets, as well as different perspectives regarding the risk of double-claiming inherent in each approach.

However, in a context of co-financing projects through state support schemes and the VCM, there is an additional risk: By combining the blending of state support and VCM finance with co-claiming, Nordic countries may effectively subsidize carbon credit prices on the VCM, leading to lower prices than in the absence of state support, where VCM credit buyers could have only claimed the share they paid for.[94] According to scholars, this may influence and lower the internal carbon price of the voluntary credit buyer, possibly reducing incentives to further decarbonize and potentially resulting in higher global emission, which undermines the environmental integrity of carbon markets.[95] They therefore argue for proportional attribution, i.e. the attribution of emissions reductions and removals to the state support and VCM revenue in proportion to their financial contribution.[96] The application of corresponding adjustments on the basis of the attribution analysis could be an option to mitigate the risks attached to double-claiming in combination with co-financing. As described in the previous section, further clarification is required in terms of EU legation and accounting to enable corresponding adjustments.

# 5 Conclusion

Since their introduction under the Kyoto Protocol as part of the international climate change regime, carbon markets have been promoted as a tool to support global climate change mitigation. However, various policy developments have led to the fragmentation of international carbon markets. Within this

[91] Dufour M, Möllersten K and Zetterberg L, 'How to Maintain Environmental Integrity When Using State Support and the VCM to Co-Finance BECCS Projects - a Swedish Case Study' (2024) 12 Frontiers in Environmental Science 1387138

[92] Kenneth Möllersten, Oras Tynkynen, and Tyrsky Consulting, "Carbon Dioxide Capture and Storage (CCS) and Carbon Removal in the Context of Nordic Zero Net Greenhouse Gas Emissions," 2023, https://concito.dk/files/media/document/Policy%20brief%20-%20CSS%20%26%20CDR.pdf.

[93] Ibid.

[94] Ibid; see also Spalding-Fecher and Broekhoff D et al, 'Attribution: A Practical Guide to Navigating the Blending of Climate Finance and Carbon Markets' <https://www.sei.org/publications/attribution-climate-finance-carbon-markets/>.

[95] Dufour M, Möllersten K and Zetterberg L, 'How to Maintain Environmental Integrity When Using State Support and the VCM to Co-Finance BECCS Projects - a Swedish Case Study' (2024) 12 Frontiers in Environmental Science 1387138

[96] Ibid.

fabric, the VCM has created its own bottom-up governance system through it traditionally supplied carbon assets to private buyers that voluntarily choose to compensate their carbon footprint.

Lately, VCM activities have gained momentum, as reflected in growing transaction volumes and the expansion of their operations into mandatory international and domestic offset schemes. However, ramifications arising from the context and legal architecture of the Paris Agreement shook up the VCM's historic engagement in international carbon markets and raise questions as to its future role and design. Such questions particularly revolve around the correlations between the VCM and Article 6 market-based cooperation, the latter of which was awakened from their lethargy at COP26 in Glasgow.

The article has shown the close links between the VCM and Article 6, how they give rise to concerns regarding VCM business-as-usual operations and provide options for convergence. Within the regulatory framework of Article 6, the VCM may find new roles and customize its design to participate in both the supply and demand side of the mitigation outcomes generated under the Article 6.2 cooperative approaches and the PACM. The Nordic countries of Denmark, Finland, Iceland, Norway and Sweden, share common approaches in seizing the opportunities and addressing challenges stemming from the interaction between the VCM and Article 6.

In terms of desired outcomes, the article has highlighted the Nordics' approach to participation in international carbon markets on both the supply and demand side, with an emphasis on the generation of high-quality carbon credits, including by drawing on the existing infrastructures of ICMs. Regarding market-based cooperation under Article 6, Sweden and Norway are the only active countries so far, with a focused effort on bilateral approaches under Article 6.2. It remains to be seen how this engagement will be impacted by the progress made on the operationalization of Article 6 at the last COP29 in Baku, specifically the approval of the PACM 'rulebook' – the standards on methodologies and removals adopted by the PACM SB – which paved the way for the full operationalization of the mechanism.

All Nordic countries acknowledge the necessity of private sector investment via the VCM to unlock mitigation opportunities, particularly for scaling up novel CDR technologies. Here too, the Nordic countries are stressing environmental integrity and are trying to find a balance between harnessing mitigation potentials and the necessity for harmonization of the VCM and Article 6. In fact, the debates around double-claiming and the credibility of environmental claims linked to the use of VCM credits within the 'Paris Era' currently amount to the greatest uncertainties associated with the interplay between the VCM and Article 6 that Nordic countries are experiencing. In this regard, the growing trend of blending state support schemes with VCM finance requires additional thought and attention.