
Voluntary Carbon Markets in Sweden

A stakeholder mapping and international outlook



Report number: C10098

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Commissioned by: Swedish Energy Agency

ISBN number: 978-91-7883-733-5

Preface

This report presents the results of a project commissioned by the Swedish Energy Agency (SEA). The SEA is engaged in turning Article 6 of the Paris Agreement and Rulebook into action, focusing on contributing to international best practice. Voluntary carbon markets (VCM) are developing alongside compliance carbon markets. Compliance carbon markets and VCM do not develop completely independently.

The report analyses the VCM in Sweden and a few more countries mainly based on stakeholder mapping and interviews.

The project has been carried out by Kenneth Möllersten (IVL), project leader, Liv Lundberg and Clara Wickman (RISE), Claire Wigg (Clarity Consulting), and Sjoerd Bakker (IVBA) from April to September 2024.

Summary

In this report, key stakeholder groups in the Swedish Voluntary Carbon Markets (VCM) are identified. The report, furthermore, presents the results from interviews with representatives of the different stakeholder groups, focusing on their respective roles and activities on the VCM as well as their perceptions, priorities, expectations etc.

Additionally, the report includes a high-level description, based on a desktop review and interviews, of roles the government has taken in three other European countries concerning VCM governance.

The report may be used to inform discussions about initiatives that the public sector could pursue as a facilitator of a robust and well-functioning VCM in Sweden. The report is concluded by offering some recommendations to that end.

Stakeholder mapping

Stakeholders on the Swedish VCM are presented under three main groups and respective subcategories:

- Supply-side - subcategories based on project category and whether climate projects are being developed in Sweden or abroad.
- Demand-side - subcategories based on the purpose of buying carbon credits.
- Others - subcategories based on role in relation to the VCM.

The actor categories identified in the mapping are matched with examples of actors on the Swedish VCM and some explanatory comments.

Stakeholder interviews

A total of 24 interviews with Swedish stakeholders were carried out in April and May 2024 (9 supply side, 9 demand side, 6 others). The findings are presented by the main stakeholder group in the main report. In the below summary, the results are presented under a set of dominating themes identified when analysing the interview responses.

New market

A constant theme in the interviews was rapid change and related uncertainty in the VCM. The established market, in which carbon credits are generated primarily in developing countries for use by companies in developed countries, has been burdened by carbon credit quality concerns and uncertainties regarding claims. At the same time, investors and some early movers are starting to develop a new market, for carbon credits generated by carbon removal activities in developed countries such as Sweden.

Most buyers, though not all, expressed an interest in switching to buying carbon removal credits, including from Swedish projects, under the right circumstances. However, the high price of durable carbon removal credits poses a significant hurdle.

Several respondents commented that the new VCM presents Sweden with a significant market opportunity, both for a domestic removals market and a global export market. For BECCS, the opportunity arises from the ready availability of biomass and low-carbon electricity, in combination with nearby geological storage for CO₂ and a reputation for delivering quality, which would provide credibility to the market. This opportunity is the reason for new actors entering the VCM, such as energy companies, investors developing industrial projects, and new carbon crediting programmes focusing on removals only.

Offsetting vs. non-offsetting narratives

Companies participating in the VCM today are buying carbon credits generated from a variety of types of projects spanning across emission reductions and carbon removals. Concerns about the quality of credits and what claims buyers can make have led to a significant dampening of the market in the last two years, with some Swedish buyers withdrawing from the market. Buyers are looking to labelling systems (e.g., Integrity Council for the Voluntary Carbon Market, Carbon Credit Quality Initiative, rating agencies) for determining quality, and/or outsourcing the procurement process to external specialised funds.

Demand-side respondents gave a range of reasons for buying credits in the VCM today, and for potential interest in buying Swedish removals credits in the near- or long-term. Motivation for Swedish companies who are participating in the VCM today are:

- To be used in marketing
- Taking action beyond their own value chain to take responsibility for their emissions today and contribute to global mitigation
- Contributing to SDGs, preservation of biodiversity or nature conservation etc

- Offsetting own emissions. The use of offsetting claims has been decreasing because of general criticism from stakeholders, legal cases, and EU legislation.

The interest and actual use of “non-offsetting” or “contribution” claims is increasing.

Motivation for Swedish companies that participate in the emerging removals market in Sweden are:

- To contribute to the development of the removals market in Sweden
- To prepare for offsetting their residual emissions when their company reaches its net-zero target.
- To use in marketing, for example, “investing in pilot project”, as a near-term claim.

Of the buyers that are participating in the removals market some are content with making a “contribution” claim in the near-term, while others want to be able to use a clear and simple offsetting claim. The future “net-zero” claim, which is at least 15 years away for most companies, is an offsetting claim: i.e., to be counter-balancing residual emissions with carbon removals. Companies referred to the use of frameworks such as the SBTi Corporate Net-Zero Standard, VCMi, and The Oxford Principles for Net-Zero Aligned Carbon Offsetting for guidance.

Respondents representing the supply-side were noticeably more sceptical about the contribution claims model compared to demand-side respondents. Several actors, in particular those engaged in the development of BECCS projects, claimed that the demand for their carbon credits will be severely hampered if they cannot be used for offsetting.

Some also stated that some of their buyers have specific requests regarding co-benefits of the credits, such as biodiversity promotion or social co-benefits.

Uncertainty about who gets to claim what and the ownership of mitigation outcomes

Respondents often referred to uncertainty about which entities can claim what when participating in the VCM today, in particular the following areas of uncertainty:

Country vs. company level claims: The reporting of emissions and removals, and therefore the determination of whether climate goals are being met, is done in different yet overlapping reporting systems by companies and countries.

Companies who are buying credits generated by removals either want to make claims on an annual basis, relating to their purchase of removals credits during that

year, and/or to prepare for making claims at a future “end-state”, usually referred to as “net zero”. However, in the current way that emissions are accounted for, all removals that take place in Sweden will be included in the Swedish greenhouse gas inventory. Respondents expressed uncertainty concerning whether all removals that occur in Sweden will also be claimed by the Swedish government towards the Swedish climate goals and/or, possibly, Sweden’s mitigation obligations towards the EU.

Respondents across all stakeholder groups highlighted the need for clarity on what claims entities that buy and use carbon credits are allowed to make. A similar, closely related, need for clarity concerns who is entitled to claim what in cases with blending of public and private funding.

Project owner vs. carbon credit buyer claims: Companies developing carbon removal projects have the opportunity to attach environmental attributes to products generated (such as carbon-neutral or carbon-negative district heat or cement), as well as to certify and issue carbon credits on the basis of mitigation generated. Actors on the demand side expressed concerns about related double-claiming risks if product attributes are based on the same mitigation outcome as carbon credits.

Uncertainty concerning the entitlement to own and sell carbon credits: Uncertainties arise when several actors are involved along the mitigation activity value chain. This is not the same as the above-mentioned carbon credit buyer vs. others claiming situations. Rather it is related to who has the right to own and sell carbon credits. It was evident that there is a lack of understanding about who among the actors owns this right. Several respondents perceived this uncertainty as a significant hurdle due to its impact on the feasibility of their business models.

Another less frequently mentioned area of uncertainty relates to *how public subsidies would affect the assessment of additionality*. Concerns were expressed about a perceived lack of consensus on what is additional and that this might harm the credibility of the market as a whole. It was also mentioned that *the introduction of a separate Swedish target for permanent removals* as a part of the Swedish net-zero target would significantly reduce the complexity of assessing additionality of activities that lead to permanent removals in Sweden.

Although it is not an uncertainty issue, it is also worth mentioning that some actors on the supply side also expressed that there had been conflicting interests within their organisations, as some argued for using the removals to offset emissions from the company’s operations to reduce its carbon footprint, while others supported making use of the removals to issue and sell carbon credits on the VCM.

Need for alignment

There is a range of ideas about how country climate action claims could or should be linked to companies’ claims, including, for instance, “co-claiming”, contribution

claims, carbon credits being brought into the EU ETS again, and companies buying ITMOs.

This variety of ideas reflects the current situation, which is an inflection point between the market that arose from the Kyoto Protocol, and the one looking forward to global net-zero. At the same time, climate action by companies is gradually coming under tighter regulation, rather than solely voluntary accountability mechanisms, which is changing the playing field for companies in the VCM. The current situation is a hybrid of voluntary and compliance, for example, voluntary target-setting under the SBTi, but regulation of claims.

There is a growing list of guidance by voluntary initiatives, voluntary standards, emerging EU legislation relevant to companies, and, on the international level, relevant rules in the Paris Agreement. The guidance, standards, legislation and agreements vary according to status and applicability as well as to which part of the VCM puzzle they address. For instance, some concern the quantification of GHG emissions and carbon removal, others the quality of carbon credits or the claims that buyers can make.

The respondents were aware of the plurality of relevant frameworks, and most commented that the frameworks today are not aligned. There was recognition that it would be much simpler if Sweden could act alone in setting rules for the emerging market for removals credits, but that this would not be possible since the market will be international. The multiple layers, and the numerous intersections between frameworks that address different aspects of company action in relation to the VCM, create complexity that none of the respondents could see an easy solution to. However, the consensus was that alignment would be necessary for the market to grow to the scale required to meet the aims of the Paris Agreement.

International outlook

The engagement of the governments of Finland, Germany, and Switzerland with the VCM was analysed, including steps they have taken to govern it.

The VCM have been under scrutiny by state and non-state parties in all the countries considered. In at least two of the countries, there have been lawsuits questioning (offsetting) claims founded in the voluntary use of carbon credits. The lawsuits have been initiated by non-state entities.

In Finland, a state entity has addressed climate-related claims' compatibility/alignment with consumer protection law. The considered cases were not directly related to VCM, however, since they were examples of climate-related claims that are not based on any offsetting or any other voluntary use of carbon credits.

Both Finnish and German state entities have made efforts to provide guidance aimed at promoting good practice in the voluntary use of carbon credits. To that end, reports have been published to provide transparency and clarity concerning the voluntary use of carbon credits, including through practical guidelines. In Germany, a state entity has formed an alliance with private entities that aims to promote the voluntary use of carbon credits in line with good practice.

Current efforts at the government level in Finland and Germany aim to provide further support to actors who wish to engage in the voluntary use of carbon credits while making permitted claims that are not misleading. Ongoing initiatives include analysing how the lack of an enabling policy environment for corresponding adjustments in the EU can be addressed, providing government-sanctioned information portals on the internet, and evaluating a system that would enable private buyers to access government-vetted Article 6 units.

Recommendations

The report proposes that the following areas could be of potential interest for interventions from the Swedish government in order to promote robust, credible, and Paris-aligned VCM in Sweden.

- The interviews revealed several areas where stakeholder groups lack sufficient knowledge. Information sources such as guideline documents, capacity building events, and courses could be offered to raise stakeholders' preparedness to act on the VCM.
- Some areas were identified where there are fundamental disagreements or discontent among stakeholders on the Swedish VCM. These areas could be addressed by offering participation in dialogues between representatives of the state and stakeholders such as project developers etc.
- Adopting separate targets for emission reductions and permanent removals at the national level would facilitate a more robust demonstration of additionality of Swedish permanent removals (in relation to existing national mitigation targets).
- Engaging in market oversight and regulation activities to limit the number of less serious market participants (and support actors who act in line with good practice).

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- Contributing to standardisation, such as of purchase agreements etc. could contribute to reducing transaction costs and facilitate alignment with good practice.
- Enabling access to government-vetted, Paris-aligned carbon credits to domestic buyers, e.g., in line with the model currently being explored by the German government.

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Abbreviations

Bio-CCS	Biogenic Carbon Capture and Storage
CCQI	Carbon Credits Quality Initiative
CCS	Carbon Capture and Storage
CDR	Carbon Dioxide Removal
CSRD	Corporate Sustainability Reporting Directive
CRCF	EU Carbon Removals and Carbon Farming Certification
ESRS	European Sustainability Reporting Standard
EU ETS	European Union Emissions Trading System
GHG	Greenhouse Gases
ICVCM	Integrity Council of the Voluntary Carbon Market
ITMO	Internationally Transferred Mitigation Outcome
LoI	Letter of Intent
LULUCF	Land Use, Land Use-Change, and Forestry
NDC	Nationally Determined Contributions
PACM	Paris Agreement Crediting Mechanism
SBTi	Science-Based Targets Initiative
SDG	Sustainable Development Goal
VCM	Voluntary Carbon Markets

Introduction

1.1 Aim and problem formulation

This assignment presents a mapping of stakeholders in the Swedish Voluntary Carbon Markets (VCM). Key stakeholder groups are identified. Representatives of the different stakeholder groups were interviewed to gain a preliminary understanding of their respective roles, activities, and perceptions etc. Results from the interviews are presented in the report.

Moreover, the assignment includes an international outlook comprising of an overarching mapping and analysis of how the public sector in selected countries are taking on roles in relation to the VCM.

The report may be used to inform discussions concerning initiatives that the public sector could have as a facilitator of a robust and well-functioning VCM in Sweden.

1.2 Background

The net-zero norm inspired by the Paris Agreement has led to an elevated interest from companies in VCM participation. Globally, VCM volumes have increased significantly in the last few years and the growth is predicted to continue.

Pre-Paris, VCM mainly drew carbon credits from projects in developing countries that did not have national greenhouse gas (GHG) mitigation targets. Since the Paris Agreement came into force, however, virtually all countries have mitigation targets manifested in their Nationally Determined Contributions (NDC). While there is still a strong interest in sourcing climate projects in developing countries, project developers and credit buyers are increasingly turning their interest towards project opportunities in developed countries. The **shift to project development in host countries with national GHG mitigation targets** has introduced new challenges concerning, inter alia, baseline setting, additionality assessment and the avoidance of double counting (Ahonen et al., 2023; Kreibich, 2023).

Another major change that has taken place is an increased VCM demand-side **interest in carbon credits emanating from projects that generate carbon dioxide removal (CDR)** (Michaelowa, et al., 2023). CDR methods that represent durable

CDR are inherently associated with high abatement costs (Bednar et al., 2023) and are, therefore, particularly challenging to incentivise solely based on carbon revenue.

In the Swedish context, non-state actors are increasingly engaging in voluntary climate target-setting which may include, in addition to in-value chain mitigation, the voluntary use of carbon credits towards target fulfilment. Examples of relevant **demand side** initiatives where VCM plays a role include many Swedish companies that have set net-zero targets, e.g., according to the SBTi Corporate Net-Zero Standard¹, Lokal Färdplan Malmö 2030 (LFM30)², and Hållbart Stockholm 2030 (HS30)³. Moreover, on the **supply side**, the interest in generating carbon credits from project activities in Sweden has grown considerably. Examples include biochar carbon removal credits from the City of Stockholm marketed on a VCM trading platform⁴, the launch of a Swedish standard for biochar carbon removal credits⁵ developed after an initiative taken by a farmers' trade association, Swedish developers of Biogenic Carbon Capture and Storage (Bio-CCS) aiming at co-financing projects through state support and VCM revenue (Dufour, et al., 2024; Fridahl, et al., 2024), and companies that aim to generate and sell carbon credits based on carbon dioxide removal (CDR) in Swedish forests.⁶

Regulators at different levels are increasingly turning their attention towards the VCM. Developments on the international level will have far-reaching implications for how VCM are shaped in Sweden. Emerging EU regulations will change how EU entities are allowed to use carbon credits for voluntary purposes, e.g., the Corporate Sustainability Reporting Directive (CSRD), the European Sustainability Reporting Standard (ESRS), the so-called "Empowering Consumers for the Green Transition" Directive and the emerging "Green Claims" Directive. For entities that wish to make climate-related claims, greater transparency will be required than in the past, and entities must prioritise in-value chain mitigation. Using carbon credits for offsetting will be restricted and even prohibited in certain situations. These developments may lead to an increased interest in non-offsetting uses of carbon credits (see, e.g., Ahonen, et al., 2023) which is, however, an emerging concept with, so far, limited experience and guidance. Furthermore, negotiations are

¹ For example, <https://sciencebasedtargets.org/target-dashboard>.

² <https://lfm30.se/>.

³ <https://hs30.se/fokuspunkter/aterbruk/>.

⁴ <https://platform.carbonfuture.earth/balancer/portfolios/view/main/a38bf492-921d-4b3d-bbd9-8a03e730213d>.

⁵ <https://hushallningssallskapet.se/vara-projekt-och-uppdrag/kolsankratter-med-biokol/>.

⁶ For example, <https://www.theforestsolution.se/en> and <https://www.carboncapturecompany.se/>.

ongoing under the Paris Agreement aiming at operationalising the Paris Agreement Crediting Mechanism (PACM). Eventually, PACM credits will be available also for VCM and private, national and bilateral crediting programmes can be expected to align with PACM. Several international stakeholder-led initiatives aim to provide guidance for VCM participants (see, for example, Ahonen et al., 2022 and Ahonen, et al., 2023).

If done right, VCM have the potential to deliver on several objectives such as closing the mitigation action and ambition gaps, sparking investments in emerging, high-cost mitigation options in need of development and commercialisation, and making contributions to sustainable development objectives other than climate change mitigation.

2 Methodology

A mixed-methods approach has been applied in this study.

A **literature review** was conducted to describe the context, gather existing knowledge and identify key themes and gaps. The review covered peer-reviewed articles, industry reports, policy documents and information available on websites on the internet.

To gain in-depth insights, **semi-structured interviews**⁷ were conducted with four separate groups of respondents: potential carbon credit generators, potential carbon credit buyers, other relevant stakeholders (all Swedish) and relevant national experts for the international outlook. The interviews with Swedish stakeholders were performed using interview guides, which are detailed in Annex 1 along with information regarding the number of interviews per stakeholder group. The interviews aimed to explore perspectives, experiences, and expectations regarding the VCM.

The authors applied their **expert judgement** throughout the research process, leveraging their extensive experience in the field to interpret findings, identify patterns, and ensure the relevance and rigour of the conclusions drawn.

⁷ A semi-structured interview is a qualitative research method that combines a pre-determined set of open questions (questions that prompt discussion) with the opportunity for the interviewer to explore particular themes or responses further.

3 Results

3.1 Swedish VCM Stakeholder Mapping

In this section, a mapping of stakeholders on the Swedish VCM is presented. An initial mapping was made based on the consultants' extensive knowledge of the Swedish VCM. The mapping was then complemented with a few short interviews and a review of information on websites.

The mapping is grouped according to the following main stakeholder groups:

- Supply side stakeholders
- Demand side stakeholders
- "Others"

The stratification of actors differs between the three main categories to optimise the functionality of the presentation. The stratification is based on: Supply side - project category and host country geography (Sweden or abroad); Demand side - purpose of buying carbon credits; and Others - role in relation to the VCM.

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Table 1a. Swedish VCM supply-side stakeholder categories with examples of actors. Project activities in Sweden.

Stakeholder category (organised per project category)	Actor sub-category	Example companies	Comment
Bio-CCS	In district heating sector, biomass CHP	Stockholm Exergi, Vattenfall, Söderenergi	Several companies interested in selling Bio-CCS credits on VCM. Swedenergy also represents energy sector companies in issues related to the VCM.
	In district heating sector, waste-to-energy	Öresundskraft, Sysav (Malmö)	
	In pulp and paper sector	Södra skogsägarna, Stora Enso, Billerud	
Biochar carbon removal	Agriculture	Ecoera, Bussme Energy, Hjelmsäter gård.	The trade organisation Hushållningssällskapet coordinates issues related to VCM and gasification/pyrolysis technology providers (such as Meva Energy) act indirectly on the VCM. Several companies collaborate under the Svenskt Vatten Utveckling umbrella in the "Business models for sludge biochar on parallel markets" project. Skanska produces biochar carbon removal for internal market-based solutions. Stockholm Stad sells biochar carbon removal credits on the Carbon Future platform.
	Wastewater treatment	Roslagsvatten, Kungsbacka kommun	
	Building, construction, and landscaping	Skanska, Stockholms stad	
Forestry	Increased yield through fertilisation	The forest solution	-
	Improved forest management	Eken financing, The Carbon Capture Company	
	Preservation of high-value forests	Naturarvet, fight COTwo	
Soil organic carbon	-	Svensk kolinlagring	-
Enhanced weathering	-	Paebbl	-

Table 1b. Swedish VCM supply-side stakeholder categories with examples of actors. Project activities outside Sweden.

Stakeholder category (organised per project category)	Actor sub-category	Example companies	Comment
Biochar carbon removal	-	Planboo, Reverse Carbon	-
Afforestation, Reforestation and REDD+	-	United Eco Solutions, Paskaia, Grovana	-

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Table 2. Swedish VCM demand-side stakeholder categories with examples of actors.

Category	Example companies etc	Comment
Companies with net-zero targets (e.g., SBTi Corporate Net-Zero Standard)	Stegra, H&M, AlfaLaval	Comprehensive up-to-date list available at the SBTi website Several large global Swedish companies such as Ericsson, IKEA, and Volvo actively do not use carbon credits prior to reaching the net-zero point. The category represents a substantial future demand for carbon credits emanating from durable CDR.
Building & Construction sector companies and networks with carbon-neutrality targets	LFM30, HS30, Vasakronan	Carbon-neutrality claims will be affected by restrictions that the Empowering Consumers for the Green Transition Directive introduces.
Companies offsetting a product or service	Max Burgers, Arvid Nordqvist, DHL, Dagab	Currently represents the largest source of demand on the market. Carbon-neutrality claims will be strongly affected by restrictions that the Empowering Consumers for the Green Transition Directive introduces.
Organisations using carbon credits to match the carbon footprint of all or part of an operation	Nordax, KnowIT, IVL, Haglöfs	-
Organisations buying carbon credits to promote the growth of an ecosystem for carbon removals	Klarna, Spotify, H&M	-
One-offs	N/A	E.g., company going to a conference etc.
Individuals	N/A	-

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Table 3. Swedish VCM “others” sector categories with examples of actors.

Category	Example companies and organisations	Comment
GHG quantification services	SouthPole, ZeroMission, Atmoz, 2050 Consulting, Climate Hero	Assist companies to quantify their emissions, with IT tools or consulting hours.
Carbon credit retailers, focus on companies	SouthPole, ZeroMission, Atmoz, 2050 Consulting, Climate Hero	Broker carbon credits from a range of suppliers to companies for their voluntary use. Assist companies to quantify their emissions, with IT tools or consulting hours.
Carbon credits retailers, focus on individuals	GoClimate, klimatkompensera.se	Buys credits from a range of suppliers to sell to individuals
Companies offering carbon credits/compensation as a complement to their product/service	First Rent a Car, Opus Bilprovning, Vattenfall, SAS,	-
Carbon crediting programmes, registries, trading platforms	Nasdaq/Puro.earth, Svensk kolinlagring	-
Project developers	Hushållningssällskapet with 2050 (focus biochar), Recarber, Biorecro (focus Bio-CCS)	Provide technical know-how to prepare project registration documents
Project owners	See Table 1	-
Market analysts, trading association, networks	CDR.fyi, Klimpo	-
Sustainability communicators	Futera	-
Investors	SEB, Handelsbanken, Verdane	-
NGOs	WWF Sweden, Naturskyddsföreningen, Greenpeace, Swedwatch	-
Academia, research institutes	IVL, RISE, Linköping university, Lund university, KTH	-
Government agencies	Swedish Energy Agency, Swedish Consumer Agency, Swedish Environmental Protection Agency	-

3.2 Swedish VCM Stakeholders Interviews

The following section presents the results from the interviews with Swedish stakeholders. In the initial three subsections, the results are reported according to the three main stakeholder groups presented in the section 3.1, then a separate section covers governmental agencies.

3.2.1 Supply side

Intentions to sell any type of product or service on the VCM

- All respondents except one intend their generated carbon credits to be eligible for offsetting use. One respondent generates certificates with a broader set of sustainability benefits related to land management, that are not intended for offsetting use.
- All respondents are generating carbon credits that emanate from project activities that generate CDR.
- Projected annual volumes per project owner vary between tens of thousands of tons CO₂ (typically biochar carbon removal and organic soil carbon enhancement) and several million tons (typically forestry).
- Some companies have sold issued carbon credits or certificates and several envisage generation and issuance between 2025-2030. At least one of the respondents sells carbon credits issued ex-ante.⁸

Planned criteria and approaches concerning any certification, issuance etc

- The use, or planned use, of crediting programmes and methodologies varies from in-house methodologies with in-house registries to established crediting programmes such as Verra, European Biochar Certificate and Puro.earth. One

⁸ In most crediting programmes an accredited independent third-party entity periodically assesses ex-post that the mitigation outcomes generated during a specific monitoring period are quantified in accordance with applicable approved methodologies, based on accurate data and conservative assumptions, to assure that the mitigation outcomes are not overestimated (Broekhoff, Gillenwater, Colbert-Sangree, & Cage, 2019). Conversely, for 'forward', or 'ex-ante', crediting is done on the basis of expected future mitigation outcomes. Ex-ante crediting leads to over-issuance risks (e.g., related to the possibility that the activity fails to perform as expected and/or that future events such as regulatory changes undermine the additionality or mitigation outcome ownership) (Broekhoff, Gillenwater, Colbert-Sangree, & Cage, 2019; Schneider, et al., 2020).

respondent claimed that Gold Standard does not want to certify project activities in developed countries, and, therefore, ruled out Gold Standard as an option.⁹

- Many respondents anticipate transitioning to using the EU Carbon Removals and Carbon Farming Certification (CRCF) when it becomes operational.

Status regarding any LoI, MoU, purchase agreements etc

- Sellers of credits have developed in-house carbon credits/certificate purchase agreements, off-take agreements, and Letter of Intent (LoI) (to be converted into off-take agreements).
- Some respondents highlighted a need for standardisation to reduce transaction costs and they anticipate that some standardisation will be possible based on methodologies adopted under the CRCF.

Qualification criteria applied to buyers

- Specific qualification criteria, specified by sellers, that buyers of carbon credits need to meet are uncommon. One seller includes assurances in their purchase agreements that ensure that double counting between two countries and two companies, respectively, is avoided. One seller requires that buyers attend training on carbon management.

Management of non-permanence risks

- For project categories that include CCS, the EU regulation through the CCS and EU ETS directives were mentioned as sufficient to manage risks of non-permanence.
- Several respondents who sell forestry-related carbon credits state that there will be logging in the concerned areas and are using buffer zones to maintain the certified carbon sink level.

⁹ An Icelandic project has been submitted to Gold Standard (2022) but no carbon credits have been validated yet. This may imply that the project has proceeded without Gold Standard registration.

- Respondents developing biochar carbon removal and enhanced organic soil carbon offered less distinct responses concerning the durability of storage and referred to ongoing research.

Other risks

- There was broad agreement among supply side respondents that the most significant risk is related to the double claiming debate. Respondents want clarity and state that their carbon credits will be much more difficult to sell if the buyers cannot use them for offsetting purposes. The contribution claims concept was specified as an explicit risk for their business by some respondents.
- Developers in the forestry sector highlighted forestry policy on the EU and national levels as a risk factor.
- One risk that was identified by a limited number of respondents is that buyers may opt to buy carbon credits instead of reducing their own emissions.
- Issues related to ownership of the carbon sink are perceived as unclear by respondents representing the biochar carbon removal sector. There is both uncertainty and disagreement about who along the value chain owns the right to claim the carbon sink. This relates to the nature of the process, where the biochar for example could be produced by one actor, such as a wastewater treatment plant, and then applied to soil by a farmer. The perceived uncertainty is whether the carbon credits would be issued to the biochar producer or the farmer.

Future needs

- Need for clarity from regulators so that terms are predictable.
- Need to consolidate the sector and reach consensus on crucial issues such as additionality. This could potentially crowd out market players who are less serious (e.g., those marketing offsetting services that lack additionality).

The role of the government/public sector

- There was broad agreement that the government needs to provide a predictable policy context for the VCM.

- Opinions diverge concerning how active the role of the government should be. Some respondents stressed the need for an interplay between national mitigation targets and the VCM, while others stated that the VCM should be independent of national mitigation policies.
- Some respondents are unhappy about a narrow focus on Bio-CCS and proposed reverse auctions for carbon credits from nature-based solutions.
- Some actors suggested that the government should take a more active role in monitoring or auditing carbon credit projects, to discourage non-serious actors and thereby increase the credibility of the sector.

Other

- For some actors who can generate CDR and who have in-value chain emissions from other parts of their operations, a share of the CDR potential is intended to be used for offsetting on the organisational level. Other actors in a similar situation have not yet determined whether to certify and have carbon removal credits issued to sell on the VCM, or to include removals in their value chain in their own corporate GHG inventory and, thus, counterbalance their own emissions.

3.2.2 Demand side

Expected use of carbon credits

- The intended use of purchased carbon credits varied between the respondents. Some general themes included:
 - To take responsibility for their own emissions without the intention to offset emissions.
 - To offset emissions of specific products.
 - To build up capacity to use permanent removals credits for the neutralisation of residual emissions (both among companies with and without SBTi targets).
 - An openness to explore contribution claims as an alternative to offsetting claims, in some cases a preference for contribution claims.

- A responsibility to contribute to the growth of an ecosystem for permanent removals.

Criteria placed (or planned to be placed) on carbon credits

- Respondents had a strong preference for carbon credits of high integrity that are third-party verified and certified through renowned carbon crediting programmes.
- Many respondents said they prefer carbon removal credits when the intended use is for offsetting emissions. Some emphasised “permanent removals” while others also included removals from nature-based solutions. For offsetting residual emissions only, permanent removals will be considered.
- Several respondents expressed an interest in carbon credits representing both reduced emissions and carbon removal to be used towards contribution claims. In this context, carbon credits that are associated with ecosystem-related co-benefits were highlighted as attractive. Such a claim could be expressed as “contribution to the expansion of solar power in” (an example taken from one interview).
- Preferences concerning carbon credit criteria were expressed mainly in terms of credit quality and project type/category but not by geography.
- Carbon credit quality vetting initiatives such as ICVCM and CCQI are gaining importance among buyers.
- Some buyers are specifically interested in purchasing ITMOs. One buyer stated that ITMOs from the countries in which the company has value chain emissions would be preferred.
- Buyers demonstrated awareness of double counting risks, national vs. corporate targets as well as corporate vs. corporate (e.g., when an environmental attribute is attached to products generated, such as carbon-neutral or carbon-negative district heat or cement, while at the same time certifying and issuing carbon credits on the basis of the same mitigation generated).

Anticipated carbon credit purchase volumes

- The most common volume estimate that respondents could provide was related to future needs to neutralise residual emission levels when their organisations reach net zero.
- Current levels differ significantly. One common denominator is that moving from lower-cost conventional carbon credits to higher-cost removals credits would imply smaller volumes purchased (to remain within budget restrictions).

The use of international guidelines or standards as support when buying carbon credits

- Most respondents reported awareness of, and application of, the major international guidelines and standards for target setting and carbon credit quality assessment.
- A preference to eventually follow EU-level guidance and regulation was expressed.
- Some global companies outsource carbon credit purchases to international funds such as Milkywire and Frontier and, thus, rely on external vetting of credits.

How will carbon credits use be communicated?

- Most respondents downplayed the importance of offsetting claims in the near-term and expressed a preference for communicating contributions to technological development, addressing own remaining emissions responsibly etc.
- SBTi was the most mentioned standard for net-zero targets. With SBTi net-zero targets, carbon credit use will be communicated as offsetting ("neutralisation").

Views regarding the roles that the government and governmental agencies could take in relation to the VCM

- One respondent proposed that the Swedish government could support the contribution claim model as best practice, e.g., "contributing to SDGs" or "contributing to NDCs". A challenge related to this is that it sounds

complicated, and communications departments are difficult to convince, while "net-zero" and "carbon neutral" are easier to sell to communications departments.

- It was proposed by one respondent that the Swedish government could step in to pronounce on which credits it's OK to buy and which not. Sweden should be ahead of other countries on this point and lead the way in creating a scalable model.

3.2.3 Others

The respondents under this main group were a diverse group representing quite different roles on, or in relation to, the VCM. It was noted that concerns about the quality of credits and what claims can be made have led to a significant dampening of the market in the last two years, with some Swedish buyers withdrawing.

The use of international guidelines or standards as support for actors on the VCM

- Most respondents referred to the major international guidelines and standards for target (SBTi the one referred to most frequently) and carbon credit quality assessment (with notable hopes for CRCF and EU regulation in general).

Emerging trends and future needs

- All respondents mentioned double claims as a contentious issue that brings unclarity and inhibits investment, primarily with Bio-CCS investment in mind. The importance of clarifying the playing field was stressed by all. Most respondents argued that "co-claiming" between national and corporate targets should be allowed. One respondent qualified this by saying that "co-claiming" was acceptable only in the case of a country and a company within the same country.

Particular views regarding roles that the government and governmental agencies could take in relation to VCM

- The government should promote alignment between national/EU regulation and international standards. The Swedish government could get together with the other Nordic countries, to align on the development of the market

(including positions on how public subsidies would affect the assessment of additionality, and co-claiming). Concerns were expressed about a perceived lack of consensus on what is additional, and that it could harm the credibility of the market. This includes providing clarity on double claiming.

- Scale is needed. To make it worthwhile for a developer to realise a project, the demand must match the supply. The Swedish government should secure the long-term stability of demand. If the Swedish Energy Agency created a label for companies to use, this would drive demand, thus leading to more projects in Sweden. Governments in Europe are looking at creating domestic VCM (e.g., UK, France, Denmark). The Swedish Energy Agency could cooperate with the Swedish Consumer Agency on what companies can claim, i.e., give guidance on what's okay to say, rather than just "you may not". For instance, Sweden could establish a claims label which would support strong claims. However, it is important to refer as much as possible to existing standards, since every extra layer of standardisation adds additional costs.
- To give guidance on what's good practice for companies (could be an "interim net zero" with significant purchases of removals).
- Separate targets for reductions and removals, at the national level, to give credibility to the VCM for removals from Sweden.
- To support the huge opportunity for Bio-CCS in the Nordics, to establish the region as an important exporter of credible CDR.

Misc.

- "Banking" of removals is interesting, since this would provide incentives to realise removals now, which is better for the global situation, even if the "netting" only comes later.

3.2.4 Governmental agencies

Swedish Consumer Agency

The Swedish Consumer Agency is a government agency whose responsibility is to safeguard consumer interests.

The Consumer Agency does not intend to determine the value of offsetting as a phenomenon or its impacts on the climate. The Agency's task is to supervise and assess whether – and under which circumstances – marketing of products with offsetting is compliant with the Swedish Marketing Act.

In 2020-2021, the Swedish Consumer Agency conducted a survey, webinars and studies on climate-related claims, especially relating to voluntary offsetting. The survey found that, of the 80 per cent of respondents that had come across the term offsetting ("klimatkompensation"), half considered it difficult to understand. Every fourth respondent had bought something that had an offset carbon footprint (Swedish Consumer Agency, 2020).

To enhance awareness of voluntary offsetting of GHG emissions and related claims, the Swedish Consumer Agency commissioned a study on key terms and concepts (Möllersten et al., 2020). The Swedish Consumer Agency has also conducted a study on the current status of climate-related claims in marketing, and guidance on climate-related claims in Sweden, Denmark, Norway, Germany and New Zealand (Swedish Consumer Agency, 2021).

The Swedish Consumer Agency has also commissioned a study looking into "net zero climate impact" claims made in marketing dairy products whose GHG footprint has been compensated (Einarsson & Röös, 2021).

The Consumer Agency believes that claims such as carbon neutral, climate compensated, net-zero and similar are unclear and undefined. When such claims are made in the marketing of products without a prominent specification or explanatory statement, consumers are at risk of being misled about a product's environmental credentials (Swedish Consumer Agency, 2021). The average consumer cannot be expected to understand what these claims mean or to make an informed transactional decision based on these claims. For example, it might be difficult for the consumer to understand that these claims refer to a particular company having purchased emission reduction units in projects abroad. Nor is it entirely certain that the consumer will understand that the product will still have an environmental negative impact caused by the emissions it actually generates.

Just like any other environmental claims, marketing using such terms must meet the requirements stipulated in the Swedish Marketing Act, which requires good marketing practice and bans any misleading marketing claims. Vague and undefined climate-related claims concerning products that are based on offsetting

must, therefore, be supplemented by prominent specifications or explanatory statements to be used.

The Consumer Agency is unable to provide any general information about what this specification and explanatory statement must include. Individual assessments must be made in each case, considering which project the emission reduction units are assigned.

Even climate compensation claims that are supplemented by prominent specifications or explanatory statements, and which a company can prove, can also be deemed misleading. In other words, it's not good enough to be able to prove the environmental advantages of the product according to the literal claim in the marketing, marketers must provide evidence that covers the consumers' overall impression of the claim. Claims with a factual basis can also be misleading, depending on the overall impression generated by the way the product is marketed.

In 2021, the Swedish Consumer Ombudsman took legal action against the dairy producer Arla for using the claim "net zero climate footprint" in its marketing. According to the Ombudsman, the claim was misleading since it gave consumers the impression that the product had no impact on the environment or the climate; not before the purchase, at the time of the purchase or after the purchase – which the trader could not verify.

The Swedish Patent and Market Court stated that the claim gave consumers the impression that the product had no impact on the climate, or that the product's impact had been fully compensated. This is what the trader had to prove for the claim not to be misleading. The trader had offset emissions based on carbon credits from, for example, afforestation and reforestation projects and REDD+. According to the court ruling, the trader had not been able to verify the claim according to Directive 2005/29/EC (European Union, 2005), as transposed in Swedish legislation. Hence, the claim was considered misleading and unfair, and thus prohibited.

The Swedish Consumer Agency has been a leading force behind *the Nordic statement on climate compensation claims in marketing*.¹⁰ In the statement, the

¹⁰ <https://www.konsumentverket.se/contentassets/db15623530c44b58a9ce977d7cd4b904/nordic-statement-on-climate-compensation-claims-in-marketing.pdf>

consumer protection authorities of the Nordic countries encourage businesses to review their offsetting claims. In line with the ruling of the Swedish Patent and Market Court, the Nordic consumer protection authorities recognise the difficulties of verifying claims on climate compensation according to Directive 2005/29/EC on unfair commercial practices. Instead of using general claims based on offsetting that, it is stated, most businesses will have trouble proving are true, businesses should describe the concrete actions they are taking to, for example, enhance carbon sinks. The statement points to challenges related to offsetting claims that are due to the lack of permanence, the risk of double counting and the lack of additionality. It is stressed that the Nordic consumer protection authorities can initiate enforcement actions to ensure that claims on climate compensation are compliant with Directive 2005/29/EC on unfair commercial practices, as transposed in the Nordic countries.

Swedish Environmental Protection Agency

Contacted. The agency sent a very brief response that the agency pursues no particular activities in relation to the VCM.

The Swedish Financial Supervisory Authority

Contacted, but no response was received.

3.3 International outlook

This section aims to examine how the governments of Finland, Germany, and Switzerland engage with the VCM, and any steps taken to govern the same. Furthermore, it outlines what domestic VCM look like in the countries in question, where those exist.

3.3.1 Finland

Interest in VCM in Finland was initially focused on forest sinks, but recently technical solutions have become increasingly important, primarily Bio-CCS.

For Finland, the most crucial aspect is maintaining the integrity of the market. Otherwise, there is little prospect for its future. It is only logical for companies and organizations to invest in a sector that is not associated with negative media

coverage or regulatory issues. This is why Finland believes it is important to encourage principles of high quality and integrity.

The interest of Finnish forest owners

Finnish forest owners have opposed the Finnish government counting sink enhancements in the national GHG inventory and towards Finland's LULUCF target, thus "stealing" removals from forest owners and preventing them from selling the mitigation outcome in VCM as offsetting. They have demanded, in an open letter to the Finnish government, that Finland make corresponding adjustments (Compensate, 2021).

Scrutiny and regulation in relation to climate-related claims

The use of environmental and climate claims in marketing has been explored in a study financed by the Ministry of the Environment and conducted by the Finnish Environment Institute SYKE and the Ministry of Economic Affairs and Employment (Heinonen & Nissinen, 2022). The study indicated that over half of environmental claims used in Finnish online advertising in 2021 were misleading. WWF Finland (Julkunen, 2022) analysed the accuracy of claims. The study found that carbon neutrality claims were often backed up by inadequate information, or the necessary information was completely absent. By way of example, the scope of emissions calculations may be too limited, implying that all relevant emissions are not included, or that emissions are not disclosed at all. Emissions reduction targets and future plans are also frequently missing.

In 2021 and 2022, the Consumers' Ombudsman scrutinised climate claims made by three different Finnish companies. The claims considered were, however, not offsetting-related.

The Finnish Competition and Consumer Authority is a signatory of the Nordic statement on climate compensation claims in marketing.¹¹ For further details, see the section 3.2.4.

¹¹ <https://www.kkv.fi/en/current/press-releases/nordic-consumer-authorities-comment-on-climate-claims-in-marketing/>

Lawsuits

In Finland, there have been no significant legal cases directly questioning the practice of voluntary offsetting GHG emissions and related claims.

Development of VCM guidance by the Ministry of the Environment

A study commissioned by the Finnish Ministry of the Environment explores options to regulate voluntary offsetting and recommends a package of measures including good practice guidance for the sellers and buyers of carbon credits intended for voluntary offsetting, a green deal among carbon credit users on good practice use of voluntary compensation, a national registry for domestic voluntary compensation activities and mitigation outcomes, and consumer protection guidance on marketing associated with voluntary compensation (Laine et al, 2021).

To prevent greenwashing, the Ministry of the Environment and the Ministry of Agriculture and Forestry published a guide in 2023 to regulate the use of voluntary carbon credits (Laine, et al., 2023). This manual outlines the quality criteria that should be used by producers and users of carbon credits to ensure compliance with good practices. Based on various international criteria, including CDM, VCS and Gold Standard, minimum requirements are determined that must be met by the mitigation outcomes underlying carbon credits.¹² Each of these criteria allows for a number of choices to be made, and the Finnish guide explains how this is done by various international initiatives. Furthermore, guidelines are given for the use of climate claims in Finland. The overarching international regulations already state that these should be 'clear, unambiguous, truthful and verifiable'. Finland has emphasised this to ensure that organizations do not engage in greenwashing.

At this time, there are no significant regulatory developments in addition to this manual. While there is no mandatory enforcement of the manual, there have been numerous discussions and recommendations encouraging its use. This includes pointing out that acting against the manual, can result in breaching consumer legislation and making unreliable claims.

Role of the Finnish government in preventing double counting

¹² Be additional; apply robust baselines; apply robust quantification methodologies; apply monitoring and reporting; be permanent; avoid carbon leakage; be real, independently verified and certified; avoid double counting; do no significant harm (DNSH).

Finland participated in the drafting of the *Joint Statement on Voluntary Carbon Markets*¹³ (hereafter: the Joint Statement). This was an initiative launched during COP28 to enhance the reliability and quality of VCM. The countries that have signed this statement have established a set of principles that are recommended to organizations using carbon credits. These principles include among other things, suggestions for quality criteria and the claims that organizations should make when buying and using carbon credits, including the avoidance of double claiming. The Joint Statement is currently not a mandatory requirement in Finland.

One action taken by the Finnish Ministry of the Environment was the commissioning of a report on the prerequisites for Finland to make corresponding adjustments to the EU NDC. The resulting report concluded that EU law does not currently enable Member States to make corresponding adjustments in their EU-level accounting (see, e.g., Laine et al (2023)). In addition, Finland is failing to meet its Land Use, Land Use-Change, and Forestry (LULUCF) target so it really cannot “give up” any possibilities to count enhanced sinks in Finnish forests. Finland takes responsibility for all emissions from harvest by forest owners so it must be able to also count the enhancements.

Domestic VCM

There are no plans to establish or regulate a government-backed market within Finland.

3.3.2 Germany

The German government has been proactively supportive of the voluntary purchase and use of carbon credits through the provision of good practice guidance and continues to do so. At the same time, the outcome of legal processes creates uncertainty surrounding the legality of commonly used climate-related claims.

Lawsuits

Challenges to Carbon Neutrality Claims: Deutsche Umwelthilfe (DUH) has filed cases against companies like TotalEnergies, BP, and Shell for misleading

¹³ <https://www.government.nl/documents/publications/2023/12/10/joint-statement-on-voluntary-carbon-market>

advertisements about their products being carbon neutral through offsetting schemes. For example, TotalEnergies advertised its heating oil as “climate neutral” based on offsetting emissions in India and Peru, which DUH argues are unreliable and potentially environmentally harmful. Similar cases were filed against Shell for claims about carbon-neutral motor oil and BP for promoting carbon-neutral car dealerships. The environmental group contests the transparency and effectiveness of these offsetting projects, arguing that they do not provide a genuine solution to emissions reduction. These cases highlight ongoing legal battles in Germany, challenging how companies approach carbon offsetting and climate neutrality, reflecting broader concerns over the transparency and effectiveness of offsetting as a climate action strategy.

In the summer of 2023, the Karlsruhe Regional State Court reached the verdict, based on a case filed by DUH, that products may not be labelled as carbon-neutral etc., since this would be misleading for consumers.

Guidance provided or sanctioned by German Government Agencies

The German Emissions Trading Authority of the German Environment Agency adopted a guidebook on voluntary offsetting through “climate protection projects” in 2018 (Umweltbundesamt, 2018a). Next to the general idea of offsetting and the need to avoid and reduce emissions first, quality elements of carbon credits are outlined including additionality, permanence, quantification, monitoring and verification of mitigation outcomes, transparency and regulations, time of issuance as well as double counting.

“German Development and Climate Alliance”: The German Development and Climate Alliance - a foundation supported by the Federal Ministry for Economic Cooperation and Development - has introduced approved standards and processes for German stakeholders engaging in voluntary offsetting projects (Development and Climate Alliance, 2020a). As of January 2023, over 1,300 organisations had already committed to the Alliance’s criteria (including companies, municipalities and state agencies, sports clubs, civil society organisations, carbon credit providers as well as individuals.¹⁴ It is specified that the overarching goal is to reduce emissions as much as possible before offsetting remaining emissions (Development and Climate Alliance, 2020b). In general, the German Alliance’s approach is based

¹⁴ [Studies - Stichting Alliantie voor Ontwikkeling en Klimaat \(allianz-entwicklung-klima.de\)](https://www.allianz-entwicklung-klima.de)

on the ICROA Code of Best Practice (ICROA, 2024). In addition, the mitigation activity underlying the carbon credits must make certified sustainable development contributions to at least two of the Sustainable Development Goals (SDGs). Compliance with the minimum criteria should be demonstrated by making use of a carbon crediting programme approved by the Alliance. While the Alliance encourages supporting both already achieved (ex-post) mitigation outcomes, and those expected to materialise in the future (ex-ante), the latter cannot be used as proof of climate claims. All forms of double counting should be avoided, including double claiming with any country's national climate targets. The Alliance also publishes German-language reports on governing voluntary carbon markets and on the future prospects of the markets.

Current actions by the German Environment Agency, plans for further guidance for companies, and a possible Article 6 fund

The German Emissions Trading Authority of the German Environment Agency stays in regular contact with voluntary buyers. The current most crucial question is the one concerning claims, and the outcome of the negotiations concerning the Green Claims Directive will have significant implications.

The German Emissions Trading Authority of the German Environment Agency is preparing a governmental website which will compile useful information. The agency's position on the VCM will be presented along with, e.g., significant legal decisions, information on how Germany supports MoUs with other countries in order to prepare for Article 6 cooperation. Readers of the website will be informed that the German government cannot take on the final risk of voluntary carbon credit buyers.

A national registry is being prepared which will enable the transfer of Article 6 credits to German companies that purchase them.

One initiative which is being explored in collaboration with KfW¹⁵ is the potential creation of an innovative Article 6 fund. KfW would perform Due Diligence of proposed Article 6 programme activities and purchase ITMOs and Mitigation Contribution A6.4 ERs. The credits could then be purchased by German companies

¹⁵ KfW Development Bank: <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Entwicklungsbank/>

for voluntary purposes with a reduced risk of being criticised. An interest survey was carried out in September 2024 when this report was written. Since private purchases of carbon credits from the fund would be connected to a public initiative, the payments could be reported as mobilised private finance in Germany's reporting to the UNFCCC.

National carbon market: MoorFutures

Germany has established a voluntary carbon market, MoorFutures¹⁶, which is overseen by government agencies in three states (Bundesländer).¹⁷ The market has established specific rules regarding the use of carbon credits, which are generated through the rewetting of peatland areas. The rewetting method is a relatively simple way of reducing CO₂ emissions from parched peatland areas. Projects must take place within Germany and the credits generated can be purchased by both German and foreign entities.

One of the most notable aspects of this market is its focus on ensuring long-term effectiveness. MoorFutures indicates that this can be achieved in three ways: by purchasing land for use in projects, by making decisions about land as a government, and by ensuring the continued existence of projects through registration in the land register.¹⁸ The risk of reversal of projects is managed by entering contracts lasting more than 50 years.¹⁹

Credits can be freely traded. Individuals and companies can buy MoorFutures' CO₂ reductions.²⁰ However, there is a safeguard built into how buyers can use the credits. Namely, they may not use the credits to offset their own emissions. The reason stated is that the mitigation outcomes are already registered under Germany's national GHG inventory. MoorFutures Q&A incorrectly states that the Paris Agreement prohibits double counting of mitigation outcomes between national targets and voluntary corporate targets unless corresponding adjustments are carried out. It is, furthermore, noted that EU member states cannot carry out corresponding adjustments.

¹⁶ Moor translates as peatland

¹⁷ [MoorFutures - Klimaatbescherming ontmoet biodiversiteit - Ministerie van Klimaatbescherming, Landbouw, Plattelandsgebieden en Milieu Mecklenburg-Vorpommern](#)

¹⁸ [MoorFutures - Klimaschutz trifft Biodiversität - Häufige Fragen](#)

¹⁹ [McDonald ea. 2021](#), p. 126.

²⁰ [McDonald ea. 2021](#), p. 126.

3.3.3 Switzerland

In Switzerland, there have been concerns and criticisms regarding the VCM, especially related to its effectiveness and the risk of greenwashing. Recent studies have highlighted that carbon credits often fail to deliver the promised mitigation. Swiss companies, such as Swisscom and Coca-Cola, have faced allegations of greenwashing due to the questionable effectiveness of the offsets they purchase, prompting public and legal scrutiny over their claims of achieving carbon neutrality through offsets (ETH, 2024).

The voluntary carbon market in Switzerland lacks stringent regulation, leading to issues with the verification and actual impact of many offset projects. Critics argue that the market needs more rigorous standards and transparency. However, this study has not been able to identify any ongoing initiatives to regulate the VCM in Switzerland.

Lawsuits

While there are no specific major legal rulings against voluntary offsetting practices yet, the increasing criticism and public awareness are pushing for more robust legal frameworks and improved standards to address these issues in Switzerland's VCM.

The scrutiny of claims mentioned above led to complaints put forward publicly by a consumer protection organisation. After government mediation, the claiming organisations altered their claims—in this way, legal procedures were avoided.

Beyond VCM, there have been significant public debates around the integrity of offsetting practices, particularly relating to the Swiss government's purchases of ITMOs from projects under the Paris Agreement's Article 6.2. A notable case which was questioned involves Switzerland's purchase of carbon credits from Thailand, where a project aimed to replace petrol-fuelled buses with electric ones in Bangkok. Critics, including Swiss NGOs like Alliance Sud, have questioned the "additionality" of these carbon credits.

Government initiatives for the promotion of credible VCM

From the Swiss government's side, two initiatives that are in the exploratory/preparatory stages aim at fostering credibility in VCM. Firstly, the Swiss Ministry of Economics is trying to find a Swiss position on the connection between the national and corporate levels of reporting and double claims. This

includes investigating the legal basis for requiring corresponding adjustments. One argument that has been made is that if Switzerland wants to prevent double counting, the same should apply to VCM as compliance markets. However, it is also important to consider what the effects would be on the VCM including the implied administrative burden. Secondly, the federal Ministry of Environment is developing VCM good practice guidelines. Publishing of the guidelines is planned for 2025.

National carbon market: Max.moor

In Switzerland, a peatland restoration scheme similar to the market in Germany has been established, which is called Max.moor (WSL, 2023). This offsetting scheme is a collaboration between private and public actors and implemented by the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL).

The background to this project is that in a business-as-usual scenario, many peatlands in Switzerland release significant amounts of CO₂. Given the high cost of mitigation through the rewetting of peatlands, the market was set up aiming at getting individuals and companies to (co)finance mitigation, and thus reduce the central government's costs. A minimum of 10 per cent of the total project cost must be financed by the carbon credit revenue, with the possibility of the rest of the project being paid for by federal and decentralised governments. Even when only 10 per cent is financed through private funding, all of the projects' reductions are being sold as carbon credits that can be used for offsetting.

In general, the calculation of avoided GHG emissions in peatland areas is challenging due to the lack of data. To ensure reliability and quality, this estimate is based on conservative assumptions. Max.moor employs a conservative approach by including only the top layer of a peatland in the calculation, which provides for a more reliable result. Crediting occurs in advance, but unlike the German initiative, there is no guarantee of land rights.

One notable aspect of this market is that the Swiss government chooses to buy and retire a CER shadowing each issuance of a peatland credit, which addresses integrity challenges in relation to double counting and ex-ante crediting (Umweltbundesamt, 2018b; Umweltbundesamt, 2019). The retired CERs have not been counted towards a national mitigation target and have been issued ex-post, thus supporting the environmental integrity of claims based on the use of Max.moor credits.

4 Recommendations

This study has identified several areas where the Swedish government could take a role in supporting the VCM. Such support could be provided for different reasons, ranging from capacity-building to upholding integrity and facilitating the Paris-aligned use of carbon credits. Some recommendations for areas that could be further explored by the Swedish Energy Agency are provided below.

Addressing insufficient knowledge among stakeholders

The interviews revealed several areas where stakeholder groups lack sufficient knowledge. Information sources such as guideline documents, capacity-building events and courses could be offered to raise stakeholders' preparedness to act on the VCM.

Suggested focus areas include:

Good practice in the voluntary use of carbon credits, including the evaluation of carbon credit quality for different purposes, strategies for setting targets, and making claims. The contribution claims concept attracts substantial interest (not only due to the emerging EU regulation on product-related claims) but the guidance and experience in the contribution claims space is however quite limited. This area is relevant to actors both on the demand and supply side.

Confusion concerning the ownership of mitigation outcomes is common. This is not the same as 'who has the right to claim what', but rather related to who has the right to own and sell carbon credits. It encompasses the allocation of ownership between actors along value chains, which was particularly noticeable among actors engaged in forest and biochar carbon sink development, respectively. There is limited understanding of the freedom of business and contract, i.e., how ownership can be agreed contractually. One feasible hypothesis is that many actors perceive carbon crediting as firmly regulated through protocols, standards, and methodologies which leads them to believe that ownership cannot be agreed contractually. This is of particular interest to actors on the supply side.

Many smaller actors had very limited knowledge concerning carbon crediting programmes and their methodologies. This is mostly relevant for actors on the supply side.

Regulatory development on the EU level is moving fast. The Swedish Energy Agency could offer VCM stakeholders regular policy updates with a practical focus.

The German and Finnish initiatives to provide government-sanctioned guidance to VCM stakeholders can serve as good examples. The Nordic Dialogue on Voluntary Compensation (funded by the Nordic Council of Ministers) has accumulated experience in facilitating a capacity-building dialogue with VCM stakeholders.

Areas of contention

Some areas were identified where there are fundamental disagreements or discontent among stakeholders on the Swedish VCM.

The double claiming debate is considered a significant risk by actors across the Swedish VCM. In particular respondents in the supply-side and “others” group argued that the current lack of clarity inhibits investment. The importance of clarifying the playing field was stressed by all. Most respondents in the two groups argued that “co-claiming” between national and corporate targets should be allowed. Most buyers are less opinionated regarding double claims and most of all desire clarity.

Many project developers argue that, if they go beyond what is mandatory to enhance carbon sinks (e.g., in forestry or through biochar carbon removal), it is not fair that the state “confiscate” the mitigation outcome. On the other hand, it could be argued that Sweden takes responsibility for all emissions from harvest by forest owners and the emissions from the natural decay of biomass or emissions from water treatment etc., so it must be able to also count the sink enhancements.

There is some discontent about a perceived narrow focus on Bio-CCS when it comes to support for CDR. Reverse auctions for carbon credits from nature-based solutions were proposed.

These areas could be addressed by offering participation in dialogues between representatives of the government and stakeholders such as project developers etc.

Facilitation of a well-functioning, Paris-aligned market

Several respondents suggested that separate targets for reductions and removals, at the national level, would enhance the credibility of the VCM for removals from

Sweden. A separate national target for permanent removals would facilitate a more robust demonstration of additionality (in relation to existing national mitigation targets). The possibility of Sweden adopting a separate national target for permanent CDR sooner than an EU-level permanent removals target could be explored.

Some actors underlined a need to consolidate the sector and to reach consensus on crucial issues such as additionality. Other issues that may need addressing are ex-ante crediting and managing the risk of reversal for carbon sinks. Respondents argued that such consolidation could potentially crowd out market players who are less serious (e.g., those marketing offsetting services that lack additionality). The Swedish VCM has seen rapid development during approximately the last five years, before which there were hardly any project developers focusing on project development in Sweden. This has changed fast, particularly in the CDR space. It is possible to find several small and relatively low-profile developers and sellers of carbon credits ("klimatkompensation") through a simple Google search. In many cases, the available information lacks transparency and clarity. Some sort of market oversight and regulation are probably motivated, to limit the number of less serious market participants (and to support actors who follow best practice).

Standardisation, of purchase agreements, for example, could contribute to reducing transaction costs and facilitate alignment with good practice. The Swedish Energy Agency could explore what roles it could take in facilitating standardisation.

Some buyers are specifically interested in purchasing ITMOs and Paris-aligned carbon credits. Other actors requested government-sanctioned carbon credits and/or claims. The German government is exploring a government-sanctioned fund which would enable voluntary carbon credit buyers to purchase government-vetted ITMOs or mitigation contribution A6.4 ERs. Sweden would be well-positioned to develop a similar offer, thus enabling the provision of truly Paris-aligned carbon credits to domestic buyers.

Coordinate and align knowledge, initiatives and positions regarding VCM within the Swedish government

Several actors underlined the need to reach a consensus on crucial issues related to VCM. As noted in this report, other Swedish agencies apart from the SEA, such as The Swedish Consumer Agency, are working on these issues. Even within the Swedish Energy Agency different parts of the organisation conduct separate work

relating to the Swedish (and international) VCM. One example of this is the development of the reverse auction for Bio-CCS, where the government will support Bio-CCS on a large scale, but where potential participants have found it unclear how the support will impact their options to participate in VCM.

A recommendation is to create networks within The Swedish Energy Agency as well as with other relevant agencies, such as the Consumer Agency, to exchange knowledge and to jointly discuss strategies and ways forwards to address the many uncertainties that are currently affecting the VCM.

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Appendices

A total of 24 interviews with Swedish stakeholders were carried out (9 supply side, 9 demand side, 6 others). The interviews were carried out in accordance with interview guides specific for each stakeholder group as presented below.

Interview guide supply-side/project owners

1. Do you intend to sell any type of product or service on the voluntary market for climate compensation? If yes: what do you sell/do you intend to sell? If you are not already selling anything, when do you expect to start doing so?
2. What criteria and approaches do you plan to use in the process to certify your products or services? How will your products or services be issued and transferred? I.e. what records and information are used or will be used?
3. Have you started to design frameworks, declarations of intent (Letters of Intent/Interest) or collaboration protocols (Memorandums of Understanding) that you plan to use with your customers?
4. What requirements do you have, or plan to have, on buyers of your products or services? Do you intend to have any restrictions on how yours can be used by purchasing companies? (for example if they may be used as offsets, or only for "contributions claims").
5. How are risks linked to your products or services managed, so that bound carbon is released again?
6. Do you see any other risks connected to selling your product or service on the voluntary market for climate compensation?
7. What future needs have you identified as sellers of products or services on the voluntary market?
8. How do you see the state and the authority's role for voluntary markets? Is there something specific that you would like the state to do/not do?

Interview guide demand-side

1. How are credits being (or expected to be) used/claimed/reported (contribution, offset towards carbon-neutrality, offset towards net-zero, etc) in your organisation?
2. What kinds of demands and criteria do buyers place (or plan to place) on carbon credits (project type, reduction/avoidance/removal, carbon credit quality, origin, price etc).
3. specifically, what about the importance of availability of credits generated in Sweden?
4. Do criteria for selecting carbon credits vary depending on the intended use of the carbon credit?
5. What are the anticipated volumes of carbon credits that your company is likely to buy in the coming years - near-term, long-term?
6. What types of carbon credits is your company likely to buy in the coming years - near-term, long-term?
7. What % of the carbon credits your company is planning/likely to buy will you want to be generated by removals?
8. Are any international guidelines or standards used as support (e.g., SBTi, ISO, VCMi, ICVCM, CCQI, sustainability and climate reporting, etc) when buying carbon credits? If so, which ones?
9. How, if at all, does your company (or is your company planning) to communicate about use of carbon credits? (eg sustainability report, advertisement, carbon neutral claim, net zero, climate positive, etc).
10. What other emerging and future needs or wishes, if any, does your company have in regard to participating as a buyer in the voluntary carbon market?

11. Do you have any particular view regarding roles that the government and govmt agencies could take in relation to VCM?

Interview guide other VCM actors

1. Please describe your role in relation to VCM
2. what kinds of volumes of carbon credits are being generated and/or traded via your business? (total and per year)
3. credits generated by projects located outside Sweden
4. credits generate by projects located within Sweden
5. how do you expect these volumes to develop in the future, near-term and long-term?
6. is it important to your business that carbon credits from projects located in Sweden are made available to the market?
7. what is the main motivation, in your view, for buyers to buy credits generated in Sweden rather than credits generated abroad?
8. what types of carbon credits generated in Sweden (eg removal/reduction/avoidance, scale, crediting programmes, quality labels, corresponding adjustments) do you think are or would be most interesting for buyers?
9. what frameworks or legislation, if any, do you expect Swedish buyers to be using in future (near-term/long-term) to frame and communicate about their purchase of carbon credits? (eg SBTi, ISO)
10. Are there any other emerging trends and future needs that have not been mentioned that you have identified regarding the VCM, affecting both Swedish supply of credits, Swedish buyers and your business?

11. Do you have any particular view regarding roles that the government and government agencies could take in relation to VCM?

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