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VCM Host Country Perspective

**Addressing risks and securing benefits of
engaging on the voluntary carbon market**

Nicolas Kreibich, Florian Eickhold, Max Schulze-Steinen and Leonie Melcher



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Abstract

As the Earth surface temperature is on a steady rise, it needs all hands on deck to keep the 1.5° temperature goal within reach. However, a significant barrier to achieving emission reduction targets, particularly in developing countries, is the scarcity of financial resources. With public funds being limited, leveraging private capital becomes essential to support the implementation of nationally determined contributions (NDCs) and enhance ambition levels. In this context, the voluntary carbon market (VCM) emerges as a potential avenue for countries to access private climate finance.

This policy paper addresses the complexity surrounding VCM engagement, primarily focusing on assisting governments, particularly those in developing countries, in decision-making regarding their involvement in the VCM. It examines the current landscape of the VCM, its benefits, risks, and governance implications from a host country perspective. For this purpose, a multi-method approach is used by combining desktop research with semi-structured interviews and a roundtable discussion format with country representatives and experts.

The paper reveals a dynamic governance landscape influenced by interactions between the VCM and Article 6 of the Paris Agreement, including emerging concerns regarding integrity and greenwashing. Governments contemplating VCM engagement face diverse challenges and opportunities shaped by their unique national contexts and capacities. Consequently, a tailored approach to VCM governance is essential, integrating it within broader NDC implementation plans and aligning with Article 6 strategies. While advocating for increased transparency and collaboration among stakeholders, the paper highlights the necessity of balancing government intervention with industry-led initiatives and regional

cooperation to mitigate risks of market distortion and promote equitable development. Furthermore, it underscores the importance of financial and technical support from developed countries to facilitate capacity-building efforts and ensure the VCM's effectiveness and integrity while countries can harness the potential of the VCM to advance climate action and foster sustainable development.

1 Introduction

In order to limit the global mean temperature rise to 1.5 degrees Celsius, the “world needs climate action on all fronts - everything, everywhere, all at once” (UN, 2023), as UNFCCC Secretary General put it during the launch of the Synthesis Report of the Intergovernmental Panel on Climate Change (IPCC). Though not the only barrier, lack of finance is one key challenge to reducing emissions and ramping-up carbon removals, in particular in developing countries. According to the Climate Policy Initiative (CPI), the annual average climate finance needed today is around USD 8 trillion and is projected to lie over USD 10 trillion per year from 2031 to 2050. To achieve these levels, climate finance must increase by at least five-fold annually. Despite a considerable increase from USD 653 billion on annual average in 2019/2020 to USD 1.3 in 2021/2022, financial flows fall short of needs, in particular in developing countries (CPI, 2023).

As public finance is drastically limited, the mobilization of private capital for advancing climate action becomes key for countries in order to support the implementation of their nationally determined contributions (NDCs) and increase their ambition level. One possibility for countries to access private finance is the voluntary carbon market (VCM). VCM projects, provided they are truly additional, can mobilize private capital for activities that are not picked up by mainstream financial actors nor the scarce governmental funds. The VCM can therefore, at least in theory, bridge the gap between support programs and the market.

The VCM allows private and public entities to support climate action outside their own operations and value chains. This engagement can take various forms: Companies may for instance purchase and surrender carbon credits to offset residual emissions or to go beyond ambitious internal

emission reductions. The market can also be used by individuals, for example by flight passengers who buy carbon credits to address the carbon footprint of their flights. Historically, the bulk of the credits used were generated in developing countries delivering emission reductions and often providing other sustainable development benefits to the country.

With the adoption of the Paris Agreement, the modus operandi of the VCM was put in limbo. New concerns about the market’s interaction with the global climate regime have been added to existing concerns about the quality of carbon market activities. Critics further highlighted the risk of carbon credit use potentially deterring internal reduction efforts in companies while misleading claims could lead to wrong investment and consumer choices (Cullenward et al., 2023; Zühlsdorf et al., 2023).

Against this background, developing countries willing to engage on the VCM are today confronted with a complex and dynamically evolving landscape. Benefits and risks of VCM engagement are highly dependent on the specific national situation. In order to navigate this field, strong analytical skills and deep understanding of the market’s implications is needed. This policy paper aims to assist host country governments, predominantly from developing countries, in deciding whether and how to engage on the VCM. It puts the government’s perspective centre stage, taking into account different demands related to VCM engagement to identify main elements relevant for governments in organizing their VCM engagement. For this purpose, it focuses on the potential the VCM provides for host country governments while also considering the risks such engagement entails.

This paper thus examines the current landscape of the VCM, its benefits, risks, and governance implications by employing a multi-method approach: desktop research was combined with insights gathered through in-person interviews held at the sidelines of the African Climate Week¹ and the Latin American and Caribbean Climate Week² as well as a virtual roundtable session³ held with experts and country representatives.

The interviews and roundtable discussion allowed to verify the hypotheses made by the authors and close existing knowledge gaps. Furthermore, the interviews allowed us to take into consideration country-specific expectations and strategies in dealing with the VCM.

The paper is structured as follows: Section 2 of the paper gives some background on the VCM and presents recent developments. It is intended to provide a broader picture of the market before the paper puts the focus on the supply side. The subsequent section 3 takes a closer look at the current VCM landscape highlighting countries' experiences with VCM activities in the past and their involvement in ongoing Article 6 initiatives that are considered relevant for their role as VCM host countries. The analysis illustrates the broad spectrum in terms of countries' experiences and engagement on the market.

Taking into consideration the current role of the VCM and its interlinkages with Article 6 of the Paris Agreement, section 4 of the paper assesses the multiple facets of VCM engagement and outlines associated benefits and risks. On this basis, section 5 of the paper outlines a pathway towards host country VCM governance. Section 6 concludes.

¹ The Africa Climate Week (ACW) 2023 was hosted by the government of Kenya and took place in Nairobi from 4-8 September 2023. The ACW was attended by part of the project team, who held six interviews with country representatives (Interviews 1-6).

² The Latin America and the Caribbean Climate Week 2023 (LACCW) was hosted by the Government of Panama and took place in Panama City from 23 to 27 October 2023. In the course of the LACCW that was attended by part of the

project team, five interviews with country representatives were conducted (Interviews 7-12).

³ The virtual roundtable took place on 11 March 2024. The event organized by Wuppertal Institut on behalf of the German Ministry for Economic Affairs and Climate Action (BMWK) brought together around ten experts and representatives from developing countries for an peer-to-peer exchange on the potential and risks of VCM engagement.

2 The evolution of the VCM and recent developments

This section provides a brief introduction to the VCM and presents recent market developments. From a host country perspective, current trends and developments on both the supply and the demand side of the market can be relevant as they can be expected to directly impact the demand for specific types of credits and therefore inform the market engagement strategy.

Historically, the VCM evolved as a response to the increased interest of corporates and individuals to offset their emissions through the purchase of carbon credits from mitigation projects implemented elsewhere. While the market's beginning predates the emergence of the first compliance mechanisms and the entry into force of the Kyoto Protocol (KP), the introduction and operationalisation of the KP's Clean Development Mechanism (CDM) legitimized the concept of carbon offsetting as such and fostered its use for non-compliance purposes. This also led to the emergence of private certification standards such as the Gold Standard and the Verified Carbon Standard (VCS) in the mid 2000s (Ahonen et al., 2022; Langrock & Sterk, 2003; Lovell, 2010).

After years of operating at modest volumes and in parallel with the market mechanisms overseen by the UN, the adoption of the Paris Agreement in 2015 marked a turning point for the VCM. The adoption of the Paris Agreement did not only put climate change back on top of the agenda but also set the global goal of GHG neutrality, which many companies translated into carbon neutrality at organizational and product level. As the achievement of most of these targets implies the

need to offset residual emissions, huge expectations about the future demand for carbon credits from the VCM were raised (Net Zero Tracker, 2022, 2023).

At the same time, the global scope of the Paris Agreement and the vanishing of the uncapped environment put the VCM in limbo, leading to a lengthy debate about whether double claiming as one form of double counting of emission reductions should be allowed in the context of corporate offsetting or not (for a detailed account of the debate see Kreibich & Hermwille, 2021): Should organizations be allowed to offset their emissions with reductions that are at the same time used by host countries for achieving their NDCs?

The VCM and Article 6

After years of intense debates among VCM stakeholders and no solution in sight on how to deal with double claiming, a technical solution and a political signal was provided by the international governance level under the UNFCCC.

When adopting the rulebook for Article 6 of the Paris Agreement, Parties at the 26th Conference of the Parties to the UNFCCC (COP26) in Glasgow agreed on a technical solution for addressing the double claiming issue in the form of so-called corresponding adjustments (CAs) (see box below). Parties further decided that CAs can also be applied if credits are being used for purposes other than NDC achievement. The final agreement states that the application of corresponding adjustments is required for all emission reductions

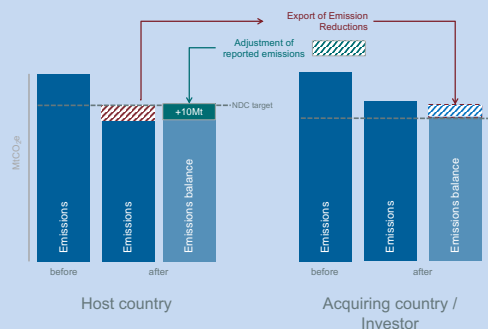
that have been provided with an *authorization* by the host country for one of the following three purposes:

- The emission reductions can be used for the achievement of an NDC (1),
- as well as for “international mitigation purposes” (2)
- or for “other purposes” (3) (UNFCCC, 2021b, Annex, para 1f).

In this context, “international mitigation purposes” is commonly understood to refer to compliance systems outside countries’ NDCs, such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) of the International Civil Aviation Organization (ICAO) or a similar system introduced under the International Maritime Organization (see: Marcu, 2021; Michaelowa et al., 2022). “Other purposes” in turn is considered to also refer to the use of emission reductions for the achievement of voluntary climate targets, including from non-state actors in the VCM.

Corresponding adjustments

Under Article 6.2, all authorized mitigation outcomes require the implementation of corresponding adjustments by the host country. When reporting its emissions to the UNFCCC, the host country must adjust its reported emissions by adding the amount of emission reductions authorized in the form of emissions to its actual emissions. In consequence, the carbon credits will not contribute to the host country’s NDC. The figure below illustrates the process of implementing corresponding adjustments. The details for applying corresponding adjustments are included in the Art. 6.2 guidance adopted in Glasgow 2021. The guidance further specifies that corresponding adjustments shall be applied “in a manner that ensures transparency, accuracy, completeness, comparability and consistency” as well as that the “participation in cooperative approaches does not lead to a net increase in emissions” (Annex para 7).



These recent developments are already being reflected by the registries of private certification standards: The Gold Standard Impact Registry has included a new label that notifies the authorization of carbon credits by the host country for one of the three purposes: compliance, CORSIA and other purposes. The first project to issue authorized credits is a cookstoves project implemented by the project developer atmosfair in Rwanda (Gold Standard, 2024).

Double claiming and voluntary offsetting

While the international climate regime provides the VCM with the *possibility* to apply corresponding adjustments, there is no requirement to do so. The international level has, however, also sent a political signal to the market implying that double claiming should also be avoided in the context of voluntary offsetting: At the climate conference in Glasgow in 2021, Parties to the UNFCCC had already agreed that the Article 6.4 mechanisms will issue two types of units: credits with corresponding adjustments and units that are not backed by such adjustments. One year later at COP27 in Sharm-el-Sheik, Parties further specified how these non-adjusted units may be used. The final decision text includes different possible uses without, however, mentioning the possibility of using these non-adjusted units for voluntary offsetting. This omission can be considered a clear indication from the international level that double claiming should also be avoided if carbon credits are used for voluntary offsetting, such as the achievement of carbon neutrality claims (Minas, 2022; Obergassel et al., 2022). What the decision makes clear, in contrast, is that these units can be used for results-based climate finance. This is the core idea of the contribution claim model (for more on this model, see below) a reference to which has been established by giving the units the name “mitigation contribution A6.4ERs” (UNFCCC, 2022, Annex, para 43).

Terminology

The evolution of the discussion on carbon markets and the emergence of new concepts and ideas has largely influenced the terminology used. With the interaction of public and private governance of carbon market, this has become even more intense. This also relates to the climate change mitigation impact of carbon market activities: If this impact is certified under a privately governed crediting programme, the term **carbon credit** is usually used. Some use the term offset credit, implying that these credits will always be used for offsetting, which is however, not necessarily the case.

The terms used under the Paris Agreement, however, differ: Under the Article 6.4 mechanism, for instance, certified mitigation impacts are called **Article 6 emission reductions (A6.4ERs)** and there is no mention of the term carbon credit. This may also be linked to the controversy about carbon markets in the UNFCCC negotiations more generally. It should be noted that Article 6.4 activities will presumably generate removals even if the credits generated will be called Art. 6 emission reductions.

Under Article 6.2, there is no mention of credits since cooperative approaches may also involve types of cooperation other than carbon crediting. Therefore, the terms **mitigation outcomes (MOs)** and **internationally transferred mitigation outcomes (ITMOs)** were introduced. The latter term is somewhat misleading since ITMOs will receive this name even before being transferred. Furthermore, ITMOs may not necessarily always be “transferred”. They could also remain in the host country and for instance be used by local companies on a voluntary basis or by airlines to comply with their obligations under CORSIA.

The interaction of private certification standards and international governance of market-based cooperation under the Paris Agreement leads to situation where these different terms are being used in parallel, potentially causing confusion. Therefore, a compromise between accuracy and practicality should be strived at. In the following, we will therefore use the term **carbon credits** as a generic term to designate the units generated in the context of carbon market activities, including Article 6.

The offsetting model under pressure

More generally, the offsetting model has lately been subject to substantial criticism, in particular in Europe. Companies that claim to be “carbon neutral” on the basis of carbon credits have been accused of greenwashing their business activities. While the reputational risks for companies making offset claims on the basis of carbon credits increased through increased media coverage, the legal uncertainty surrounding offset claims also grew. Fair competition watchdogs, NGOs, consumer right organizations as well as competitors are filing suits against companies for misleading

consumers and undermining principles of fair competition (Benjamin et al., 2022; DUH, 2022; Kreibich et al., 2022; Wettbewerbszentrale, 2021).

Some jurisdictions are further strengthening consumer protection. The EU is currently negotiating and has already agreed on some legal instruments that will require companies to disclose key information unpinning their claims and limit the scope of using carbon credits for making generic claims. As part of this process, EU legislators agreed to “prohibit the making of claims, based on the offsetting of greenhouse gas emissions, that a product, either a good or service has a neutral, reduced, or positive impact on the environment in terms of greenhouse gas emissions.” (EU, 2024). The Directive must be transposed into national law by EU member states until September 2026. Companies will then effectively be prohibited to make any carbon neutrality claims at product level if these are based on carbon credits. Companies that plan to rely on the carbon neutrality claim and similar headline claims that are presumed to mislead consumers will therefore run legal risks in the EU.

Other jurisdictions are also strengthening the legal provisions for the use carbon credits. In October 2023, California enacted the Voluntary Carbon Market Disclosures Business Regulation Act (VCMDBA). The law requires entities selling and using carbon credits to disclose key information about their activities. Companies making carbon neutrality claims must make publicly available all information associated with the claim (AB1305, n.d.).

In addition to regulating claims that companies can make, governments are publishing guidance documents to assist companies in navigating the VCM. Following the publication of the good practice guidance by Finland (Laine et al., 2023), the Netherlands together with six other European governments published its recommendations in December 2023 (Netherlands et al., 2023).

Companies' options in times of market fragmentation

Companies active on the VCM are therefore confronted with numerous challenges: If they make use of claims such as carbon neutrality, they face legal and reputational risks, which could be at least partially addressed by focusing on high quality carbon credits that are backed by corresponding adjustments. However, the supply of such credits is still limited, while prices for these units are high. The situation is set to remain unchanged, given the recent failure of the Article 6 negotiations in Dubai in December 2023. The negotiations in Dubai revealed differing views on the functioning of market-based cooperation under the Paris Agreement and Parties could not agree on some of the operational details of the Article 6 framework. As incomplete international rulemaking has already prevented project development in the past (CFI, 2023), the lack of operational clarity of Article 6 can be expected to continue limiting the generation of carbon credits that are correspondingly adjusted.

It must be seen against this background that companies are increasingly considering alternatives to carbon offsetting while numerous VCM stakeholders are in the process of developing such alternatives. These models differ from the carbon offsetting model as they do no longer allow buyers to offset their residual emissions and make carbon neutrality claims. Instead, companies finance mitigation activities outside their value chain to take responsibility for emissions caused and more generally show willingness to address climate change. While these alternative models have been subsumed under the heading of '**contribution claim**', there are key differences in particular in terms of determining companies' support for mitigation outside their value chain.

Some models build on the ton-per-ton approach, which uses the residual emissions of the company to directly derive the required level of emission reductions that must be achieved by supporting mitigation outside the value chain. This approach,

which is known from the carbon offsetting model enables full use of the VCM infrastructure and is naturally limited to projects whose impact can be measured in tons of carbon reduced or removed. South Pole's 'Funding Climate Action' and myclimate's 'Engaged for Impact' are two labels that make use of this approach (myclimate, 2023; South Pole, 2023).

By contrast, the money-per-ton approach requires organizations to put a price on their remaining emissions in order to derive a budget to support climate action outside their value chain. This approach, put forward by NewClimate Institute (2020, 2022), WWF/BCG (2020) and WWF Germany (2021, 2022) establishes an indirect link between a company's emissions and its external support for climate action, while allowing for a broad spectrum of possible measures to be supported, including activities whose mitigation impact cannot be measured in tons of GHG or activities focusing on adaptation to climate change.

There is hence a fragmentation of the voluntary carbon market. One of the initiatives aiming to deal with such a fragmentation is the voluntary carbon markets integrity initiative (VCMI). With the intention to establish globally uniform claims, the VCMI has recently launched its Claims Code of Practice. Building on the ton-per-ton-approach, the Claims Code of Practice envisages different claims (gold, silver, platin) depending on the coverage of residual emissions with carbon credits (VCMI, 2023a).

It remains to be seen whether a globally uniform model will eventually emerge or whether different models will continue running in parallel. Since governments' positioning and public debates differ significantly across regions, diversity of models running in parallel can be expected to prevail for the time being.

Relevance of these developments from a host country perspective

These developments are of key relevance for governments considering to host voluntary carbon market activities, as they might directly impact the demand for specific credits generated on their territory. Host country governments are today confronted with a complex and dynamically evolving market. The benefits and risks of the VCM are largely dependent on the specific national situation and strong analytical skills and deep understanding of the market's implications is needed to navigate this field. While VCM activities have in the past often been implemented without active involvement (or even knowledge) of national governments, increased control and oversight of all mitigation activities should be strived for. This must in particular be seen in the context of mitigation activities' impact on the achievement of the nationally determined contribution (NDC), their sustainable development contributions and more generally their integration into national (mitigation) strategies. Furthermore, alternative uses of domestic VCM activities that must be taken into consideration include the eligibility of credits from VCM activities in national carbon pricing instruments, as for instance already implemented by South Africa and Colombia.

As will be shown in the next section, countries have different levels of experience in hosting carbon market activities and their involvement in international initiatives linked to carbon markets and Article 6 varies considerably. We will have a closer look at these different starting positions before delving into the benefits and challenges of engaging on the VCM for host countries in the subsequent chapters.

3 Hosting projects and engaging in carbon market initiatives

After having outlined the overall evolution of the VCM and key recent developments, this chapter sheds some light on the current VCM landscape by illustrating countries' role in hosting carbon market activities and their engagement in recent initiatives. This allows to contextualize the host countries' perspective on the VCM which is influenced by different national realities, constrains and policy priorities. For this, the section provides an overview of the global distribution of carbon market activities and expected emission reductions. By identifying regional focal points, conclusions about the experiences in the respective countries can be drawn. The focus was put on projects under the Clean Development Mechanism (CDM) and on the two largest private certification standards, the Verified Carbon Standard (VCS) and the Gold Standard (GS). We will in the following use the term 'VCM programmes' for the latter two, while acknowledging the fact that credits from the CDM are also being used for voluntary purposes and that some jurisdictions accept VCS and GS credits for compliance. The data was drawn from the registries of the VCS (Verra, 2024) and GS (Gold Standard, 2024) and the CDM Pipeline published by UNEP Copenhagen Climate Centre (UNEPCCC, 2024).

Distribution of projects and comparison of the CDM and VCM activities

For this snapshot of the VCM landscape, the estimated annual reduction in emissions as well as the number of projects were taken into account.

For reasons of comparability and clarity, only the projects registered under the VCS and the CDM as well as Gold Standard Certified Projects were included.

CDM projects

First of all, it should be noted that the estimated volume of annual emission reductions from CDM activities, at over one billion tons of CO₂-equivalents, is twice as high as the reduction of the projects from the VCM programmes. Two host countries, China and India, are the clear leaders in both the VCM programmes and the CDM. In terms of CDM projects, China is clearly in the lead with over 3,800 registered projects and an estimated 574 million tons of emission reductions. India follows far behind with a total of 1,720 projects and an estimated reduction of 142 million tons of CO₂ equivalents. Together, the two countries are responsible for almost 68% of the estimated emission reductions on the CDM. Other major players in terms of emission reduction capacities within the framework of the CDM are Brazil, Bangladesh, Vietnam, Mexico, Indonesia and South Korea. The first African country appears in 10th place, South Africa, with an emission reduction volume of just over 12 million tons. This makes clear that the CDM is clearly concentrated in Asia and Central to South America. Although many African countries are represented as host countries, numbers of projects are generally low, apart from South Africa. In terms of the number of projects, the entire African continent

accounts for less than 4% of the global market. This picture reflects earlier findings from the literature (see e.g. Kreibich et al., 2017).

VCM projects

While China and India also account for around 40% of the emission reductions under the GS and VCS, the picture is slightly different. India and China are relatively similar in terms of estimated

annual emission reduction lying at 103 and 105 million tons, respectively. However, there are around 200 more projects in India than in China. The distribution on the market is somewhat different to the picture under the CDM. While African countries' representation is still poor when compared to Asia and Latin America, more VCM projects are being implemented in Central and West African countries. Kenya in particular is a

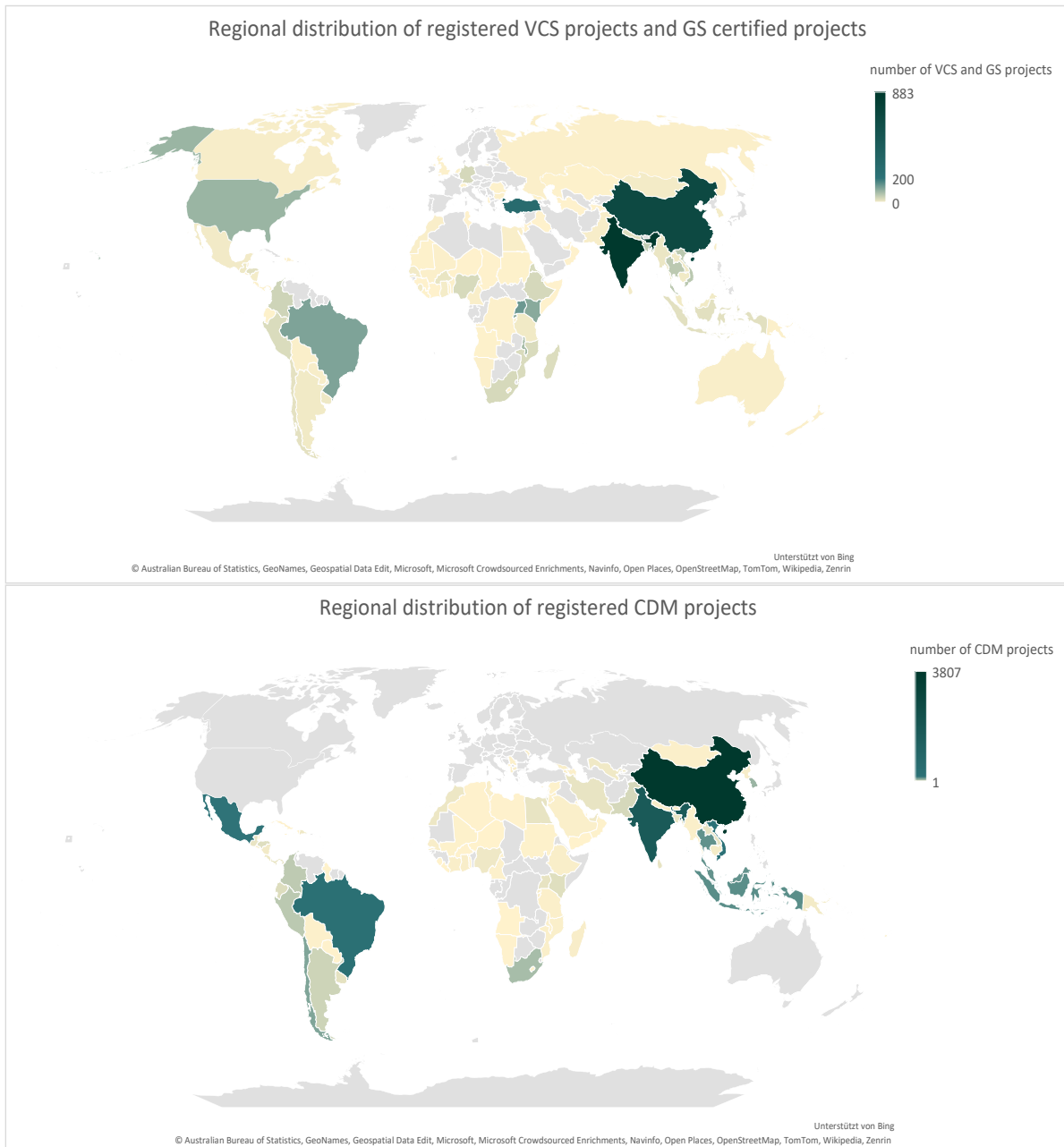


Figure 1: Comparing the regional distribution of VCM programs with the regional distribution of CDM projects. Source: Wuppertal Institute. Note: The figure illustrates the regional distribution of projects with a darker color indicating larger number of project activities in the respective country.

strong VCM host country with a reduction volume of 16 million tons, the seventh largest volume of GS and VCS projects globally.

In contrast to the CDM, private certification standards also allow projects to be implemented in developed countries. This is also reflected in the distribution of projects. Turkey is in third place after China and India with over 24 million tons of emission reductions. The USA and Canada are also emerging as host countries with a reduction capacity of around 8 and 4 million tons respectively, and Germany already accounts for 40 registered projects. Figure 1 above illustrates the distribution of projects from the CDM in comparison to the VCM projects. Darker colors indicate larger numbers of project activities in the respective country. This does not only illustrate that VCM projects are also being implemented in the global North while the focus of the CDM is naturally limited to developing countries. It further underlines that host countries' experience in hosting carbon market activities varies considerably. The different levels of experience in dealing with carbon market activities put countries in different starting positions for developing their VCM engagement strategies.

Countries' role in Article 6 initiatives

We further analyzed the participation of countries in global or regional capacity-building and networking initiatives related to Article 6. The aim of the analysis was to gain an impression of countries' efforts to proactively engage as hosts of carbon market activities and build capacities on carbon pricing. For the analysis, we included 163 countries which are the host countries of the above displayed CDM, VCS and GS projects.

The screening was based on a selection of different initiatives ranging from capacity building to procurement programs, regional alliances and other alternative mechanisms. Capacity building initiatives such as SPAR6C (Supporting Preparedness for Article 6 Cooperation) or CiACA

(Collaborative Instruments for Ambitious Climate Action) focus on supporting host governments in technical, economic and climate policy terms to realize the potential of Article 6 in the respective countries and enable them to join the carbon market. Regional alliances such as the Eastern Africa Alliance or the West African Alliance for Carbon Markets and Climate Finance seek to promote the participation of countries through a strong regional network. The aim is to strengthen the position of the countries through active participation in negotiations on the design of market mechanisms, easier access to climate financing and the implementation of pilot projects. Purchase programs such as the World Bank's Carbon Asset Facility help provide strategic support to create the conditions for private sector investment. The Japanese Joint Crediting Mechanism (JCM), in contrast, was developed as part of the bilateral cooperation under Article 6.2 of the Paris Agreement. By purchasing emission credits from various partner countries, the mechanism aims to reduce emissions and contribute to sustainable development.

For the analysis, we considered 21 initiatives listed by Ahonen et al. (2022). In order to gain an impression of the commitment of the 163 countries hosting CDM, VCS and/or GS projects, we further formed four clusters which differ in the number of participations in programs and initiatives. The clusters are as follows:

- cluster 1 – very active (countries that are involved in five or more initiatives),
- cluster 2 – active (participation in three to four initiatives),
- cluster 3 – less active (involvement in one or two initiatives), and
- cluster 4 (not actively involved in any of the initiatives)

Practical testing as part of participation in Article 6.2 pilot projects under the Japanese and Swiss initiatives is taken into account as an additional commitment. From the 163 countries covered in

the analysis, we found 29 countries being involved in five or more initiatives, which are therefore classified as *very active (cluster 1)*. This corresponds to a share of 18%. The two countries with the greatest participation in initiatives are Senegal and Rwanda.

Around 21% of the countries surveyed belong to the group of countries that are involved in three to four initiatives (cluster 2 – active). The cluster comprises 34 countries and includes large countries such as China and India as well as smaller ones (e.g., Gambia and Bhutan).

Cluster 3 of *less active countries* consists of countries that are involved in one to two initiatives. With 42%, the majority of the countries are part of this cluster, including Cuba, Paraguay and Fiji.

31 countries are not actively involved (cluster 4) in a single initiative. Examples include Algeria, Oman and Russia.

The varying levels of engagement in carbon market-related initiatives together with the different levels of experience made in hosting carbon market activities lead to high diversity among host countries that might influence the countries’ perspective on the VCM. Thus, the risks and benefits of VCM engagement elaborated in the next chapter need to be viewed with country specific lenses formed by the experiences made so far and the degree of carbon market engagement in capacity building and other initiatives.

Figure 2 displays the distribution of countries across the four clusters. The findings indicate that the engagement of countries in Article 6 initiatives varies significantly, potentially also indicating different levels of readiness for engaging on the voluntary carbon market. The table in Annex I displays the engagement of countries in the initiatives analyzed in detail.

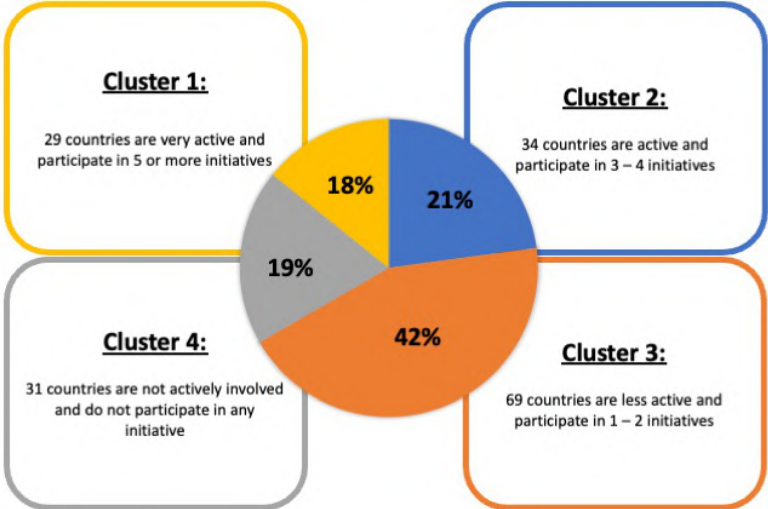


Figure 2: Distribution of countries across the four clusters.

4 Facets of VCM engagement

When deciding about engaging on the VCM or not, countries are advised to have a clear understanding about the risks and benefits that may be associated with their engagement. In this chapter, we pick up several facets of VCM engagement and sketch potential implications for host countries.

4.1 NDC implementation and ambition raising

The bottom-up approach of the Paris Agreement and its inbuilt ambition-raising character take a central place in the process of achieving the internationally agreed temperature objectives. Carbon markets have intensive interlinkages with NDC implementation and ambition raising. Here, the engagement on the VCM can have both, positive and negative implications.

Contribution to the implementation of NDC in line with LT-LEDs

Under the Paris Agreement, each Party is required to submit its nationally determined contribution (NDC) and to implement domestic mitigation measures that are to contribute to the achievement of this target. Parties are further encouraged to adopt long-term low greenhouse gas emission development strategies (LT-LEDs). The VCM can mobilize foreign direct investments that can be used to financially support mitigation

activities that contribute to the achievement of the NDC and the LT-LEDs.

In this context it is important to highlight that a direct support of NDC attainment by the underlying mitigation activity is only possible if (a share of) the emission reductions generated by the mitigation activity stays within the host country (non-authorized credits). If, by contrast, the host country authorizes all emission reductions generated over the entire lifetime of the project, the associated corresponding adjustments will net-out the activity's mitigation impact on the NDC. It should be noted, though, that the mitigation impact of the activity must not necessarily be equivalent with mitigation impact that is credited. This can be achieved by applying an overly conservative crediting baseline or by limiting the crediting period. These and other approaches can be used to share the mitigation outcomes between buyer and seller and reduce the overselling risk for the host country (see: Kreibich & Schell, 2023; Spalding-Fecher et al., 2020).

If, however, all mitigation impacts of the activity are exported, a support to NDC implementation would have to be ensured by reinvesting the financial returns to support NDC implementation (Marr et al., 2023).⁴ In addition, a mitigation activity could also indirectly contribute to the NDC implementation. For example, the host country could use the infrastructure which was set up for the mitigation project or the gained (technical, political, procedural) know-how for the continuation of projects or other projects which serve NDC

⁴ It should be noted, though, that according to the Guidance on Cooperative Approaches agreed in Glasgow in 2021, countries participating in a cooperative approach

must ensure that the participation contributes to the implementation of their NDC and long-term low-emission development strategies as well as to the long-term goals of the PA (UNFCCC, 2021a, Annex, para 4f).

implementation. These aspects will be covered in greater detail below.

Overall, while the VCM can support NDC achievement, it can also imply dynamics that put at risk NDC implementation. One major issue here is the matter of overselling (Spalding-Fecher et al., 2020) where too many (cheap and easy to implement) emission reductions with corresponding adjustments are sold by the host country while tapping the remaining emission reductions turns out to be more expensive. Other circumstances that lead to overselling are that a host country is selling emission reductions that don't reflect real reductions, are generated outside the host countries' NDC or not covered by the GHG inventory. These processes would compromise the host country's NDC achievement.

Ambition raising

Furthermore, host country governments can use the VCM for raising climate ambition. The underlying assumption is that via the VCM, untapped mitigation potentials within the host country can be realised.

For the purpose of this paper, two types of ambition raising are differentiated:

- the first type is when a country increases the target figures of its NDC. Consider for instance, a country modifies the target number of its NDC from minus 55% to minus 60% GHG emissions by 2030 compared to 1990 levels without changing the other parameters (baseline, reference year, scope, etc.).
- The other ambition raising option is the expansion of the NDC scope by including previously uncovered sectors or activities. This is only relevant for countries without economy-wide NDCs.

Both types of ambition raising are in the host country's own interest as the Paris Agreement requires both, the increase of the ambition level (Art. 4.3 PA) and the scope expansion towards

economy-wide NDCs (Art. 4.4 PA). We will in the following explore whether and how the VCM can contribute to these types of ambition raising.

We will first ask whether carbon credits can contribute to **increasing the ambition level** of an NDC. Emission reductions that are not authorized and therefore not backed by CAs will directly contribute to NDC implementation (see above). They will therefore not impact the current NDC target level, but contribute to achieving it. Depending on how these credits are used, they may contribute to closing the global ambition gap. However, the NDC target of the host country will not be increased automatically.

While (the generation of) VCM credits will not directly lead to increased ambition at the NDC level, underlying mitigation activities might allow the host country to strengthen its NDC in the future. VCM activities usually target those mitigation potentials that are not part of the NDC package. Here, VCM activities can foster mitigation potentials in sectors, industries and regions where public policy is limited due to a lack of political agreements, capacities, limited public finance or difficulties of reaching remote areas. After the VCM activity has demonstrated how the mitigation potentials can be tapped and implementation barriers have been overcome, the host country would be able to integrate the mitigation potential in its NDC package. This would allow the host country to increase the NDC ambition level. Here, different types of integration can be differentiated (see also: Howard, 2018):

1. Countries that have only defined an unconditional target and countries that have defined their conditional target as an increase of the target level: With the update of the NDC, the mitigation activity could be integrated into the NDC package.
2. Countries that have defined conditional and unconditional targets: With the NDC update, activities could be moved from the conditional part of the NDC to the unconditional one.

Conditionality of nationally determined contributions

Another aspect that must be taken into consideration is the differentiation between conditional and unconditional targets in Parties' NDCs. While there is no legal definition of these terms, the unconditional NDC is generally understood to be achieved by the Party without external assistance, while for the achievement of the conditional target external support is required. The impact of NDC conditionality on carbon markets, Article 6 and in particular the VCM, is unclear. Article 6 institutional buyers tend to have a clear preference to purchase carbon credits generated from the conditional part of the host country NDC. However, some Article 6 host countries do not clearly differentiate between conditional and unconditional elements, or only have conditional targets. It is often not clear what role carbon finance is to play therein, as an analysis of African NDCs has revealed (Greiner et al., 2021).

The situation is even less clear for the VCM, where activities are usually supported through private finance. Should the financial means from the private sector mobilized through the VCM be considered 'external support', similar to climate finance provided by developed countries? Or should it be rather seen differently? This is a political decision that Parties still need to address under the UNFCCC.

It should be noted that the integration of these activities into the unconditional parts of the NDC will only lead to ambition raising if they are appropriately reflected in the target level of the NDC. More generally, there could be an incentive for host countries to show increased NDC ambition in order to attract foreign investments into high quality VCM activities. This, of course, presupposes a specific type of investor that is focused on high-quality activities. But with the current turmoil in the VCM regarding the scandals of *low quality credits* generated by projects that lack environmental integrity (see: Greenfield, 2023), the demand of high quality credits might increase in the future.

With regard to the **expansion of the scope towards economy-wide NDCs**, mitigation activities from sectors currently not covered by the NDC could be integrated into the NDC after the implementation of the VCM activity has demonstrated how barriers could be overcome.

Nonetheless, the VCM can also undermine the NDC ambition, as the prospects of the revenues from VCM activities that generate CA-backed carbon credits may prevent host countries from

ratcheting-up their NDCs. In particular if global demand for carbon credits rises, there is a perverse incentive for countries not to increase the ambition level of their NDCs. Increasing the ambition level would limit the extent by which carbon markets can tap the country's mitigation potential thereby reducing the inflow of foreign investments (Day et al., 2023). It should be noted that this perverse incentive is only relevant in the context of host countries willing to attract VCM activities that generate CA-backed credits. VCM activities generating credits that do not feature CAs will (by definition) contribute to the NDC target. Therefore, increasing the ambition level of the NDC target will not entail opportunity costs in the form of foregone revenues from the sale of non-authorized credits. In this regard, it is also not clear how CAs will influence the NDC of countries that only have conditional NDCs. What are the consequences for a country if it sells carbon credits backed by CAs, where the CAs impact the NDC which was already based on external support? Here the CAs, which were introduced as a tool against double claiming, might simply not work.

Displacement of national policies

The potential displacement effect of carbon credits used for offsetting was one of the key arguments in the debate about the avoidance of double claiming and the need for corresponding adjustments in the VCM (see: Brander et al., 2022). From an environmental integrity perspective, such displacement effect is particularly problematic if credits are used for offsetting purposes. This is why only credits backed by corresponding adjustments should be used for offsetting, irrespective of whether compliance targets from companies or voluntary targets by non-state actors are to be achieved through offsetting. However, displacement of climate policies must also be avoided if credits are used for other purposes, for instance if companies want to contribute to climate change mitigation to live up to their social and environmental responsibility.

From the host country perspective, a displacement of national policies is not problematic per se. One could argue, that especially countries with understaffed ministries or limited expertise within the ministries, which would be in charge of identifying, planning and implementing mitigation activities, benefit from the knowledge of external project developers. At the same time, however, the host country might run risk of losing the control of the project. Here, a consistent alignment of VCM activities to the national priorities and development strategies is necessary, e.g., shall the project contribute to the NDC? Which sustainable development benefits should be fostered?

4.2 Impact on adaptation

The VCM engagement could further be used to support the host country in adapting to climate change and increase its resilience. In light of the immense adaptation gap and the fact that adaptation is a key priority in several regions most adversely affected by climate change, host countries could require all VCM projects to positively contribute to adaptation.

Such a contribution could be ensured through a fee that all projects must pay. In addition, activity proponents could be required to integrate adaptation consideration into the design of their activities. Host countries could further exploit synergies between mitigation and adaptation by prioritizing projects that build on such synergies. These considerations could be integrated into broader considerations about sustainable development impacts. Taking such a holistic approach would reduce the risk of projects that have mitigation and adaptation benefits but lead to adverse impacts on other facets of sustainable development, e.g., planting non-endemic tree species that absorb large amounts of GHG and protect the ground from erosion, but have negative impacts on the local biodiversity.

4.3 Improvement of data quality and GHG inventory

Improving the quality of GHG data and enhancing national inventories is not only relevant for host countries to comply with the requirements of the Enhanced Transparency Framework under the Paris Agreement and to ultimately set up realistic NDCs. It is also key for the government to develop robust GHG mitigation strategies and identify key action areas.

In this context, VCM activities can play an important role. Following the baseline-and-credit approach, project proponents quantify the mitigation impact of their projects by comparing project emissions with baseline emissions. Therefore, there is an in-built incentive for project proponents to apply methodologies that best capture current emissions in order to maximise credit generation. During this process, the host country can also gain more experience with established methodologies and use this knowledge for other mitigation activities not linked to the VCM.

At the same time, there is an incentive for host countries to ensure that these emission reductions are properly reflected in the national inventory. This holds in particular for VCM activities that generate credits backed by corresponding adjustments. If the mitigation impact of these carbon credits is not reflected in the GHG inventory, NDC attainment would be affected negatively: while the CAs would result in higher reported emissions for the country, the positive GHG mitigation impact of the activity would remain unnoticed. For activities generating credits that are not backed by CAs, the issue is less problematic: while activities whose mitigation impacts is not reflected in the inventory cannot contribute to the NDC, no further adverse impacts derive from this. In any case, mitigation impacts that are not reflected in the GHG inventory will result in a global mitigation benefit. Host countries can therefore benefit from improving data quality

and enhancing the GHG inventory by building on the experiences made by the VCM.

Identification of untapped mitigation potential

One basic idea of carbon crediting mechanisms is that they allow the private sector to play a role in identifying and tapping (low-cost) emission reduction potentials. This “search function” was particularly successful under both project-based flexible mechanisms of the Kyoto Protocol, CDM and JI. In the EU, JI worked as a frontier mechanism revealing new information on GHG emissions and abatement costs which eventually led to the enlargement of the scope of the EU ETS (Shishlov et al., 2012). In many developing countries, the CDM has unleashed unprecedented creativity among private sector actors who started searching for untapped GHG abatement potentials.

Countries considering to host voluntary carbon market activities may also be able to benefit from this search function e.g., when project developers search for mitigation potentials in sectors and regions the government cannot address due to limited resources and restricted capacities. VCM activities may also inform public policy-making by generating information about abatement costs, technical and institutional barriers as well as capacity-building needs (VCM Global Dialogue, 2021b).

In principle, any crediting activity can exert this function, regardless of whether authorized or non-authorized credits are generated. However, the extent to which governments will benefit from this function may depend on the specific type of credit and the activity: Authorized credits will presumably generate higher revenues than non-authorized credits. Expected higher revenues may therefore lead to a stronger incentive for project proponents to identify untapped mitigation potentials. Due to the potential adverse impacts authorized credits may have for the host country, the rules for the generation of these

credits will presumably be stricter, further reinforcing the market’s search function.

4.4 Sustainable development benefits

VCM activities can generate sustainable development (SD) benefits that go beyond the sole mitigation of GHG emissions. To unveil the maximum potential of positive SD impacts, the mitigation activities must be in-line with national policy strategies e.g., related to poverty reduction, education, economic development, resilience, water.

Besides the direct benefits for the local communities directly involved in the activity, there can be revenue generation and other spill-over effects for the (local) economy (Kachi et al., 2020). One example could be a cook-stove project where the energy efficient cooking-stoves that reduce the use of fire-wood are produced in the region and sold by local (female-run) businesses. SD benefits of VCM activities can hence go well beyond the scope of the project. Other SD benefits that VCM engagement can provide to host countries are related to technology transfer. In order to realize the *high hanging fruits* with regard to the achievement of their NDC, the host country has the interest to use and implement the best available technology through carbon markets (Kachi et al., 2020).

4.5 Finance

To meet the objectives of the Paris Agreement, huge amounts of finance are needed. According to the Climate Policy Initiative (2022), estimated USD 4.3 trillion in annual finance flows are required to avoid the worst impacts of climate change. Especially developing countries are relying on external monetary flows to meet their NDCs. Developed countries have failed to meet their promise to provide \$100 billion climate finance per year by 2020 and analysis shows that

also finance from the private sectors is needed for the sustainable socio-economic transformation (Songwe et al., 2022). Thus, the VCM is often put forward as one possibility to help mobilize further funding.

Increased autonomy of climate finance and increase of fiscal revenues

Conventional climate finance is often provided in form of loans. This increases the fiscal obligations of host countries and public dept. The funding received via the VCM, by contrast, has the potential to decrease the fiscal obligations and their dependencies (Kreibich & Brandemann, 2021). When the mitigation activities are in-line with national priorities, the VCM allows host countries to channel financial flows to areas of greater value. Ideally, climate finance is combined with national priorities and strategic interests (Howard, 2021).

In addition, VCM engagement can further contribute to increasing fiscal revenues. One possibility is to introduce a *carbon fee* for the approval of project activities or the authorization of emission reductions. This fee would cover administrative costs for the infrastructure provided and thus buffer the host countries cost for the overall process (Global Green Growth Institute, 2023). If set at sufficiently high levels, the funding generated could go beyond merely covering these administrative costs but provide revenues for the host country government. It should be noted, though, that countries may compete with each other to attract specific project types, while project developers implement projects in countries where they expect to have the greatest benefits. The interests of other countries as well as the project proponents' expectations must therefore be taken into consideration when establishing the financial framework conditions for VCM project development.

Dependence of market dynamics

These financial advantages of VCM engagement come with the inherent disadvantages and challenges when engaging in markets generally. Especially being exposed to price fluctuations can be a challenge to the mitigation activity. For example, the recent negative publicity on forest projects may affect the demand for credits from the forestry sector and VCM credits in general. In this case, it doesn't matter if the criticism applies to the specific activity or not, as the reputational damage may also affect high quality activities.

Furthermore, VCM host countries may indirectly be affected by changing legislation in the markets where demand for VCM credits comes from. If, for instance, the use of *carbon neutrality claims* is being restricted, demand for credits could be reduced. One recent example is the European Union, where a recently adopted legislation bans such claims on a product level if based on offsets.

Price fluctuations and the risk of declining demand for carbon credits can not only limit host countries' access to financial streams but also be problematic for its achievement (and further the ambition raising). In the beginning of 2022, the average price for one tonne CO₂ was USD 8,28, rising to USD 9,66 three months later. In October 2023, the price fell to under USD 5 per tonne (MSCI, 2024). When the demand for a certain type of carbon credit or for VCM carbon credits in general declines, the missing finance and above outlined SD-benefits may not materialise.

4.6 Reputation

VCM engagement can unveil both, negative as well as positive impacts on the host country's reputation.

By actively engaging on the VCM and hosting high quality projects the host country might benefit from reputational benefits, being perceived as a frontrunner that raises project developers' interest as a host of carbon market activities. These countries may further be able to benefit from being perceived as *forerunners* in the international (climate) negotiations. Reputational benefits would hence not be limited to the VCM but expand well beyond this niche market.

Process	Activity	Credit	Facets of VCM engagement and their implications for host countries			Credit	Activity	Process
			Benefits		Risks			
x	x	x	Contribution to NDC implementation in line with LT-LEDs	NDC implementation and ambition raising	Overselling	x		
					Displacement of national policies		x	x
x	x		Ambition raising		Undermined NDC ambition	x	x	x
x	x		Support adaptation and increase resilience	Impact on adaptation	-			
x	x		Improvement of data quality and GHG inventory	Data	-			
		x	Identification of untapped mitigation potential		-			
x	x		Achievement of SD benefits	Sustainable development benefits	Negative SD impacts		x	
		x	Increased autonomy of climate finance and increase of fiscal revenues	Finance	Increased dependence on market dynamics	x	x	
x	x	x	Reputational benefits from engagement	Reputation	Reputational risks if activities have low quality or credits are misused	x	x	x
x	x	x	Increased engagement in and understanding of int. processes	Capacities	Administrative burden excels government capacities	x	x	x

Figure 3: Different facets of VCM engagement and their implications for host countries differentiated by process, activity and credit (source: own illustration).

At the same time, there are reputational risks for host countries if the mitigation activities hosted generate low quality credits and when credits generated are being misused, e.g., for greenwashing business strategies that are not aligned with the Paris Agreement's overall objectives. It is hence in the host country's own interest to avoid being associated with low quality projects and the misuse of carbon credits, as this might also weaken the country's position in the international (climate) negotiations.

4.7 Capacities

The final facet that needs to be considered is the question of the host countries' capacities and the

influence the VCM engagement might have on these capacities.

VCM engagement can assist in the development of capacities by allowing the government to gain understanding of the planning and operation of a VCM project as well as understanding the framework conditions needed to support project to become reality. This understanding can also inform the design of national policies in a way that they support the achievement of the host country's priorities. Furthermore, capacity building elements could also be built into the design of a VCM activity. For example, a new and expensive technology could be introduced to the host country which is also combined with a capacity building tool. This knowledge established with the help of

the project could then be used further, e.g., after the lifetime of the project or even in parallel in other projects. On the other hand, it should be noted that thoroughly governing the VCM engagement will tie up significant capacities within the national administration, which are often limited.

The figure below provides an overview of the facets discussed in this section. Benefits (left) and risks (right) are differentiated according to their impact level (credit, activity and process).

5 Towards VCM host country governance

Section 4 above has provided an overview on the benefits and risks of VCM engagement from a host country perspective. In this chapter, we explore how governments can prepare for navigating the VCM landscape by taking into consideration the intersection of the VCM with the broader UNFCCC process and its Article 6. The section builds on the previous analysis while incorporating insights from the interviews held with country representatives and the roundtable discussion.

5.1 Readiness Context

With climate finance streams being limited and often difficult to access, governments from developing countries are becoming increasingly interested in the voluntary carbon market. This market is often considered an alternative climate finance stream in the context of the broader climate policy context which is evolving in parallel.

With the Paris Agreement being operational since beginning 2021, governments are working on the implementation of their NDCs under a relatively new global framework. This work consists on the one hand on the actual planning and implementation of measures to achieve their NDC and on the other hand it is about the work on the integration and implementation of the Paris rules and processes such as reporting and NDC updates. One of the many new elements that need to be fully understood and integrated by governments are the Article 6 rules for market-based cooperation. Participation in Article 6 is voluntary, but even for deciding whether a government would want to participate or not, a certain level of

readiness for Article 6 is required. The decision should be taken based on an informed analysis of the “pros and cons” this option represents for the country. Readiness for Article 6 is a process that forms part of the overall Paris Agreement readiness process. And of course, the work of the governments to get their administrations Paris-ready is one of many tasks that are currently implemented according to priorities and capabilities that can be very different from country to country.

The Paris readiness process did not just start in 2021 with the Paris Agreement becoming operational and it did not start from scratch. Since the adoption of the Paris Agreement in 2015, governments had the possibility to anticipate some of the new tasks and in some areas, expertise has been built-up during the Kyoto era. In the area of carbon markets, the experience with the CDM and in some countries also national or regional carbon pricing and market mechanisms offered a certain base equipment of technical capacity to enter the new world of Article 6 if institutions and administrative personal could manage to keep some of this know-how available. Some governments have also gained experience in dealing with project developers or buyers.

However, the late adoption of the Article 6 rules in Glasgow left governments (and the market) until late 2021 without clear guidance on the functioning of carbon markets under the Paris Agreement, despite the fact that the debates and the emergence of consensus indicated already some of the cornerstones of the Article 6 rules beforehand. The situation has improved considerably with the adoption of the Article 6 rulebook in Glasgow. However, recent analysis shows that

incomplete rulemaking at the international level has not only slowed down the implementation of carbon market activities on the ground but also delayed the establishment of institutional framework at the national level (CFI, 2023).

With the Article 6 negotiations in Dubai ending without decisions on Article 6.2 and the Article 6.4 mechanism, uncertainty about international carbon market rules and trading is set to remain (Oberghassel et al., 2023). The Article 6.4. mechanism will presumably not become operational until 2025/26. This delay limits the mechanism's function to serve as guidance mechanism for the private certification standards, for instance with regard to the approval of Paris-aligned methodologies. In reaction to this governance gap, new public-private alliances have emerged, such as the cooperation between the Gold Standard, Verra and Singapore (NCCS et al., 2023). These initiatives complement existing endeavors to strengthen the VCM through increased collaboration between international initiatives (e.g., VCMI and ICVCM) and private certification standards (e.g., Gold Standard and Verra and others). This uncertain and highly dynamic context makes it increasingly challenging for host countries to prepare for Article 6 and the strategic use of the VCM.

Multiple Interactions: Article 6 Readiness and VCM Governance

One of the questions that has been discussed in various occasions is the relationship between the VCM and Article 6. How is the VCM readiness process connected to the overall market readiness process from the viewpoint of a host country?

Here, a look into the history of global carbon markets can assist us in getting a more comprehensive picture. The first voluntary carbon market transactions predate the entry into force of the Kyoto Protocol in 2005. However, it was the introduction of the CDM and JI as offsetting mechanisms under the Kyoto Protocol which legitimized the concept of carbon offsetting as such and also

fostered its use for non-compliance purposes. With this, the market gained considerable momentum and more and more corporates discovered the possibility to voluntarily buy and retire carbon credits for voluntary offsetting. The VCM moved stepwise away from the UNFCCC to find a new home under the umbrella of private standards and private registries such as the VCS and Gold Standard. This process accelerated with the melt down of the CER market in 2012 and towards the end of 2020 with the fate of CER compliance buyers and the CDM mechanism as such. At that point the VCM had become to a large extent a merely private activity next to the UNFCCC context.

It is the Paris Agreement that could now provide an UNFCCC infrastructure with Article 6 that can potentially be used by the VCM. Thus, the future of the VCM could potentially move back again under the umbrella of the UNFCCC and/or the VCM synchronize with Article 6. If, when, and to what extent this happens depends also on the development of the Article 6.4 Mechanism and on the respective reaction of supply and demand.

Coming back to the readiness process, it is not obvious that the VCM is part of the Paris Agreement and Article 6 readiness work. For the voluntary carbon market, government-led multilateral and structured and lasting workstreams do not exist. Therefore, other than for Article 6 a direct link between the governments and the VCM is not established and an instrument that would call for continuous involvement for government representatives in this topic over time. Multilateral initiatives such as those explored in section 3 above do only involve some governments and only occasionally cover VCM topics.

Nevertheless, the VCM attracts the attention of some governments as a potential tool to finance private sector projects. Private foreign companies are investing in the country using predominantly private certification standards to issue carbon credits outside the scope of the Paris Agreement. Why should this foreign investment

be affected or even hindered by the Paris Agreement, a host country government could ask itself? The link between the voluntary carbon market and Article 6 comes to some country representatives as a surprise because they did not see their responsibility to these private sector activities when they were tasked with setting up the Article 6 infrastructure (Interviewee 7). Others consider the VCM as an alternative to Article 6 engagement which implies less regulatory and administrative burden (Interviewee 8). Some countries, however, are developing comprehensive carbon market frameworks that cover not only Article 6, but also the VCM. One example is the framework developed by Ghana, which requires all activities to follow similar evaluation processes and credits to be registered in a national registry (CFI, 2023).

This means that Article 6 readiness is not always planned by the host country in a way that includes the VCM from the beginning. More generally, it is still open if the VCM moves closer to the UNFCCC using at least part of the solutions and infrastructure provided by Art. 6 directly or as orientation, or if the VCM continues to coexist as a parallel system next to Article 6.

5.2 Building on the Article 6 readiness process to govern the VCM

As the number of countries engaging under Article 6 rises and details on the functioning of voluntary cooperation become clearer, there is increasing evidence and experience on how to get ready for Article 6. Initiatives such as the SPAR6C project have developed detailed guidance documents to assist host countries in preparing for Article 6 engagement.

In light of the uncertainty regarding the relationship between the VCM and Article 6, the following questions arise: What elements from Article 6 strategy development can inform VCM

engagement? Where are the overlaps and what are potential gaps? How can both processes inform each other? In the following, we will build on Article 6 readiness considerations and explore their relevance for the management of VCM engagement.

Article 6 readiness stages

Besides the specific focus governments set in the readiness process based on their interest and priorities, one could structure this process in three stages.

- A first basic stage of Article 6 readiness must be achieved by governments to answer the question if they want to participate in Article 6 or not.
- Then a second stage must be achieved to be able to answer the question how the country wants to participate and where.
- And a third readiness level must be reached to actively engage in Article 6.

Readiness Speed and Dynamic

It can be observed that some countries run through all phases quickly almost at the same time and occasionally then going back to the earlier phases revisiting still open or new questions. Maybe others take more time for each step for deeper analysis and broader discussions moving only to the next stage after completing the previous one. What is the best approach?

Readiness Levels

The Article 6 readiness process means working on different levels to make progress.

- On the political level strategic decisions must be taken and the participation in Article 6 has to be balanced out against other alternatives.
- On the technical level assessments are to be done to provide the necessary information for decision making.
- On the institutional level institutional processes and responsibilities must be defined and implemented.

All levels are interlinked and interdependent to a large extent.

Political considerations

Political readiness involves a preliminary political assessment that results in an overarching decision if and how to make use of the VCM. One key preliminary question that host country governments need to answer is: **is the engagement on the voluntary carbon market politically desired?** Is the rationale on which the VCM is based in line

with my political positioning? To answer this question, a clear understanding of the evolving nature of the VCM is needed. The VCM is currently operating multiple models in parallel with large differences of integrity, as the following two examples illustrate:

- Company A has adopted ambitious climate targets based on a robust GHG inventory and buys VCM credits to complement its internal reductions while transparently communicating on climate activities.
- Company B ‘misuses’ the VCM as a greenwashing tool to make misleading claims about carbon neutrality by offsetting its emissions with low-quality carbon credits without significantly reducing own emissions.

Governments that decide to engage on the VCM should be aware of these and other forms of VCM use and their partially adverse impacts. There are numerous initiatives pushing for more integrity of VCM activities, the trading of credits and their use (Kreibich, 2021). Host governments should not only engage in these activities to support the emergence of robust rules at the global level but also consider taking steps to limit the risk of allowing the VCM for being misused as in the example of company B above.

Already at this stage, governments should undertake a **preliminary assessment of the potential benefits and risks** of VCM engagement. This process could be informed by local stakeholders such as businesses, civil society, indigenous peoples, academia and others. By bringing-in their specific perspective, a more comprehensive assessment on the potential benefits and risks of VCM engagement can be achieved. According to one interviewee, positive experiences were made with the involvement of stakeholders at an early stage of the strategic process to prepare for the use of the voluntary carbon market as well as Article 6 (Interviewee 7).

As many Parties are already hosting VCM activities, governments should further **develop an**

understanding of their current role as hosts of VCM activities. Since private certification standards do not require national approval of projects, governments may not have a complete overview of the VCM activities implemented on their territory. As a first step and in absence of a meta-registry, governments may scan the registries of the existing private certification standards (Gold Standard, VCS, Plan Vivo, etc.). Here, synergies with a future national VCM registry as well as the functions of an Article 6.2 registry should be taken into consideration. The information collected may feed into a national database at a later stage. Information on the project activities hosted can assist the government in its assessment on future VCM engagement: In which sectors are VCM activities being implemented and how are these activities supporting sectoral transformation? How are project benefits shared among stakeholders and what are the social and environmental impacts (positive and negative) on the ground? Who are the buyers of the carbon credits generated and what claims are being made? Answering these and related questions will not only allow the government to assess existing VCM activities, but also inform a political decision on its future VCM engagement.

Furthermore, an **overview on other forms of international cooperation in the climate realm is needed.** This might include experiences made under the Green Climate Fund as well as international bi- and multilateral cooperation and participation in sector-specific initiatives such as the ART TREES or the World Bank’s Forest Carbon Partnership Facility (FCPF) (Interviewee 8).

In addition, governments could **consider the use of the VCM in the domestic context** that could build on experiences made with voluntary domestic instruments at the national level. This might also include its use as an instrument that allows for internal exchange of emission reductions between sectors. If, for instance, the transport sector does not reduce its emissions in line with what is needed for NDC attainment

while the forestry sector overachieves its target, the latter could receive compensation from the former (Interviewee 8).

VCM strategy

Once the political decision to actively engage on the VCM is taken, governments should develop a strategy that details the objectives of such engagement and how these can be achieved. The choice of the **VCM strategy will be closely linked to the country's positioning on whether and how the engage in Article 6**. If the country decides not to engage in Article 6, it will not be able to authorize carbon credits and implement corresponding adjustments. On the one hand, this would reduce the complexity of engaging on the VCM and the administrative burden, as some aspects such as sharing of mitigation outcomes or dealing with the overselling risk could be disregarded. On the other hand, there is an increased interest in credits that are backed by CAs and excluding the issuance of such credits from the outset could significantly decrease mitigation potentials being tapped. As highlighted by one interviewee, credits without corresponding adjustments do currently not have a major significance. The experience made by the country was that projects proponents that aimed at implementing projects that would not generate credits backed by corresponding adjustments came back and requested to obtain such adjustments at a later stage of project development (Interview 5).

Key factors influencing the countries' position on whether to engage in Article 6 and being able to generate credits with corresponding adjustments include:

- National capabilities in managing carbon market activities
- NDC clarity and GHG inventory robustness (granularity)
- Positive technology lists

In-depth assessment of benefits and risk of VCM engagement

Section 4 of this paper has outlined different facets of VCM engagement. By considering these facets the host country could define the objectives of its engagement on the voluntary carbon market. Accordingly, the host country may use the VCM engagement for the following purposes:

- Assist NDC and LTS implementation
- Raise NDC ambition
- Achieve SD benefits and support adaptation to climate change
- Improve data quality and the inventory
- Identify and reach untapped mitigation potential
- Increase financial revenues
- Build capacities
- Increase reputation

Whether the VCM engagement will actually be able to provide these benefits, will depend on the national circumstances within the host country and on the individual market activities to be implemented. When defining their VCM strategy, host countries should prioritize the benefits they consider to be particularly relevant. This prioritization should be done together with an assessment of the country's potential of hosting respective VCM activities. The process could also be informed by an analysis of other climate finance instruments.

The expectations regarding the potential of the VCM to deliver on these benefits may vary from country to country. Some host countries interviewed consider that the voluntary carbon market represents a great opportunity in terms of financing, capacity building and technology transfer to increase ambition in mitigation and adaptation (Interviewee 9). Others, in turn, maintain that the VCM's actual contribution to ambition raising and sustainable development might be limited. One problem highlighted is the market's current focus on low-cost potentials which

might lead to a situation where VCM actors leave the country once prices increase. This is detrimental, as a steady inflow of funding is needed to ensure an actual contribution to ambition raising is achieved (Interviewee 10).

The VCM facets in section 4 of this paper outlined potential risks VCM engagement could lead to, such as:

- Overselling risk
- Adverse social and environmental impacts
- Reduced resilience to climate change
- Increased dependence on market volatility
- Attract investments in key sectors and technologies

An assessment of these risks and opportunities is needed and should be made by taking into consideration the specific national circumstances, as the actual salience of risks and opportunities will vary from country to country. For instance, for some countries, in particular those that have adopted ambitious targets and are currently not on track of achieving the reductions needed, export of emission reductions will be difficult as they run an overselling risk (Interviewees 8 and 10).

The benefits and risks assessment must not only consider existing national capacities to regulate and administer the VCM engagement, but also take the countries' role under Article 6 into consideration and align its VCM strategy with this role. In parallel, an understanding of the global landscape of the voluntary carbon market is needed. This understanding should also include an analysis of the demand side to assess whether there is demand for a specific type of credit and how such demand might develop in light of evolving regulatory landscape. This analysis will be needed to assess whether it will be possible for host countries to reap the benefits of the VCM.

Based on this assessment, a set of benefits and risks that are relevant for the country can be identified. The set of relevant benefits and risks will determine the elements the country must have in place when governing the VCM engagement. One key assumption is that countries seeking to obtain the maximum benefits from the VCM will also run larger risks, hence requiring more governance elements to be in place. The following four roles can be differentiated, ordered from lower to higher complexity:

- **Kyoto mode:** Countries that follow the existing mode of action by allowing for VCM activity implementation as long as existing laws are adhered to and no correspondingly adjusted credits are generated.
- **VCM exclusion:** Countries that put a moratorium on existing VCM activities and do not approve any new activities, irrespective of the type of credits to be generated.
- **VCM orchestrators:** Countries that provide guidelines and tools for the project development of VCM activities implemented by the private sector to address the most detrimental adverse impacts.
- **Full regulation and end to end integrity:** Countries that are very engaged and have a highly ambitious NDC, keen on avoiding double claiming in the VCM, exclusion of VCM use by certain industries (e.g. fossil fuel sector), etc.

5.3 VCM governance framework

Once internally agreed whether and how to make use of the VCM, host countries can develop their VCM governance framework. It should be noted that developing a specific VCM governance framework may not be possible or even sought by all host countries. Some might, at least in a first step, want to primarily build on existing legal

provisions with the development of a more detailed governance framework being deferred to a later stage, if at all (observation from roundtable discussion).

Institutional and legal framework

A governance framework contains institutional responsibilities by clarifying *who* is in charge of governing the VCM as well as the rules of *how* the engagement on the VCM is to be governed.

When establishing the institutional and regulatory framework, governments should conduct assessments to make use of existing capacities within ministries and other relevant institutions (agencies) and to identify gaps. Institutional coordination across ministries will be of key relevance for the successful implementation of the VCM strategy (VCMI, 2023b).

The process is challenged by the fact that the capacities needed to effectively govern VCM will presumably be spread across different entities. While the ministry of finance might be familiar with existing climate finance activities under the UNFCCC, the ministry for environment might manage the Article 6 negotiations and have in the past managed the country CDM activities. Knowledge on sectoral activities might be stronger in the respective ministries. The VCM governance framework will have to bundle the existing expertise and identify ways to bridge

gaps through (internal) capacity building activities.

Activity approval process and criteria

A country considering to host VCM activities in order to achieve its policy objectives will have to develop an approval process with respective criteria. The approval of proposed activities should be integrated into the overall VCM governance framework.

The process can build on pre-defined criteria, by defining areas of the economy, specific technologies or specific project activity types that are eligible to be implemented as VCM projects. This approach allows countries to align their (future) pool of VCM activities with national priorities. Some countries for instance require all activities to have an adaptation component (Interviewee 1).

While governmental approval should be a precondition for all VCM activities, specific criteria will have to be applied to those activities seeking to generate credits that are backed by corresponding adjustments. If the country aims to authorize these credits, some of the criteria included in the Article 6.2 guidance will have to be met (see Box below).

Art. 6.2 requirements for cooperative approaches

At COP26 in Glasgow, Parties adopted the *Guidance on cooperative approaches referred to in Article 6 paragraph 2 of Paris Agreement*. The following requirements outline the necessary steps and obligations a host country needs to fulfill when engaging under Art. 6.2. Central to this guidance is the agreement that for every ITMO transferred (regardless whether the ITMO is used towards NDC implementation or other international mitigation purposes), each participating Party needs to apply corresponding adjustments to its reported emissions balance.

The **participation requirements** for Article 6.2 cooperative approaches, have the overarching objective to contribute to NDC implementation (Art 6.1 PA). For this, each participating Party needs to ensure that (Annex para 4):

- It has ratified and is part of the Paris Agreement;
- It has prepared, communicated and is maintaining an NDC to achieve the objectives of the Paris Agreement;
- It provides an infrastructure to authorize and track the usage of ITMOs;
- It has provided the most recent national GHG inventory report.

To ensure the cooperative approaches do not contribute to an overall net increase in emissions, participating Parties are required to submit to the UNFCCC secretariat a set of information in different reports (reviewed by an Article 6 technical expert team). The requested information needs to be made publicly available, as long as the participating Party does not label certain aspects as confidential (Annex, para 24).

An **initial report**, submitted no later to the point where ITMOs are authorized, that contains the following information (Annex, para 18-19):

- Demonstration that the participation requirements are met;
- A description of its NDC (sectors, sources, GHG and time periods);
- Describes the chosen ITMO metrics and the method for applying corresponding adjustments;
- Outlines how the cooperative approach ensures environmental integrity;

For each cooperative approach:

- a copy of authorizations by the participating parties,
- a description on the approach (duration, expected emission reductions, involved parties) and how environmental integrity will be ensured (e.g., by robust and transparent governance, conservative measurement, permanence of mitigation outcome, safeguards).

On an **annual basis** each participating Party needs to submit information to the Article 6 database (Annex, para 20):

- Information on authorization of ITMOs for the use towards NDC implementation or other international mitigation purposes;
- Information on the first transfer, acquisition, holdings, (voluntary) cancellation or voluntary cancellation of mitigation outcomes or ITMOs towards overall mitigation in global emissions and use towards NDCs;
- Information on the cooperative approach, other international mitigation purposes, authorized entities and the year in which the mitigation occurred as well as the respective sector and activity type.
- Regular information as an annex to the participating countries biennial transparency report that includes (Annex, para 21-24):
- How the requirements for Art 6.2 participation are fulfilled;
- Updates to the information provided in the initial report;
- Information regarding the authorization and use of ITMOs as well as changes to previous authorizations;
- The explanation on how corresponding adjustments were undertaken and environmental integrity is ensured;
- An assessment that ITMOs are just used once;
- The relevant information on each cooperative approach and how they contribute to the overall mitigation of GHG;
- An explanation of the method for converting the non-GHG metric into GHG metric;
- A measurement of mitigation co-benefits and that the approach is consistent with the sustainable development objectives;
- A summary of sinks and sources covered by the NDC and the respective use of ITMOs.

To keep track and overview of the Art 6.2 cooperative approaches, recording and tracking requirements need to be fulfilled (Annex, para 29-30). Here, each participating Party shall have a registry for the purpose of tracking authorizations, (first) transfer, acquisition, use towards NDCs and/or other international mitigation purposes and voluntary cancellation. If a Party does not have a national registry, it gets access to an international registry set up by the secretariat.

There is, however, some unclarity regarding which of the criteria countries and projects are to meet. This is due to the fact that the Article 6.2 guidance was developed as a basis for establishing cooperative approaches among two (or more) Parties under the Paris Agreement. In theory, VCM host Parties would only have to meet those requirements of the Guidance that are relevant for the authorization of VCM credits and the

implementation of the respective CAs, while those linked to the bilateral cooperation could be disregarded.

To identify the requirements of the Article 6.2 guidance that VCM host countries would have to meet, we made a brief analysis of literature and explored how the Article 6.4 mechanism refers to the Article 6.2 guidance (see Box below). What can be concluded from this analysis is that it is

currently challenging for host countries to know with certainty which of the criteria must be met. The RMPs do not refer to individual sections but to the guidance as such. In addition, many elements of the guidance are mutually linked, making it difficult to isolate specific requirements.

What Article 6.2 requirements are relevant for authorizing VCM credits?

The literature consulted does not provide further clarity on this: The VCM Access Strategy, for instance, states that "[h]ost countries must put arrangements in place to provide approvals and authorizations for cooperative approaches and activities under Articles 6.2 and 6.4 of the Paris Agreement [and that] [t]hese rules also apply to VCM projects that seek corresponding adjustments for carbon credits" (VCM, 2023b, p. 42). In its practitioner's guide, the Gold Standard refers to the Article 6.2 guidance agreed at COP26 and finds that "[t]his guidance will be directly applicable for credits used in the voluntary carbon market, where they are authorised and correspondingly adjusted under Article 6." (Gold Standard, 2024). This could be understood to indicate that host countries would need to comply with most or all requirements of the Art. 6.2 guidance.

One possibility to identify those criteria relevant for the authorization and CA implementation is to consider the private certification standards of the VCM to mimic the Art. 6.4 mechanism and to explore those elements included in the Article 6.4 rules, modalities and procedures (RMPs) agreed in Glasgow (UNFCCC, 2021c) that refer to the Art. 6.2 guidance. The RMPs do contain less than ten references to the Art. 6.2 guidance. Some references are to ensure that the terms used in the Art. 6.2 Guidance and the 6.4 RMPs are aligned (e.g. para 1c), to define what a first transfer is (para 42) and that the mechanism' registry is connected to the international registry under Art. 6.2 (para 63). Para 42 of the RMPs, however, requires Parties to authorize A6.4ERs according to the provisions contained in the guidance, while paras 69c, 71 and 72 are to ensure that CAs are made as described in a form that is consistent with the Art. the 6.2 guidance.

This is additional layer of uncertainty for VCM host countries that aim to authorize credits from activities implemented under private certification standards. In dealing with this lack of clarity, governments should consult with certification standards and the international level on a continuous basis while being cautious when it comes to promising the authorization of credits. However, even if the country decides not to authorize any emission reductions, the criteria included in the Art. 6.2 guidance may inform the national process.

SD benefits and social and environmental safeguards

Contributions to sustainable development constitute one of the key drivers for countries to engage on the VCM. The approval of VCM activities should therefore build on an assessment of the SD benefits of the proposed mitigation activity as well as the potential adverse impacts. While countries have made experiences under the CDM in assessing positive contributions of proposed mitigation activities, in many countries the approval processes were rather simplistic. Countries might therefore make use of new tools and such as the SD tool that will be integrated into the A6.4 mechanism once finalized and adopted by the Supervisory Body.

Stakeholder involvement

Host country governments could further develop guidance for project proponents on how to ensure local communities, indigenous peoples and other stakeholders potentially affected by the proposed activities must be involved. Stakeholders should not only be involved during implementation, but already during the design of the mitigation activity, in order to obtain best results. Provisions for involving affected groups might be enshrined in domestic and international law and go well beyond a mere consultation process. Under the concept of free prior and informed consent (FPIC), consent is a precondition for the development of a project as such and therefore requires ex-ante involvement.

Indigenous peoples and local communities should be engaged during the entire lifecycle of the activity. This engagement is relevant on two levels: the administration, including the set-up of the project, and the constant engagement when the project is up and running. Depending on the local circumstances, the role of local may vary considerably. In some countries in Latin America, for instance, indigenous peoples have indicated their openness to engage as project participants (insight from roundtable discussion).

A proper engagement of local stakeholders must also be seen as relevant in the context of subnational benefit sharing (Climate Focus, 2022; VCM Global Dialogue, 2021a). Studies for instance show, that forest projects involving the indigenous peoples living in the area, result in a healthier and more resilient forests than projects that do not involve these groups. Thus, the engagement can improve the quality of the mitigation project. Reports on adverse impacts from mitigation projects on indigenous and local groups like the eviction of people from their land in order to implement a project show, that not all projects follow the ‘do not harm’ principle (Marshall, 2023). This also is in conflict with the Paris Agreement where “Parties should, when taking action to address climate change, respect, promote and consider the respective obligations on human rights, (...), the rights of indigenous peoples (and) local communities” (UNFCCC, 2016) also many VCM guidelines underline the importance of doing no harm to local communities (e.g., The Integrity Council for the Voluntary Carbon Market, 2023, 40).

Benefit sharing process

VCM activities are usually associated with a broad range of benefits, some of which can be shared. Host countries could therefore require project proponents to share these benefits with the government and other stakeholders involved in the process.

One asset that could be shared is the mitigation impact of the VCM activity (see: Kreibich & Schell, 2023). The emission reductions (or removals) generated by VCM activities can either entirely or partially be expressed in the form of carbon credits, depending on how the baseline of the activity is set, how long the crediting period will be and a range of other design aspects. Countries that authorize carbon credits from approved carbon credits can decide to limit the share of credits that will be granted corresponding adjustments

to ensure the activity contributes to NDC achievement.

Another asset that can be shared is the revenues resulting from the commercialisation of carbon credits. These financial benefits could be shared with the government, for instance through the introduction of fees linked to the authorization of credits. Ghana has for instance introduced a fee for corresponding adjustments that is used for investing in other mitigation activities.

Host countries could further require project proponents to ensure that a certain share of the financial benefits is allocated to local communities involved in the project.

Framework to assess the overselling risk of proposed VCM activities

If a country decides to also allow the “export” emission reductions from VCM activities, an assessment of the overselling risk related to such exports is necessary. While not an explicit requirement under Article 6.2 of the Paris Agreement, establishing such a process is necessary to ensure that the export of emission reductions does not adversely impact NDC achievement.

Key factors that must be considered include the visibility of the emission reductions in the GHG inventory and the relationship between the proposed activity and the host country’s NDC, which can inform the development of negative/positive lists. In order to limit the overselling risk, a framework/process must be developed (see: Heras et al., 2023).

While overselling is generally considered a key risk that countries should avoid by all means, perception in individual countries may deviate from this generic picture. By for instance adapting the reporting to the country’s changed circumstances, countries could address the adverse effects of overselling and limit the naming and shaming effect (Interviewee 1). However, even if this naming and shaming effect might not work at the international level, overselling could

undermine the country's credibility, potentially reducing the interest from investors (Interviewee 5).

Credit authorization process and criteria

Countries considering to authorize credits from VCM activities implemented on their territory will further have to define when and under which circumstances such authorization will be granted. This authorization process is informed by the framework to assess the overselling risk of activities and the activity approval criteria identified above. In technical terms, this process should be closely aligned with the domestic Article 6 framework to ensure that any future provisions resulting from the ongoing Article 6.2 negotiations are taken into consideration.

Reporting requirements

VCM activities must adhere to the reporting requirements of the respective certification standard under which they are registered. If considered sufficient, the host country can build on the reports that projects submit to the standards. They can, however, require projects to provide additional information, if this information is not asked for in (some of) the existing standards. When establishing such additional requirements, the additional administrative burden for the project (and the administration) should be taken into consideration. If projects are asked to provide additional information there should be clarity about how this information will be used.

Registry and credit use tracking

In order to allow for tracking of carbon credits, host country governments will have to develop a national registry were approved VCM activities are listed together with their carbon credits identifiable through unique serial numbers. In this context, the interoperability of the registry becomes key (Insight from roundtable). Such interoperability will not only reduce the

administrative burden but also reduce the risks of errors. Such a registry could further allow to track the use of credits and ensure that use of credits is in line with the VCM strategy. If, for instance, specific sectors should be excluded from the use of carbon credits, the VCM registry will have to display the respective information. One example is the potential exclusion of fossil fuel companies that aim to use the VCM to offset their emissions in order to sell carbon neutral fuels. As such practices are being considered as misleading and might delay the phase-out of fossil fuels, hosting the respective VCM activities might involve a reputational risk for the country.

Country examples

The 2023 African Climate Week has shown quite some enthusiasm about carbon markets and progress was made in terms of political readiness in some countries. Kenya, for example, the host of the conference, made high level statements about the importance of carbon markets for the country and the continent. The Kenyan government even approved a new carbon market regulation at the first day of the conference. This shows the political willingness of the country to play an active role in this market.

Other countries underlined the importance of technical preparedness for carbon markets. DNA representatives from Ghana, Senegal and Morocco shared their experiences with technical analysis and studies they conducted to feed the institutional and political process regarding Article 6.

Also, in Latin America countries have different readiness approaches prioritizing differently the technical, political, or institutional level at the moment. Panama as a small country with limited carbon market experience is actively engaging in the debate, which is also reflected by its role as a host of the 2023 Latin America and Caribbean Climate Week. Brazil, host of numerous CDM and VCM projects, in contrast, is currently focusing on technical aspects while putting more emphasis on the elaboration of its domestic emissions trading scheme. Colombia and Peru are actively engaging and advance their national systems to engage under Article 6 and attract VCM activities. In the region, countries are also focusing on different sectors: While Chile is prioritizing activities in the industrial sector, Brazil is particularly interested in Nature-based Solutions in the forestry sector.

Capacity building as part of the ongoing VCM engagement process

The interviews with country representatives indicated that there is an ongoing need for capacity

building with different focus areas. Some interviewees have highlighted the need for sustained finance while considering capacity building support to be less a priority (Interviewee 10). Others, in contrast, have highlighted that it is important to receive support during the technical process, in establishing the legal and institutional framework among other things. But even more important is the support during the dialogue among ministries and between ministries and the head of government (Interviewee 8). This does not only indicate that priorities among countries may differ substantially, but also that there is a need for ongoing support throughout the process of countries engaging as hosts of VCM activities.

6 Concluding observations

Countries considering to engage on the voluntary carbon market are today confronted with a complex governance landscape that is continuously re-shaping the very nature of the market. After years of operating in parallel, the interactions between the VCM and the global climate regime have become stronger since the adoption of the Paris Agreement and the emergence of rules for market-based cooperation under Article 6. The VCM is, however not only affected by the global governance under the UNFCCC. In light of raising integrity concerns of VCM activities and carbon credits being misused for greenwashing, numerous private governance initiatives have emerged to work towards what has been termed “end-to-end integrity”: New benchmarks for certification standards and projects are being put forward, while guidance documents aim to assist companies in the robust use of carbon credits and the respective communication. In addition, strengthened regulation in demand side markets is limiting corporates’ leeway in using the voluntary carbon market. Countries from where the largest bulk of demand for VCM credits has historically come from are further publishing guidance documents and recommendations on how to VCM should be used by private entities.

It is against this complex governance landscape that governments, in particular from developing countries, must consider whether and how to make use of the VCM. How can VCM activities assist national climate targets and contribute to development goals? What are adverse impacts of project implementation and how can these be addressed?

Countries’ experiences and capacities to answer these questions differ. While some have

established vast experience in hosting carbon market projects, registered under both the CDM and privately-governed standards, others have only hosted small numbers of carbon market activities or may not. Similarly, governments’ engagement in capacity building and policy dialogue initiatives varies considerably. This diversity makes clear that a one size fits all approach is not a viable way forward. Instead, it will be key for host countries to take into consideration their specific national situation when developing their VCM strategy and assessing potential benefits and risks of VCM engagement. The outcome of a benefits and risks assessment process that takes into account the different facets of VCM engagement will guide the country in developing its role as a host of VCM activities.

Building on existing capacities and experience, countries may develop a VCM governance framework that is integrated into the broader NDC implementation plan and aligned with the Article 6 strategy. However, the development of such a VCM governance framework is subject to clear limitations. The voluntary carbon market is only one potential source of finance and VCM project implementation does not happen in a vacuum. There are existing provisions that all project proponents, not only from VCM activities, must consider. These provisions are in some cases scattered across different governance levels both vertically (national, subnational, local) but also horizontally through different approaches in individual economic sectors. It will therefore be key not to simply add another layer of complexity but instead to integrate VCM governance aspects into the existing governance landscape.

Furthermore, a division of tasks between the national government and other relevant actors, such as certification standards as well as emerging private governance initiatives should be strived at. In this context, governments may primarily aim to contribute to increased transparency, while a detailed regulation of the VCM may not be possible and is not necessarily sought by all governments. Transparency can assist project proponents in navigating the field and thereby incentivize project development in the region. However, it is the project proponents who need to understand the domestic context and the provisions relevant for the development and implementation of VCM activities. In this context, collaboration with local experts and local communities is of key relevance for project proponents from abroad. Increasingly, local communities and indigenous peoples want to play an active role in the implementation of mitigation activities, instead of only being involved and consulted as stakeholders affected by the activities.

Coordination and exchange among countries is key to develop a common understanding of the voluntary carbon market. On that basis, host countries could establish agreed minimum standards for VCM activities and send a strong signal to both project developers and potential buyers of carbon credits. By establishing a level playing field in the region or even across regions, cooperation among governments might mitigate the risk of a race to the bottom, where the country with the lowest requirements benefits the most from project implementation. Coordination could further strengthen the supply side voice in the global debate about the future role of the VCM, which is currently largely dominated by the demand side perspective. It would further allow VCM host countries to meet the demand side on an equal footing.

In this context, regional and global capacity development initiatives that focus on market-based cooperation under the Paris Agreement (Art. 6) could serve as a vehicle for this. The Eastern

Africa Alliance and the West Africa Alliance can serve as living examples of such type of initiatives. However, to be effective, it must be ensured that initiatives give the VCM the space needed in light of the market's complex governance landscape. If this cannot be ensured, an independent VCM platform could be established that offers trainings and creates room for exchange and collaboration among host countries.

Given the dominant role of financial interests in the market, funding for such an initiative should not be provided from private sources. Financial and technical support should instead come from public sources, in particular from developed countries. Despite the global economy becoming more transnational and polycentric, it is still the Global North where most of the corporates engaged on the VCM are based today. The governments from the Global North should have an interest to allow these corporates to support high qualitative mitigation activities that are aligned with the host countries' national strategies, while communicating transparently about their engagement.

A clear regional separation between demand and supply side on the VCM becomes ever more difficult as companies based in developing countries are becoming a relevant source of demand for carbon credits. This development is associated with new challenges for countries, who are also establishing provisions for the voluntary use of carbon credits. A VCM platform could also provide a basis for such an exchange and foster the collaboration between countries across the globe in working towards a more transparent and robust voluntary carbon market.

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Annex

Table 1: Analysis of countries' participation in selected initiatives.

Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Sum	Cluster	
Albania							X															1	3	
Algeria																							0	4
Andorra																							0	4
Angola						X																	1	3
Argentina						X	X												X				3	2
Armenia							X												X				2	3
Aruba																							0	4
Australia							X																1	3
Azerbaijan		X																					1	3
Bahamas							X																1	3
Bahrain																							0	4
Bangladesh		X	X			X	X														X		5	1
Barbados																							0	4
Belize						X	X																2	3
Benin				X			X						X										3	2
Bhutan							X					X							X	X			4	2

1 – KliK Foundation for Climate Protection and Carbon Offset, **2** – Joint Crediting Mechanism, **3** – World Bank's PMI, **4** – World Bank's Carbon Asset Facility, **5** – World Bank's Carbon Partnership Facility, **6** – ICAT, **7** – NDC Partnership, **8** – Climate Cent Foundation, **9** – SPAR6C Programme, **10** – Programme for Reducing Technical Losses in the Power Grid, **11** – Chile-Canada Agreement on Environment Cooperation, **12** – Asian Development Bank's Article 6 Support Facility, **13** – West African Alliance on Carbon Markets and Climate Finance (WAA), **14** – Identifying Potential Policy Approaches under Article 6 of the Paris Agreement, **15** – Article 6 Early-Mover Programme, **16** – Collaborative Instruments for Ambitious Climate Action (CiACA) Initiative, **17** – Eastern African Alliance on Carbon Markets and Climate Finance (EEA), **18** – Nordic Environment Finance Corporation (NEFCO) activities, **19** – UNPD's NDC Support Programme, **20** – World Bank's Climate Market Club, **21** – World Bank's Standardized Crediting Framework.

Note: Initiatives that do not explicitly target single countries were not considered.

Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Sum	Cluster
Bolivia						X	X															2	3
Bosnia Herzegovnia																						0	4
Botswana			X			X																2	3
Brazil			X		X	X	X	X											X			6	1
Brunei																						0	4
Bulgaria																						0	4
Burkina Faso				X			X	X					X								X	5	1
Burundi				X		X	X										X					4	2
Cambodia		X				X	X															3	2
Cameroon				X		X	X															3	2
Canada							X				X											2	3
Cape Verde													X									1	3
Central African Republic				X		X	X															3	2
Chad				X		X	X															3	2
Chile	X	X	X			X	X				X								X	X		8	1
China			X		X	X																3	2
Colombia			X			X	X	X	X										X			6	1
Comoros				X																		1	3
Costa Rica		X				X	X												X			4	2
Cote d Ivoire				X		X	X						X						X			5	1
Cuba						X	X															2	3
Cyprus																						0	4

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Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Sum	Cluster
Denmark							X															1	3
Djibouti							X															1	3
Dominica	X						X															2	3
Ecuador			X			X	X												X			4	2
Egypt					X																	1	3
El Salvador						X	X												X			3	2
Equatorial Guinea						X	X															2	3
Eritrea				X																		1	3
Estonia																						0	4
Eswatini						X	X															2	3
Ethiopia		X		X		X	X	X									X		X		X	8	1
Fiji						X	X															2	3
Finland							X															1	3
France							X															1	3
Gabon						X	X															2	3
Gambia				X			X						X									3	2
Georgia	X	X					X															3	2
Germany							X															1	3
Ghana	X			X		X	X						X			X			X	X		8	1
Greece																						0	4
Guatemala						X	X												X			3	2
Guinea			X	X		X	X						X									5	1

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Note: Initiatives that do not explicitly target single countries were not considered.

Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Sum	Cluster
Guinea-Bissau				X			X						X									3	2
Guyana																						0	4
Haiti							X															1	3
Honduras						X	X															2	3
Iceland							X															1	3
India						X		X														2	3
Indonesia		X	X				X					X		X					X			6	1
Iraq							X															1	3
Islamic Republic of Iran																						0	4
Israel																						0	4
Italy							X															1	3
Jamaica							X									X						2	3
Japan							X													X		2	3
Jordan							X															1	3
Kazakhstan		X	X			X	X												X	X		6	1
Kenya		X		X		X	X	X									X		X		X	8	1
Kuwait																						0	4
Kyrgyzstan		X				X	X															3	2
Lao PDR		X					X	X											X		X	5	1
Latvia																						0	4
Lebanon							X												X			2	3
Lesotho				x		X	X															3	2

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Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Sum	Cluster
Liberia				X		X	X						X									4	2
Libya																						0	4
Lithuania																						0	4
Madagaskar				X		X		X													X	4	2
Malawi	X			X		X	X	X														5	1
Malaysia			X																			1	3
Maldives		X				X	X															3	2
Mali				X		X	X	X					X						X		X	7	1
Malta																						0	4
Mauritania				X			X						X									3	2
Mauritius						X																1	3
Mexico		X	X			X	X	X														5	1
Mongolia		X					X					X							X			4	2
Montenegro			X				X															2	3
Morocco	X				X	X	X							X					X			6	1
Mozambique				X		X	X			X												4	2
Myanmar		X					X															2	3
Namibia						X	X														X	3	2
Nepal							X												X			2	3
Netherlands							X															1	3
New Caledonia																						0	4
New Zealand							X															1	3

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Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Sum	Cluster	
Nicaragua						X	X															2	3	
Niger				X		X	X						X										4	2
Nigeria				X		X	X						X						X				5	1
North Korea																							0	4
North Macedonia							X																1	3
Norway							X																1	3
Oman																							0	4
Pakistan			X				X		X			X				X			X				6	1
Palau		X																					1	3
Panama			X			X	X									X			X				5	1
Papua New Guinea		X					X																2	3
Paraguay							X												X				2	3
Peru	X		X			X	X	X											X	X	X		8	1
Philippines		X			X		X					X							X				5	1
Qatar																							0	4
Republic of Congo						X	X																2	3
Republic of Moldova		X					X																2	3
Romania																							0	4
Russia																							0	4
Rwanda			X	X		X	X	X										X		X	X	X	9	1
Saudi Arabia		X																					1	3
Senegal	X	X	X	X		X	X						X			X					X	X	10	1

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Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Sum	Cluster	
Serbia																						0	4	
Sierra Leone							X						X										2	3
Singapore							X													X			2	3
Solomon Islands																							0	4
Somalia							X																1	3
South Africa						X	X																2	3
South Korea																							0	4
Spain							X																1	3
Sri Lanka		X			X	X																	3	2
Sudan						X	X										X						3	2
Suriname							X																1	3
Sweden							X														X		2	3
Switzerland																					X		1	3
Syria																							0	4
Taiwan																							0	4
Tajikistan						X	X																2	3
Tanzania					X		X																2	3
Thailand	X	X			X	X	X		X			X								X			8	1
The Democratic Republic of Congo				X			X													X			3	2
Timor-Leste																							0	4
Togo						X	X						X							X			4	2
Trinidad and Tobago						X														X			2	3

1 – KliK Foundation for Climate Protection and Carbon Offset, 2 – Joint Crediting Mechanism, 3 – World Bank’s PMI, 4 – World Bank’s Carbon Asset Facility, 5 – World Bank’s Carbon Partnership Facility, 6 – ICAT, 7 – NDC Partnership, 8 – Climate Cent Foundation, 9 – SPAR6C Programme, 10 – Programme for Reducing Technical Losses in the Power Grid, 11 – Chile-Canada Agreement on Environment Cooperation, 12 – Asian Development Bank’s Article 6 Support Facility, 13 – West African Alliance on Carbon Markets and Climate Finance (WAA), 14 – Identifying Potential Policy Approaches under Article 6 of the Paris Agreement, 15 – Article 6 Early-Mover Programme, 16 – Collaborative Instruments for Ambitious Climate Action (CiACA) Initiative, 17 – Eastern African Alliance on Carbon Markets and Climate Finance (EEA), 18 – Nordic Environment Finance Corporation (NEFCO) activities, 19 – UNPD’s NDC Support Programme, 20 – World Bank’s Climate Market Club, 21 – World Bank’s Standardized Crediting Framework.

Note: Initiatives that do not explicitly target single countries were not considered.

Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Sum	Cluster
Tunisia	X	X				X	X												X			5	1
Turkey			X																			1	3
Turkmenistan						X																1	3
Uganda			X			X	X	X		X							X		X		X	8	1
Ukraine	X	X	X				X														X	5	1
United Arab Emirates		X																				1	3
United Kingdom							X															1	3
United States of America							X															1	3
Uruguay	X						X															2	3
Uzbekistan		X				X		X														3	2
Vanuatu	X					X	X												X			4	2
Vietnam		X	X		X	X	X					X							X			7	1
Yemen							X															1	3
Zambia							X		X	X									X			4	2
Zimbabwe						X	X			X									X			4	2

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