

CARBON MECHANISMS REVIEW

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Winter 2021

Towards implementation?

**Reports and analyses
on global carbon markets
ahead of COP26**

Facilitating Progress

An analysis of the SBSTS chair's
CDM transition options

Content

Winter 2021



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editorial

Dear Reader!

After postponing COP26 until 2021, negotiations on the Article 6 rulebook are finally on the agenda again at the UN climate conference in Glasgow. Some observers see signs that striking a deal is within reach – even if the details of complex issues such as double counting remain unsolved. The debate has nonetheless been advanced in intensive debates in an unprecedented series of talks, be it the informal technical expert dialogues, the Head of Delegation sessions or the ministerial meeting.

In the meantime, Article 6 piloting is well under way, and this is why we are covering both topics in this issue of the Carbon Mechanisms Review. First, we feature an assessment of the UNFCCC SBSTA chair's "options paper" on one specially selected issue – CDM transition. We then switch to implementation and analyse experiences gained with piloting so far. This is complemented by a report on the latest developments in the World Bank's Partnership for Implementation. Also in the issue, we look at how the voluntary market can credibly transition and, last not least, at ways to overcome barriers to Nature-based Solutions (NbS) in carbon markets.

On behalf of the editorial team, I wish you an inspiring read!

Christof Arens
Editor-in-chief



Carbon Mechanisms Review (CMR) is a specialist magazine on cooperative market-based climate action. CMR covers mainly the cooperative approaches under the Paris Agreement's Article 6, but also the broader carbon pricing debate worldwide. This includes, for example, emission trading schemes worldwide and their linkages, or project-based approaches such as Japan's bilateral offsetting mechanism, and the Kyoto Protocol's flexible mechanisms CDM/JI. CMR appears quarterly in electronic form. All articles undergo an editorial review process. The editors are pleased to receive suggestions for topics or articles.

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Facilitating Progress

Analyzing the SBSTA Chair's "options paper"

by Thomas Forth, Advisor to BMU

On 19 October, the SBSTA chair published a so-called "options paper" with the aim to facilitate the negotiations at the Glasgow climate summit in November this year. The paper is not substituting the three COP-Presidency iterations from Madrid and should also not be considered the decision text for Glasgow. The chair selected issues of high relevance and developed options on the basis of an unprecedented series of intensive reflections in the so-called ITED format (informal technical expert dialogues), the HoDs meeting (Head of Delegation) as well as the ministerial meeting since spring this year.

At the HoDs meeting on 22 October, the SBSTA chair underlined that the options paper does not represent all issues and not all options, but that it summarizes the discussion on those issues which have to be decided at Glasgow. The chair also expressed his expectation that the options paper helps Article 6 negotiators finding solutions for the technical items within the first week of COP26. Indeed, the paper provides a good basis for the negotiation in Glasgow. The text is what is and will certainly not find a further iteration.

The question is how to find a practical way to benefit most from the prioritized topics and the options laid out in the chair's paper. My impression is that the options paper is not a text which negotiators can analyze line by line. Again, it is not drafted as the single and integrated negotiating document needed to decide upon finally at the CMA session in Glasgow. What we can constructively do is to take up the options topic by topic.

This article undertakes this exercise for the topic of CDM project transition.

The paper lists 'primary' and 'related' options. In the following, the SBSTA chair's options are quoted in italics. Numbers quoted are taken from the latest research from New Climate Institute and Öko-Institute. You find the link in the references section at the end.

Primary options

The primary options deal with the question which CDM activities should be allowed to transition to the Paris Agreement. There is a tricky dilemma between allowing new application of these activities under Article 6.4 only or allowing them a transition under expedited access. In the "new application" case, nothing is to negotiate and nothing to rule out. It might be a fair way to see competition with new activities, even if we need to see the disadvantage of new investments over already invested projects.

The real impact, however, depends on the market, that is on the behavior of demanders, who might be asking for new activities, rather than opting for old wine in new skins. From the negotiators' point of view, by contrast, it would be an easy way out, but apparently this is not what many Parties hosting CDM projects are really asking for.

All in all, my reading of the primary options below brings up directly the main question, whether these options allow for hedging the negative impact on the ambition of the Paris Agreement.



Dynamic development: the CDM has spurred investments into more than 8,000 mitigation projects in developing countries.

The paper is on options about an expedited access.

The options paper first of all asks the question “Which CDM activities may transition”. The first three options relate to the reference sample for allowing transition, on which further criteria could be applied:

1. *Active CDM activities (operational, with a current crediting period, per COP25 3rd PT)*

The advantage of this option is that dormant projects might be excluded but the term “operational” is not clear. What is missing, is the vintage date on issuance or registration. Therefore, the numbers of projects qualifying under this option will be high. The recent calculation by NC/

ÖI indicates that in the case of “issuance under the CP2” (i.e., registered project after 2012), numbers sum up to 2,8 billion certificates, which is more than already has been issued since the start of the CDM altogether. Any acceptance of such a criterion as the only one would devalue Article 6 entirely.

2. *Only small scale and PoA activities*

Indeed, the number for these project activities is substantially lower (650 million certificates), but still high enough to delay the start of Article 6 for several years. However, it should be asked why PoA and small-scale activities should be selected regardless of the activity type.

3. *Only vulnerable CDM activities in respect of which mitigation would cease without the CDM/6.4*

mechanism (possibly from a list developed by the CDM Executive Board)

The selection of vulnerability as the key criterion is convincing. Taking this approach, buyers would be assured that the emission reduction would otherwise not occur in the future. They only need to make the choice which project activity they favor. The potential number of certificates might sum up for this category up to 660 million certificates, which could cause the same burden for the start of new mitigation activities.

However, there are two aspects to be re-thought:

- How can one find out which projects are vulnerable or not? An already existing technical proposal might build the basis for UNFCCC

consultation, but probably will need refinement and acceptance.

- The application of such a criterion will lead to further delay in generating new emission reductions, because the analysis of vulnerability must be carried out project-wise after the procedure for a vulnerability test has been put into operation.

Yet the climate burden for the Paris Agreement would be much lower if the vulnerability of the transitioned mitigation activities could be assumed on the basis of rational considerations and transparency. Personally, I would ask why someone prefers the vulnerability test while the complete transition to Article 6.4 is very likely. But nevertheless, this is an option, which needs to be further elaborated.



Source: UNFCCC / Qingcao-Energy Systems International / CDM 1135

Vulnerable? Yes or no? The vulnerability analysis required for each and every project takes time.

The options paper also mentions the Executive Board as the authority to develop a vulnerability list. The idea that CDM EB defines what could be eligible under the Paris Agreement's Article 6.4 is a little confusing. Such a decision should be better in the responsibility of the CMA and taken by the Supervisory Body of Art. 6.4 (SB).

Methodology Options

The second layer of primary options centers on the methodology options for transitioning CDM activities. There are two simple options:

- applying new methodologies or
- continuing with existing CDM methodologies used by the respective CDM activities.

The different options are commented on separately in the following.

- *All rules and requirements of the 6.4 mechanism, including the relevant new 6.4 methodology*

This sounds convincing at first sight but taking this route will take time and it will also not avoid the financial gap for project participants. The alternative option could potentially close this gap:

- *Rules and requirements of the 6.4 mechanism but using the CDM methodology (baseline) etc. until a certain date or the end of the activity's current crediting period, whichever is the earlier (end 2023, per COP25 3rd PT).*

This sounds like a solution, but it is very perilous to allow – even for a limited period of time – flooding the carbon market with certificates which are not meeting the PA's requirements. There will be a negative impact on the climate as well as on the competition with new project activities.

The question here is whether a conservative discount factor could be used for the interim and/or a part of the emission reduction would be to put on hold until the new methodology can be applied. The hedging opportunity brought up in the options paper is a good step in the right direction, but not sufficient.

All three sampling options discussed above are not really limiting sufficiently the number of projects with an expedited access to Article 6.4, which would allow these certificates to be used for NDC compliance. What is more, the primary options on vulnerability and methodologies are not providing a straight way forward. Even if solutions were found and agreed upon in due time, a gap for practitioners of these activities could take a long time.

Maybe further or revised primary options should be considered for the Glasgow decision text but let us have a look at the related options first.

Related options

The options paper makes a systematic consideration on host party and process-related conditions:

On the **host party's side**, the paper lists the authorization of ITMOs, the system of cancellation of units for OMGE and the share of proceeds (SoPs). The participation requirements for Article 6.4 are mentioned separately. Therefore, the question is why some aspects are listed explicitly and others are not. What is missing here, might be especially the execution of corresponding adjustments in any event of transferring mitigation outcomes - a prominent issue in the negotiations and asked for by many Parties.

On the **process-related conditions**, the option underlines the deregistration or the withdrawal of the activity from CDM list, which should be asked

for by project participants in a certain timeline. The 3rd iteration of the Presidency text called a 2023 deadline, which might be re-determined for the delay caused by the pandemic.



Source: ISSD / Kiara Worth (enb.iisd.org/climate/cop25/enb/6dec.html)

Towards agreement? Negotiators need to find a balanced solution for the transition chapter of the Article 6 rulebook.

A very crucial requirement is the avoidance of **double counting**. I am intentionally not following the options paper's wording on the "use" here, because I would like to avoid the misunderstanding that double use is not necessarily a cause of double counting. The options paper seems to formulate this requirement strongly but weakens the requirement with the formulation "Host Parties have to apply same accounting rules for transitioned activities as for new 6.4 activities".

The impact of such a ruling makes the avoidance of double counting ultimately dependent from the coverage of the NDC. All activities outside the NDC of a host country are running the risk of double counting. However, in the following bullet point the options paper asks for CAs: "Corresponding adjustment is always required by host

Party for 6.4 units issued from transitioned CDM activities." More work on clarifying rules for the avoidance of double counting based on complete and robust accounting is needed, but the basic decision must be taken in Glasgow.

The options paper suggests speeding up transitioning **small scale and PoA** with an expedited access to Article 6.4: these project activities should be put "at the front of the transition pipeline" or an "automatic transition after host Party transition approval" should enable the privilege for PoAs and small-scale activities. On the practical side, it is questionable whether a process to put something at the front of the transition baseline is globally doable not least for distributional dimension of such a process. Insofar, the suggestion could be read as entirely host country decision making. De facto, it sounds like a host country driven process of selecting activities which could automatically be considered as transitioned. Putting these projects at the forefront might lead to an obligation of reporting, but not to a special order in market access.

The options paper also reflects the **decision-making at Glasgow** under the CMP. These items might be relevant for the final winding up of operations under the Kyoto Protocol and will therefore not be considered here. Furthermore, aspects of the carry-over of pre2021 units are also not reflected here.

However, there are two aspects which must be reflected closer in conjunction of their impact on CMA decisions in Glasgow. These are:

- *Cooperation with Supervisory Body, including information sharing*
It is not explained which information is to be shared.
- *Allocation of the CDM trust fund (in part) for 6.4*
Also, this potential area of cooperation has been not fleshed out in the options paper.



Source: UNFCCC / Wenju / CDM 1320

A straight way forward? Transition options for CDM projects must ensure the environmental integrity of the Paris Agreement.

Both aspects need further consideration. It could end up with a clear statement that both aspects are not relevant for the processes of Article 6 under the CMA or that collaboration makes sense for the interim period of the transition of project activities, the methodologies and the CDM trust fund regarding the infrastructure for transitioned CDM projects and the capacity building for host countries, which has been constantly demanded by developing countries.

Conclusions

Obviously, it is necessary to consider the options paper's options in more detail during the first week in Glasgow. Project transitioning is not the most complicated aspect of the negotiations, but it is not a stand-alone issue which could be solved separately. The opposite is correct.

The high numbers (650 million – 2800 million certificates), which are still on the table following the primary options, would be undermining the Paris

Agreement for the whole next decade and would make the use of Article 6 superfluous for several years or for the entire decade.

Further criteria for the eligibility of CDM project activities must be found. Following the solution of ICAO's CORSIA, using a recent vintage year and limiting the use up to a certain cut-off date could be the way to go. This might help determining the right sample for allowing these projects to transition to Article 6.4.



Finding the right sample: combining a vintage year and usage limitations seems promising.

However, for an expedited access to Article 6.4 in a short interim period, further criteria guaranteeing the environmental integrity in line with the ambition of the Paris Agreement must be agreed upon. The options paper mentions vulnerability and the need for new methodologies. Both instruments would make practical sense, if they could be used by project participants from COP27 onwards or earlier. If it takes more time, the expedited way remains theory and a new application under all Article 6.4 requirements will become the better option.

With the research results from New Climate Institute and Öko-Institute as well as from IGES, we get a clear indication that the magnitude of former CDM project activities which are still performing, could build the basic sample for project transition. However, we need to know the types of project activities in more detail. Further work on the quantification of the project transitioning and qualitative analysis is needed and should start immediately after COP26 has taken a decision. In the end, decisions must ensure that project transitioning contributes to the ambition of the Paris Agreement and allows for an early start of Article 6.4.

References

The SBSTA chair's 'options paper', released in October 2021, is available at:

https://unfccc.int/sites/default/files/resource/SBSTA_Chair_options_paper_Article%206.pdf

A joint paper by IGES/New Climate Institute/Öko-Institute" on the "CDM supply potential for emission reductions up to the end of 2020", published in November 2020, is available at:

<https://www.iges.or.jp/en/pub/cer-supply-potential/en>

New Climate Institute / Öko-Institute published in October 2021 a presentation of the recent research results on "The potential impact of transitioning CDM units and activities to the Paris Agreement", available at:

<https://www.oeko.de/en/publications/p-details/the-potential-impact-of-transitioning-cdm-units-and-activities-to-the-paris-agreement>

Approaching Cooperation

Observations gained from supporting developing country engagement under Article 6

by Ximena Aristizabal Clavijo, Stephan Gill, and Marshall Brown, Global Green Growth Institute

As the rules and procedures for implementation of the Paris Agreement become more concrete, an increasing number of Parties are exploring cooperative approaches under Article 6 as a way to enhance their climate change mitigation ambition. While some developed country governments are well prepared to engage in cooperative approaches (as both buyers and sellers), developing country governments are likely to find their participation more challenging as they struggle to balance their desire to benefit from carbon finance against a range of actual risks, perceived risks and unknowns.

Many developing country governments have stated their intention to use market mechanisms to finance implementation of their NDCs, but a fair number, particularly Least Developed Countries (LDCs), have little practical experience of participating in international carbon markets. In the Kyoto era, Annex 1 countries gained considerable expertise through the Joint Implementation (JI) and Clean Development Mechanism (CDM) flexible mechanisms, as well as through the setup of national or regional emission trading schemes (ETSs). On the other hand, non-Annex 1 (developing) country governments' role was limited to the approval of projects. The CDM provided little opportunity for these governments to engage in the more strategic aspects that might prepare them for long-term market participation, such as negotiating complex trading agreements, or maintaining detailed accounting of units and transactions.



Source: CAREC Transport Corridor 1 (Zhambyl Oblast Section) Investment Program in Kazakhstan by ADB (<https://flic.kr/p/dQTxCA>) / Flickr / CC BY-NC ND (<https://creativecommons.org/licenses/by-nc-nd/2.0/>)

Early movers: host country governments play a larger role in implementing cooperative approaches.

Under Article 6 of the Paris Agreement, developing country “host” governments wishing to sell mitigation outcomes will play a much larger role in the implementation of cooperative approaches. Some developing country governments have signaled strong interest in acting as first movers to establish institutional arrangements and pilot activities, but they remain apprehensive about taking on risks they do not fully understand. These Parties will require significant support to make up for the imbalance in experience. Recognizing this gap, several buyer-funded support programs have been established to provide capacity building and technical support. These programs send a positive early message—underpinned by the spirit of cooperation—that the concerns of host countries

must be recognized and addressed as challenges for all market participants.

Supporting Early Movers in Article 6 Engagement

The Global Green Growth Institute (GGGI) is bringing buyer and seller governments together to jumpstart implementation of Article 6. Since 2012, GGGI has supported green growth interventions across the world in the areas of green growth planning, project development and technical assistance across a wide variety of sectors. As of 2021, GGGI has activities in more than 40 countries as neutral partners embedded in government institutions responsible for the environment, the economy, energy, municipal development and more. GGGI's embedded teams are backed by a cadre of global experts in development finance, carbon pricing, and other technical areas of critical importance to climate change mitigation and adaptation. As climate change becomes increasingly recognized as a cross-cutting issue, the range of stakeholders involved in decision making is growing. To adapt, experts and organizations supporting developing country governments must obtain detailed insights into national needs and priorities, and have a

sharp understanding of the local context and the dynamics of cross-ministerial relationships. This will enable them to attract potential buyers and sellers to facilitate pilot carbon transactions in the short term, while also enhancing cross-ministerial capacity and sharing knowledge around carbon pricing to improve global Article 6 engagement in the long term.

GGGI's Article 6 programs aim to provide developing country governments with the technical assistance required to undertake a transaction and the knowledge required to confidently navigate the carbon market. This means preparing the enabling environment for host countries to participate and building the institutional capabilities and frameworks required to authorize internationally transferred mitigation outcomes (ITMOs), execute transfers, complete corresponding adjustments, and meet Paris Agreement transparency and reporting requirements. This also means building knowledge among our government partners on how to get the most benefit from carbon markets to support and reach beyond their national targets, as well as building confidence in a wide range of stakeholders to ensure local ownership of projects and policies. GGGI is currently implementing two Article 6 programs, with another slated to begin by early 2022 (see Figure 1).

Table 1: GGGI's Article 6 Programs

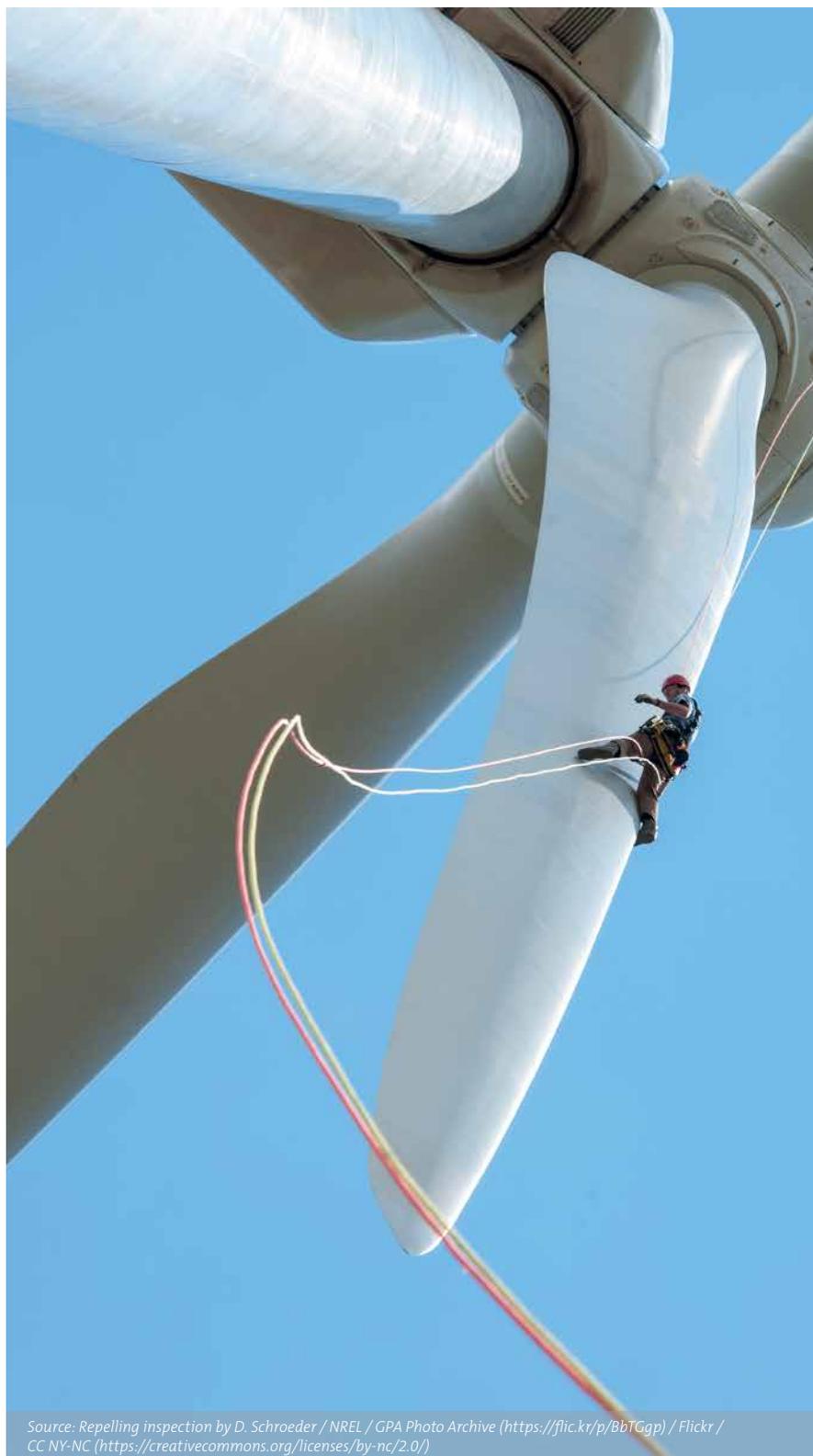
Program Name	Resource Partner	Host countries	GGGI role
Designing Article 6 Policy Approaches (DAPA)	Norwegian Ministry of Climate and Environment	Indonesia, Morocco, Senegal, Viet Nam	Sole Program Implementer
Mobilizing Article 6 Trading Structures (MATS)	Swedish Energy Agency	Cambodia, Ethiopia, Nepal	Sole Program Implementer
Article 6 cooperative approaches for high ambition NDC implementation	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), via the International Climate Initiative (IKI) (approval process is in its final stage)	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), via the International Climate Initiative (IKI) (approval process is in its final stage)	Program Lead. In partnership with UNEP-DTU, GFA Consulting Group, Kommunalkredit Public Consulting and Carbon Limits

Tailoring Institutional Arrangements to National Needs

GGGI's programs have taken different approaches to institutional setup for Article 6, related to the type of cooperation envisaged and the needs of host governments. As a general rule of engagement, GGGI aims to align existing institutional arrangements for decision-making, administrative, and technical support functions with those required under Article 6. These institutional arrangements are not intended to be temporary for pilot activities, but as permanent frameworks for the future authorization of transfers and related corresponding adjustments where relevant to ensure the continuous flow of carbon finance.

Some host countries are looking to use existing frameworks related to carbon mechanisms. In Nepal, for example, it is being determined whether the Steering Committee established by the Environmental Protection Rules (EPR) in 2020 can make decisions related to Article 6, such as approving criteria for ITMO authorization, or whether the regulation needs to be adjusted. In Cambodia, the pending Sub-decree on rules and procedures for greenhouse gas emission reduction mechanisms will allocate key roles and responsibilities related to Article 6 governance and implementation (as well as other carbon trading mechanisms).

"The EPR has already set up multi-ministerial committees to govern carbon trading, which we hope can be applied to Article 6. The main challenge for us will be to adapt our capabilities and processes to meet the Article 6 requirements, particularly in regard to registry management and UNFCCC reporting." Dr. Radha Wagle, Joint Secretary of Nepal's Ministry of Forests and Environment



Source: Rappelling inspection by D. Schroeder / NREL / GPA Photo Archive (<https://flic.kr/p/BbTCgp>) / Flickr / CC BY-NC (<https://creativecommons.org/licenses/by-nc/2.0/>)

Building confidence: ensuring local ownership of projects and policies is key for successful pilot programmes.

However, other countries have opted to set up a dedicated multi-sectoral steering committee. In Morocco, the Ministry of Energy has established a Steering Committee and presides over its official meetings. The Committee is composed of five ministries, and five lead agencies and research centers. Decisions related to potential carbon transactions have been taken as a consensus among the parties, using inputs supplied by GGGI for the decision-making process. The case is different in Indonesia, where the government has established two mutually supportive governance layers. A Technical Advisory Committee (TAC) was established by national decree and is chaired by two coordinating ministries that grant representation to another six ministries. The TAC assesses opportunities for cooperative approaches and provides technical advice to a higher-level Steering Committee as the final decision-makers.

“Different ministries are encouraged to be active in discussions to contribute to the development of an Article 6 rulebook; this Program can be considered as soft diplomacy when negotiating the terms of carbon trading”. Dida Gardera, CMEA Indonesia. TAC kick-off meeting, July 22, 2021.

Even though the structure and level of formality of these decision-making bodies vary according to the national context, GGGI encourages engaging a wide range of stakeholders in the development of any institutional arrangements or mitigation activities. This often means ensuring representation of decision-makers authorized to commit to international agreements (usually the Ministry of Foreign Affairs and the Ministry of Finance) or technical ministries required for implementing policies. Incorporating these stakeholders into the decision-making process allows governments to mitigate the risk of losing continuity through changes in administration. In some cases, such as in Senegal and Ethiopia, governments may prefer to engage an even wider audience, allowing the

private sector, other donors, and NGOs to take part in the most relevant Article 6 discussions. Stakeholder engagement is a continuous activity that must be supported by capacity building to strengthen existing knowledge in host countries and build local experience in managing this new market instrument.

“The Ministry of Petroleum and Energy pursues the dual objective of reducing the price of electricity to improve the competitiveness of the economy, and to achieve universal access to electricity to improve the living conditions of the populations. In close collaboration with the Ministry of Environment and Sustainable Development, we are working to achieve this goal while fighting against climate change. In that context we welcome the launch of the designing Article 6 policy approaches project on the eve of COP 26. The energy sector intends to take advantage of all relevant funding opportunities for the implementation of our NDC.”
Ibrahima Niane, Director of Electricity,
Ministry of Petroleum and Energy Senegal.
DAPA Workshop September 2021.

Relationships at the Center of Capacity Building Efforts

Through its work with developing country governments, GGGI has noted several fears when it comes to engaging in ITMO transactions. These relate to technical challenges in the formulation of mitigation actions, fear of overselling mitigation outcomes (risking their own NDC compliance), the lack of experience in negotiating carbon trades, and the difficulty of tracking transactions and robust accounting of units. Some potential host country governments may also fear spending substantial time and resources on arrangements that may not be recognized by the international community because of potential non-compliance

with the forthcoming Paris Agreement rules. And because market participation is completely new to many government stakeholders, the fear of the unknown is often a present and a strong force.

To address this, GGGI's capacity building goes beyond delivering technical trainings and workshops. GGGI uses every interaction opportunity to both strengthen relationships and to hold collaborative knowledge exchange with counterparts. Often, the stakeholders involved in Article 6 are government representatives with vast experience in climate change and international negotiations. They include regional leaders and renowned international experts. However, even the most experienced public servants benefit from discussing theoretical concepts around the Paris Agreement and Article 6 in an informal, and trustworthy environment before facing formal interactions in international events. GGGI teams embedded in

government ministry offices act as a confidant, always open to listen to and discuss questions and concerns, as well as to share information about the progress in other countries, or the latest updates and studies, even when Covid-19 restrictions provide limited opportunities for face-to-face contact. Some countries (e.g., Senegal) have expressed the desire to learn not only from experienced countries but also from peers about the way they are developing their NDC compliance strategies and their plans for enhancing ambition. GGGI is taking this request as the next capacity building challenge, to arrange exchange sessions among Article 6 pioneers.

Lingering Practical Challenges

GGGI's work to date has identified some key practical challenges in host country engagement with Article 6.

One challenge relates to the uncertainty about what will



Source: Renewable Energy Development in the California Desert by Tom Brewster / Bureau of Land Management (<https://flic.kr/p/LtaqLe>) / Flickr / CC BY 2.0 (<https://creativecommons.org/licenses/by/2.0/>)

Tackling the challenges: regulative uncertainties at UNFCCC level hamper host country engagement with Article 6.

and won't be provided by the UNFCCC to support the market, and by when. For example, draft Article 6.2 guidance states that the UNFCCC might provide an international registry. Since few developing country governments have comprehensive national registries, the use of a third-party registry would have clear benefits in terms of standardization, cost, and effort. However, it is unclear what functions the UNFCCC registry would actually provide. Would it act as a project register? Would it enable transfers? Would it support accounting of corresponding adjustments? Would it link to crediting program registries if mitigation outcomes are issued from such programs? This uncertainty makes it difficult for host countries to make decisions on how to put the required infrastructure for Article 6 in place.

Another challenge relates to the standards under which mitigation outcomes will be generated. Article 6.4 will provide a common understanding of the principles and procedures for certifying a mitigation outcome, and these decisions can inform future bilateral agreements. However, as Article 6.4 is being developed, early movers under Article 6.2 will need to decide and agree beforehand on the best protocols to follow. While environmental integrity is the main feature to seek in a standard, countries are also looking for reasonable costs, simple procedures, as well as trustable, comprehensive, and accessible tracking platforms. For GGGI's DAPA program, which focuses on mitigation outcomes from policy approaches, there are no existing crediting standards available. Therefore, principles and methodologies will inevitably need to be agreed upon between the cooperating parties. Bilaterally developing standards is technically challenging and resource-intensive. For policy approaches, this effort is envisaged to be justifiable by the scale and transformative impact of policy-based crediting.

Cooperation will Unlock Future Success

GGGI's programs have already begun to enable host countries to demonstrate ownership of their Article 6 approaches, through the enactment of decrees officializing institutional arrangements for the steering committees and the signature of Letters of Interest and Memorandums of Understanding between potential buyers and sellers. Many have now formally signaled a strong interest in piloting a transaction, spreading that confidence to other countries in their regions.

The next key proof points of commitment will be the first signed Mitigation Outcome Purchase Agreements (MOPAs), which are expected in 2022. GGGI will provide capacity building support to host countries so they can better understand the main contents and concepts in MOPA documentation, providing a clear explanation of key terms, and addressing the implications of engaging in these agreements. Supporting institutions will play a critical role in ensuring partner governments are prepared to make informed decisions and confidently negotiate MOPAs on their own.

Developing country governments, as potential host countries, are critical to the success of international carbon markets under Article 6 and beyond. As more pilot projects, programs and policies begin to be implemented and negotiations advance on the Article 6 rulebook, additional financial and technical resources will be needed to equip host country governments with the institutional capacities, systems and processes they need to plan, implement and track ITMO transactions. Only through a truly cooperative approach can buyer and seller countries hope to breathe life into the Article 6 market and increase global climate change mitigation ambition.

From Readiness to Roll-out

The World Bank's New Partnership for Market Implementation

by Venkata Ramana Putti and Peter Schierl-Montfort, The World Bank

Following the successful decade-long run of the Partnership for Market Readiness (PMR), which helped create domestic capacity and infrastructure in over 20 countries to implement carbon pricing as a mitigation option, the World Bank launched its follow-up initiative, the Partnership for Market Implementation (PMI), in early 2021 to assist countries in operationalizing carbon pricing and market instruments. With a target of covering over 30 countries by 2025, the PMI is poised to

be an important contributor over the next decade as the countries move to enhance their climate ambition and accelerate climate action.

Carbon Pricing as a Mitigation Option

The latest IPCC report underscored, yet again, the urgency of accelerating climate action (IPCC, 2021).



Source: Kiryanov / unsplash.com

Accelerating action: the PMI aims to assist in operationalizing carbon market instruments.

The still ongoing pandemic and recovery efforts from it also show how the world needs to adopt a collective approach to develop and implement effective solutions involving all stakeholders. With the increasing frequency of climate-induced disasters across the world and their impacts on human health, the economy and human security, it is increasingly apparent that without a whole-of-government climate policy that considers the climate risks of inaction and includes both regulations and market-based policies, it will become increasingly costly – both politically and economically – for governments and societies to respond to and recover from disasters.

In this regard, there is broad consensus among experts and policymakers that a well-designed carbon pricing instrument/program can be a key ingredient of any strategy that seeks to efficiently reduce greenhouse gas (GHG) emissions and achieve ambitious climate goals. Over the past decade, carbon pricing has been gaining traction as a means of cost-effective decarbonization: To date, there are 64 carbon pricing instruments in operation around the globe. These generated a total revenue of USD 53 billion in 2020. In 2021, 21.5% of global GHG emissions are covered by the carbon pricing instruments currently in operation, increasing from around 15% in 2020 (World Bank, 2021a). Furthermore, over 100 countries have included carbon pricing as a potential option in their nationally determined contributions (NDCs). However, while this progress demonstrates the efficacy of carbon pricing as a mitigation tool, it is notable that most of the carbon pricing activity occurs in the developed North, while the developing South has yet to adopt carbon pricing at scale. In order for developing countries to adopt carbon pricing widely, it is necessary to build relevant capacity, infrastructure and policy/regulatory frameworks for scaling up mitigation. This is where the PMI comes in.

Partnership for Market Implementation (PMI)

The World Bank launched the PMI in February 2021 as a capacity building and technical assistance program that supports emerging economies and developing countries in fulfilling their climate ambition and mitigation potential. The program also provides a platform for technical discussions and knowledge exchange on carbon pricing and other policy instruments at various levels, and in doing so benefits significantly from a large network of partners and observers that fosters PMI's inclusive, participatory and collaborative approach.

The PMI follows the Partnership for Market Readiness (PMR) which from 2011 to 2021 helped 23 emerging economies and developing countries get ready for implementation of explicit carbon pricing and market instruments (emissions trading schemes, carbon taxes and crediting mechanisms). In addition to direct support to countries, the PMR generated and disseminated over 50 influential knowledge products and analytical reports, and conducted numerous training programs, e-courses and knowledge exchange activities that contributed to the capacity building of over 20,000 professionals across the world. The PMI builds on the strong foundation of the

Contributing Donors

- Australia
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- Japan
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PMR, using its good practices and lessons learned to help countries achieve and enhance their climate ambitions for a more sustainable future (Dhakhwa et al., 2020).

Hosted by the World Bank's Climate Change Group, the PMI generates synergies and supports World Bank operations and implementation of climate action in client countries. It is the principal vehicle for promoting carbon pricing and markets, which is one of the priority areas marked in the World Bank's Climate Change Action Plan (CCAP) launched in 2021 (World Bank, 2021b). The PMI – envisaged as a 10-year initiative – is supported by 11 donor partners with an initial contribution of around USD 100 million (see Box on page 134).

PMI Objectives and Structure

The overall developmental objectives of the PMI are:

- To assist client countries to design and deploy explicit carbon pricing policies appropriate to their domestic context and compatible with their sustainable development priorities
- To catalyze the development of the next generation of international carbon markets under the Paris Agreement and enable countries' participation.

The PMI will support countries through three primary funding windows:

- **Implementation support:** This window will provide technical assistance with primary focus on implementation of a carbon pricing instrument (for instance, by the countries that already undertook readiness building activities under the PMR). All types of technical and policy development activities can be funded as long as eligibility criteria for adopting carbon pricing are met – relative to a

country's mandate and demonstrated political commitment and indicated either by a carbon pricing program already piloted, a concrete time-bound target in the NDC, or existing legislation/decreed policy on a carbon pricing instrument.

- **Readiness support:** This support window will provide technical assistance to new countries wishing to explore carbon pricing as part of their climate ambition. Assistance will be provided to assess the choice of an appropriate carbon pricing instrument, assess co-benefits and accomplish early milestones of policy development roadmaps. Furthermore, countries may be supported to get ready for and participate in international carbon markets under the Paris Agreement, including where capacity building and training of policymakers and other domestic stakeholders are concerned.
- **Targeted support:** This window will provide technical assistance to advance carbon pricing initiatives carried out at a regional/supra-national level or at a sub-national level, provided there is commitment and endorsement from the relevant federal entities. Support will be targeted at activities that promote and demonstrate innovative methods, tools/instruments and institutional approaches within a jurisdiction to contribute to the next generation of carbon markets.

These support windows will be supplemented by technical/analytical work, capacity building and outreach activities at the program level. Thus, the overall PMI activities are structured around the following four pillars:

i. **Advisory and analytics:**

This pillar aims to directly support countries in building their capacity to design and implement carbon pricing policies in alignment with their updated NDCs and long-term low-carbon development plans.

ii. Advocacy:

The program will convene and deliver consultative dialogues with key stakeholder groups through a variety of events and modalities to exchange information on high-level political engagement and experiences with carbon pricing, the aim being to provide information, maintain momentum and inform discussions and decision-making on carbon pricing policies and carbon market development.

iii. Innovation:

This pillar will assist countries in identifying and implementing innovative approaches and tools and, where relevant, achieve compatibility in design to support the development of international carbon markets.

iv. Knowledge and outreach:

The program will support the development of technical knowledge products, assessment

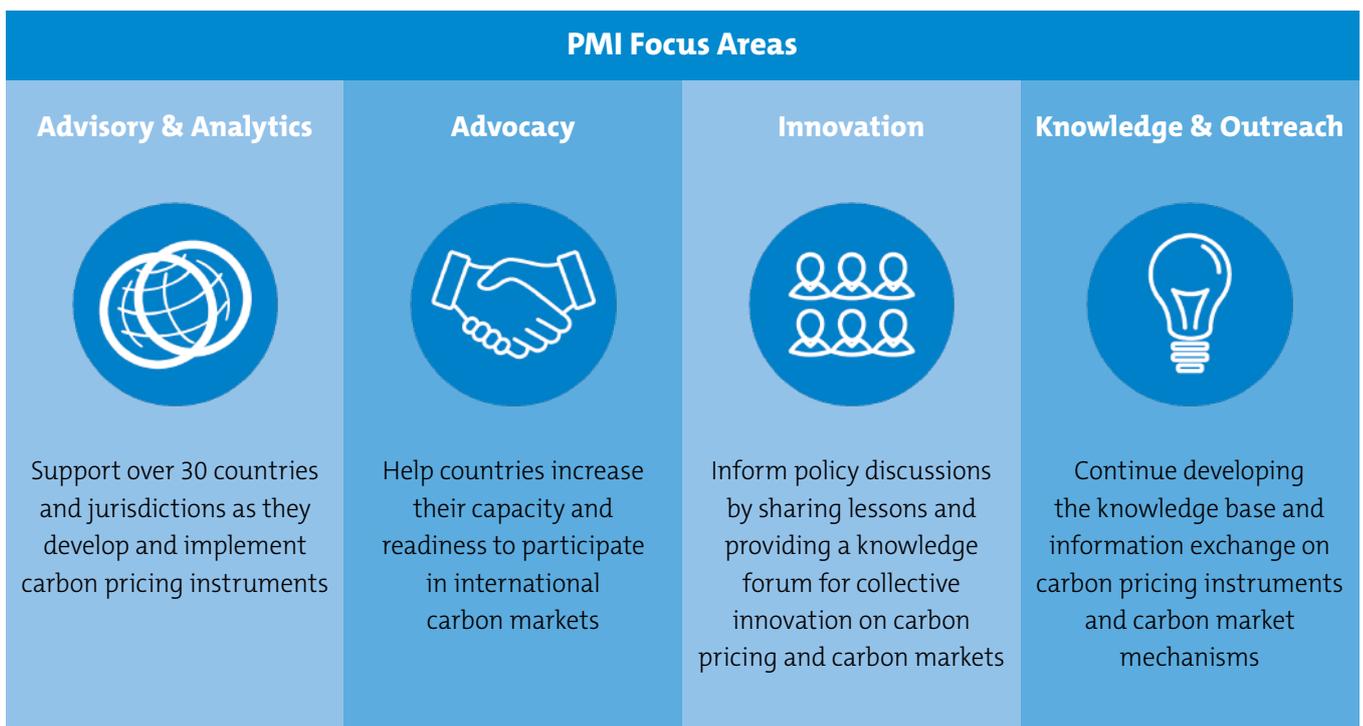
frameworks and guidebooks, and facilitate knowledge sharing to expand countries' understanding of different carbon pricing approaches and market-based mechanisms.

Results Framework

Assuming that the implementation of carbon pricing policies is a critical contribution towards realizing the ambition of the Paris Agreement and participant countries' NDCs, the PMI's long-term development goal is that GHG emissions are reduced following implementation of carbon pricing instruments in the participant countries. As a prerequisite for this, carbon pricing instruments would need to be in place and fully operational.

The expected key outcomes of the program are summarized in the following four categories:

- **Key outcome 1: Capacity development and implementation.** The capacity of program participants to design, implement and operate carbon pricing instruments has been devel-





Source: obs/Schott AG

Into the future: the PMI helps to forge sustainable and lasting partnerships.

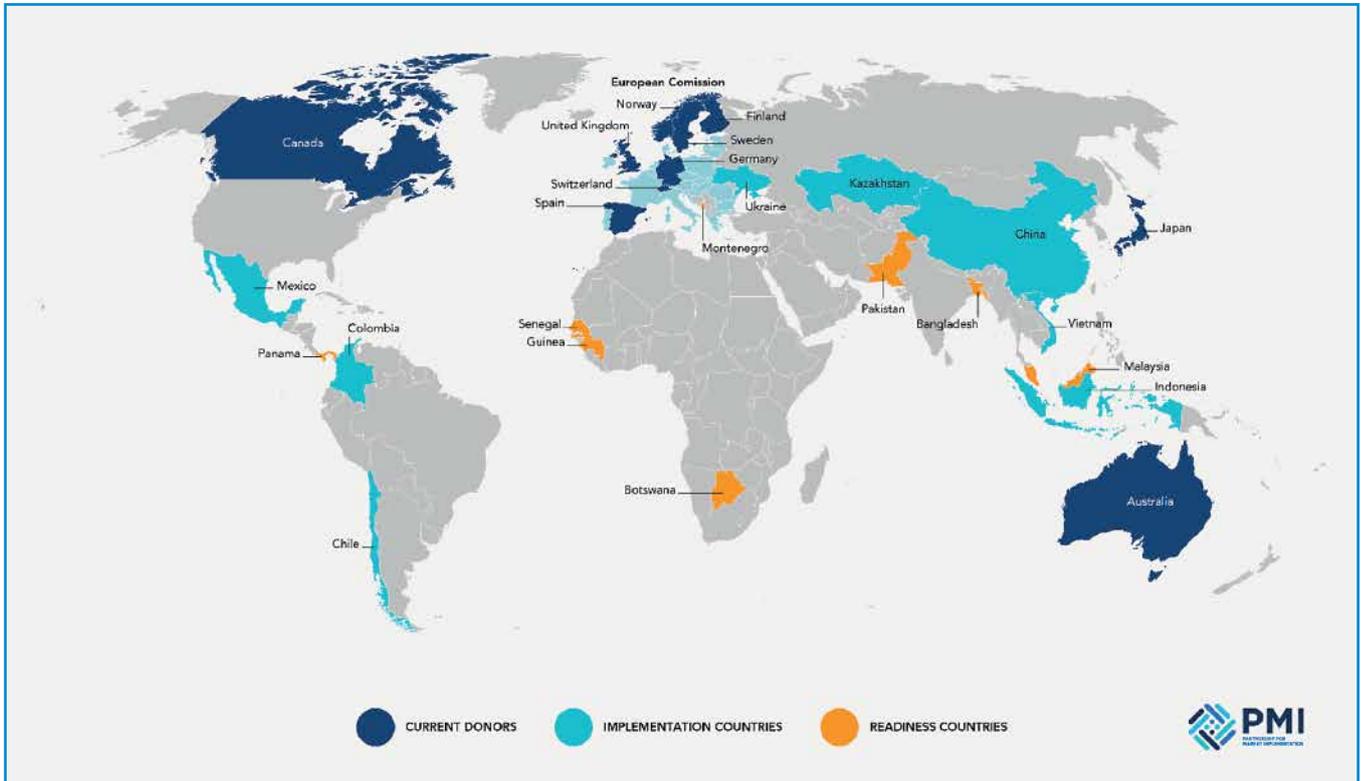
oped and strengthened through advisory and technical assistance. Outcome-level indicators include the number of countries that have completed implementation of carbon pricing programs.

- **Key outcome 2: Advocacy.** Policy discussions at global, regional and national levels – with a heterogeneous set of practitioners, policymakers and other relevant stakeholders – on the role of carbon pricing as a central policy instrument for climate change action have been supported, informed or influenced by the program. The type and number of the multiple processes and events convened, organized and delivered by the program at the global, regional and national level will be adequately tracked and assessed on an ongoing basis in order to determine the results achieved.
- **Key outcome 3: Innovation – Next generation carbon markets.** International cooperation through new

and innovative carbon market mechanisms has been promoted, and regional collaboration to raise ambition of carbon pricing policy objectives has been fostered. Indicators to measure innovation results include the number of new pilots, processes and financial instruments that inform carbon markets.

- **Key outcome 4: Knowledge generation and sharing.** Knowledge generated by the program and delivered through a variety of knowledge sharing modalities and interventions has informed the design and deployment of carbon pricing instruments. Indicators to measure results will build on program participants' assessment of the effectiveness of knowledge services generated and delivered by the program for use in informing carbon pricing policymaking and instrument design.

In meeting the developmental objectives and achieving the expected results, the PMI will work in collaboration



with the other World Bank programs that are complementary, such as the Carbon Pricing Leadership Coalition (CPLC), the Coalition of Finance Ministers (CoFM), the NDC Support Facility, the Climate Warehouse, etc.

Program Implementation Status

Following a three-year consultative and design process involving all key stakeholders, the PMI was launched in February 2021 with the first call for expressions of interest (EOIs) from countries. Across the implementation and readiness windows, 33 EOIs representing emerging economies and developing countries have been received. Of these, 16 (8 each under the implementation and readiness windows, respectively) were initially selected to develop full proposals for program grant support.

The following tables (see page 139) provide the lists of countries under the two windows and their primary focus areas.

The full proposals from the selected countries are expected by March 2022. This development period will be used to define and specify the program scope linked to the expected results. The final country selection will then take place by June 2022 based on a rigorous evaluation of the proposals. Program implementation will begin soon after. In parallel, the technical work program is being launched with the development of knowledge products, delivery of learning and knowledge sharing events to support capacity building and training of professionals from the implementing countries, and more.

Drawing from the successful experience gained with the PMR, the program will strive to ensure adaptability to the evolving domestic and inter-

Implementation Window	
Country	Focus area(s)
Chile	Roll out of carbon offset mechanism Carbon pricing in non-energy sectors
China	Broadening and deepening of ETS
Colombia	ETS implementation
Indonesia	Design and roll out of national ETS Domestic crediting scheme Carbon tax implementation
Kazakhstan	Strengthening and expansion of ETS
Mexico	ETS operationalization
Ukraine	Design and roll out plan for ETS
Vietnam	Implementation of a pilot crediting program Implementation of a pilot ETS in select sectors

Readiness Window	
Country	Focus area(s)
Bangladesh	Feasibility and roadmap development of carbon pricing options
Botswana	Readiness support for carbon tax
Guinea	Feasibility of domestic carbon pricing options
Malaysia	Piloting carbon tax in selected sectors
Montenegro	Feasibility of carbon pricing options Legislative framework for by-laws in compliance with EU legislation
Pakistan	Assess and prepare roadmap for an ETS pilot program
Panama	Domestic carbon pricing infrastructure Piloting domestic voluntary carbon market
Senegal	Analyze carbon pricing options Roadmap for design and implementation

national policy environments, as well as provide a platform for networking, knowledge exchange and mutual learning. The PMI will also build on perhaps the most prominent success factor of the PMR and – recognizing the crucial importance of partnerships and collaboration from the outset and adopting a participatory approach to

decision-making – follow a strong partnership model to help create a sense of ownership among the various stakeholders. This not only fosters an atmosphere of trust and an enabling environment for open dialogue, learning and knowledge sharing, but also helps to forge sustainable partnerships for the years to come.



Source: Oimheidi/pixabay

Adapting to evolving policy environments: the PMI uses an implementation and a readiness window.

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Evolving for Growth

How aligning with Paris can enable the voluntary carbon market to scale with integrity and impact

by Hugh Salway, *The Gold Standard*

The voluntary carbon market is in a period of significant evolution and expansion. This year it is set to exceed a traded value of over USD\$1 billion for the first time (Ecosystem Marketplace, 2021). New commitments, actors and innovations are announced each week. An alphabet soup of initiatives, such as the Taskforce on Scaling the Voluntary Carbon Market (TSVCM), Carbon Credit Quality Initiative (CCQI), Voluntary Carbon Market Integrity (VCMI) Initiative and Voluntary Carbon Market Global Dialogue (VCM-GD) have been established with intentions to support the market's expansion, integrity, and inclusivity.

Underpinning all this activity is another significant wave of change. As of the start of this year, the voluntary carbon market has moved from Kyoto into the era of the Paris Agreement, as countries begin to implement and track progress towards their Nationally Determined Contributions (NDCs).

This changed context cannot be overlooked. Long-held principles such as additionality, baseline-setting and unique claims are all affected in some way by the transition to the Paris era, meaning that existing approaches will need to be reviewed, and in many cases amended, if the market is to retain the core foundations of quality and integrity that will enable it to scale.

To prepare for this period of change, Gold Standard, with support from the German Federal Ministry for the Environment (BMU) and in partnership with atmosfair, has dug into what this transition

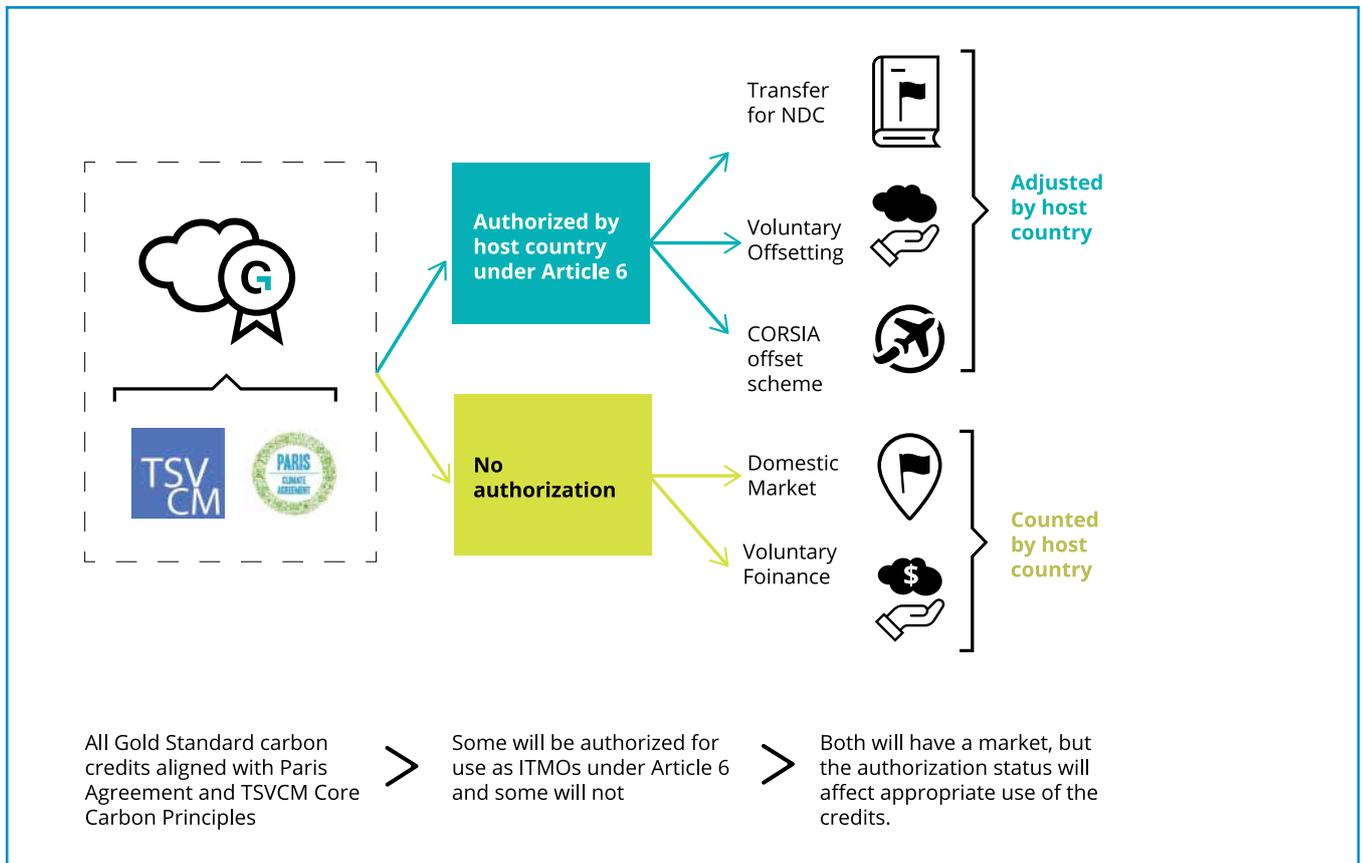
means for the voluntary carbon market and on 12 October published a Practitioners' Guide to Aligning the Voluntary Carbon Market with the Paris Agreement.

Why does the Paris Agreement require changes to the voluntary carbon market?

We identify four major shifts between the Kyoto Protocol and the Paris Agreement in the Practitioners' Guide, which necessitate changes to business-as-usual in the voluntary carbon market.

The first is the existence of NDCs in all countries. Under the Kyoto Protocol, binding emissions reduction or limitation targets existed only in more industrialised countries. Under the Paris Agreement, all countries must set and take action to implement NDCs. This means that domestic policies and measures must be taken into account in the assessment of additionality and setting of baselines in all countries, as has not consistently been standard practice. It also has accounting implications when carbon credits are voluntarily used by companies and other organisations, as explained in more detail below. Finally, it creates a clearer opportunity for voluntary action to directly support and complement national climate priorities.

The second is the progression of ambition that sits at the heart of the Paris Agreement. All countries



are expected to set successive NDCs over time with each representing a progression from their previous NDC, and their highest possible ambition. This should mean that, over time, NDCs expand in scope and more sectors become subject to increasingly stringent regulation. As a result, some activities that might be deemed additional in the voluntary carbon market now could – in fact should – become non-additional over time, pushing the voluntary market towards ever-higher hanging fruit.

The third is the introduction of new models of market-based cooperation under Article 6 of the Paris Agreement. Standards serving the voluntary carbon market have adopted and adapted many tools, methodologies, and approaches from the Clean Development Mechanism over the past fifteen years. The establishment of a new mechanism under Article 6.4 would provide a new reference point. Meanwhile the accounting guidance under negotiation for Article 6.2 is likely to be directly applied

for some voluntary use in the future: it is expected that governments will be able to grant authorisations and apply corresponding adjustments for certain emission reductions bought and used as credits in the voluntary carbon market.

The final major shift is the centrality of sustainable development, at least in the text of the Paris Agreement itself if (unfortunately) not in the guidance documents under negotiation going into COP26. The promotion of sustainable development is expressed as one of the primary goals of voluntary cooperation under Article 6, with the objective repeated for Articles 6.2, 6.4 and 6.8. While the promotion of sustainable development is not new to the voluntary carbon market, it is hoped that the Paris Agreement will bring a new focus to the intrinsic relationship between climate action and sustainable development within market activities.

What is affected?

While a transition to reflect the new era of the Paris Agreement is required, it should not be unnecessarily disruptive – particularly at a time when carbon finance is needed more than ever to close the emissions gap. Many core principles and functions of market activity are already inherently consistent with the Paris Agreement and for those that are not, changes can typically be made in a targeted rather than wholesale way. Our Practitioners' Guide seeks to bring this clarity for project developers and other stakeholders, identifying the series of steps required on what might otherwise seem a daunting journey.

Take additionality and baseline-setting for instance. Under the Paris Agreement, it will be important that additionality tests consider whether activities are additional to policies and measures within the host country and that programmes regularly check whether activities continue to need carbon revenues to sustain their operations. It will also be important that baselines fully account for domestic policies and are regularly updated to reflect any new policy or other developments. For some standards, these elements might already be common practice; for others, modification may be required.

It may be a similar story for sustainable development. Under the Paris Agreement, it should be expected that activities will contribute positively to sustainable development in the country where they take place. For many project developers this will be nothing new, and indeed those developing projects with Gold Standard or SDVISTA (Verra's sustainable development standard), for example, are likely to already do more to promote sustainable development than the anticipated minimum threshold under Article 6.

What about double claiming and corresponding adjustments?

The most major change, and one that has been subject to significant debate amongst market actors, is the issue of double claiming between the national government

hosting a carbon market project and an end-user in the voluntary carbon market using that project's emission reductions towards an offset-based target, such as 'carbon neutrality'.

The concern inherent in such double claiming is that if the national government counts emission reductions from voluntary market projects towards its NDC, this may mean it decides not to introduce mitigation policies that it would otherwise have needed to achieve the same level of emission reductions. In other words, mitigation action is deferred or displaced.

This matters when an end-user in the voluntary market is making an 'offsetting' claim: they are seeking to claim their purchase of carbon credits has enabled emission reductions or removals that compensate for their emissions, when in practice, the same level of emission reduction might have been achieved regardless. Just as offsetting relies on additionality tests to ensure the emission reductions purchased would not have happened anyway, the avoidance of double claiming with the host country NDC is relied on to ensure the same level of emission reductions would not have happened anyway.

If the voluntary market takes this risk seriously, as Gold Standard does, there are two paths for credible voluntary use of carbon credits in the future:

1. Beyond NDC action: The end-user acquires credits that have been authorised by the host country for use as Internationally Transferred Mitigation Outcomes (ITMOs) under Article 6, meaning that the country will apply a corresponding adjustment and not count the underlying emission reductions towards its NDC. The end-user as a result has a unique claim and can use the credits to offset its emissions.
2. Toward NDC action: The end-user finances emission reductions, including through buying carbon credits, that have not been authorised by the host country under Article 6, meaning they either will or may be counted towards its NDC. As such, the end-user cannot with integrity claim that the finance has offset its emissions but can claim to have funded a verified climate impact.



Source: © Oserian Flower farm - Kenya - WWF

Reaping the benefits: Gold Standard project in Kenya.

These paths do not explicitly reflect a scenario where mitigation takes place in sectors and greenhouse gases outside of the scope of the host country's NDC. The question of how to treat such mitigation may be solved at COP26, if Parties agree that countries must make corresponding adjustments for mitigation achieved in sectors outside their NDC as well as inside, as was reflected in draft texts proposed by the Chilean Presidency at COP25. Even if this is not the case, there are inherent challenges with treating activities outside the NDC differently, not least determining with confidence if an activity is outside the NDC in the first place.

What is Gold Standard doing to manage this?

On 12 October, Gold Standard published for public consultation a new process by which we will manage carbon credits authorized for use as ITMOs under Article 6 of the Paris Agreement. We intend to formally introduce this

process later this year, considering feedback during the comment period and the outcome of Article 6 negotiations at COP26.

Under this process, project developers can seek letters of authorization from a country hosting their project(s) and be issued credits that are tagged accordingly in our Registry. Depending on the terms of the authorization, these credits could be used towards a country's NDC; by an aeroplane operator for compliance purposes under ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA); and in the voluntary market, by organisations seeking a unique claim to underpin the achievement of a carbon neutrality target. In other words, this process will make 'beyond NDC action' possible for voluntary actors.

This process is new for project developers, just as it is for host countries and indeed for Gold Standard. For this reason, we are also making plans for an 'early-mover programme' that will run through 2022, under which we will

provide more dedicated technical support and opportunities for project developers, host countries and other affected stakeholders looking to bring forward the first Article 6-authorized credits.

At the same time, we will continue to issue credits to projects that do not have such letters of authorization, and therefore represent verified climate impacts that the host country may count towards its NDC. These will, we expect, continue to represent most of our issuances in the short-term. There is an urgent and important need to provide a clearer framework and terminology for the claims that can be made for such credits. The ongoing Voluntary Carbon Market Integrity Initiative (VCMI) would provide a timely opportunity to do this. But there is also, clearly, a need for some pragmatism in the short-term, as the market catches up with the implications of the Paris era.

Seeing the bigger picture

The past few years have seen a blurring of the lines between compliance and voluntary carbon market. Several independent standards associated with the voluntary carbon market, including Gold Standard, the Verified Carbon Standard (VCS) and the American Carbon Registry (ACR), were last year endorsed as eligible to supply units for CORSIA. Certain independent standards are also eligible to supply units for some national compliance systems, for instance as an alternative to carbon tax payments in South Africa and Colombia.

With the transition to the era of the Paris Agreement, the walls between the two systems will erode further.

Consider a project proponent who develops a project under a carbon market standard (like Gold Standard) that has aligned its rules with the Paris Agreement, and who has secured a letter of Article 6 authorization from the project's host country.

That project proponent would be able to market its credits for use in the voluntary carbon market, by



Source: © Hydrologic Water filters - Cambodia - Nexus development

Aligning with the Paris Agreement: the voluntary market has to adapt.

aeroplane operators under CORSIA, or by a government towards its NDC. This alignment of markets can bring consistency and pool together multiple sources of demand – both of which are critical for market activity to scale. The same is the case on the demand side: governments, airlines and companies all stand to benefit from a standardised, Paris-aligned set of core credit requirements, and infrastructure that can serve multiple markets.

We're not there yet

While a future vision is emerging for the role of the voluntary carbon market in support of the Paris Agreement's goals, there are a number of key elements needed to turn this into a reality.

First, the conclusion of Article 6 negotiations. A comprehensive Article 6.2 decision is needed to answer several important questions. Specifically for double claiming, it is hoped that such a decision will clarify that a host country may authorise ITMOs for use in the voluntary carbon market (masked under the terminology of 'other purposes' in draft versions at COP25). Other issues matter to successful implementation in the market too: the point in time that a host country will need to apply a corresponding adjustment, and the granularity of information that countries will be required to report to the UNFCCC.

Second, the role of host governments. Over 80% of countries have communicated in their updated NDCs that they may or will use Article 6, but only a handful have started to plan for how they will do so. A robust system to manage double claiming between the NDC of the host country and the end-user of credits will rely on the host government having – amongst other things – a designated authority to provide letters of authorization, a transparent process accessible for project developers of all sizes, and a commitment to work closely with independent standards where the government authorizes as ITMOs credits that the standard will issue. There are positive signs: Malaysia recently communicated a new approach for the voluntary carbon market in the Paris era, and we know that several project developers are in advanced discussions with developing country governments on Article 6 authorizations.

Finally, new market solutions. One of the virtues of the voluntary carbon market is its ability to innovate, with many new products and services brought forward in just the past year to support a scaling market. To make an Article 6-connected market work, there are several gaps that still need solutions. For instance, we need smart digital systems that can streamline the flow of information between the registries of independent standards and host countries. Some are already working on this, such as the World Bank's Climate Warehouse and Global Environmental Markets' ITMO Registry. We also need new insurance products to manage the risk that host countries do not apply corresponding adjustments that they have committed to. Solving this would address a major barrier for project developers, and there are lessons that can be drawn from how insurance is used to manage the risk of offset invalidation in the Californian cap-and-trade system.

More than anything, we need a willingness to move forward boldly and together. If Article 6 is to work, and if the voluntary market is to align with the Paris Agreement and scale to support its goals, we cannot wait around. All eyes are on COP26 to provide a glimmer of hope that the international community can keep the 1.5 °C temperature goal alive. Let's also hope that it can kick-start a new era of carbon market action under, and aligned with, the Paris Agreement.

This article follows publication of the Practitioner's Guide to the Transition of the Voluntary Carbon Market to the Paris era, which can be downloaded at <https://tinyurl.com/4ysdkjvz>

More information on Gold Standard's early-mover programme for Article 6 authorizations, open for project developers, host country governments and other interested stakeholders, can be found at <https://tinyurl.com/chet9p3r>

The public consultation "Operationalising Art. 6 and enabling responsible claims" mentioned in the text is accessible at <https://tinyurl.com/5rauvvmj>

Harnessing Experience

Building blocks to strengthen Nature-based Solutions in developing countries

by Jacqueline Gehrig-Fasel and Martin Gehrig, TREES

In a previous article in this magazine (Gehrig-Fasel et al. 2021), we addressed the opportunities and challenges for Nature-based Solutions (NbS) in carbon markets and identified the variety of barriers faced by projects aiming to implement NbS. The article concluded that most barriers and challenges inherent to NbS activities can be overcome by means already available in the carbon market, such as voluntary carbon standards' safeguards, local stakeholder consultation guidelines, impact quantification methodologies, risk tools and climate finance instruments (e.g. private funding through the voluntary market, blended/hybrid finance, climate funds, grants). However, access to such solutions or respective expert knowledge is not available to all. Based on feedback received in workshops conducted with the six UNFCCC Regional Collaboration Centres (RCCs) as part of the Nature-Based Solutions in Carbon Markets study in March 2021, we have identified several "archetypes" regarding NbS implementation status and challenges in carbon markets and propose a set of "building blocks" to strengthen and scale-up NbS implementation in developing countries. Our aspiration is to support and motivate organizations and policy makers to contribute to the building blocks, focus their engagement and target action to overcome specific challenges for NbS in developing countries, e.g. through capacity building programs.

Key lessons learnt

While governments are increasingly including NbS in their NDCs (WWF, 2021), NbS implementation status in developing countries varies significantly. While some RCCs and their focus countries have already been implementing NbS successfully for years in different markets, setups of others have not yet started.

Lessons learned by the RCCs from NbS feedback on implementation status indicate that four key topics are primary barriers depending on the maturity status of NbS in the target regions:

- Social and cultural barriers (willingness to change)
- Regulatory conflicts, including land tenure conflicts, and lack of trust in governance systems
- Missing technical skills on design and implementation of NbS, including impact quantification and market opportunities in blended markets linking national and international compliance systems to voluntary markets and corporate supply chain programs
- Limited access to financial support, including risk capital and long-term guarantees



Source: Underground water project by CIFOR (<https://flic.kr/p/2hKkx4Q>) / Flickr / CC BY-NC ND (<https://creativecommons.org/licenses/by-nc-nd/2.0/>)

Harnessing experience: barriers to Nature-based Solutions can be overcome by means already available in the carbon market.

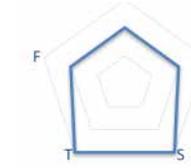
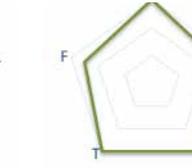
Archetypes to characterize NbS implementation status and challenges

Based on the feedback received, we outlined archetypes for NbS implementation to harness carbon markets experience for developing countries. Key properties for the qualification of archetypes are (i) current NbS implementation level, (ii) status of legal basis (including governance and land tenure conflicts), (iii) social acceptance of NbS (including willingness to change), (iv) technical skills available (NbS design, development and operations),

and (v) access to financial means (for NbS design and implementation). Figure 1 on page 150 visualizes an example archetype with low to medium NbS maturity, indicating key properties along the quality dimensions (higher rating indicates more mature NbS systems). Characteristic properties for each archetype are described in Table 1 (see next page). The archetypes are non-exclusive examples, as a country's situation may require a varying degree of support across multiple properties and measures and governance components have to be tailored to the situation on-site.

Table 1: Archetypes with key properties and qualification

(I =NbS implementation status, L = legal basis, S = social acceptance, T = technical skills, F =financial means)

	Type 1: Develop NbS (social and technical focus)	Type 2: Govern NbS (legal focus)	Type 3: Enable NbS (financial focus)	Type 4: Foster NbS growth (financial and legal focus)	Type 5: Innovate NbS (financial and technical focus)
Overview					
NbS implementation status	<ul style="list-style-type: none"> • Little to no implementation of NbS • NbS implementation potential high 	<ul style="list-style-type: none"> • Some NbS implemented • Further NbS implementation potential high 	<ul style="list-style-type: none"> • Limited implementation of NbS • NbS implementation potential high 	<ul style="list-style-type: none"> • Multiple NbS implemented (carbon market and/or programmatic) • Further NbS impact potential 	<ul style="list-style-type: none"> • Extensive NbS implementation in specific activities • Potential for other, innovative activities
Legal basis	<ul style="list-style-type: none"> • Legal basis variable • Land rights often unclear 	<ul style="list-style-type: none"> • Political will to support NbS is limited • Complex legal basis and conflicts hamper NbS development 	<ul style="list-style-type: none"> • Legal basis stable • Improvement potential depending on activity 	<ul style="list-style-type: none"> • Legal situation clear and solutions available • Improvements may be needed to scale up NbS 	<ul style="list-style-type: none"> • Legal situation for current activities clear • Refinement or change needed to access additional areas and NbS activities
Social acceptance	<ul style="list-style-type: none"> • Livelihoods with limited development potential, subsistence farming • Willingness to change is low 	<ul style="list-style-type: none"> • Social trust is governance systems is lacking • Change readiness by key stakeholders is low 	<ul style="list-style-type: none"> • Livelihoods improving • Incentives to change needed 	<ul style="list-style-type: none"> • Social acceptance achieved • Good practice examples for stakeholder involvement available in-country 	<ul style="list-style-type: none"> • Social acceptance high • Stakeholders engaged to further expand NbS Scope
Technical skills	<ul style="list-style-type: none"> • Limited technical knowledge available • Little to no in-country experience on development of NbS 	<ul style="list-style-type: none"> • Knowledge on NbS is available but not broadly accessible 	<ul style="list-style-type: none"> • Some technical knowledge available • Limited in-country experience on development of NbS 	<ul style="list-style-type: none"> • Technical knowledge and development experience available in-country 	<ul style="list-style-type: none"> • Technical skills and knowledge available • Innovation needed to expand NbS and quantify impacts
Financial means	<ul style="list-style-type: none"> • Focus on development funding • Little funding available for NbS activity development and support 	<ul style="list-style-type: none"> • Access to funding is limited due to high long-term risks 	<ul style="list-style-type: none"> • Focus on development funding • Little funding available for NbS activity development and support 	<ul style="list-style-type: none"> • Successful funding for projects realized • Increase and/or additional funding sources needed to further develop NbS 	<ul style="list-style-type: none"> • Financial mechanisms established for “traditional” activities • Funding needed to expand scope and activities

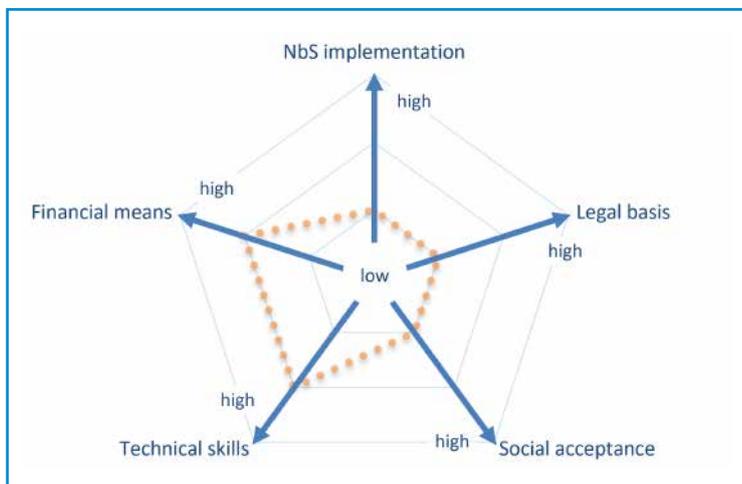


Figure 1: Archetype representation by property and quality dimensions (dotted line shows example archetype with low to medium maturity)

Building blocks to address NbS development gaps

The targeted use of adequate tools and means to close gaps and address challenges impeding the implementation of NbS is essential to achieve maximum impact with limited resources. Table 2 lists such approaches in “building blocks”, each addressing a key challenge in NbS implementation. The building blocks include the adoption of existing and – where needed – the development of new tools, methodologies, governance processes and guidelines to set up solid NbS programs. Moreover though, they outline capacity building needs to accelerate and upscale NbS implementation.

Depending on the situation in the targeted country and project area, building blocks can be combined in capacity building and support programs, indicated by basic mapping of the above archetypes in the right-hand columns in Table 2.

Success factors to strengthen and scale up NbS in developing countries

Key components of all building blocks are available and have been successfully implemented, primarily in voluntary carbon markets. However, resources to apply the building blocks at large scale are limited. When considering best use of these resources globally, several factors need to be considered:

Timing: Time remaining to realize NbS at scale for a contribution to climate change mitigation and adaptation is short. Many of the changes needed take time, especially in the multi-stakeholder environment typical for NbS. With legal and social barriers being a key challenge to NbS (Seddon et al 2020), addressing these topics immediately is key. Effort must be made in the short term to initiate and support ideas and programs to build NbS in archetypes 1 (social and technical setup) and 2 (governance and legal alignment). Upon kick-off and basic capacity building, local and national resources can be engaged to drive the relevant change.

Stakeholder integration and knowledge sharing: NbS processes, both in design and monitoring, can appear complex to stakeholders faced with the challenge of implementing a program. Large-scale setups will in most cases require a certain level of expert inputs. Yet, when broken down into the components to be realized, knowledge can be shared and capacity built at large scale, including essential understanding of the means and methodologies available from voluntary and compliance carbon markets, as well as the conditions and limitations for their application in NbS. With stakeholders and leadership at all levels considered a ‘make-or-break’ success factor (Hou-Jones et al, 2021), creating this potential is a task that must be started immediately and will lead to a growing pool of resources and experiences to be leveraged around the globe. Experiences from

Table 2: Building blocks to address gaps and challenges for NbS implementation (Archetype mapping: P = Primary building block; S = Secondary building block)

Building Block	Goal	Capacity building approaches and tools	Archetype				
			1	2	3	4	5
NbS activity design	Establish technical knowledge on NbS solutions	<ul style="list-style-type: none"> Develop good practice guidelines for NbS design and implementation Provide assessment tools and strategic guidance to identify promising activities Create broad understanding of carbon mechanisms for NbS, including compliance and voluntary market approaches, hybrids with programmatic components, corporate supply chain programs Provide activity guidelines and quantification methodologies to identify impact and feasibility Train project stakeholders on procedures, risks and potential NbS activities 	P	S		S	P
Knowledge transfer	Provide expertise to design and set up projects	<ul style="list-style-type: none"> Conduct workshops/establish working groups to support inexperienced teams Publish knowledge bases on NbS Establish and communicate contact points for questions on NbS Leverage experience from running projects 	P	P	P		S
Incentives and benefits	Overcome social and traditional barriers and foster change	<ul style="list-style-type: none"> Design incentivization models and economic benefit share systems for NbS activity types Develop and document economic models for smallholders (contribution of NbS programs to local livelihoods) Document success stories 	P	S	P	P	S
Institutional commitment	Establish trust and security for long-term solutions	<ul style="list-style-type: none"> Facilitate access to institutional support for project setup and operations Identify alternative guarantees for long-term funding and benefits (insurance solutions, contractual commitments, subnational governance systems, corporate supply chain commitments) 		P	S		
Legal framework support	Eliminate legal conflicts and barriers Create political will to implement NbS	<ul style="list-style-type: none"> Document best practice examples for legal frameworks and policy alignment Identify “silos” in land use legislation and align legal requirements to prevent conflicts for NbS Maintain transparent and effective land tenure legislation and governance Conduct stakeholder consultation processes to identify claims and discuss benefits sharing to resolve conflicts 		P		S	P
Funding	Enable funding access	<ul style="list-style-type: none"> Support risk assessment and mitigation to facilitate access to capital Provide financial guarantees for risk-based funding Provide technical support to access funds (applications) Facilitate micro-financing for small-scale activities 	S	S	P	P	P
International governance (Art. 6)	Establish clear rules and quality requirements for international trade	<ul style="list-style-type: none"> Provide guidelines on eligible activities and quality criteria Adopt solid quantification approaches and safeguards Provide registries for international trade 	S	P			S



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Maximum impact: stable funding and long-term stakeholder commitment are the backbone of NbS carbon projects.

more advanced archetypes (type 4 and 5) and successful projects must be shared to motivate new engagement for NbS.

Diversification of markets: Having played only a marginal role in the CDM, with limited implementation of afforestation/reforestation projects, NbS cannot draw from an abundant pool of experiences in international compliance markets. With many developing countries focusing on other CDM activities in the past, expanding knowledge of other market options will help in shaping diversified approaches for NbS in future “blended” markets, including national and international compliance systems, sector-specific systems (e.g.

CORSIA), voluntary carbon markets, corporate programs and supply chain interventions. The option to contribute to a more diverse market can create additional incentives and revenue potential matching the project locations socioeconomic environment.

Access to funding: Limitations in resources are commonly related to a lack of sufficient funding. Access to such funds is often perceived as difficult and requires skills and knowledge not available to potential NbS project stakeholders. Taking into account that, despite the increasing volume of climate finance and other financing vehicles, overall funds are also limited, targeted investments are

key for NbS. Funding must be available for small-scale project development and capacity building as well as governance programs and large-scale, landscape-level NbS. Diverse financial products are available across microfinancing, commercial investments, carbon markets, national budgets, development and climate funds, insurance solutions and guarantees. Creating “hybrid approaches” combining grant or fund-based investments with carbon market projects (Gehrig-Fasel et al 2021) is another possibility to enable more NbS. However, for many NbS stakeholders, financial products are not easily accessible and, in many cases, require preparatory work such as solid risk assessments, strategic collaborations and financial planning. Increasing the means to support such preparatory and design work would mobilize available capital and greatly facilitate the implementation and expansion of NbS across all archetypes. After all, stable funding, along with the related long-term stakeholder commitment, is considered the backbone of NbS carbon projects.

Conclusions and outlook

Strengthening NbS in developing countries and around the globe is key to achieving 2030 climate targets (IPCC 2018), respectively 2050 net zero climate targets (UN Climate Change 2021). “Archetypes” classification as introduced above help to quickly visualize the NbS implementation status of a country/region and identify development gaps. Using structured building blocks to shape targeted capacity building programs and thus foster carbon finance and market participation support this endeavor.

Realizing NbS programs will have to involve a broad range of stakeholders and experts with the host country stakeholders and governance organization at the core. Capacity building and expert guidance will help with design and initiation of programs, but only stable and consistent governance based on suitable regulatory frame-

works and the full engagement of all stakeholders involved in an NbS will make NbS a long-term success.

Upcoming negotiations at COP 26 include consideration and framing of NbS in international systems, likely followed by more detailed discussions on alignment with national systems and guidance, voluntary markets, corporate programs and NGOs.

From the perspective of this article, outcomes of these negotiations and alignments will greatly impact the efforts needed to realize NbS. To enable NbS development in all countries, it will be necessary to ensure alignment of carbon market governance at international and national levels, specifically regarding corresponding adjustments, guidelines for and eligibility of NbS activities and GHG impact types (removals, emission reductions, avoided emissions). A consistent setup will also allow additional activities in voluntary carbon markets and corporate programs to fill the gaps where needed.

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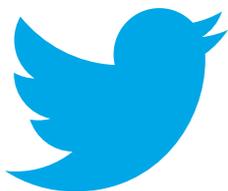
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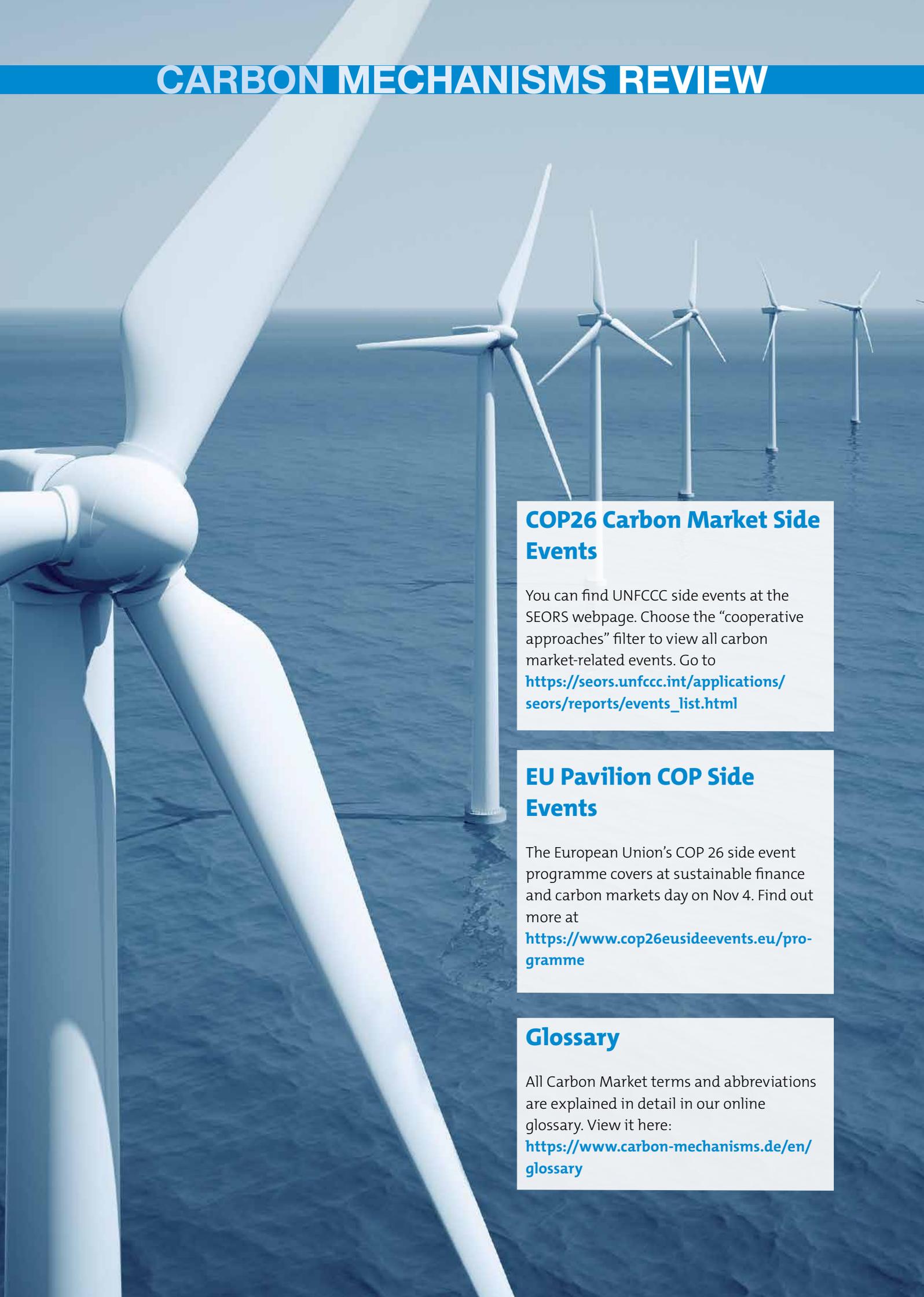
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