

# CARBON MECHANISMS REVIEW

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Autumn 2022

# Getting Started

Building skills and capacities for Article 6 activities



**PoAs – a Relic of the CDM?**

Programmatic approaches  
under the Paris Agreement

# content

Autumn



Source: Siemens press image

## 72 **Sparkling Article 6 Preparedness**

A look into the early days of a large-scale Article 6 readiness support program

## 80 **„Avoiding the Duplication of Efforts“**

Ousmane Fall Sarr, Coordinator, West African Alliance on Carbon Markets and Climate Finance, on enhancing regional readiness, coordination of activities, and capacity building needs to foster long-term mitigation strategy development.

## 82 **PoAs – a Relic of the CDM?**

On the future of programmatic approaches under the Paris Agreement

## 89 **Transforming Carbon Markets**

Design options and cases of transformational impact for NDC ambition raising

## 97 **How to buy Art. 6.4 credits?**

German Federal Government purchases Art. 6.4 credits for voluntary compensation of business trips

# editorial

## Dear Reader!

Brazil, India, China. These were the early movers that dominated the CDM world. It took years before other countries from the Global South managed to attract CDM projects, and for some it was even too late for them to benefit from the CDM boom in the first Kyoto commitment period. With the fresh start of Article 6 cooperation, a new chance is given for an inclusive, regionally balanced international market-based action.

However, this will require substantial capacity building activities for government decision makers and other national stakeholders, focusing not only on applying the Art. 6 rulebook and on establishing robust national governance systems, but also on finding the balance between NDC compliance and potential benefits under Article 6.

In our cover feature, we therefore look at current Art. 6 capacity building needs and how to address them. We present a recently started large-scale readiness program, and an interview with Ousmane Fall Sarr of the West African Alliance for Carbon Markets and Climate Finance. In the other sections of the issue, our authors analyse the future of programmatic approaches under the Paris Agreement, and they explore how transformational change can be promoted through Article 6 cooperation. Last not least, we present a German Government offset scheme that intends to purchase Art. 6.4 credits for voluntary compensation of public servants' business trips.

Enjoy the 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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# Sparking Article 6 Preparedness

## A look into the early days of a large-scale Article 6 readiness support program

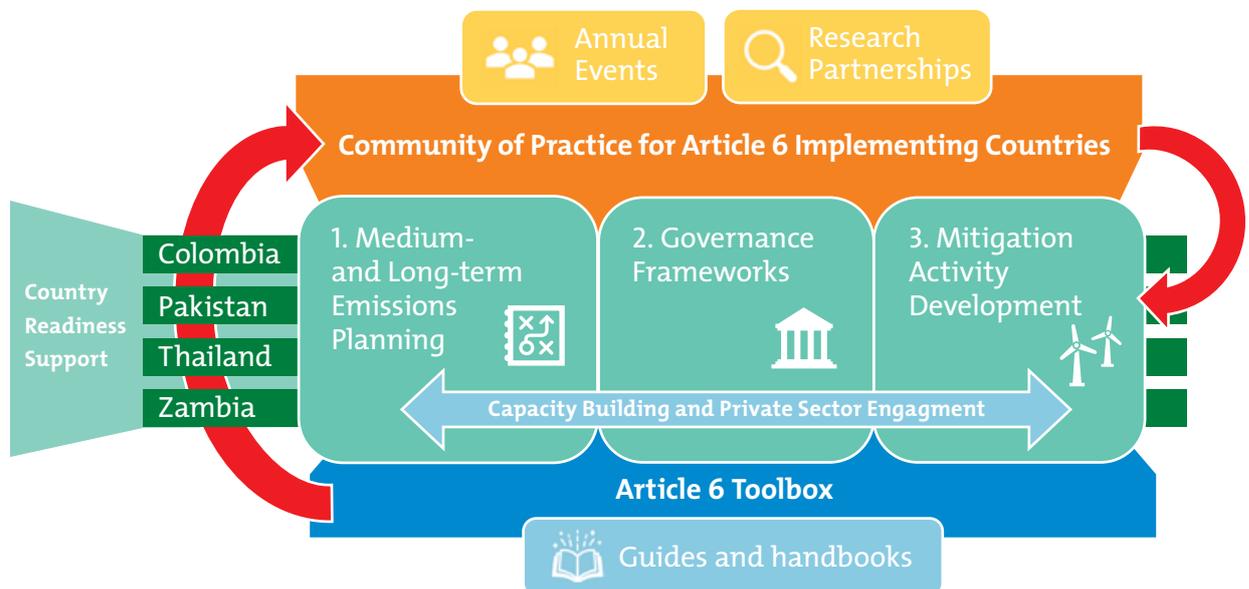
by Marshall Brown, Program Manager for the IKI-SPAR6C Program, Global Green Growth Institute (GGGI)

Many developing and emerging economies are keen to pursue carbon transactions under Article 6 of the Paris Agreement in the hope that they will promote ambitious climate change mitigation and generate sustainable development outcomes. However, for countries to be fully prepared to actively engage in the future Article 6 carbon market, there is a steep learning curve.

Article 6 transactions must be underpinned by strong technical fundamentals to safeguard environmental integrity and meet the other requirements of the Paris Agreement and the Article 6 rulebook agreed to in Glasgow. Building robust national governance frameworks to respond to these requirements and building sustainable national capacities to facilitate transactions is essential. Governments need to establish institutional structures, pass transparent regulations, and create well thought-out strategies to guide decision makers and provide clear signals to private sector investors. Human resource capacities and technical skills related to Article 6 must also be strengthened in stakeholders throughout the entire carbon trading ecosystem, including government, private sector, and civil society. One of the best ways to build the necessary skills and capacities is through piloting under a learning by doing approach.

Recognizing these needs, the German Federal Ministry of Economic Affairs and Climate Action (BMWK) is funding a €20.4 million program through the International Climate Initiative (IKI) titled *Supporting Preparedness for Article 6 Cooperation* (SPAR6C). Among the program's many ambitious goals is to support the partner governments of Colombia, Pakistan, Thailand, and Zambia to become fully prepared to engage in Article 6 transactions. Launched officially in June 2022 and continuing into 2027, SPAR6C is currently the largest and most comprehensive program focused solely on enhancing Article 6 preparedness globally. It is being implemented by a consortium of partners under the leadership of the Global Green Growth Institute (GGGI). Consortium partners include the UNEP Copenhagen Climate Center, Carbon Limits, GFA Consulting Group and Kommunalkredit Public Consulting.

The defining characteristic of SPAR6C is its focus on implementation and practical application of best practices. Accordingly, the program is composed of three interconnected components as shown in Figure 1: Country readiness support in four countries, a compendium of resources called the „Article 6 Toolbox“, and a forum for knowledge generation, dissemination and application called the „Community of Practice for Article 6 Implementing Countries“.



**Figure 1:** Key elements of the IKI-SPAR6C Program

## Country Readiness Support

Improving the readiness of the four priority partner countries to engage in Article 6 transactions is a major focus of SPAR6C. The program will undertake tailored technical assistance and capacity building activities for government decision makers and other national stakeholders which will be shaped through a process of in-depth readiness assessments to help to identify the priorities for each country. Hybrid teams of international and national experts – often composed of multiple consortium partners – will then support stakeholders with some configuration of medium- and long-term emissions planning, governance framework development (including the design of strategies, regulations, institutional arrangements, etc.), and the development of mitigation activities that can generate Internationally Transferred Mitigation Outcomes (ITMOs) under Article 6. The program aims to result in, among other things, eight Mitigation Activity Design Documents (MADDs) endorsed by partner countries who are well-equipped with the

governance frameworks and skills to engage in transactions and host mitigation activities.

The four priority partner countries involved in SPAR6C constitute a unique peer group for learning around Article 6 implementation. These countries were selected because of their geographic and economic diversity, their importance to the Government of Germany, their potential for cross-learning, links to consortium partners and status as members of GGGI. However, most importantly, these countries demonstrated strong interest in Article 6 engagement. Their keenness has already resulted in productive discussions with consortium partners in inception missions throughout July and August 2022 intended to inform the Country Readiness and Needs Assessments. These assessments will allow government and consortium partners to better understand where there are gaps in governance frameworks, what type of capacity building is needed, and which sectors or technologies might be most eligible for trading based on their Nationally Determined Contributions.

## Community of Practice for Article 6 Implementing Countries

A program of this size and scope is expected to substantially contribute to the future development of the Article 6 carbon market. As such, SPAR6C will share its lessons learned in real-time by facilitating global dialogue on Article 6 implementation through a Community of Practice for Article 6 Implementing Countries (CoP-ASIC). In line with the program's overall focus on implementation, this unique forum will provide stakeholders the opportunity to learn from each other as they design their institutional arrangements and mitigation activities and establish a global network of government experts on Article 6. Although the first annual

CoP-ASIC meeting is not planned to take place until June 2023, knowledge exchange between program partners Thailand and Colombia on the topic of activity registries has already been identified as an area of priority. Other areas of potential future cross-learning include forestry sector crediting under Article 6 and policy approaches.

Through the CoP-ASIC, the program aims to cultivate a new generation of carbon pricing experts in partner countries by engaging them in science-based policy research on Article 6 implementation. Using a research mentorship approach, the program will invite eight young researchers (two from each partner country: Colombia, Pakistan, Thailand and Zambia) per year from a variety of academic backgrounds and levels of experience to examine the



Paving the way: Windmills in Thailand, one of SPAR6C's focus countries.

Source: [gettyimages.de/Dragonite\\_East](https://www.gettyimages.de/Dragonite_East)



Building on CDM experience: Transmilenio Bus Rapid Transit System in Bogotá, Colombia.

Source: gettyimages.de/EGT

challenges and opportunities associated with Article 6 implementation in their country. These young researchers will be paired with local and international research mentors as they develop a paper for presentation and discussion at the annual meeting of the CoP-ASIC, alongside other global knowledge exchange on Article 6 implementation by government stakeholders, private sector, and other international experts.

Beyond the knowledge generation, dissemination and application functions of the CoP-ASIC, the research-based approach taken by the program seeks to promote sustainable capacity building – a perennial challenge for development programs – by engaging national youth in the process of unpacking Article 6 and exposing them to global expert discussions on the topic. After each one-year mentorship cycle has ended, successful participants will be supported with internships giving them on-the-job experience within the Article 6 implementation ecosystem (in public or private sector roles).

The CoP-ASIC will be officially launched at the 27th Conference of Parties (COP27) in Sharm El-Sheikh this year on November 9th at the International Emissions Trading Association (IETA) Business Hub. The launch event will be co-hosted by BMWK and GGGI and feature speakers from consortium partners UNEP Copenhagen Climate Center (UNEP-CCC) as well as representatives from all partner countries.



Transformation challenge: steel works in Zambia.

Source: gettyimages.de/GCShutter

## Article 6 Toolbox

Ever since the signing of the Paris Agreement, global experts on carbon pricing and carbon markets have been debating, publishing, and revising Article 6 implementation support materials for the wider climate change community in attempts to clarify and simplify processes and speed up implementation of carbon transactions, particularly through bilateral cooperative approaches under Article 6.2. Building on this and forthcoming guidance from the UNFCCC Supervisory Body for Article 6.4 transactions, SPAR6C aims to create a collection of implementation tools and guides for both partner countries and the broader global community to utilize in their Article 6 readiness journeys. Recognizing the need for practical application, the program aims to create enduringly relevant, user-friendly guidance for governments and other Article 6 practitioners. To achieve this, the „SPAR6C Article 6 Toolbox“ will cover a wide spectrum of topics related to Article 6 transactions, with a focus on integration of best practices, including the latest UNFCCC guidance on rules, modalities and procedures for Article 6.4 and lessons learned from

bilateral cooperation under Article 6.2. The development of the guides will be iterative in nature, benefitting from the experiences of others captured in knowledge exchange between program partners and others as global activity in the Article 6 market swells. To ensure that the toolbox guides and resources are useful, country partners receiving readiness support will have an important role in review, and the latest guidance will be presented at annual CoP-ASIC events.

### **Titles currently under development for the SPAR6C Article 6 Toolbox include:**

- Designing an Article 6 Strategy
- Increasing Climate Ambition
- Creating Governance Frameworks for Article 6
- Integrating Article 6 with other Carbon Pricing Instruments
- Developing Article 6 Pilots and Transactions
- Article 6 Contractual Options and Models

## Team of Experts

Partner countries will benefit from the insights of a wide range of global expertise mobilized to implement SPAR6C. Overall, the consortium of partners includes more than 35 international experts in the areas of climate economics, carbon pricing and trading, project development, transparency and MRV, governance and a range of sectoral specialties. For example, GGGI – overall program lead and Colombia country lead – has worked since 2019 to support countries Nepal, Cambodia, Indonesia, Senegal, Vietnam and Morocco in their Article 6 readiness journeys providing technical assistance from within government institutions. Toolbox development will be led by consortium partners Carbon Limits, a widely referenced source of knowledge on Article 6 implementation. The research focus

and experience of consortium partners UNEP Copenhagen Climate Center (formerly UNEP-Danish Technical University Partnership) will also contribute substantially to the toolbox, and will play a key role in the successful implementation of research partnerships in the CoP-ASIC. The vast international project finance, mitigation activity development and other technical experience from partners GFA Consulting and Kommunalkredit Public Consulting, leading efforts in Zambia and Thailand, respectively, will also be critical in developing high quality MADDs and governance frameworks.



Train the trainer: SPAR6C aims at cultivating a new generation of carbon pricing experts.

Source: GGGI

## Early lessons for implementation

Devastating flooding covering more than one-third of Pakistan in June and July 2022 has claimed more than 1,700 lives, displaced almost eight million people and decimated the country's food stocks (UN News, European Space Agency 2022). Crises such as the floods in Pakistan quickly reorient the priorities of a country, and natural disasters linked to climate change can have an especially acute impact the country's climate change narrative and agenda. The case of Pakistan is an early, but important, lesson SPAR6C is taking on board: increasing mitigation ambition through Article 6 engagement is only part of a comprehensive approach to addressing the global climate crisis, which includes both mitigation and adaptation. As one of the most vulnerable countries to climate change, the Pakistani government's strategic

priorities for Article 6 engagement may place resilience to natural disasters front and center (World Bank, ADB 2022).

This will have implications on the sectors, types and geographic location of Article 6 activities in Pakistan, as well as potentially the terms and conditions of trading that the government will expect as the program moves toward transaction facilitation. Because the program is in early design phase, GGGI and consortium partners have the flexibility to help the Government of Pakistan identify how carbon finance can contribute to Pakistan's long-term sustainable development and climate resilience agenda as well as flood recovery efforts. SPAR6C could, for example, help the government update its medium and long-term emission plan to identify mitigation and adaptation win-wins (e.g. emphasizing nature-based solutions).



**Into the future: contributing to Pakistan's long-term sustainable development needs flexibility as the recent flooding events show.**

Source: [gettyimages.de/Nomi2626](https://www.gettyimages.de/Nomi2626)

## SPAR6C Outreach and Coordination

As implementation of SPAR6C moves forward, GGGI and consortium partners are seeking to establish national, regional and global partnerships with other stakeholder institutions in the Article 6 ecosystem, in line with the program's focus on knowledge sharing and mutual learning. Initial findings in the Readiness and Needs Assessments, as well as results of other technical support in the country programs are tentatively scheduled for open discussion among program partners and other interested countries and stakeholders in June 2023, alongside the 58th meeting of the Subsidiary Body for Scientific and Technological Advice (SBSTA 58) in Bonn, Germany.

To learn more about the SPAR6C program or discuss how you can coordinate Article 6 efforts, contact GGGI Program Manager, Marshall Brown at [marshall.brown@gggi.org](mailto:marshall.brown@gggi.org)



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# „Avoiding the Duplication of Efforts“

**Ousmane Fall Sarr, Coordinator, West African Alliance on Carbon Markets and Climate Finance, on enhancing regional readiness, coordination of activities, and capacity building needs to foster long-term mitigation strategy development.**

*Questions by Christof Arens*

**CMR:** *Ousmane, the West African Alliance for Carbon Markets and Climate Finance has the aim of enhancing regional readiness with regard to the Article 6 mechanisms. What is the focus of your work in terms of capacity building for Article 6 at the moment?*

**Ousmane Fall Sarr:** Our core focus is on awareness raising and trainings for key stakeholders such as Governments, private sector actors, NGOs, communities, etc. This includes work for political buy in alliance member countries as well as technical support for member countries delegates participating in UNFCCC negotiations. Furthermore, we support the piloting of ITMO projects and facilitate peer to peer learning within our region where we have more advanced and less advanced countries in terms of readiness. The piloting goes hand in hand with support for host countries to help them

putting in place appropriate institutional and regulatory framework and infrastructures (registries, etc.), and facilitating the understanding of CDM projects transition under A6 and technical support for project development in countries in general. A web-based platform for market interactions complements these activities.

**CMR:** *Several capacity building initiatives like the RCCs have been operating for a while, others are just starting. What kind of support infrastructure would be meaningful for Parties in your view and how should activities be coordinated?*

**Ousmane:** All initiatives intervening in Western Africa should work closely with the Alliance, which has already started a very significant work capacity building activities for countries since 2017. This will help avoid duplication of efforts and enable efficient use of resources. The reason why RCC Lomé/BOAD has been considered as host partner of the Alliance, right at the creation in 2016, was to facilitate better coordination in the region and ensure close collaboration with UNFCCC's secretariat.



Source: WAAC

The Alliance should be considered as implementing partner of the Capacity Building initiatives, because its members were the ones asking for it during the negotiations under UNFCCC process. Therefore, MoUs and a clear framework for RCC/Alliance collaboration needs to be established. And the Article 6 blueprint elaborated by the Alliance and being implemented now should be the basis for this collaboration.

**CMR:** *Article 6 comes with new and enhanced reporting obligations. What kind of assistance would be required in your member countries with regard to setting up and / or strengthening institutional arrangements, and alignment of national processes in areas like authorization, data collection, corresponding adjustments?*

**Ousmane:** This question is already addressed in the readiness blueprint that the Alliance has elaborated and is now being implemented through host country readiness plan that member countries have developed with the Alliance support. Gap analysis, Training activities, stakeholder mapping and engagement, peer to peer learning and provision of tools are key activities.

**CMR:** *What kind of support in your view would your members need to foster long-term mitigation strategy development?*

**Ousmane:** First of all, technical support for feasibility studies is needed in this respect. Also, we need to facilitate the acquisition of tools, and the setting up of infrastructures for GHG accounting and MRV systems. Finally, resources for stakeholder consultation and engagement are lacking in many member countries.

**CMR:** *Ousmane, thank you very much for your time.*



Source: WAAC

### **Ousmane Fall Sarr** (middle)

Ousmane Fall Sarr has been coordinating the work of the West African Alliance on Carbon Markets and Climate Finance since 2017. At COP22 in Marrakech, West African negotiators to the UNFCCC initiated the Alliance with the goal of enhancing the position of West African states to participate in market mechanisms. By setting up a permanent regional structure with a Secretariat in Dakar, the Alliance aims to enhance the position of West African countries to participate in international carbon markets and improve access to result-based climate finance for NDC implementation.

Find out more at  
<https://westafricacimatealliance.org/>



Source: WAAC

# PoAs – a Relic of the CDM?

## On the future of programmatic approaches under the Paris Agreement

by Thomas Forth, Advisor to BMWK and Member of the Management Board, the „Future of the Carbon Market“ Foundation

The „Future of the Carbon Market“ Foundation initiated two projects to promote the programmatic approach in Article 6 of the Paris Agreement this year. Both projects build on the CDM’s PoA (Programs of Activities) approach. Currently, programmatic approaches are only mentioned in the Paris Rulebook in a placeholder. With both activities, the Foundation intends to kickstart the discussion on the PoA

approach decision-making in the UNFCCC negotiations. The Foundation itself refrains from any positioning on the set of PoA rules required in the future to enable an open discussion process. At the same time, the implementation of ongoing PoAs and the development of new programmatic activities should receive greater attention from market actors to enable greater up-scaled mitigation approaches.



**Box: PoA Transition**

Two projects promoting the programmatic approach in Article 6 were initiated by the „Future of the Carbon Market“ Foundation in 2022. The first project takes stock of the still ongoing CDM PoAs and maps the experiences and expectations of the most important stakeholders. Here, Climate Focus, GfA Consulting Group, MÉXICO2 and Perspectives Climate Group are working together.

The second project takes a technical approach to revising the PoAs' CDM methodologies, benefitting from digitalisation progress for MRV elements and clarifying the NDC alignment in an operationalised manner. The UNFCCC Climate Secretariat is implementing this project.

The results of both projects will be presented at COP27 in Sharm El-Sheikh.

## A quick look back

Programs of Activities (PoA) developed from the almost stand-alone project approach of the CDM. They pursued different goals to expand the CDM's single project approach and to open up new fields of application for emission reduction measures. The focus was primarily on small-scale measures that were not so much part of the CDM project proponents' economic calculations at that time. Of course, this mainly seems to address the issue of profit orientation in the CDM, but one should not neglect the other hurdles presented by the organisational and technical challenges of implementing such activities. The introduction of the PoA approach was intended to introduce separate structures and processes to the CDM in this regard, which in turn were to facilitate the development of neglected mitigation potentials.

This approach, introduced at the peak of the CDM during the first commitment period of the Kyoto Protocol, has been successful despite the collapse of demand for CDM emission reduction certificates (CERs). A major achievement of the PoA approach was the promotion of mitigation types that built on the concept of suppressed demand, especially in the areas of cooking, drinking water treatment and local energy supply, all of which were indispensable for many local communities. In addition, the PoAs tended to even out regional differences in CDM use, in particular benefiting individual African countries though not the whole continent.

## PoAs also characterised by shortcomings of the CDM

After this positive review of the PoA approach, its shortcomings must also be addressed if one is to consider further developing the approach under the Paris Agreement. The fundamental criticism of the CDM is the excessively long crediting periods and the excessively long validity of the original baseline, which reverses the initial additionality of mitigation measures relatively quickly. This, among other criticisms, is the crux of the CDM under the Kyoto Protocol, which allowed international mitigation services as substitutes for national mitigation efforts by some industrialised countries in the KP Annex I group; in other words, a relatively small group of buyer countries.

## Pressure for Change

With the new requirements of the Paris Agreement and the Article 6 rulebook, the crediting periods are now significantly shorter, in principle providing for a 5-year period with two renewal options, i.e., a maximum of 15 years instead of 21 years, and offer considerably improved review options for the respective crediting period renewal. In the case of PoAs in the CDM,



Towards inclusiveness: capacity building will improve participation opportunities and can make competition fairer.

Source: World Bank / CDCF

crediting periods were envisaged that allowed individual programme activities (CDM programme activities, or CPAs) of up to 21 years over a period of 28 years to start after registration of the entire PoA programme; at maximum, this allows for 49 years of CERs issuance.

This also makes it clear that the PoAs successfully implemented so far under the Kyoto Protocol would still have had a long-term possibility of use. And it also makes it particularly clear that, even in cases of basic needs activities over the next 50 years, no real progress is anticipated in the CDM-PoA approach, which not only contradicts climate change policy transformation but also many Sustainable Development Goals (SDGs). However, this will not actually happen now due to the paradigm shift to the Paris Agreement and the CDM transition decisions of COP26 in Glasgow.

Obviously, this is a problem for the ongoing PoAs as UNFCCC will, in principle, have to decide on new rules for their continuation. However, relying on the CDM transition rules of

Glasgow, the new requirements cannot be seriously circumvented for the entire first NDC period, even if formally possible. It is obvious that the old, long CDM crediting periods do not help implementing countries to get on a 1.5-degree development pathway as quickly as possible and any delay in improving the PoA approach will undermine its further use.

The buyers, be they countries or companies, must also take into consideration that nothing is gained in terms of climate policy if they credit their NDC or carbon neutrality obligations with mitigation results at the expense of other countries' climate protection efforts. In this respect, a clear break from the CDM rules for PoAs is the only way forward. The crediting periods should essentially be based on the requirements of the COP26 Article 6 decisions. Deviations from standard crediting should be justified in terms of activity rather than theoretical design. Deviation might become likely with the differentiation along removal activities.

The historical rationale for introducing the PoA concept (lower transaction costs) is also becoming obsolete. As buyers are expected to pay higher prices for international mitigation services, this will unlock potentials that were previously too costly, thus allowing for significantly more profound changes in the implementing country (a term I prefer to 'host countries'). Each implementing country must now consider whether it actually needs the low-cost mitigation potentials to meet its own NDC commitments and must therefore decide which measures it wants to use international mitigation for to support its own LEDS („low emission development strategy“), its economic and societal transformation and the long-term goal of balancing emissions and removals.

This requirement also makes it clear that the programmatic approach should be integrated into the implementing countries' long-term strategy in the future. Here, countries can determine how and to what extent mitigation outcomes can be used for international transfers (ITMOs), becoming part of their supply strategy on the international carbon market. The PoA approach can thus become a game changer for implementing countries, shifting to a pro-active role providing orientation for buyers looking for ITMOs and/or non-authorized mitigation outcomes in the knowledge that using non-authorized results, perhaps in the form of 'contribution claims', requires further clarification on the international carbon market.

As just mentioned, a fundamental change in the PoA approach must allow implementing countries to play a much stronger creative role. The PoA approach, like Article 6, faces the challenge of ensuring that implementing country mitigation potentials are not flogged as 'low hanging fruit' on international carbon markets. Again, a short look back: this is an issue that did not exist under the CDM, although what the transformational contribution of CDM projects

would have been to implementing countries might have been a reasonable question under the Kyoto Protocol. However, this only occurred in a few cases, for example through the levying of fees and taxes or the establishment of dedicated approval criteria. Overall, this stronger role would require implementing countries to take a fundamental and vigilant interest in how they might benefit from Article 6 and the international carbon market by aligning the sale of ITMOs with the economic priorities of their long-term climate strategy.

## Adjusting to the Paris mechanisms

The international Article 6 discussion to date has revolved primarily around the issue of corresponding adjustments to the national emissions balance sheet of the implementing country. It is important to avoid any form of double counting of reduction results through correct double-entry bookkeeping by the participating countries or companies. This issue has been sufficiently clarified by the Article 6 decisions made in Glasgow.

In the case of mitigation results for the target fulfilment of NDCs of other states, mitigation obligations in other global mitigation systems such as CORSIA or claiming contributions to climate neutrality (voluntary obligations of states, companies, and other organisations), this is simply indispensable. Since the selling states (implementing countries as the primary market and therefore of political relevance for the global climate) are just beginning to develop their international cooperation strategy on the carbon market, respect is essential to support them on this path. Bypassing their sovereignty and counting non-authorized mitigation outcomes against voluntary climate neutrality targets or offset targets would be disrespectful and decidedly short-sighted in terms of getting every country to take more climate action as

envisioned by the architecture of the Paris Agreement. The article on offsetting business travel by the German government shows how to deal with this challenge in the transition period (cp. „How to buy Art. 6.4 credits?“ elsewhere in this issue).

However, in order to move beyond the dilemma of the lack of willingness to assure corresponding adjustments – or, viewed differently, the mismatch between increasing demand and lack of supply – current demand must be integrated into cooperation strategies with the implementing countries. This includes participation of market actors in capacity building activities. It is evident that the demands the Paris Rulebook places on Article 6 mechanisms can only succeed if implementing countries are clear on their perspective with regard to using Article 6. Having decided in Paris and more recently in Glasgow that carbon market mechanisms should become an integrated element of the more ambitious architecture of the Paris Agreement, it is obvious that states participating in Article 6 must play an active role so that companies can be embedded and must also participate in capacity building as much as they can.

## Competitive risks and inclusiveness

However, it would be wrong to exclude the competitive logic of the market for the international carbon market. Capacity building will improve participation opportunities and can make competition fairer. In the transition period, the dangers of quick deals must be averted. Competition under the current low demand for international mitigation outcomes may tempt supplier countries to sell their mitigation potential below value and not channel financial flows into relevant future investments for their long-term strategy.

This risk of a „race to the cheapest“ can be exacerbated by the demand side, be it companies or countries. The only way to counter this tendency is to ensure pricing transparency, which, by calculating the opportunity costs of a seller state, provides a basic yardstick for assessing international abatement activities. This can prevent price dumping bids. Nevertheless, it is not possible to completely ensure fair, competitive circumstances for the seller states. Consequently, those who develop their strategies later and can submit cooperation offers will not be able to benefit from overall demand that is still too low.

The lack of demand raises the question of what benefits the international carbon market and Article 6 offer over shorter rather than longer periods of time, directed at those who want to use Article 6 to increase global ambitions, especially those of the implementing countries. First, an aggressive supply strategy will increase pressure on buyer countries. A viable form of cooperation that does not rave about unfinanceable large-scale transformations or get lost in isolated stand-alone projects like the CDM can then be found for the Article 6 market through concrete programs, PoAs, outlining the implementing country’s own efforts and what the purchase of ITMOs will then be used for; relevance requires feasibility.

Nevertheless, to promote inclusiveness among all countries now and avoid repeating the mistakes of the CDM’s regionally uneven distribution, much more comprehensive institutional capacity building is needed in implementing countries. The existing UNFCCC framework for the CDM PoAs thus needs to be fundamentally changed in many places.

## Working out the future benefits of PoAs

The international debate on Paris-compatible market mechanisms took many more years than desirable until the Paris Rulebook was concluded in Glasgow. Provisions allowing for the up-scaling of mitigation performance were largely sidelined in order to achieve consensus on core decisions first. The project-based approach of individual investments will still be possible, but its potential will disappear once implementing countries have developed their strategies. It does not follow that individual

investments cannot be the subject of mitigation outcome transfers. On the contrary, individual investments (not as stand-alone projects) will be integrated into the long-term strategy, which should also include the parameters for allocating mitigation outcomes.

This simplifies project implementation in terms of identification, transaction costs and implementing country approval. The baseline and benchmarking options adopted in Glasgow would be incorporated into these strategies. Standardisation processes and automation could unfold their effectiveness based on the



**Basic needs: Programmes addressing suppressed demand in LDCs/SIDS will be privileged.**

Source: KfW Bildarchiv/photothek.net

strategic decisions of the implementing country. In principle, the programmatic approach here allows targeted areas for international cooperation to be identified without the need for full quantification of the NDC. A step-by-step approach to starting using international market mechanisms based on the Paris Agreement is realistic.

Overselling as a risk to implementing a country's NDC achievement is often used as an argument against the transfer of mitigation outcomes with corresponding adjustments. This leads to self-paralysis. The test of additionality of measures and baseline determinations provide a good basis for the distribution issue of shared mitigation outcomes. This has nothing to do with the sharing logic of the CDM, which argued that the measures could not have been achieved without the CDM framework for claiming all CERs on the part of the buyer – to the extent that they were needed by the buyer. Under the Paris Agreement, implementing countries are in fact required to claim their share of joint mitigation actions in terms of creditable mitigation, too. With the PoA approach, they can switch much more easily to a bidding strategy for joint mitigation services („cooperative approaches“).

## Next steps

The COP26 decisions have created a privilege for using the PoA approach in selected areas of application (cp. paras 31b and 74 of the Glasgow decision). This relates to the potential uses of Article 6 for LDCs/SIDS, especially with a view to ensuring the concept of „suppressed demand“ for future Article 6 uses. PoAs oriented to „basic needs“ therefore have it easier. A starting set of PoAs can be defined based on updated PoA methodologies, transition declarations of ongoing PoAs and assurances of corresponding adjustments.

Exactly how this might be achieved can be discussed on the margins of COP27 in Sharm El-Sheikh. Having already presented parts of the work in September this year in Libreville at the African Climate Week in Gabon and at the New York Climate Week, the presentation of the Climate Secretariat's methodology and reporting by CF, GfA, Mexico2 and Perspectives will provide opportunities for deeper deliberations at COP. There is already room to think about initial PoA piloting under Article 6.2, and a later application perspective under Article 6.4 should also lead to consideration by the Supervisory Body and CMA.

### Further information

Find out more about the work of the foundation's activities at

<http://www.carbonmarket-foundation.org/home>

# Transforming Carbon Markets

## Design options and cases of transformational impact for NDC ambition raising

by Karen Holm Olsen and Susanne Konrad, UNEP Copenhagen Climate Centre; Stephan Hoch, Juliana Kessler and Axel Michaelowa, Perspectives Climate Research

A transition to sustainable development and net-zero greenhouse gas emissions is key to achieve the temperature limits established by the Paris Agreement and the global sustainable development goals (SDGs) agreed in the 2030 Agenda. To explore how voluntary use of carbon market approaches backed by Article 6 of the Paris Agreement can contribute to transition pathways and transformational impact for the global goals, the German Environment Agency (UBA) commissioned UNEP Copenhagen Climate Centre (UNEP CCC, formerly the UNEP DTU Partnership) in collaboration with Perspectives Climate Research and First Climate to carry out the research project „Transformation & Article 6: Strengthening the transformative effect of market approaches under the Paris Agreement“ (2020-21).

### Study aims and methodology

The study explores how transformational change can be promoted through Article 6 cooperation, comprising both Article 6.2 cooperative approaches and the emerging Article 6.4 mechanism, the successor of the Clean Development Mechanism (CDM). The key guiding question is „How can Article 6 cooperation in the Paris Agreement be designed and applied to enable transition pathways and

transformational impacts for net zero greenhouse gas emissions and sustainable development?“. The study follows six methodological steps in an iterative process including a comprehensive review of transformational change literature, interviews, analysis, comparative case studies and a synthesis of results.

This article presents a summary of the key results of the research project for which a final report has recently been published. The report is based on several more detailed, unpublished technical research papers and consultations that investigated more specific research questions.

### Defining transformational change for Article 6 cooperation

Understanding transformational change builds on a diverse and fast-growing body of scientific and applied literature focused on conceptual and empirical studies of sustainability transition, planetary boundaries and social perspectives (TWI2050 2018; IPCC 2018). In general, definitions of transformational change share a common focus on system change, complementary to but different from incremental change and reform, which involves interrelated structural

changes to economic, cultural, technological and institutional ways of doing things, engaging multiple actors at multiple levels (GIZ 2020).

The report tailors a definition transformational change specifically to the carbon market context based on a comprehensive literature review and interviews with four leading financial institutions and mechanisms (EBRD, FMO, TCAF and KliK). The proposed definition of transformational change for Article 6 cooperation is shown in Figure 1:

**Figure 1:** Definition of transformational change for Article 6 and its characteristics

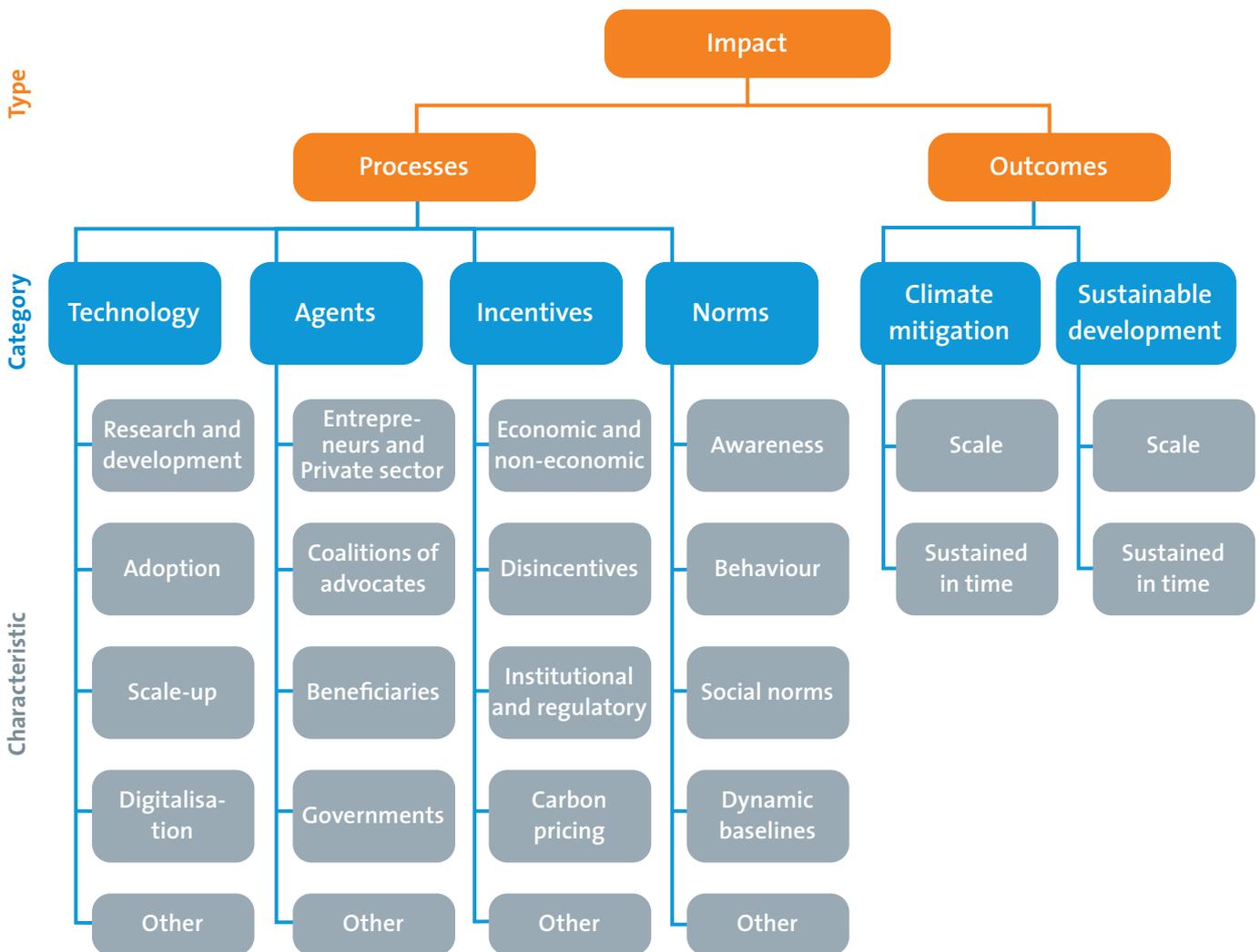
<p>A fundamental, sustained change of a system that ends established high-carbon practices and contributes to a zero-carbon society, in line with the Paris Agreement goal to limit global warming to 1.5–2°C and the United Nations Sustainable Development Goals</p>	<p>Large scale, system-wide impacts, driven by large-scale outcomes or a multitude of smaller-scale changes</p>
	<p>Sustained, long-term outcomes that reinforce zero-carbon practices while avoiding carbon lock-in and dependence on fossil fuels</p>
	<p>A dynamic and adaptive process that makes use of emerging windows of opportunity to further increase countries' climate and sustainability ambition (e.g. calls for green recovery packages in the context of the COVID-19 pandemic; low oil and gas prices as an opportunity to phase out fossil fuel subsidies)</p>
	<p>A clear long-term perspective in terms of rendering technical and economic systems more robust or resilient (e.g. through an improved approach to internalisation of risks) and sets clear milestones and incentives for decarbonisation/ low-carbon development and climate neutrality</p>
	<p>Up-scaled direct investments in low-carbon technologies and green infrastructure (including R&amp;D) by governments as enablers/drivers of transformation</p>
	<p>Digitalisation can be a contributing factor to transformation, e.g., by allowing to reduce travel intensity and enabling real time, robust MRV of technology performance as well as digital payments, particularly important in the context of Article 6</p>

Source: Own illustration, UNEP CCC, PCR & FC.

The proposed definition takes the Initiative for Climate Action Transparency (ICAT) Transformational Change Methodology (ICAT 2020) as its starting point and adapts it based on research findings (see Figure 2 below). The resulting new definition adapted to Article 6 focuses on key characteristics of transformation specific to carbon markets, including ‘Digitalisation’, ‘Private sector and Governments’, ‘Carbon pricing’ and ‘Dynamic baselines’.

The close links between transparency of nationally determined contribution (NDC) implementation and Article 6 requirements for monitoring, reporting and verification (MRV) of mitigation outcomes (MOs) support drawing on the ICAT methodology for a tailored transformational change definition for Article 6. Furthermore, the ICAT Transformational Change Methodology with its integrated focus on mitigation and sustainable development outcomes

**Figure 2:** Taxonomy of transformational characteristics for Article 6 activities



Source: Adapted from the ICAT TC methodology (2020)

aligns well with the overall objectives of Article 6 to raise NDC ambition by delivering mitigation outcomes and promoting sustainable development.

## Case studies of transformational activity design in three countries

The case studies demonstrate in practice how the conceptual definition of transformation for Article 6 can be applied to generate insights at country, sector, and activity levels: The country and sector case studies analysed in the research project comprise Morocco's waste sector, Costa Rica's transport sector and Pakistan's energy sector. The comparative case study analysis is conducted at three levels, namely at NDC level (NDC and SDG goals and ambitions), sector level (sectoral goals and ambitions) and activity level (transformational characteristics of pilot activities based on the taxonomy).

Analysis of the case studies follows an analytical framework that explores how the characteristics of transformational change can be traced across the three countries. Key findings from these case studies can inform the design of Article 6 activities:

- The activity level relationship to the NDC needs to be clear to specify the level of mitigation outcomes that the host country can export without overselling and endangering NDC achievement. The Moroccan activity is considering applying an investment test in addition to target additionality. The conceptual activity design in Pakistan foresees the use of a carbon price threshold for additionality testing. Costa Rica is currently developing positive lists which include transformational change as an explicit criterion.
- The Article 6 activities in Morocco and Pakistan could both potentially generate mitigation outcomes at scale: In Morocco, the organic waste-to-energy activity could be further upscaled by expanding investments in anaerobic biodigesters in other Moroccan cities. In Pakistan, the policy application to integrate Article 6 into competitive power auctions can be expanded to other sectors such as the industry sector. The Costa Rica case study is a micro-scale activity with multiple SDG benefits. Mitigation outcomes at scale would be reached only if the activity is replicated in several cities. Mitigation outcome overselling risks are considered through stringent baseline setting (Pakistan) or the sharing of mitigation outcomes (Morocco).
- The Costa Rica case study shows that low-tech solutions such as promoting biking and walking could play a larger role in Article 6 than in the CDM. Low-tech solutions entail many transformational aspects beyond mitigation such as important, locally relevant adaptation and sustainable development benefits. However, this is not only a design question, but also depends on buyers' willingness to pay higher prices for high quality

carbon credits that deliver strong additional impacts but are often more expensive in terms of mitigation cost per tCO<sub>2</sub>e. Transparency on these additional impacts beyond carbon is crucial to persuade potential buyers to pay higher prices. Smart MRV solutions that make use of enhanced digitalisation can further ease the burden of monitoring decentralized interventions.

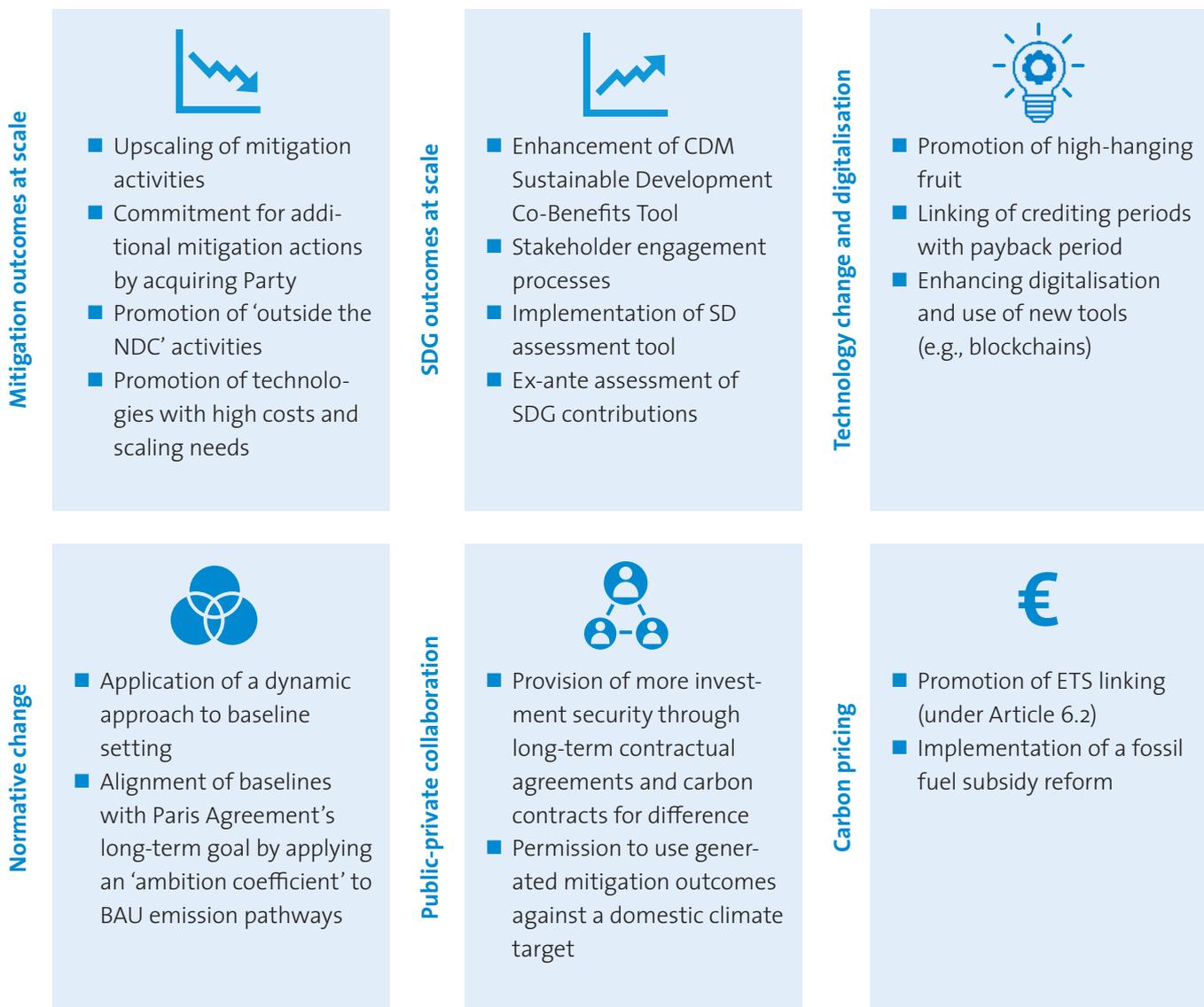
- While all Article 6 activities build on the national priorities expressed within the SDG agenda, safeguards against negative impacts on SDGs do not play a pronounced role yet, even though these represent an important progression of the Article 6 rulebook compared to the Kyoto Mechanisms. The intention to develop such safeguards has been raised by the Pakistan Ministry of Climate Change. Thus, the analysis reveals that further emphasis should be put on the development of safeguards at the activity level, although it remains unclear how these will be operationalized under the United Nations Framework Convention on Climate Change (UNFCCC).
- All practical Article 6 pilot activities have been designed prior to the Article 6 rulebook agreed at COP26 in November 2021 and were at an early stage in their project design. Hence, no firm conclusions on transformational impacts could be drawn, but may need to be reassessed once activities have moved to implementation stage.

The evidence gathered is used to inform recommendations regarding transformational conceptual options and incentive structures in the practical implementation of Article 6 activities.

## Conceptual options and incentives to promote transformational change

Based on the methodological framework and case study analysis introduced above, several conceptual design options for how carbon markets can directly contribute to transformational change have been identified for six different characteristics: (1) mitigation outcomes at scale, (2) SDG outcomes at scale, (3) technology change and digitalisation, (4) normative change in the sense of alignment with net zero strategies, (5) agents of change in terms of an innovative public-private cooperation model and (6) incentives for change in the form of ambitious carbon pricing policies. Figure 3 below provides an overview of the different options identified under the transformational change characteristics.

**Figure 3:** Overview of options that unlock transformational change through Article 6



Source: own illustration, UNEP CCC, PCR and FC.

The outlined options for unlocking transformational change may be adopted by project developers and put into practice by governments, host and buyer countries as well as non-state actors. The international community can take an active role in promoting these by implementing incentives, including demonstrating a willingness to pay higher carbon prices for corresponding transformational impacts of Article 6 activities beyond mitigation.

The conceptual options shown in Figure 4 above need to be translated into an incentive structure that considers the distinct roles of key stakeholders at both international and national levels. In this manner, transformational change can be induced through carbon markets to enable the achievement of the 1.5° target and the 2030 Agenda for Sustainable Development. Two types of incentives are proposed:

- A regulatory incentive is the generation of positive lists of activities. They can either be adopted by host countries or by buying entities to promote specific activities and technologies which are in line with their specific interests and needs. Another regulatory incentive which could be mandated by an intergovernmental process would be to only allow buyer countries to count international credits towards their NDC, if their own NDC targets are aligned with a 1.5°C or 'well below 2°C' pathway. Moreover, mitigation activities that are not compatible with countries' Long-term Low Emission Development Strategy (LT-LEDS) or the Paris Agreement's long-term targets could simply be excluded from Article 6 cooperation.
- A monetary incentive is to enable pricing of ITMO attributes such as an SDG impact premium or monetisation of positive effects on other planetary boundaries beyond climate such as biodiversity. Such premium payments and potentially further incentives, e.g., for introducing first-of-its kind technologies reward strong transformational impact beyond mitigation and therefore contribute to enabling higher-cost activities.

## Key messages for Article 6 cooperation to promote transformational change

Transformational change is essential to achieving the goals of the Paris Agreement but has not been achieved in practice widely. One barrier is that transformational change has varying meanings in different expert communities. The Article 6-specific transformation characteristics are an attempt to advance a shared understanding that can guide further operationalization in practical carbon market activities that deliver impacts beyond mitigation.

Core carbon market principles such as additionality and stringency in baseline setting need to be reconsidered so that the Article 6 can serve as an instrument to achieve and enhance NDC targets. Article 6 activities will need to be additional not only to business-as-usual (BAU) but also to existing policies and potentially to planned policies and measures laid out in countries' NDCs and LT-LEDS, unless these are defined as being conditional on international support. We argue that to be transformational, activities need to be additional to at least the unconditional NDC targets to safeguard against overselling by the host country. An important incentive would be the development of conservatively established positive lists by host countries or buying entities for automatic additionality. The transformational change concept could itself become an additionality criterion for establishing positive lists.

Stringency in baseline setting is an important principle in the Paris Agreement Article 6 rule-book to ensure environmental integrity and contributions to host country NDC achievement. We recognise the need for making baselines more ambitious and dynamic. The operationalization would be most simple through 'ambition coefficients' that decline over time and can be plugged upon existing baseline methodologies. Most importantly, we argue to consider differentiation, based on the application of the common but differentiated responsibilities and respective capabilities (CBDR-RC) principle in such a dynamic baseline approach, which would imply that most countries would increasingly be limited to generating units from emission removals (nature-based solutions or negative emission technologies) after 2030, whereas low-income countries with limited historical responsibility and per capita emissions could still sell selected emission reductions longer.

The stringent application of core carbon market principles will have an impact on the carbon credit volume, and therefore the supply-demand dynamics in the global carbon market. This means that ITMO buyers will need to show a willingness to pay adequately high prices for 'high-hanging fruit', i.e., mitigation outcomes from carbon market activities that are more expensive than the least-cost options that host countries should achieve increasingly with their own domestic resources. It is important to note that Kyoto carbon markets had the objective to mobilize the cheapest emission reductions, whereas under Article 6, low-cost mitigation should be achieved domestically, and international carbon markets should mobilize high hanging fruits. This is a fundamental inversion of the incentive structure that needs to be reflected in commercial agreements, most importantly a willingness to pay higher prices for more limited volumes of high-quality mitigation outcomes.

In conclusion, the study finds that from a conceptual point of view, carbon markets can be strong drivers of transformational change, provided certain conditions are met. These include quality principles defined in the Glasgow decisions, e.g., relating to baselines below BAU, but also willingness to pay adequate carbon prices for truly transformational activities. To realise this potential, both the rules and carbon market practices need to embed transformational design to align with the urgency and ambition of the Paris Agreement.

The upcoming COP27 has the crucial task of making progress on technical aspects related to operationalizing the principles defined in the Article 6 rulebook. While the Glasgow rulebook is ambitious, the many technical rules and procedures that operationalize all relevant elements of Article 6 still need to be worked out in further detail. This presents an opportunity in Sharm El-Sheikh and beyond to embed transformational design into the technical decisions ranging from

how to update existing methodologies to fundamental issues of setting up carbon market infrastructure (e.g. registries) allowing for NDC ambition raising and promoting sustainable development.

#### Further information

The final project report „Promoting transformational change through carbon markets. Strengthening the transformational impact of carbon market cooperation under Article 6 of the Paris Agreement“ can be downloaded at

<https://www.umweltbundesamt.de/publikationen/promoting-transformational-change-through-carbon>

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# How to buy Art. 6.4 credits?

## German Federal Government purchases Art. 6.4 credits for voluntary compensation of business trips

by Marcel Kruse, German Environment Agency

Since an agreement on the Art. 6 rules of the Paris Agreement (PA) was reached in Glasgow, Art. 6.4 compatible credits can now be purchased, even though they might take time to be issued. The Federal Environment Agency (UBA) launched this year's tender procedure to procure Art. 6.4 compatible carbon credits for voluntary compensation of the German Federal Government's business trips. Therefore, new quality requirements have been defined to ensure that double counting is avoided. As a result, credits representing emission reductions realised before 2021 are no longer eligible for this or any related compensation measure by the German government.

The voluntary compensation approach is embedded in a mitigation strategy to become a climate-neutral federal administration by 2030. To this end, the German Federal Government will only use carbon credits of the highest environmental integrity.

## Avoid, Reduce, Offset

As has been the case every year since the start of the 2014 parliamentary term, the German Federal Government offsets the climate impact of its employees' business trips. The German Federal Government is making an additional contribution to climate protection with this measure, which follows the principle of „first avoid, then reduce, then offset“ and covers the 2021 emissions.

Until last year, when 2020 emissions were compensated, the UBA, which handles the offsetting on behalf of the German Government, procured almost two million CERs mainly originating from cook stove or household biogas projects registered under the CDM. The UBA developed a set of quality criteria in order to identify high-quality climate protection projects that are implemented in underrepresented regions, go beyond pure CO<sub>2</sub> reduction and provide so-called co-benefits. Projects have been evaluated according to these criteria and selected credits have been both purchased and cancelled.

## Which greenhouse gas emissions are offset?

Offsetting business trips takes air travel and trips by company car into consideration. The Federal Government purchases „green tickets“ for rail travel, which are not currently offset.

Emissions from flights are broken down into individual sections of a journey. By breaking down flights into parts, the most probable aircraft type for all sections of the journey and the seat categories are taken into account in order to make the calculations more accurate. A fairly important component is the inclusion of the additional climate affecting „non-CO<sub>2</sub> effects“.

The Radiative Forcing Index (RFI) is used to calculate air travel emissions according to current scientific knowledge. This is based on  $RFI = 3$ , i. e., CO<sub>2</sub> emissions are multiplied by a factor of three. The total climate impact of air travel emissions are determined from all these data.

Emissions from car journeys are determined based on fuel consumption combined with emission factors for different fuels.

## Offsetting in line with Article 6

Since the Paris Agreement (PA) came into effect at the beginning of 2021, the purchase of emission reduction credits to offset business trip emissions has had to be realigned to meet the requirements of Art. 6 of the PA. Key elements in this context are avoiding double counting as well as contributing to sustainable development and raising ambitions. In order to address these elements, the current procurement supports projects that are already compatible with the rules of Art. 6. Thus, credit suppliers

- must submit a host country attestation or a Letter of Intent from the host country according to Art. 6.2 to prove that the project has been authorised by the host country and that the emission reductions represented by the carbon credits offered will not simultaneously be counted towards the host country or third country's nationally determined contribution;



- must undertake not to use the emission reductions offered for any other purpose, in particular not to offer or sell them elsewhere or to register them with other certification systems;
- must guarantee that no other person will make a corresponding offer;
- must provide the UBA with documentation of the host country's report information in its Biennial Transparency Report on corresponding adjustments for credits offered as soon as possible;
- must undertake, by submitting the bid, to apply for project registration as Art. 6.4 project activities within the deadlines specified by the CMA;
- in the event of non-registration as an Art. 6.4 project activity or non-issuance of the credits offered, must provide credits generated from comparable projects registered under Art. 6.4.

In addition, only projects that

- are registered under the CDM after 31 December 2015 or at least classified as so-called temporary measures by the CDM Executive Board;
- have achieved verified (in accordance with the CDM regulations) emission reductions realised after 31 December 2020 and
- meet the requirements for a transition according to Art. 6.4

are eligible.

Besides these new requirements, the established and proven quality criteria of last year's procurements continue to apply.

## Challenging aspects of being compliant with the PA

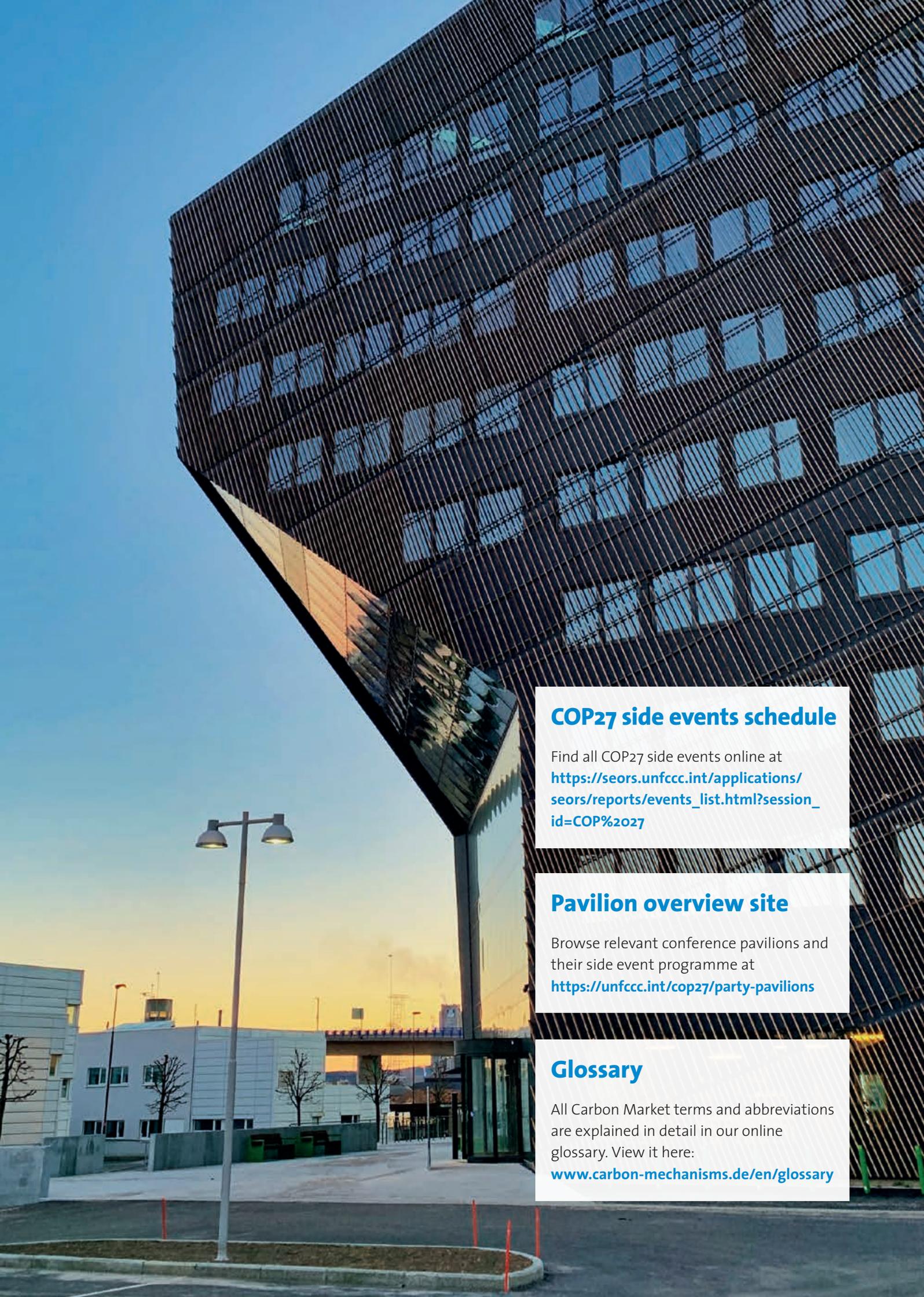
In light of this measure, all stakeholders, especially project owners/credit suppliers and demanders are facing challenges if they want to be in line with Art. 6 of the PA. The German Federal Government is seeking credits that are compatible with the rules of the PA. Project owners/credit suppliers aim to provide eligible credits. Given the requirements of this measure, no Paris compatible credits can be submitted to the UBA at this point in time. Thus, only emission reductions that are already verified will be purchased in the current procurement period. Credits issued later on representing the verified emission reductions must be cancelled immediately and proof of cancellation must be submitted to the UBA. Despite these issues, the German Federal Government has realigned compensation of its business trips and thus fulfils its role model function of actively protecting the climate under the rules of the PA.

### Further information

For detailed information on the compensation scheme, please go to [https://www.dehst.de/EN/climate-projects\\_maritime-transport/business-trips-of-the-german-government/business-trips-of-the-german-government-node.html](https://www.dehst.de/EN/climate-projects_maritime-transport/business-trips-of-the-german-government/business-trips-of-the-german-government-node.html)



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## Pavilion overview site

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## Glossary

All Carbon Market terms and abbreviations are explained in detail in our online glossary. View it here: [www.carbon-mechanisms.de/en/glossary](http://www.carbon-mechanisms.de/en/glossary)