CARBON MECHANISMS REVIEW

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Dear Reader!

„How can we innovate to make a difference as a matter of urgency, and on a scale never before achieved", this is the question at the heart of the Innovate4Climate conference, which takes place in Bilbao/Spain next week. The international forum brings together climate finance, climate investment and carbon markets experts in order to exchange ideas and best practices and to learn from one another for successful joint climate action. CMR therefore takes a look behind the scenes and explores motivation and concept of the gathering.

Taking up the I4C's opening plenary motto 'from innovation to delivery', we then report on a specific road to Article 6 implementation, in this case the one of the Republic of Zambia. Zambia is one of the focus regions of the SPAR6C programme, which supports preparedness for Article 6 cooperation in the fields of climate-related planning, governance frameworks, and mitigation activity development.

We then widen the focus again and take up the recent debate on the credibility of climate neutrality claims, portraying an initiative that developed a blueprint of the alternative 'contribution claim' model in a co-creative manner. Also in this issue, we analyse challenges for clean cooking programs under Article 6 and present latest research on how to adequately distribute the mitigation outcomes of carbon crediting activities.

Enjoy the read and, if you travel to Bilbao, have a successful conference!

Christof Arens, Editor-in-Chief

Wuppertal Institut

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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Scaling Climate Action

Innovate4Climate conference finally back from the virtual world

by Rachel Pekker, Advisor to BMWK

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From 23 to 25 May 2023, public and private stakeholders from all over the world will be coming together at the Bilbao Exhibition Centre in Spain for the biggest conference on carbon markets and climate finance worldwide: Innovate4Climate, or I4C for short.

In order to reach the goals of the Paris Agreement, limit global warming to 1.5 °C and reach net zero greenhouse gas emissions, we must transform and decarbonise our economies: This, however, will not be an easy task, nor will it be free of costs.

We know that large investments are needed to finance the transformation towards carbon neutrality and climate resilience. We need to win over public and private actors to decarbonise our societies and invest in green solutions. While public finance is very important for countries to achieve their Nationally Determined Contributions (NDCs), it will not be sufficient. To mobilise climate finance, catalysing private finance and redirecting financial flows away from carbon intensive investments is key. Carbon markets and the voluntary carbon market can also play a key role in this regard.

With the decisions regarding the cooperative approaches under Article 6 of the Paris Agreement at COP26 and COP27, their implementation can finally begin. Article 6 also aims to bring together the goals of raising climate action ambition and promoting sustainable development goals.

Unfortunately, even if current NDCs are fully reached, the emission reductions will not be sufficient to achieve the goals of the Paris Agreement. Therefore, two questions in regard to private finance need to be addressed: how can the private sector help countries achieve their NDCs, and how can countries go beyond their climate plans to date so we can collectively achieve the goals of the Paris Agreement?

I4C 2023

When? 23 May – 25 May 2023
Where? Bilbao Exhibition Centre, Bilbao Spain

Theme 2023:
"Scaling Climate Action in a Changing World: Innovation, Investment and Impact"
www.innovate4climateconference.com

Past I4Cs

2017 – Barcelona, Spain: I4C launched as the successor to Carbon Expo
2018 – Frankfurt
2019 – Singapore
2021 – virtual I4C
2022 – virtual I4C

Against this background, I4C has great potential as a forum for innovative climate concepts, focusing on bringing together climate finance, climate investment and carbon markets. It will help to shape the future of carbon markets and is an operational instrument to unite public and private funding for climate protection.

Exchanging ideas and best practices and learning from one another are key for successful joint climate action – I4C builds on this. It addresses the need to work with public and private stakeholders internationally to reach our climate goals.

What is the Innovate-4Climate conference?

I4C is the annual conference on climate finance, climate investment and carbon markets organised by the World Bank Group, with Germany and Spain both contributing to and supporting I4C since its launch in 2017.

Some might still remember the predecessor to I4C, namely Carbon Expo, which was held from 2003 to 2016 and was known as the flagship event for stakeholders in carbon markets. Then came the Paris Agreement and with it a new era. When the Paris Agreement entered into force, it also had great implications for carbon markets. In order to promote solutions that could help limit global warming to 1.5°C and bring

together leaders and practitioners for climate innovation and climate action, a new conference concept with a more holistic approach was created: I4C.

Today, the focus of I4C is on sharing practical examples and providing guidance on how climate action can be accelerated. It shows how climate innovations can be linked with the financing needed. A particular emphasis is still on the question of how carbon markets, carbon pricing and Article 6 of the Paris Agreement can help to achieve these goals.

The conference benefits from the World Bank's international expertise and contacts in carbon markets and climate finance. It also takes advantage of the potential that can be gained from holding other World Bank events on carbon markets and climate finance back-to back with the conference, such as annual Partnership for Market Implementation (PMI) events, facilitating the participation of some of the World Bank's client countries.

I4C has been immensely successful. Before the pandemic, it attracted over 1000 participants from over 74 countries to Barcelona (2017), Frankfurt (2018) and Singapore (2019). In its virtual format in 2021 and 2022, it was attended by almost 5000 and over 6500 people respectively from over 182 countries, making it even more diverse and surpassing the outreach of the previous years. I4C 2023 has a record 2500 registered participants planning to come to Bilbao, with more participants expected to register and follow the conference online.

Who is it for?

I4C is intended to be a dialogue platform for the public and private sectors, attracting governments, financial institutions, global institutions, businesses, civil society and media.

What does I4C entail?

I4C is a global exchange platform organised over three days. It is comprised of over 40 workshops which are the core element of the conference, fostering knowledge and technical exchange on climate-smart solutions in the four I4C pillars of markets, finance, policy and technology. There are also three high-level plenaries focusing on relevant climate action issues as well as a marketplace for public and private exhibitors to showcase their initiatives, providing a great place to network. The theme of I4C and the focused topics of the plenaries vary each year in light of recent developments.

Furthermore, the main event is accompanied by two side events on the day before the conference opens, one for journalists and one for young climate innovators to help develop the next generation of climate change professionals and give a voice to the younger generations, who are also invited join the rest of the conference.

I4C 2023 – So what can we expect this year?

This year the main theme of the conference is "Scaling Climate Action in a Changing World: Innovation, Investment and Impact", and the question asked is "How can we innovate to make a difference as a matter of urgency, and on a scale never before achieved?"

With over 2500 registered participants, the discussions promise to be diverse and interesting. Exchange on solutions and overcoming chal-

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lenges is reflected in the official programme, and discussions will also be fostered at the I4C marketplace, but ideas will also come up during the coffee breaks, lunches and other networking opportunities.

Every day will start with a **high-level plenary** to address a burning topic that will help reach the goals of the Paris Agreement: On the first day of I4C, BMWK Parliamentary State Secretary Stefan Wenzel will welcome participants to the conference at the official opening session. Afterwards, he will join other panellists at the first thematic plenary session, which will focus on "Stepping up climate finance: From innovation to delivery". The day two plenary will focus on "Carbon markets and the path to net zero: From potential to reality". Finally, on the last day the plenary will turn to discussing issues of inclusive and just transition and how to make climate action work for all.

All of the plenaries as well as a selected number of workshops will be streamed online and available to watch on demand, so that outreach can be extended well beyond those coming to Bilbao in person.

The core of this year's I4C will be **44 workshops** on various topics by a broad range of stakeholders, both public and private. They were selected from hundreds of workshop proposals submitted to an open call at the beginning of this year and promise a diverse and interesting agenda.

Each year, the German government and partner organisations showcase some of the initiatives and innovative ideas supported by the German government. This year, you will be able to join familiar faces such as the East and West African Alliance on Carbon Markets and Climate Finance, who will discuss the carbon market transition in Africa: CDM, Article 6 and private sector engagement. The Wuppertal Institute has joined forces with the VCMI for a session to discuss the role of governments in advancing high integrity voluntary carbon markets. Representing one of the newer programmes supported by the BMWK, the Supporting Preparedness for Article 6 Cooperation (SPAR6C) GGGI, Carbon Limits and GFA Consulting will present and discuss a newly developed Article 6 toolbox. But even if you cannot attend the workshops in person, some of the sessions will be available to stream online. I invite you to follow the BMWK workshop on engaging the private sector in NDC implementation: SPAR6C guides to develop and finance mitigation, Wednesday 24/05/2023 16:35 – 17:25 (CEST).

The full agenda of plenaries and workshops can be found here: Agenda | Innovate4Climate 2023


Source: gettyimages.de/LucVi

I4C in a new format: From in person to fully virtual to the new hybrid format

Initially planned as an entirely physical event, I4C had to adjust to new circumstances when the pandemic changed these plans. I4C should have seen stakeholders meet back in Barcelona in 2020, but after it had to be cancelled a series of digital exchange formats were implemented instead. In 2021 and 2022, I4C returned in a fully virtual format, as mentioned above, with greater outreach than the physical format ever had.

It has been four years since the last Innovate-4Climate conference was held in a physical format. What has been learned from these virtual years? Some aspects of I4C were hard to transfer to a virtual format, whereas others could be easily adapted. Undoubtedly, it is easier, cheaper, and more climate friendly to avoid travel and meet virtually. However, the pandemic also showed us that face-to-face exchange is important, especially informal exchange that can plant the seeds of impressive ideas that bear beautiful fruit. The soil for planting those seeds is more fertile when people can meet in person. The fully virtual I4C suffered from a lack of informal exchange, which is not easy to reproduce at a fully virtual event. On the other hand, accessibility and the greater outreach of the virtual format was a huge advantage compared to before the pandemic.

In 2023, I4C is back in a new format, combining the physical conference with hybrid elements. It is trying to combine the elements that were missing during the pandemic and capitalise on the great interest of the community in following the discussions online. That is why parts of the agenda such as the high-level plenaries and a number of different workshops will be available to stream for the first time in 2023, so that people who are unable to travel can attend and follow relevant discussions virtually.

It is great to see that the World Bank has taken the lessons learned onboard and is trying to adapt the conference accordingly. How the format will work and what challenges might remain or arise is yet to be seen. There will probably be further room for improvement and further adjustments might have to be made for next year's conference back in Frankfurt.

Zambia's Road to Article 6 Implementation

by Marshall Brown, GGGI; Ephraim Shitima, Ministry of Green Economy and Environment, Zambia; Malin Ahlberg, Ministry for Economic Affairs and Climate Action, Germany

As the world awaits the operationalization of the UNFCCC centrally managed mechanism for international carbon trading under Article 6.4 of the Paris Agreement, many countries are working hard to become more prepared to engage in transactions. Readiness activities include preparing the necessary institutional and governance frameworks, criteria for activity approval and authorization, strategies for market engagement, establishing registries and even shaping bilateral pilot transactions under an "Article 6.2 pathway".

Pilot transactions in countries like Ghana and Thailand have garnered much attention, and other countries are keen to further push forward the frontier of Article 6 trading. One such example is the Government of the Republic of Zambia, which sees the international carbon market as a potential lifeline to crowd-in private sector investment in the country's green growth and climate change efforts at a time when the overall investment environment is challenging. Based on recent remarks by Minister of Green Economy and Environment Eng. Collins Nzuvo, Zambia aims to become a proactive player in the Article 6 market and make full use of carbon finance for its development needs.[1]

Source: gettyimages.de/GCShutter

1 Press release from Zambia launch event. https://www.greengrowthknowledge.org/news/gggi-and-partners-hold-spar6c-program-launch-event-and-facilitate-strategic-dialogue-between

Mitigation priorities for Zambia include the structuring the financing of 3.4 GW of new installed energy capacities, decarbonization of its transport sector, reduction of emissions from the Agriculture, Forestry and Land Use (AFOLU) sector, especially deforestation and cattle. However, emissions reduction activities in these areas must be accomplished under difficult financial conditions, with high interest rates and exchange rate fluctuations as serious obstacles to be addressed.

SPAR6C

The German Federal Ministry for Economic Affairs and Climate Action (BMWK) is supporting Zambia to engage in international markets through the Supporting Preparedness for Article 6 Cooperation (SPAR6C) program. Implemented under the leadership of the Global Green Growth Institute (GGGI), SPAR6C supports government partners in Colombia, Pakistan and Thailand, as well as Zambia in several key areas of readiness:

- Medium and long-term emissions planning. This could include technical assistance for implementation and action planning of a country's Nationally Determined Contribution (NDC), Long-term Strategy (LTS) development, updates to the NDC, or other technical studies that might inform sectoral mitigation action identification and/or baseline and target setting.

- Governance framework development. This could include technical assistance to develop criteria for approval and authorization of mitigation activities for Article 6 transactions, recommendations for how to avoid overselling and maximize co-benefits, and support to shape institutions and develop standard operating procedures for government and private sector stakeholders involved in international carbon transactions.

- Mitigation activity development. This could include the development of pilot mitigation activities across the project, program or policy scales.

SPAR6C incorporates outcome-focused capacity building into all its technical assistance workstreams in a country, including for private sector stakeholders. The activities also extend to the academic and research sectors, incentivizing professors and students to undertake research that would link their areas of study or expertise to their country's international carbon market engagement through the Community of Practice for Article 6 Implementing Countries (CoP-ASIC), see also CMR issue Autumn 2022 (Vol 10. No. 3).

While SPAR6C consortium partners GFA Consulting and UNEP Copenhagen Climate Centre have been active in Zambia since August 2022, the program was officially launched at the end of March in a mission that included several high-level and technical-level dialogues. The successful mission was attended by SPAR6C consortium partners and BWMK representatives.

Traditional dancer handing over the key to the SPAR6C project to Minister Nzuvo, © Photo by J. Schnurr / GFA

Article 6 Governance in Zambia

A first core activity of the SPAR6C program is the development of the Readiness and Needs Assessment (RNA) for Article 6 Implementation. This assessment examines the existing foundation for implementation upon which Zambia can build. Validated by national stakeholders in a workshop hosted on 24 March, the RNA explains the governance setup for Article 6 in Zambia, with institutional anchor in an inter-ministerial working group, the Technical Climate Change Committee for Mitigation (TCC-MIT). Chaired by the Ministry of Green Economy and Environment (MGEE), TCC-MIT takes key decisions on mitigation planning, NDC coordination and approval, and importantly decides on the approval and authorization of Article 6 activities.

Equally important, supported by UNDP, the government has developed a concept for a comprehensive MRV system, which will be developed and managed by the Zambia Environmental Management Agency (ZEMA). The MRV system will enable different stakeholders, including private sector, to digitally share data relevant to estimate emission factors and mitigation activities. The system will measure the performance of mitigation measures aligned with the requirements of the Enhanced Transparency Framework and includes a registry for Article 6 activities and voluntary carbon market projects with a workflow to authorize transactions with a corresponding adjustment. ZEMA plans to have the MRV system operating by the end of 2023.

With support from SPAR6C, MGEE has prepared a draft carbon market framework. The framework defines a two-phased process through which proponents of potential Article 6 activities may request review and approval for authorization from TCC-MIT. The TCC-MIT is currently reviewing indicators to use in its assessment of mitigation activities as well as institutional arrangements for decision making and reporting of data. The country aims to have the carbon market framework finalized by June 2023.

Through its initial carbon market framework, the Government of Zambia's framework aims to safeguard environmental integrity and guarantee strong co-benefits while taking a proactive, learning by doing approach. The carbon market framework will be regularly reviewed and informed by practical experiences from its Article 6 activity development and implementation processes. Private sector and government agencies have already submitted dozens of mitigation activity ideas which will allow TCC-MIT and other government agencies to test and improve the institutional arrangements and legal frameworks which govern Article 6 implementation.

One such activity under consideration is the creation of a 25 MW biomass plant at a sugar production facility situated on banks of the Kafue river. Against this background, a delegation from MGEE, BMWK and the SPAR6C team visited the A6 opportunity at Kafue Sugar plantation. The project may not only generate electricity by installing 25 MW biomass boilers, it also envisages the creation of an out-grower scheme allowing two communities to participate in the sugar production business, creating approximately 2000 additional jobs.

Technical dialogue on energy and climate finance

Zambia's power sector is facing substantial challenges that require innovative solutions. The country currently relies largely on hydropower for generation, representing 91.1% of production in 2021 (ERB, 2022[2]), from sources located at the two main rivers, Zambezi and Kafue. However, the Zambezi river basin has experienced a significant decrease in precipitation leading to load shedding in 2023.

At the same time, Zambia's economy and related electricity demand is growing. CIG, a non-profit organization charged with the development of Zambia's Integrated Resource Plan (IRP), projects the electricity demand to increase by 130% by 2050 compared to today's levels. The IRP's least cost expansion plan illustrates both long- and short-term challenges. It foresees the need for an addition of 2,656 MW installed capacity by 2026 and further additions of another 1,598 MW by 2030, with investment needs estimated at USD 2,943 M by 2026 and a further USD 1,900 M by 2030.

Moreover, Zambia is facing a high cost of capital, making it difficult to finance renewable energy projects. According to the Bank of Zambia, the commercial lending rate in Kwacha, the local currency, is in the range of 25.7%. Dollar lending may be structured at 8–9% p.a. if sufficient access to foreign currency can be secured. Such high lending rates make it difficult to finance renewable energy projects, which are characterized by high initial capital costs, and low operational costs over a long lifetime. Also due to low electricity tariffs, Zambia's utility company, ZESCO, accumulated USD 3.5 B debts (corresponding to 15,8% of Zambia's GDP). This has two effects: First, based on ZESCO's debt

2 Energy Regulation Board, 2022, 2021 Energy Sector Report, ERB, Lusaka Zambia.

and weak debt to equity ratio, its capacities to invest into RE expansion are limited. Second, this indirectly limits investments by independent power producers (IPPs), which typically are required to sign power purchase agreements (PPA) with the state utility. Considering ZESCO's debt to equity ratio, a commercial bank may not be able to offer favourable loans to IPPs based on a related PPA.

On 29 March, MGEE and SPAR6C therefore organized a technical roundtable discussion on energy and financing issues with key stakeholders from government, private sector and non-government organizations. Chaired by MGEE, the dialogue conceived submissions from the financing sector including Development Bank of Zambia, Industrial Development Corporation (providing equity and mezzanine funding), Zambia Industrial Commercial Bank, Ministry of Finance, Ministry of Energy, ZESCO, CIG, GreenCo (an intermediary offtaker and service provider in the Southern Africa Power Pool (SAPP)) and Zambia's Energy Regulatory Board.

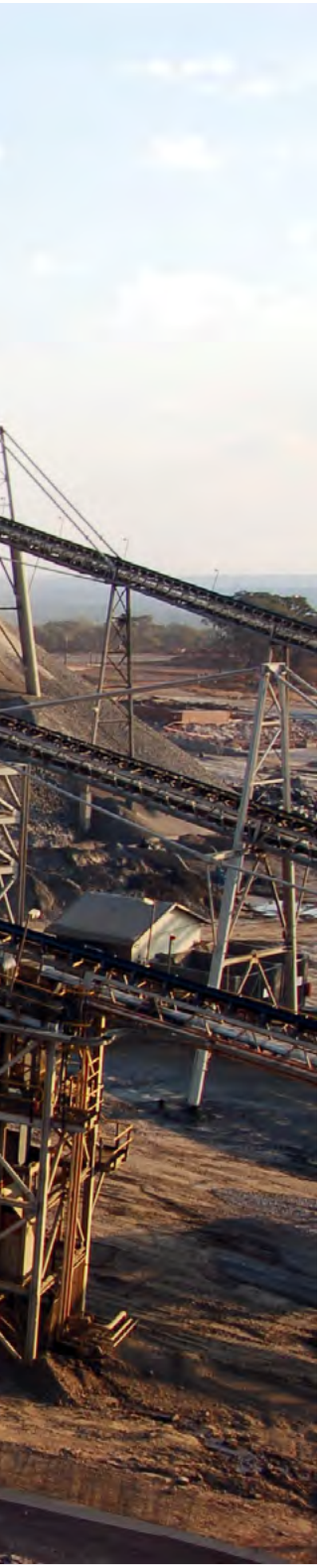
These stakeholders discussed barriers and possible solutions to financing low carbon development of Zambia's power sector. Possible solutions to finance the low carbon expansion of the power system included:

- In 2019, Ministry of Energy has started unbundling the power sector so that today it is possible to pay a wheel power through Zambia's transmission system, but also to sell electricity to independent offtakers. This alleviates investments by IPPs.

- GreenCo presented it business concept. Being accredited by the SAPP to trade electricity, the company developed an insurance system for IPPs. In case of non-payment by electricity offtakers, GreenCo may trade IPP's electricity on the SAPP market, thereby derisking their PPA and ultimately helping IPPs to achieve financial closure. GreenCo started operation insuring the first project in 08/2022.

Site visit of BMWK and SPAR6C team to the Kafue sugar plant, © Photo by S. Moyo / Posh Media

Source: gettyimages.de/mabus13



- The Energy Regulatory Board (ERB) discussed the plans for revising the electricity tariff. In 2022, ERB conducted a cost of service study, which led to suggestions for the revision of the tariff methodology (which is used to calculate the tariff). This is currently published for public commenting and proposes an annual increment of 17% over the next five years and a general indexation to inflation and exchange rate thereafter. This will make investments in renewable energy financially more attractive.

- The Ministry of Finance gave an overview on the pipeline of GCF financing programs to reduce the cost of capital and increase the tenor of lending, supporting the financing of renewable energy expansion.

- Stakeholders discussed the opportunities of developing a policy-based carbon crediting approach for specific renewable energy technologies, providing earmarked carbon feed in premiums as a topping up to the existing PPAs.

While the challenges and barriers for financing renewable energy expansion are manifold, stakeholders discussed strategies and instruments that create hope to overcome such barriers eventually. The stakeholders of the technical dialogue agreed to pursue the solutions discussed as well as to continue exchange and cooperate in the future.

The Way Forward

Zambia aims to finalize its first carbon market framework. A draft will be considered by the TCC-MIT in June 2023. Moreover, Zambia aims to have its MRV system operational (including a functional Article 6 activity registry) by the end of 2023. While future refinements are envisaged, with these two key elements, Zambia's Article 6 framework will be operational. At the same time, proponents will continue to develop their concepts further. MGEE with the support of technical assistance and capacity building from SPAR6C will pursue a phased approach to market engagement, including a pilot phase and scale up phase. During the pilot phase, promising opportunities will be further investigated with the aim of achieving financial closure on at least one mitigation activity that incorporates the sale of internationally transferred mitigation outcomes (ITMOs) under Article 6.2.

To this end, Zambia hopes to negotiate bilateral agreements and purchase / transfer agreements with interested acquiring parties, including the negotiation of project-specific financing agreements. With this, MGEE aims to demonstrate that Article 6 can leverage the much-needed financing for Zambia's low carbon development and the achievement of its SDGs. Once implemented, the learnings from the pilot process will be integrated into an improved governance framework and, as they become clearer, the development of additional or scaled-up mitigation activities.

Beyond Offsetting

Streamlining the Concept of Private Finance Contributions

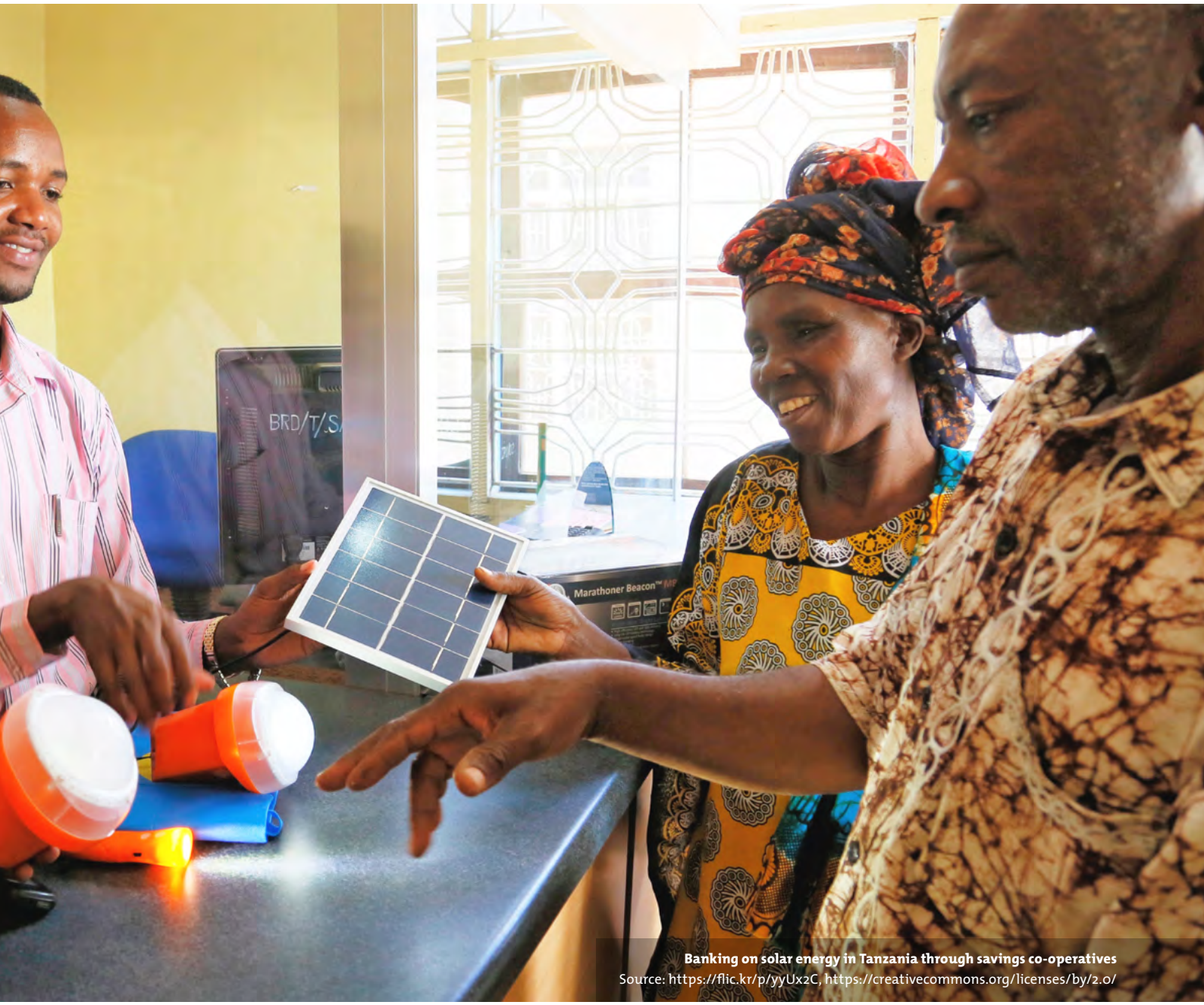
by Nicolas Kreibich, Wuppertal Institute & Gesa Schöneberg, Foundation Development and Climate Alliance

Background

Carbon neutrality claims and the associated practice of carbon offsetting are under continued criticism: Companies that claim to be 'carbon neutral' or use this and similar terms when advertising their products are increasingly being accused of greenwashing. In addition to the risk of reputational damage, companies are also running legal risks, e.g. lawsuits by consumer agencies or other NGOs. At the same time, the requirements for making claims are tightening, particularly in view of ongoing legislative initiatives such as the EU Green Claims Directive.

In addition to the reputational risks and legal uncertainty, the voluntary carbon market has been in major crisis since the operationalisation of the Paris Agreement. With all countries having to strive towards maximum ambition in their Nationally Determined Contributions (NDCs), identifying truly additional projects has become even more challenging than in the past. And given the global scope of the Paris Agreement, carbon credits will inevitably have to be generated in economic sectors that are covered by national mitigation targets. To avoid double counting of emission reductions, Corresponding Adjustments (CAs) were introduced, which can also be applied if emission reductions are used for voluntary purposes such as carbon neutrality claims by companies. However, developing the infrastructure and technical capacities needed to implement CAs still presents a key challenge, especially for developing countries.

With the Contribution Claim model, an alternative is being developed that allows companies to promote global climate action by making private financial contributions. In the debate on the future of the voluntary carbon market, such an alternative was proposed early on in light of the market's "identity crisis" (Hermwille & Kreibich, 2016). Back in 2017, the Gold Standard proposed the development of "certified emission reduction statements" as a new product that would certify a contribution to the host country's target but could not be used to support statements on climate neutrality (Gold Standard, 2017). For a long time, this proposal did not find majority support in the voluntary carbon market, as key actors did not agree on the need to apply CAs to emission reductions used for voluntary targets.



Banking on solar energy in Tanzania through savings co-operatives
Source: https://flic.kr/p/yyUx2C, https://creativecommons.org/licenses/by/2.0/

Recently, however, there seems to have been a change within the voluntary carbon market: A growing number of actors, including large offset providers, are showing increased interest in alternative approaches. As a first mover, the carbon credit supplier myclimate introduced an impact label at the end of 2022. As an alternative to the previous 'climate neutral' label, this new label is given to companies that support mitigation activities outside their own value chain (myclimate, 2023). Similarly, South Pole recently introduced its "Funding Climate Action Label" (South Pole, 2023).

While these new labels mainly differ from their predecessors insofar as claiming carbon neutrality is no longer possible, other concepts go much further in differentiating themselves from conventional carbon offsetting. Building on earlier publications, WWF Germany presented its "Fit for Paris" proposal at the end of 2022. The concept goes beyond the ton-per-ton approach by requiring companies to set an internal carbon price on their residual emissions, which is used as a basis for defining the climate investments outside their value chain. WWF's approach also breaks new ground in terms of the activities to be promoted. Instead of purchasing carbon credits, the focus is on activities to reduce agricultural and forestry emissions and promote commercial innovations for climate protection (WWF Deutschland, 2022).

Other initiatives have already made progress in implementation. The NewClimate Institute, for example, has been applying its Climate Responsibility Approach since 2020. Another relevant actor is the Swedish company Milkywire, which has established the Climate Transformation Fund (Milkywire, 2022), and the French "Net Zero Initiative" led by Carbone4, which already promotes climate finance contributions to reach the global net zero goal (NZI, 2022, 2023).

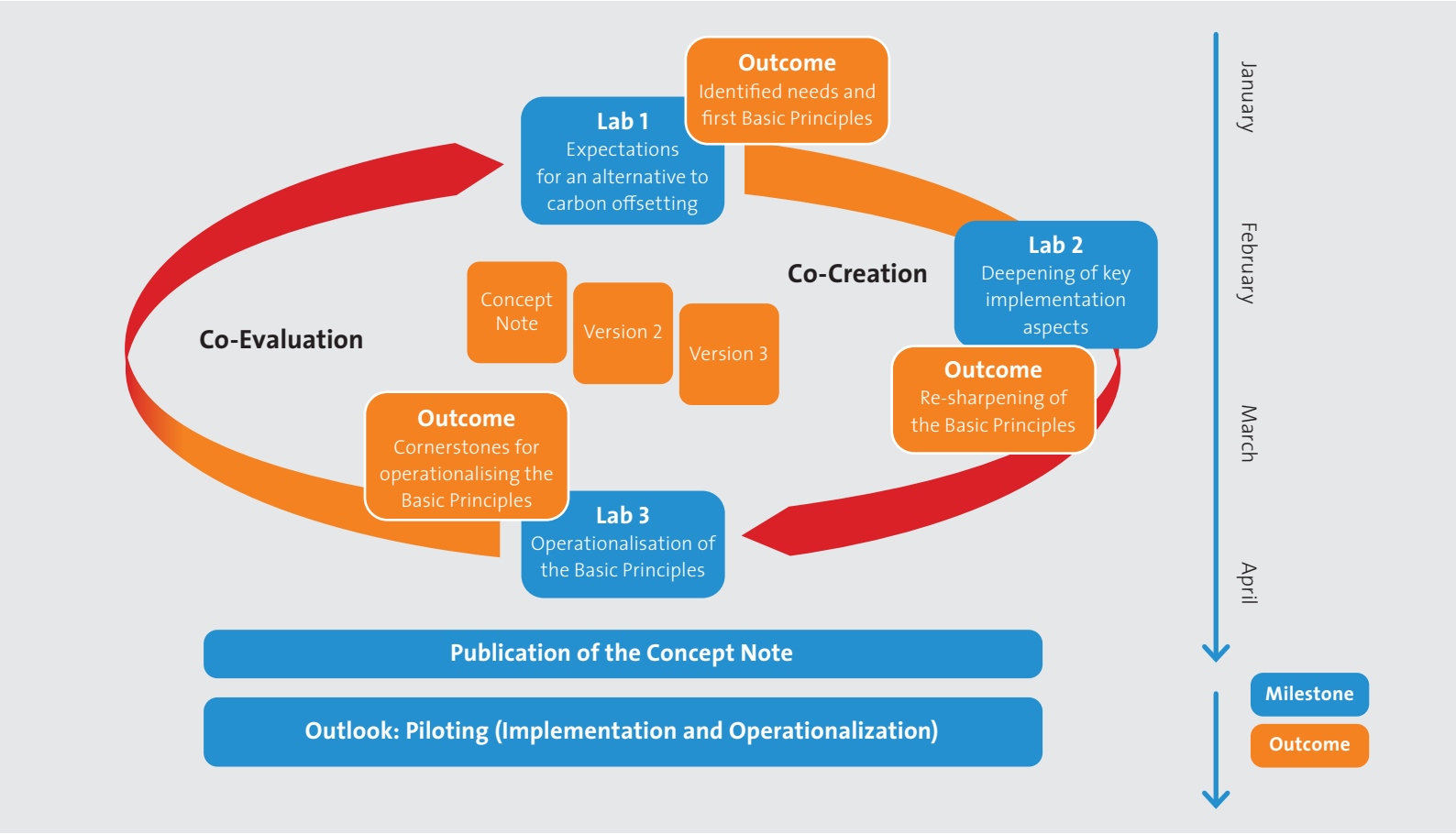
Even though the approaches are very different in their design and objectives, they share one decisive element: the emission reductions achieved by the mitigation projects may not be used to counterbalance residual emissions. They go beyond offsetting.

Streamlining the Contribution Claim model

Against the background of these new developments and prevailing uncertainties within the VCM, the Foundation Development and Climate Alliance commissioned the "Contribution Claim as an alternative approach to carbon offsetting" project, which is implemented by the Wuppertal Institute. The transdisciplinary research project was designed with the objective of developing a new narrative and basic principles of the Contribution Claim model with the participation of key stakeholders in order to drive the implementation of ambitious alternative approaches and counteract the current fragmentation of the market. The aim was not to develop another 'new' concept for the Contribution Claim model, but to streamline the existing approaches, taking into account the highest possible quality and feasibility.

In order to identify the major lines of the model, basic principles for implementing the Contribution Claim model were elaborated upon and further developed in three living labs with representatives from the private sector, project development, civil society, research and public policy.

Figure 1: Interaction of the three living labs in the course of the project



Developing and refining solutions in a transdisciplinary fashion

The methodological approach underlying the project uses the concept of 'transformative research' (cf. Schneidewind & Scheck, 2013). It is characterised by an explicit intention to intervene in order to address existing problems by developing solutions with the participation of key stakeholder groups. The living lab approach is used as a basis for implementation. Living labs comprise research and innovation formats that enable new perspectives for improving sustainability impacts and market acceptance and also uncover unintended rebound effects in the development process, taking them into account in further development (Liedtke et al., 2012; Von Geibler et al., 2014). Short iteration cycles allow feedback from stakeholders to be quickly take into account. New insights can be iteratively incorporated when developing the basic principles of the Contribution Claim model. The methodical approach is expected to have a positive impact on the development outcome and subsequent market acceptance. In order to incorporate the perspectives of the key stakeholders into the development of basic principles in the best possible way, a co-creation approach with established collaboration methods was applied. For this purpose, three living labs were designed and implemented, each of which alternated between individual

work (brainwriting), small group work (World Café method, focus groups) and plenary discussions (moderation based on guiding questions) in order to facilitate iterative development and learning loops. The interim results developed were critically reflected on with the stakeholders using guiding questions and case studies following the co-evaluation approach. The key discussions of the individual labs fed into the concept paper, which served as a living document for securing and processing results. In addition to the results produced in the living labs, the concept paper was supplemented using the expertise of the project team.

Key observations made during the project implementation phase

The living labs facilitated the exchange between companies, NGOs, project developers, policy makers and research institutions, allowing for **mutual learning and the development of a common understanding** of the Contribution Claim model. Stakeholders could discuss their expectations regarding the new model and how it aligned with existing corporate strategies. This enabled the participants to distinguish the new model more clearly from conventional carbon offsetting.

The multi-stakeholder process also facilitated an in-depth exploration of selected design aspects. One aspect critically discussed was the minimum criteria that companies should meet in order to be allowed to use the Contribution Claim model. The discussions made clear that the vast majority of stakeholders supported **ambitious requirements for companies as a prerequisite for using the model.** In order to not exclude small and medium sizes enterprises with limited capacities, the idea of support activities was added.

A less controversial question was the necessity of creating a (new) tradable product – even for companies this seems to be of no or only minor relevance – and there was a **great openness towards impact investment.** It would therefore seem to be particularly relevant in the future to distinguish between the interests of those willing to invest in mitigation activities and the positioning of project developers or carbon credit suppliers.

The fact that companies do not consider the issuance of carbon credits a prerequisite for their investments in mitigation activities **significantly broadens the spectrum of investment opportunities.** Under the Contribution Claim model, the focus no longer has to be on activities with a short-term mitigation impact expressed in tons of CO_2 as the main metric. Instead, mitigation activities can be promoted that could enable emission reductions to materialise in the future. Similarly, the Contribution Claim model could also allow activities to be promoted that are better embedded in national strategies and thus fill implementation gaps. The understanding of these observations is reflected in the basic principles and the new narrative.

A new narrative

The overarching understanding of the Contribution Claim model elaborated upon in the living labs served as a basis for developing a new narrative. Commitment in line with the goals of the Paris Agreement is the central starting point and the global net zero target serves as a guiding star for companies and other organisations. But in order to carry out the transformations needed to reach global carbon neutrality by 2050, the focus is not on organisations achieving individual carbon/climate neutrality but rather on making the best possible contribution to implementing the global goals. This means that avoiding and reducing one's own emissions must be the top priority. Complementary to these reduction efforts, the approach enables the supporting of high-quality mitigation activities outside one's own value chain, particularly in the Global South (climate responsibility). For this, an internal carbon price is applied to the non-avoidable residual emissions based on the social and environmental costs of these emissions. In a corresponding amount, high-quality – ideally transformative – mitigation activities are financed. In return for this support, companies receive evidence of the contribution made and the impact of the activities supported. Together with the information provided on mitigation action within the organisation, these form the basis for communicating their engagement. It also enables companies and other organisations to make claims that do not pose a risk to their reputation.

Transportation in the Philippines
Source: https://flic.kr/p/dQZBP8, https://creativecommons.org/licenses/by/2.0/

Basic principles of an effective Contribution Claim model

Based on the discussions in the living labs, basic principles have been developed that take into account the key elements, requirements and approaches for the design and implementation of the Contribution Claim model. The basic principles refer to a) the Contribution Claim model, b) the participating organisations and their claims and c) the mitigation activities supported.

Overview of the basic principles

Responsibility

Organisations take responsibility for the climate damage they cause. They focus on avoiding and reducing emissions within their own value chain and also support mitigation activities outside their own value chain.

Organisations using the Contribution Claim model meet a set of minimum requirements to fulfil their responsibilities, e.g. robust GHG accounting for their emissions, developing a Paris-compatible climate change strategy and applying an increasing internal carbon price to all residual emissions. The climate change mitigation measure supported by the organisation is also embedded in a Paris-compatible climate action strategy, which is in line with the net zero target at global level and implemented in accordance with international criteria for environmental and social safeguards (ESS).

Credibility

Organisations acknowledge their responsibility to combat climate change. They do not make statements based on offsetting emissions, such as claiming that individual products/services or the organisation are climate neutral.

Science-based

The Contribution Claim model is based on scientific findings and uses them both in defining requirements for companies and in designing and implementing mitigation activities.

Transparency

The Contribution Claim model promotes transparency by using standardised rules and clear definitions.

The claims made by the organisation reflect the nature of its participation and the amount of its contribution in relation to the organisation's carbon footprint, while the impact of the mitigation activities supported is shown separately.

The approach also contributes to cost transparency by making it clear to outsiders how the funds provided by the organisation are used in the supported climate protection measure.

Transformative sustainability impact
This approach promotes transformative climate actions that meet high-quality requirements/ criteria and are embedded in a holistic development strategy. The activities should have a high level of replicability and scalability.

Effectiveness
The transaction costs for ensuring the transparency and effectiveness of the mitigation activity are adequate for the impact targeted by the activity. Standardisation of impact measurement and claims ensures the effective use of resources and scalability.

Verifiability and demonstrability
The effects achieved by the activities (climate protection and other sustainability contributions) are quantifiable (measurable) or are plausibly qualified in the form of a causal impact path. The additionality of the measure is also verifiably demonstrated.

Ambition raising
The mitigation activity supported contributes to an increase in mitigation ambition by establishing a clear link between the respective activities and the NDC of the host country as well as its long-term strategy (LTS). Care is taken to ensure that the measure is not already covered by a country policy (additionality and search for "high-hanging fruit"). Furthermore, each activity must be planned in such a way as to ensure a long-term or follow-up use.
Increasing ambition is also required with regard to the mitigation strategy of the participating organisation. Here, an increase in ambition is expressed, for example, by a steadily increasing internal CO_2 price.

Connectivity
The Contribution Claim model builds on existing tools and, where appropriate, leverages the infrastructure of the global carbon market to demonstrate its potential for further development. When designing the mitigation activity, emphasis is placed on integrating existing actors and ongoing processes so that the complexity of the measure is not increased unnecessarily and duplication is avoided. The Contribution Claim model aims to identify and close existing implementation gaps.
It is intended that the participation of organisations in the Contribution Claim model will be recognised in future non-financial reporting.

Legal compliance
The climate protection measure promoted within the Contribution Claim model is implemented in accordance with applicable law (national, international) and uses the legal framework and its further development to address the problem at hand.
The claims made by the organisations are compatible with applicable legal requirements, such as the European Union's Green Claims Directive.

Outlook

The transdisciplinary approach of the project facilitated the co-creation of basic principles and a new narrative for the Contribution Claim model by bringing together a broad range of stakeholders. The involvement of stakeholders and sharing of different perspectives on the Contribution Claim model is particularly relevant given the current fragmentation of the market due to the emergence of several new concepts in Germany and globally. In order to avoid a repetition of the poor experiences with carbon offsetting claims and the use of carbon credits, developing a common understanding of the new model and applying the basic principles will be essential.

Public policy makers also have a key role to play in strengthening transparency and preventing this new model from being misused for greenwashing purposes. Many governments are currently in the process of developing guidelines on how to use the VCM. These guideline documents should not focus exclusively on the use of carbon credits for the purpose of making carbon neutrality claims but also provide guidance on the Contribution Claim model. Not focusing exclusively on carbon neutrality and similar claims is also particularly relevant given the fact that these offset claims are increasingly becoming subject to regulation with ongoing initiatives such as the Green Claims Directive and the Empowering Consumers Directive in the EU. There is hence a risk that public policy guideline documents will become irrelevant if they focus on a model that will hardly be used at all in the future, while the private sector is (again) setting precedents through the development of new concepts that lack transparency and are barely understood by consumers and investors.

This is all the more significant as the Contribution Claim model provides a dual opportunity for the voluntary carbon market. On the one hand, the model could allow the market to continue implementing high-quality projects without undermining the integrity of corporate climate action. On the other hand, it provides an opportunity for the VCM to reinvent itself by becoming a key player in bridging the climate finance gap and pushing towards more mitigation ambition and action.

For this to be implemented, the VCM must expand its current project portfolio, which is not in line with what is needed to keep global warming within the limits of the Paris Agreement. Building and expanding on the methods and tools developed in the (voluntary) carbon market, new catalytic activities must be promoted that go beyond the short-term carbon impact and accelerate transformative change towards global sustainability.

How to do this in practice by applying the Contribution Claim model will be the focus of the project's implementation phase, which is currently being elaborated upon with a multi-actor group. In this phase, which aims at strengthening the ties to ongoing international processes such as the SBTI, VCMI and IC VCM, the new narrative and the basic principles elaborated upon will be put in practice.

References

- Gold Standard. (2017). A New Paradigm for Voluntary Climate Action: 'Reduce Within, Finance Beyond' [GOLD STANDARD POLICY BRIEF]. https://www.goldstandard.org/sites/default/files/documents/a_new_paradigm_for_voluntary_climate_action.pdf
- Hermwille, L. & Kreibich, N. (2016). Identity Crisis? Voluntary Carbon Crediting and the Paris Agreement. https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/Policy_Brief/PB_2016_02_Voluntary_Carbon_Markets_bf.pdf
- Liedtke, C., Baedeker, C., Geibler, J. & Hasselkuß, M. (2012). User-integrated innovation: Sustainable LivingLabs research and development of sustainable products and services through user-driven innovation.
- Milkywire. (2022). Climate Transformation Fund. https://www.milkywire.com/climate-transformation-fund-readmore
- myclimate. (2023). What is the myclimate impact label? https://de.myclimate.org/en/information/faq/faq-detail/what-is-the-myclimate-impact-label-1/
- NZI. (2022). 10 principes pour une stratégie climat d'entreprise ambitieuse. Net Zero Initiative. https://uploads-ssl.webflow.com/612ca83f8578a75a8cf1cf3d/62bb1410bfda467f91acb275_NZI_10_principes_VF.pdf
- NZI. (2023). Net Zero Initiative. https://www.net-zero-initiative.com/en
- Schneidewind, U. & Scheck, H. (2013). Die Stadt als „Reallabor" für Systeminnovationen. In J. Rückert-John (Ed.), Soziale Innovation und Nachhaltigkeit: Perspektiven sozialen Wandels (pp. 229–248). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-531-18974-1_12
- South Pole. (2023). Climate Action Labels. South Pole. https://www.southpole.com/sustainability-solutions/climate-action-labels
- Von Geibler, J., Erdmann, L., Liedtke, C., Rohn, H., Stabe, M., Berner, S., Leismann, K., Schnalzer, K. & Kennedy, K. (2014). Exploring the Potential of a German Living Lab Research Infrastructure for the Development of Low Resource Products and Services. Resources, 3(3), 575–598. https://doi.org/10.3390/resources3030575
- WWF Deutschland. (2022). FIT FÜR PARIS – Ein Nachfolgemodell für die CO_2-Kompensation: Wie Unternehmen zusätzlichen Klimaschutz finanzieren sollten. https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Unternehmen/WWF-Fit-fuer-Paris-Nachfolgemodell-CO_2-Kompensation.pdf

The Invisible Activity

Challenges for Clean Cooking Programs under Article 6

by Randall Spalding-Fecher, Carbon Limits and Hilda Galt, Climate Focus

Under the Paris Agreement, all Parties must set climate change targets and communicate progress towards these targets in their Nationally Determined Contributions (NDCs). Parties that set targets to reduce greenhouse gas (GHG) emissions need to track progress towards achieving these targets via national GHG inventories under the enhanced transparency framework of the Paris Agreement. To be able to track progress, it is therefore essential that any mitigation activities implemented are visible in the country's GHG inventory covering the scope of its NDC. However, some mitigation activities may not be visible in a country's national GHG inventory if the method used to calculate the inventory is not sufficiently granular. This issue – termed 'inventory visibility' – is especially relevant for international carbon markets, where the methods used to calculate emission reductions from a single project or program of activities are different to those used to develop a national GHG inventory.

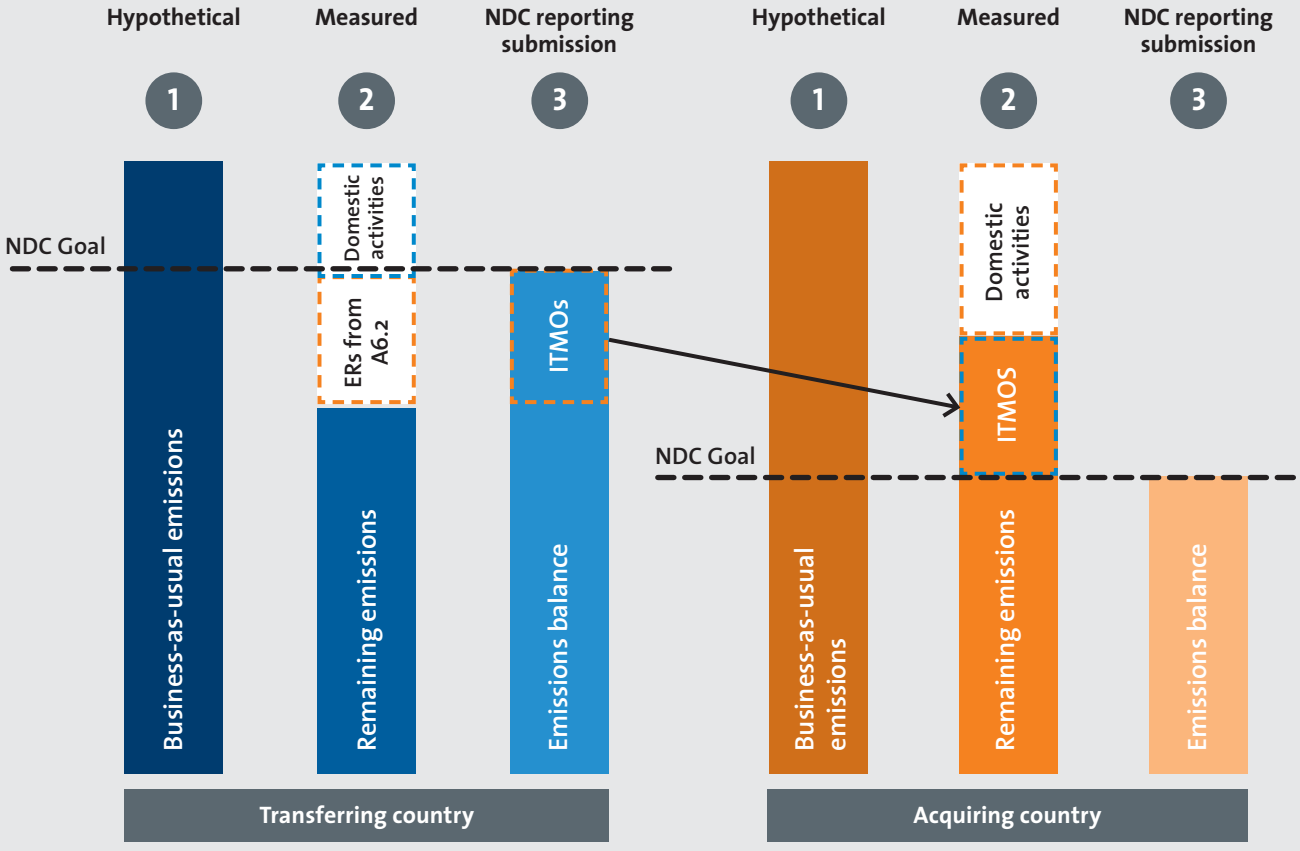
Producing Cook Stoves, Source: https://flic.kr/p/Ph21E8, https://creativecommons.org/licenses/by-nc-nd/2.0/

Article 6 of the Paris Agreement allows countries to cooperate in achieving mitigation goals. Article 6.2 and the accompanying guidance provides rules for exchanging internationally transferred mitigation outcomes (ITMOs), which may be quantified using existing crediting mechanisms or a customized approached agreed between countries. To avoid double counting mitigation, countries must apply 'corresponding adjustments' to their reported GHG inventories when ITMOs are transferred. In other words, all transfers of mitigation outcomes that are used to demonstrate progress towards NDC achievement require that the transferring (host country) and acquiring (buyer) countries adjust their reported GHG inventories to provide an "emissions balance", such that only the acquiring country claims the mitigation outcomes towards their own NDC. This means that: a host country that transfers ITMOs will add back that amount to its GHG inventory covered by the NDC when reporting adjusted emissions for purposes of NDC progress; and the acquiring (buyer) country will subtract the ITMOs from its actual NDC-covered emissions when reporting adjusted emissions for NDC compliance. Corresponding adjustments by the host country are also required for transfers used for other international mitigation purposes beyond NDC compliance.[3]

3 An example includes the use of credits for the Carbon Offsetting and Reduction Scheme for International Aviation. Annex, FCCC/PA/CMA/2021/10/Add.1. Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement; 2021.

Figure 1 illustrates how the corresponding adjustment essentially cancels out the impact of the cooperative mitigation activity – in terms of the host country reporting on NDC progress – because the volume of the ITMOs transferred and the corresponding adjustment is the same volume as the actual emission reductions from the Article 6.2 activity. In this example, the host country meets their NDC goal based on their own domestic emission reductions (i.e., not supported by carbon financing) and the emissions balance reported when demonstrating NDC progress remains below the NDC goal since the mitigation activities for which Article 6.2 transfers are made are visible in the national GHG inventory.

Figure 1: Illustration of the impact of corresponding adjustments when emission reductions from an Article 6.2 cooperative activity are visible in the NDC GHG inventory



In this scenario:

1. Each country determines its business-as-usual emissions and reports this in its NDC.

2. The transferring country achieves its NDC goal through domestic activities; and surpasses this through Article 6 activities, which are converted to ITMOs.
   The acquiring country is not able to meet its NDC goal through domestic activities alone, and purchases ITMOs to make up the shortfall.

3. The transferring country transfers ITMOs to an acquiring country in exchange for finance for Article 6 activites. To avoid double counting, the transferring country adjusts its GHG balance up to account for the ITMO transfer; allowing the aquiring country to adjust its GHG balance down.

For the figure above to be valid, however, the calculated emission reductions from the cooperative activity must be visible in the host country's GHG inventory for the sectors and gases covered by their NDC. In other words, the data collection and calculation methods used in the GHG inventory must be detailed and disaggregated enough that they can show the same emissions impact of the cooperative activity as the activity-specific emission reductions that are calculated using a carbon market baseline and monitoring methodology. For example, a cooperative activity to increase the efficiency of steel manufacturing in the country would result in less consumption of fossil fuels for heat and electricity production for that industry. These changes would likely be visible in the GHG inventory of the country because emissions from energy consumption across a sector are relatively easy to calculate and the underlying activity data – especially for heavy industry – will likely be available to the government.

Clean cooking technologies – including improved efficiency devices, renewable cooking fuels and clean cooking technologies – can reduce GHG emissions by reducing consumption of non-renewable biomass (NRB) (i.e., biomass that leads to reduction in total carbon stocks rather than being replaced by regrowth). Reducing demand for NRB means there is less pressure on forests and less resulting deforestation and forest degradation. The carbon market methodologies calculate emission reductions for these activity types based on avoided biomass use and the fraction of this biomass that is considered non-renewable (i.e. that is harvested beyond the forest's regenerative capacity). These methodologies are widely used both under the Clean Development Mechanism and in the voluntary carbon market.

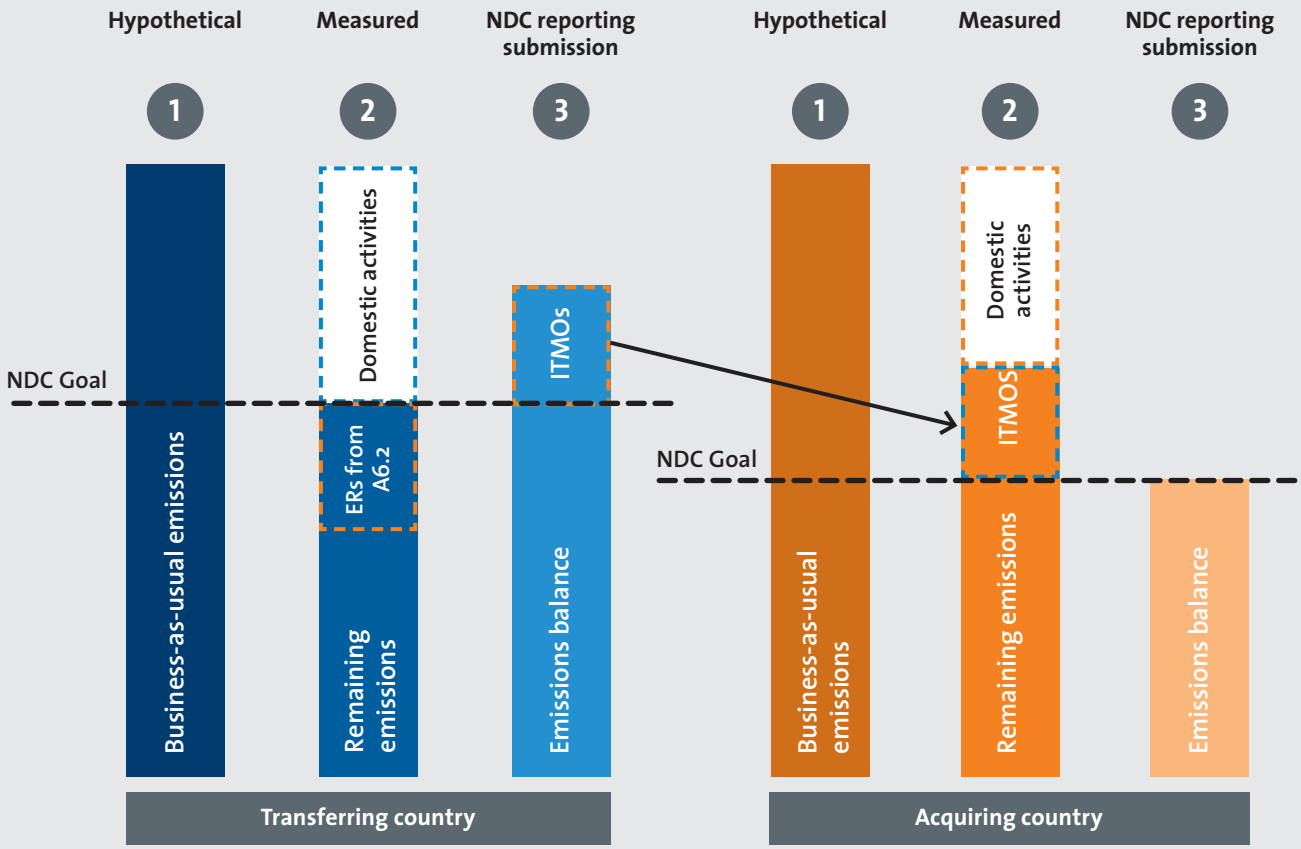
The challenge for clean cooking activities is that the inventories of the carbon in biomass stocks such as forests are much more complex and difficult to determine than GHG inventories for the energy sector. Estimating current biomass stocks, and changes over time, involves large uncertainties and many high-level assumptions about land use, land use change, biomass species density and growth, and biomass carbon content, among other things. This means that the impact of clean cooking activities on forests are unlikely to be visible in GHG inventories (Schneider et al. 2022). Most GHG inventories used for NDC reporting are unlikely to be able to pick up the changes in biomass stocks that are caused by clean cooking activities – especially bearing in mind that wood fuel consumption often leads to more difficult-to-detect degradation of forest areas rather than deforestation.

In this case, the scenario outlined in Figure 1 above would not apply. Instead, if the NDC-covered GHG inventory does not decline by the amount of calculated emission reductions from the Article 6.2 activity, the ITMO transfer and corresponding adjustment increases the host country's emissions balance such that they would miss their NDC goal (Figure 2).

For this reason, host countries may be reluctant to use clean and improved cooking programs as the basis for ITMO transfers. Doing so could undermine their ability to achieve their NDC. While host countries could work to improve the granularity of GHG inventories, it is unlikely that countries will be able to create a forest biomass inventory with the level of resolution needed to adequately capture the impacts of clean cooking activities.

One possible solution to this problem is to treat these activities as results-based climate finance without any ITMO transfers. Payments would still be made to the project proponents but no ITMOs would be authorized or transferred, and so no corresponding adjustments would be required. This solution, however, impedes the ability of carbon finance to support growth in access to clean cooking technologies at a time

Figure 2: . Illustration of the impact of corresponding adjustments when emission reductions from an Article 6.2 cooperative activity are NOT visible in the NDC GHG inventory



In this scenario:

1. Each country determines its business-as-usual emissions and reports this in its NDC.

2. The transferring country achieves its NDC goal through domestic activities; and hosts Article 6 activities, which are converted to ITMOs.
   The acquiring country is not able to meet its NDC goal through domestic activities alone, and purchases ITMOs to make up the shortfall.

3. The transferring country transfers ITMOs to an acquiring country in exchange for finance for Article 6 activites. To avoid double counting, the transferring country adjusts its GHG balance up to account for the ITMO transfer. Since the Article 6 activites are not visible in the transferring country's GHG inventory, this addition results in the country being unable to meet its NDC goal.
   The acquiring country adjusts its GHG balance down.

when it increasingly important for the sector's growth (Clean Cooking Alliance 2022). Further work is therefore needed to develop solutions for the lack of inventory visibility for clean cooking technologies that allow host country governments to continue to access carbon finance in support of their clean cooking activities.

References

- Lambert Schneider, Felix Weber, Jürg Füssler, Lorenz Moosmann & Hannes Böttcher (2022) Visibility of carbon market approaches in greenhouse gas inventories, Carbon Management, 13:1, 279–293, DOI: 10.1080/17583004.2022.2075283
- Clean Cooking Alliance (2022): Clean Cooking Industry Snapshot. Third edition. Available at https://cleancooking.org/reports-and-tools/2022-clean-cooking-industry-snapshot/

Sharing the Outcomes

Distributing climate benefits under Article 6

By Nicolas Kreibich and Christof Arens, Wuppertal Institute

How to adequately distribute the mitigation outcomes of carbon crediting activities? The question has gained increasing attention recently. This more recent interest contrasts with a long phase in which sharing of mitigation outcomes (MOs) played a subordinate role in the operation of market-based mechanisms. This particularly holds for the world's quantitatively most successful crediting program, the Clean Development Mechanism (CDM). Operating as one the Kyoto Protocol's flexible mechanisms, the CDM allowed for mitigation activities to be implemented in developing country Parties that did not have any international climate change mitigation obligations. Therefore, all mitigation outcomes could be exported from the host Party to the investor in the form of certified emission reductions (CERs) while sharing of mitigation outcomes was not relevant.

The situation was somewhat different for Joint Implementation (JI), the second project-based mechanism under the Kyoto Protocol that enabled mitigation projects and programs to be implemented in Parties that had committed to internationally binding mitigation targets. The emission reduction units (ERUs) generated by JI activities had to be converted from assigned amount units (AAUs) that are derived from the host Party's Kyoto commitment. Despite this conversion potentially impacting the achievement of the host Party's Kyoto commitment,

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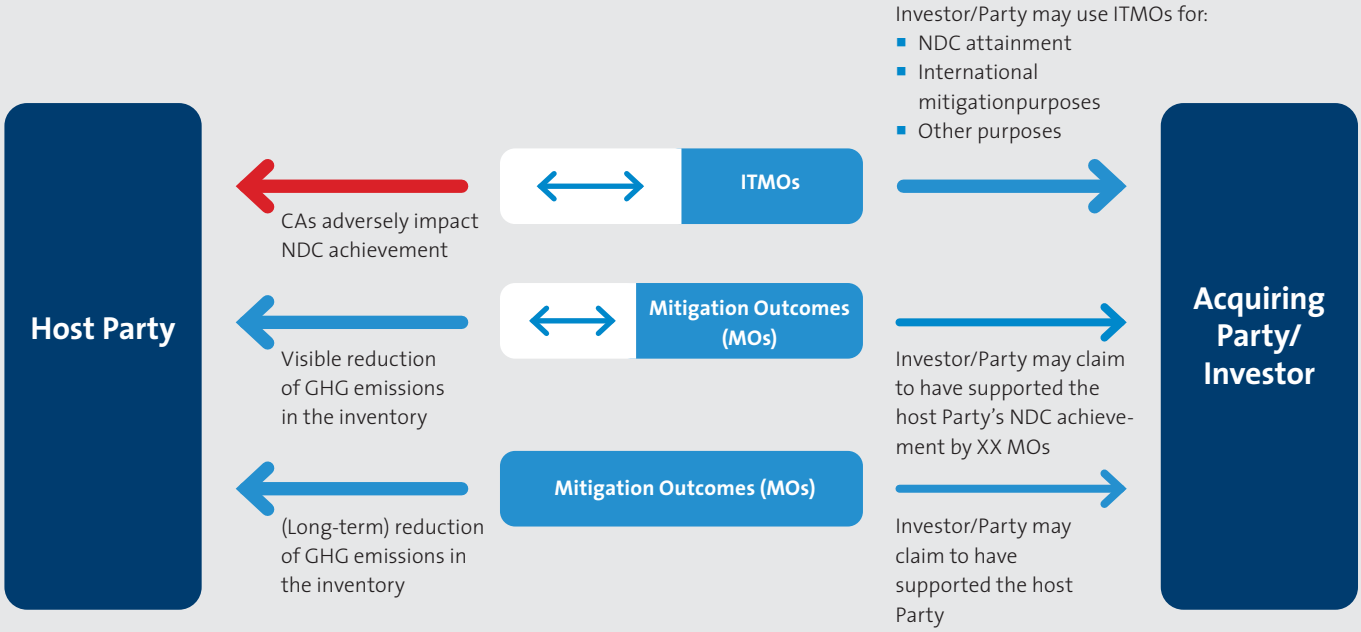
sharing of MOs was generally not explicitly managed by JI host Parties but mainly addressed through methodological approaches, such as additionality testing and baseline setting. Only some Parties, like France, captured part of the rent in order to address the risk of non-additional projects adversely impacting economic efficiency (Shishlov et al., 2012). During this time, the equitable distribution of mitigation outcomes played a subordinate role and the focus was rather on how to prevent the integrity of the Kyoto Protocol from being undermined through the sale of hot air credits (Kollmuss et al., 2015).

The situation changed gradually after the adoption of the Paris Agreement in 2015 with its universal scope and ambitious long-term targets. The principles for market-based cooperation under Article 6 of the agreement require Parties to avoid double counting of emission reductions, making the question about how to share mitigation outcomes more salient. The relevance of this topic was further stressed in the negotiations of the Article 6 rulebook, in the course of which Parties struggled to find consensus regarding the application of corresponding adjustments as a means to avoid emission reductions being counted more than once. The Article 6 rulebook agreed in Glasgow in 2021, however, does require application of corresponding adjustments to any authorized mitigation outcomes.

Figure 1: The figure illustrates how the participants (host Party and acquiring Party) of the cooperative approach might use the different layers of mitigation benefits generated by the mitigation activity when sharing the mitigation benefits. A differentiation is made between the actual mitigation impact (bold arrow) and the claims that can be made on the basis of these flows (fine arrow).



Different sharing approaches

The question of how to share the mitigation benefits of an activity has been explored in the literature from different perspectives. We **identify six sharing approaches** that could be used by Parties when cooperating under Article 6:

Crediting baselines as a sharing mode

The baseline of a crediting program determines the total amount of credits that can be issued and is therefore is a key step in the design of a crediting mechanism. To safeguard environmental integrity, baselines must at least be established at levels that ensure that only reductions below business-as-usual (BAU) emissions levels will be credited. However, baselines could (and should) be set at lower levels in order to be aligned with other policy targets.

The baseline setting approach will also impact the distribution of MOs among the Parties participating in the program. Ambitious baselines will generally reduce the total amount of transferable MOs, with the remainder of the

emission reductions contributing to the host Party's NDC. If baselines are set at less ambitious levels, the total volume of MOs is increased, requiring host Parties to manage transfers more actively to address the risk of overselling (Spalding-Fecher et al., 2020).

Technological sharing

Sharing of mitigation outcomes could also be based on the technologies applied and combined in one mitigation activity. Consider a mitigation activity that combines the introduction of new technologies with project activities that are tried and tested. In the transport sector, for instance, bus rapid transit (BRT) systems were one of the most successful project types under the Clean Development Mechanism. Given the success of this project type and its diffusion, BRTs could well be introduced unilaterally by host Party governments and need for external assistance in the form of carbon finance might be limited. However, this might change if the BRT system is combined with innovative technologies that are not available in the host Party, for instance hydrogen engines. In a BRT system that introduces hydrogen-driven buses, mitigation outcomes would only be issued for those emission reductions resulting from the use of the new technology, while the remainder of the MOs achieved through the improvement of urban transport system and modal split will stay with the host Party.

Temporal sharing

Sharing of mitigation outcomes to the Parties involved could also change over time. Lack of seed funding is still a key challenge for the implementation of mitigation activities in many developing Parties. In order to deal with this bottleneck, acquiring Parties could provide larger amounts of funding during the initial implementation phase of the activity that would lead to a larger share of MOs being allocated to them as ITMOs in the interim. As the implementation of the activity progresses, the share of MOs being transferred as ITMOs would then be reduced over time, with an increasing share of the mitigation impact being allocated to the host Party.

Policy instrument-based sharing

In international climate cooperation, different policy instruments are often combined within one program. Consider a cooperation program that combines a capacity building component with a practical piloting component. In theory, both components could lead to emission reductions. If the capacity building component leads to emission reductions as an outcome of successful policy transfer and learning, these indirect MOs will remain with the host Party. For the second component, by contrast, emission reductions could be authorized by the host Party and transferred as ITMOs to the acquiring Party.

Geographical sharing

Another option to consider is the sharing of MOs depending on the location of the mitigation activity. This option is linked to the geographical scope of national policies, which might be sub-national. In the forestry sector, for instance, some Parties define in their NDCs targets for avoided deforestation for some jurisdictions only, while the forests in neighbouring jurisdictions is not covered by the policy. A crediting activity that assists the host Party in protecting its forest would need to take this into account through sharing of MOs. The MOs achieved in the jurisdiction whose forest is covered by the policy will remain with the host Party, while those generated in the second jurisdiction could be exported.

Which approaches do Article 6 pilots use?

Switzerland

Switzerland and its partner countries do not apply a generalized quantitative sharing approach that determines a certain percentage of ITMOs being allocated to the host Party, as such an approach could adversely impact the incentive and the capacity development effects for host Parties to identify those mitigation options that are best suited to be funded via Article 6. The sharing of the mitigation impact is instead organically built into the design of the intervention, in particular in its baseline (KliK Foundation, 2023).

The crediting baseline usually consists of two components: an autonomous component that is based on technological considerations and a NDC component (or domestic policy component) that takes into account the policy circumstances of project implementation. The application of the autonomous component leads to very different outcomes depending on the technologies used. For very innovative technologies, all emission reductions generated would translate into ITMOs. If less innovative technologies are applied, such as solar PV, the baseline is adapted to take into consideration expected uptake of the technology in the future. The domestic policy component factors-in the role of the technology in the domestic policy. If there is, for instance, a goal for installed capacity for solar PV, the baseline for solar PV is aligned with this policy goal. Article 6 activities implemented under the Swiss partnerships do also apply a temporal sharing approach. As crediting baselines are limited to the year 2030, any emission reductions accruing afterwards will contribute to the host Party NDC. This is very likely as many of the technologies applied can be expected to run for a much larger timeframe (KliK Foundation, 2023).

Sweden

Sweden is not only exploring the technical potential of Article 6 but also advances the political cooperation with partner countries. By signing memoranda of understanding (MoU), Sweden and its partners aim at establishing " the basis for the Parties to cooperate on mutual areas of interest related to the implementation of Article 6 of the Paris Agreement, including the development and evaluation of opportunities to generate Mitigation Outcomes that may be transacted as ITMOs" (SEA, 2022b, p. 2). These MoUs foresee on the one hand the negotiation of a binding bilateral Framework Agreement between both Parties, and on the other hand separate "Mitigation Outcome Purchase Agreements" between Sweden and the respective project developers.

Negotiations are being conducted at two levels: while the bilateral agreement must be closed with the host Party, the purchase agreement will be agreed with the activity proponent. The question about how to share the mitigation benefit is relevant for both processes, for instance for implementing temporal sharing of MOs: this could be achieved through shortened crediting periods or through a respective clause in the bilateral agreement with the host Party. It is this double layered structure that makes sharing of mitigation outcomes particularly challenging, as the activity proponent may want to sell residual emission reductions to a third Party instead of contributing to the host Party's NDC (SEA, 2023).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Japan

In the Japanese case, the allocation of the credits is a consultation process between the project participants under the rules of implementation for the Joint Crediting Mechanism (JCM). At least fifty percent of the issued credits shall be transferred to the account of the Japanese government: 'Allocation of the rest of the credits will be decided among both governments and project participants, taking into consideration their contributions to the project implementation' (FAQ/Carbon Markets Express, n.d.). These sharing arrangements are an example of input-based sharing according to the financial contribution of Parties. According to Greiner et al. (2020), this mostly leads to an equal sharing of mitigation outcomes between the government of Japan and the host Party.

The underlying processes are embedded in the JCMs organisational structure: Each bilateral cooperation has a Joint Committee (JC) with representatives from Japan and the respective partner country to develop the rules, guidelines, and methodologies as well as the notification of the issuance of credits (Joint Committee of the JCM-Japan and Mongolia, 2022; 't Gilde et al., 2022).

Germany

Other examples include activities by Germany, one example here is the program for reducing technical losses in the power grid ('TD-Losses'). The program aims to increase energy efficiency in the host Party grids by installing so-called Reactive Power Compensation (RPC) equipment in four African countries (Uganda, Mozambique, Zambia, Zimbabwe). To share the mitigation outcomes between the Parties involved the program applies an algorithm that differentiates the emission reductions according to their financial viability: the share of emission reductions that would have been financially viable without the Article 6 financing structure would go to the host Party, while those reductions that have only been generated due to the financial support provided would be allocated to Germany. The project applies a dynamic approach to split the emission reductions between Germany and the host Party. If the electricity tariff increases and interventions become financially viable without carbon subsidy, more MOs are being allocated to the host Party. Over time, the financing Party's share becomes smaller while the overall volume of emission reductions becomes larger due to increased financial attractiveness (Ahlberg & Forth, 2020; Greiner et al., 2020).

Canada

Another example is Canada, who offers financial and technical support to Chile to deploy technologies and innovative approaches to support the reduction of methane emissions in the waste sector (Greiner et al., 2019, p. 51). On the one hand this case seems to be a rather classic case for development cooperation and climate finance as Canada's government official, Franck Portalupi states, that "Canada is taking action at home to reduce emissions and achieve our own climate targets and is committed to helping those that need it most' (Climate & Clean Air Coalition, 2021). On the other hand, the long-standing cooperation between the two countries is also considered the basis for a "virtual pilot', "where the two countries simulate what it would be like to trade emissions reductions to be counted against their NDC targets in accordance with Article 6 of the Paris Agreement' (Climate & Clean Air Coalition, 2021). The case of the environmental cooperation between Canada and Chile is thus an example of a climate finance cooperation that elaborates options for actions under Article 6.

Integration in Article 6 strategies

While the paradigm shift of the Paris Agreement has put all Parties in a new situation, in particular developing country Parties that have in the past benefited from hosting carbon finance activities will now have to decide whether and how to make use of market-based cooperation under the new climate regime. With the application of corresponding adjustments being required for all authorized mitigation outcomes, the host Party governments will have to prepare for Article 6 implementation and develop strategies that ensure exports do not compromise current NDC goals but instead support long-term climate ambition (Spalding-Fecher & Marcu, 2022). The choice of the sharing approach is therefore part of this broader Article 6 readiness and strategy development process.

Should host Parties clearly determine that a specific sharing approach must be applied or could they embark on a more open strategy

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that allows for multiple approaches to be used? On the one hand, making the application of a specific sharing approach mandatory for all Article 6 activities could support the processing of different project proposals, for instance by comparing their contribution to the national decarbonisation pathway.

On the other hand, donors are currently applying (and combining) different approaches to share ITMOs with the host Parties of the Article 6 piloting activities, as shown above. Host Parties that only allow for the application of one specific sharing approach may therefore put themselves at a disadvantage by limiting the spectrum of possible Article 6 activities from the outset.

In terms of timing, Parties could determine ex-ante that activity proposals must apply a specific ITMO sharing approach by making this a requirement for host Party approval. Sharing approaches that are deemed beneficial to the host Party could be included on a positive list. As an alternative, Parties could include the assessment of the ITMO sharing approach ex-post by including it into the broader assessment of proposed mitigation activities.

While ex-ante determination might give activity proponents and investors an indication of the host Party priorities, the ex-post assessment would allow for a better consideration of the interaction of sharing approaches and their final impact.

Conclusions

From a host Party perspective, the choice of the sharing approach should be considered a part of the broader Article 6 strategy. Since exclusively focusing on a specific sharing approach does not seem advisable, the question on how to identify a suitable sharing approach must be addressed. Possible parameters relate to the host Party and its Article 6 readiness on the one hand and the proposed Article 6 activity on the other. It should be noted, though, that each of the sharing approaches identified above comes with its specific risks and uncertainties as well as advantages. For instance, building on the mitigation activities' baseline as a sharing approach requires strong technical understanding and knowledge of the activity. The Box below provides an overview on key considerations regarding the different sharing approaches that might assist Parties in the process of deciding on a specific sharing approach.

In order to gain experience with sharing approaches and limit adverse consequences, host Parties could start by limiting the number of applicable sharing approaches. In a first step, a focus could be put on those approaches that align best with the existing capacities. As capacities get stronger and broader, they may combine different sharing approaches, allowing for the considerations of multiple parameters. This would allow governments to pro-actively define a set of sharing approaches that can be used.

In addition, more tailored capacity-building activities are needed to support host Parties to decide on the appropriate selection and design of ITMO sharing approaches. What support is needed for Parties to deal with the complexity of ITMO sharing and how can these be integrated into national governance frameworks for Article 6? There are several ongoing Article 6 capacity development initiatives, such as the Paris Agreement Article 6 Implementation Partnership established at COP27, where Parties could exchange and develop solutions for dealing with this question.

The relevance of ITMO sharing must also be seen in the context of a key role of the private sector as a proponent and investor of carbon finance, whose priorities must be taken into

Table 1: Integrating sharing approaches in an Article 6 strategy

Sharing approach	Considerations for integration into Article 6 strategy
Crediting baselines	The crediting baseline can be used for combining different sharing approaches within one activity. Integrating the sharing approach into the crediting baseline requires in-depth knowledge of the activity. The approach cannot be applied across several activities.
Technological Sharing	Can be used if two technological/technical components are combined within one activity. Allocation requires clear understanding of the technology's role: How relevant is the technology introduced with the activity for achieving the NDC and LTS? What are the long-term benefits? Would it be possible (and preferrable) to implement the activity unilaterally without the innovative technology component?
Temporal Sharing	Requires a thorough assessment of the activity's operational lifetime.
Policy instrument-based sharing	Allows for the combination of diverse yet linked components within one activity (e.g. on the ground project implementation with capacity building elements). Relevant consideration may include: How are the two components of the support activity linked? Are the expected long-term benefits of the domestic component sufficiently high to justify the authorization of short-term mitigation outcomes?
Geographical sharing	Operationalisation of geographical sharing approaches is straight forward. Relevant consideration may include: Why should carbon finance be used for closing existing gaps in my domestic policy? What are the reasons for the gaps and why is carbon finance in a position to close them?
Input-based sharing according to financial contribution	Input-based sharing can be easily operationalized as it allows to link the financial contribution of partners to the final share of ITMOs. However, participating partners may be in different positions to make financial contributions.

consideration. Developing an Article 6 strategy that is clear about how mitigation benefits are shared will also be key for dealing with the voluntary carbon market to ensure that future mitigation activities do not only align with the interests of investors and project proponents but first and foremost serve the benefits of the host Party and its people.

Further information
The full version of the underlying Carbon Mechanisms Research paper can be obtained at https://www.carbon-mechanisms.de/en/sharing_itmos

References

- Ahlberg, M., & Forth, T. (2020). What can be learned from current pilots/on-the- ground activities towards Art. 6 negotiations. https://ercst.org/wp-content/uploads/2021/02/T.-Forth-and-M.-Alhberg-Piloting.pdf
- Climate & Clean Air Coalition. (2021, May 25). Chile and Canada Partner to Reduce Emissions from the Waste Management Sector. Climate & Clean Air Coalition. https://www.ccacoalition.org/en/news/chile-and-canada-partner-reduce-emissions-waste-management-sector
- FAQ/Carbon Markets Express. (n.d.). Carbon Markets Express. Retrieved 16 December 2022, from http://carbon-markets.env.go.jp/eng/faq/jcm.html
- Greiner, S., Chagas, T., Krämer, N., Michaelowa, A., Brescia, D., & Hoch, S. (2019). Moving towards next generation carbon markets: Observations from Article 6 pilots. https://doi.org/10.5167/UZH-175360
- Greiner, S., Krämer, N., De Lorenzo, F., Michaelowa, A., Hoch, S., & Kessler, J. (2020). Article 6 Piloting: State of Play and Stakeholder Experiences. https://ercst.org/wp-content/uploads/2021/01/Climate-Finance-Innovators_Article-6-piloting_State-of-play-and-stakeholder-experiences_December-2020.pdf
- Joint Committee of the JCM-Japan and Mongolia. (2022). Rules of Implementation for the Joint Crediting Mechanism (JCM). https://www.jcm.go.jp/jc_decisions/1804/JCM_MN_RoI_ver05.0_track.pdf
- KliK Foundation. (2023). Personal communication with Klik Foundation representative.
- Kollmuss, A., Schneider, L., & Zhezherin, V. (2015). Has Joint Implementation reduced GHG emissions? Lessons learned for the design of carbon market mechanisms (SEI Working Paper No. 2015–07). Stockholm Environment Institute. http://sei-us.org/publications/id/550
- SEA. (2022b). MEMORANDUM OF UNDERSTANDING between THE SWEDISH ENERGY AGENCY, ON BEHALF OF THE GOVERNMENT OF SWEDEN and THE MINISTY OF ENVIRONMENT AND NATURAL RESOURCES, ON BEHALF OF THE GOVERNMENT OF THE DOMINICAN REPUBLIC RELATING TO COOPERATION FOR THE IMPLEMENTATION OF ARTICLE 6 OF THE PARIS AGREEMENT. https://www.energimyndigheten.se/48db4d/globalassets/webb-en/cooperation/international-climate-cooperation/mou-on-bilateral-cooperation-under-article-6-of-the-paris-agreement---sweden-and-dominican-republic.pdf
- SEA. (2023). Personal communication with SEA representative. Swedish Energy Agency.
- Shishlov, I., Bellassen, V., & Leguet, B. (2012). Joint Implementation: A frontier mechanism within the borders of an emissions cap (Cliame Report No. 33). https://www.i4ce.org/wp-content/uploads/12-03-Climate-Report-33-Joint-Implementation_CDC-Climat-Research.pdf
- Spalding-Fecher, R., Kohli, A., Fuessler, J., Broekhoff, D., & Schneider, L. (2020). Practical Strategies to Avoid Overselling (p. 29). Swedish Energy Agency. https://www.oeko.de/fileadmin/oekodoc/practical-strategies-to-avoid-overselling-final-report.pdf
- Spalding-Fecher, R., & Marcu, A. (2022). Developing an Article 6 Strategy for Host Countries [World Bank Working Paper]. World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/38343/IDU0837978e9078900439e0a6900c2088e8d91ea.pdf?sequence=1&isAllowed=y
- 't Gilde, L., Gema Andreo, V., & Greiner, S. (2022). Article 6 Transaction Structures. https://tcafwb.org/sites/tcaf/files/2022-05/Article%206%20Transaction%20Structures%20report_.pdf

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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**