International workshop

Fostering transformational change through market approaches under the Paris Agreement

A summary of key messages

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Publisher:
German Emissions Trading Authority (DEHSt)
Bismarckplatz 1
D-14193 Berlin
Phone: +49 (0) 30 8903 5050
Fax: +49 (0) 30 8903 5010
emissionshandel@dehst.de
Internet: http://www.dehst.de

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Content

1 Context of the research project and opening remarks

On 31 May 2021, an international workshop was organized by UNEP DTU Partnership, Perspectives Climate Research and First Climate (see Annex for the agenda). The virtual seminar took place as part of the research project "Transformation and Article 6", financed by the German Environmental Agency (UBA). The overarching goal is to develop an incentive structure for fostering transformational change through Article 6 activities. The workshop aimed at discussing the interim results of the research project. Moreover, this consultation with leading international experts generated further input for the main publication of the research project. The workshop brought together government representatives, market participants and researchers from around the world.

The workshop was opened by Malin Ahlberg from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), and Anne Götzinger from UBA. Both emphasized the aspiration for market-based approaches to promote transformational change, enhance the implementation of nationally determined contributions (NDCs) and contribute to long-term low emission development strategies (LT-LEDS). It was mentioned that the work of the research project is crucial to gain insights for Article 6 practical implementation. To do so, aspects that require further attention are additionality testing, baseline setting and how to enhance countries' NDC targets.

The workshop was moderated by Stephan Hoch, Managing Director at Perspectives Climate Research. He set the scene by highlighting that specific design options for market-based approaches under the Paris Agreement (PA) can activate or strengthen their transformational impact.

The workshop featured different types of presentations comprising on the one hand presentations from project team members to present the interim results of the research project funded by UBA and on the other hand input presentations from researchers and stakeholders serving as additional input but not directly related to the research project. The workshop presentations of session 1 and 2 have been recorded and will be published on the website of the German Emissions Trading Authority (DEHSt).

2 Session 1: Defining and operationalising transformational change for Article 6 cooperation

2.1 Introducing a definition of transformational change and transformation characteristics for Article 6 cooperation

The workshop started with a presentation from a project member Karen Holm Olsen, from UNEP DTU Partnership. She summarized outcomes from the first part of the research project funded by UBA and introduced the definition of transformational change for Article 6 as well as a taxonomy of transformational change characteristics for Article 6, both developed in the context of the research project on a conceptual basis. The transformational change definition used to guide the empirical research and the workshop is closely based on the Transformational Change Methodology by the Initiative for Climate Action Transparency[1] (ICAT) and reads as follows:

'*A fundamental sustained changed of a system that ends established high-carbon practices and contributes to a zero-carbon[2] society, in line with the Paris Agreement goal to limit global warming to 1.5–2°C and the United Nations Sustainable Development Goals'.*

[1] ICAT (2020) Transformational Change Methodology: Assessing the Transformational Impacts of Policies and Actions. Edited by K. H. Olsen, N. Singh, and (Eds.). Copenhagen: UNEP DTU Partnership; Washington, D.C.: World Resources Institute

[2] Zero carbon means "net zero carbon", which implies that some remaining CO_2 emissions can be compensated by at least the same amount of CO_2 removals, provided that the net emissions to the atmosphere are zero.

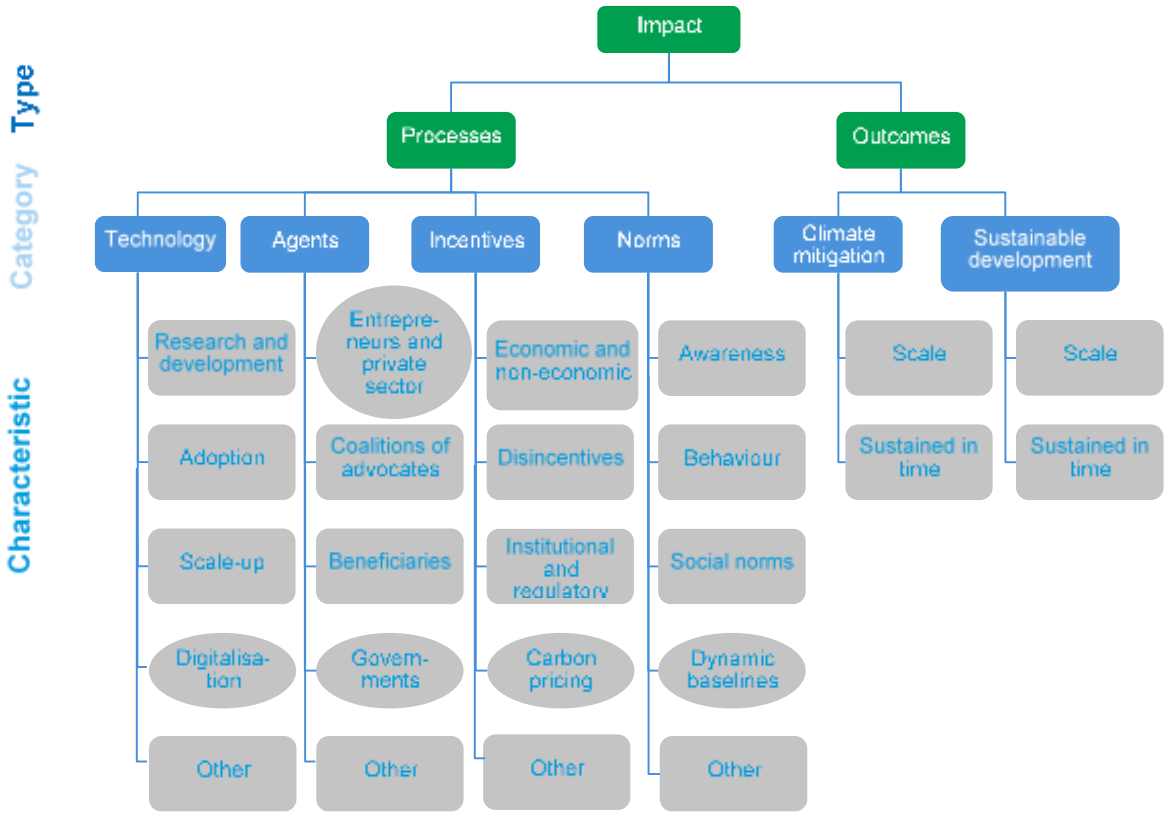

Figure 1: The proposed taxonomy of transformational change for Article 6 (Holm Olsen 2021)

2.2 An absolute approach to safeguard planetary boundaries for determining a safe and just operating space for Article 6 programmes

Morten Ryberg from the Technical University of Denmark (DTU), presented a tool to assess all relevant environmental impacts that an activity can generate. The 'Absolute Environmental Sustainability Assessment' (AESA) tool follows a life-cycle approach and is based on the idea that solutions should not only have to be good for the climate, but also for other aspects such as biodiversity. The AESA assigns a share of the safe operating space to an activity. The tool uses the Planetary Boundaries concept to identify other areas that need to be taken into consideration. Based on this, Morten Ryberg stressed that transformational change implies looking into different environmental areas, paying attention to the social aspects, and considering the different scales (e.g. local and international).

In the Q&A session, questions arose regarding the methodological part of the tool (e.g. data that could be used and level of analysis). The presenter indicated that the level of disaggregation is context-dependent (e.g. an analysis undertaken at a national level would be very aggregated). Similarly, it was discussed whether it is feasible to apply this tool at a local level and how to avoid having high transaction costs as in the Clean Development Mechanism (CDM). Concerning this, it was mentioned that although the methodology is still under development, the foreseen costs are high. In Denmark, the tool was piloted at a local level with private actors, costing nearly EUR 25,000.

2.3 Implementing the transformational change concept as additionality criterion for Article 6 to contribute to NDC ambition raising at the national level

Felipe de León from Costa Rica started his presentation by explaining how transformational change is linked to sustainability. He explained that for Costa Rica a deep transformation implies not only looking at CO_2 reduction but rather looking at the overall impact of the intervention including sustainable development (SD) impacts, positive and negative ones. It was also mentioned that the criterion of 'tipping points' will be included in the transformation concept, but no methodology or framework on how to include it has been developed yet. In addition, he explained that the decarbonization plan of the country embraces this transformational approach and that Costa Rica's robust MRV system (SINAMECC) allows to monitor the SD co-benefits of the mitigation activities.

After introducing how transformational change is linked with SD, the second part of the presentation focused on addressing how transformational change is linked with the additionality principle. He explained that in the context of the PA, the definition of additionality has to move away from its previous understanding. Additionality needs to be understood in light of countries' net zero targets, meaning a country should do everything to achieve net zero.

Bearing this definition in mind, the presenter introduced how Costa Rica expects to test additionality. For small scale activities additionality can be demonstrated by only proving how the activity is linked to the decarbonization plan. Conventional (medium) scale activities will need to demonstrate their alignment with the decarbonization plan and undertake an additionality assessment under a new definition. Large-scale activities will have to proof alignment with the decarbonization plan and undertake an additionality assessment in terms of how the policy or action is transformational. Transformational change impacts are thus an additionality criterion for large-scale activities.

In the Q&A session, further clarification was required in regards to how Costa Rica links the concept of additionality testing and transformational change and how 'acceleration' or 'fast forwarding activities' could be defined. The presenter indicated that the first step would be to clearly establish methodologies and criteria for project developers to self-assess the transformational impact of proposed Article 6 activities.

3 Session 2: Establishing an incentive structure for transformational change

3.1 Introducing an incentive structure for transformational change

Another presentation regarding the project funded by UBA was held by Stephan Hoch and Juliana Kessler from Perspectives Climate Research. They introduced a multi-layer incentive structure for how Article 6 can contribute to transformational change. They first outlined different conceptual options for Article 6 activities that either safeguard or strengthen transformational impact. Safeguards against negative impacts on sustainable development, overselling non-additional mitigation outcomes (MOs) or 'low-hanging fruit'. Moreover, stringent additionality testing and baseline setting represent safeguards against perverse market incentives on NDC formulation. An emphasis on the contribution to MO at scale as well as SDG outcomes at scale and sustained over time, are two potential design options for strengthening the transformational impact of activities. In addition, transformational impact can be strengthened through crediting periods which are linked to payback periods, digitalisation and the reflection of mitigation aspirations in baselines through more dynamic baseline setting. Transformational impact can be further strengthened through specific forms of public-private

cooperation and the removal of incentive structures that undermine efforts made through carbon pricing instruments such as fossil fuel subsidies.

They then introduced the proposed incentive structure comprising both regulatory and monetary incentives that can be provided at the international or national level. Regulatory incentives comprise the introduction of provisions at the international level that will only allow buyer countries to acquire ITMOs if their own NDC targets align with a 1.5°C or well below 2°C emissions pathway, to not allow the generation of credits that do not comply with the global budget of well below 2°C or even 1.5°C and the development of positive lists by host countries and/or buying entities that promote specific technologies with high abatement costs. Another regulatory incentive at the national level would be the exclusion/restriction of Article 6 activities that are not compatible with regional or national decarbonisation paths (e.g. LT-LEDS). Monetary incentives comprise the monetisation of specific activity design components that contribute to transformational change (e.g., sustainable development benefits, contribution to 'overall mitigation in global emissions') and ex-post price premiums if MRV shows strong performance on specific transformation characteristics. Another important monetary incentive could be the provision of ex-ante technical assistance for MRV of SDG impacts, so indirectly incentivizing the monetisation of activities' SDG benefits.

The presenters highlighted that the incentivization of transformational change will come with implications for key carbon market principles which need to be revisited. In the case of dynamic baselines, a balance would need to be sought between stringency and predictability, so that project developers have some degree of certainty on expected carbon revenues. It was concluded that transformational change is essential for achieving the goal of the Paris Agreement but that there are not agreed metrics or methodologies for transformational impact in place yet. Also, the emergence of transformational activities will also depend on the willingness to pay.

3.2 Introducing the case studies in Morocco, Costa Rica and Pakistan

In this module, Yves Keller from First Climate introduced the three case studies which have been assessed in the research project funded by UBA. The first case study is an Article 6 pilot activity promoted by the Foundation for Climate Protection and Carbon Offsets (KliK Foundation) to be implemented in Morocco. It is an activity aimed at generating energy from the organic waste sector, and the avoided methane emissions are intended to be certified and sold as ITMOs. The second Article 6 case study focuses on developing and promoting urban cycling in two municipalities in Costa Rica. This case was chosen because of its multiple co-benefits and sustainable development impacts. The third case study was conceptual and focused on assessing how Article 6 can be integrated into competitive auctions for renewable energy in Pakistan. It has a strong potential for transformational change due to its upscaled nature and its contribution to the proliferation of renewable energy technologies. The Article 6 activities in Morocco and Pakistan could both potentially generate MOs at scale. The Costa Rica case study is a novel micro-scale activity with multiple SDG benefits; MOs at scale would be reached only if the activity would be taken up in several cities. The Costa Rica Article 6 case study shows that low-tech solutions such as promoting biking and walking could play a larger role in the PA than in the CDM. 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. The Article 6 case study assessment revealed that baseline setting for transformational change requires more guidance and such approaches need to be strongly incentivized. Participants raised questions regarding the volume of mitigation outcomes expected from the case studies.

3.3 Host country engagement in Article 6 readiness activities and piloting

Syeda Hadika Jamshaid from the Ministry of Climate Change from Pakistan concluded Session 2 by giving an overview of Pakistan's engagement in Article 6 readiness activities and piloting. First, an

outlook of Pakistan's national circumstances and objectives was introduced to understand the context in which Article 6 is being considered. Then, an overview of the proposed architecture for carbon pricing in Pakistan was presented, as well as the different activities where carbon markets can support the reduction of GHG emissions. Pakistan is planning to design a domestic ETS framework, an MRV infrastructure and procedures including a roadmap and an action plan, a carbon pricing communication strategy as well as capacity building and training of the relevant stakeholders. She concluded her presentation by highlighting that carbon pricing can allow for a sustainable recovery in a post COVID-19 era, that international cooperation is critical to achieve cost efficiencies in mitigation and that effective communication strategies are needed to highlight the multiple co-benefits of carbon pricing.

4 Session 3: Considerations of implementing an incentive structure for transformational change

Session 3 of the workshop comprised three breakout group sessions which addressed the following topics: Additionality for transformational impact, baseline setting in line with transformational change and the promotion of sustainable development and mitigation synergies. Each of the breakout group sessions started with an input presentation (not directly linked to the research project) and was followed by the discussion of three guiding questions introduced by the moderator which are relevant for the research project. The discussions in the breakout group session took place under Chatham House Rules.

4.1 Additionality for transformational impact (and the role of negative and positive lists)

In the first breakout group session, Michael Gillenwater from the GHG Management Institute first gave a presentation on additionality for transformational impact. The presentation started with an overview of the definition of additionality in terms of the baseline scenario (a project activity should be distinct from its baseline scenario to be deemed additional). He stressed that without a defined baseline scenario, additionality cannot be identified. If the project does not strongly differ from the baseline scenarios, it is not additional. Then, the presenter commented on additionality in the context of the Paris Agreement and raised potential challenges for its implementation. Also, he mentioned that additionality and transformational change were two distinct aspects and that a best available technology (BAT) approach would be a practical approach to transformational change.

Some participants agreed with this distinction and raised the point that an activity should be additional and transformational (both terms are not the same, nor 'either' aspects). The subsequent discussion session focused on identifying possible ways to operationalize additionality in the context of the Paris Agreement. Positive and negative lists were considered a potentially good solution. In addition, linkages between those lists and the BAT approach were examined. Participants suggested to have a disaggregated approach to it as BAT differs depending on the respective geographies.

4.2 Baseline setting in line with transformational change

The second breakout group started with a presentation by Axel Michaelowa, Research Director at Perspectives Climate Research, who introduced the concept of a dynamic baseline which changes its stringency over time by applying an ambition coefficient to align with a 1.5°C emissions pathway. The concept should take into account the Common but Differentiated Responsibilities and Respective Capabilities principle which means that the normative reference needs to be reached faster by developed countries than by developing ones. This was followed by a presentation from Luca Lo Re who introduced the International Energy Agency's new report on "Net Zero by 2050: A Roadmap of

the Global Energy Sector". Luca Lo Re explained that around 50% of the technologies required for reaching net zero by 2050 are currently under development and not ready to be upscaled yet. Article 6 can help to channel investments to technologies that need to be scaled up. Besides, he argued that in light of IEA's report, carbon markets including Article 6 activities should consider shifting their focus gradually towards emission removals and that for emission avoidance and reduction projects baseline setting should become more stringent and robust through performance-based benchmarks, BAT or dynamic approaches.

The presentations were followed by a discussion along guiding questions which focused on how the ambition coefficient could be set including by which entity (e.g., CMA, Article 6.4 Supervisory Body, ITMO buyer club, host countries) and how the coefficient should be revised, the consideration of suppressed demand and alternative approaches to align baselines with the 1.5°C target. Participants raised skepticism that dynamic baseline concepts could be agreed on in the context of the international climate conferences. Besides, the need to take the demand-side into account was stressed regarding the modal shift towards technologies required for reaching net zero. Fears were raised that the generation of ITMOs could take away the drive for those technologies that are the most expensive. It was argued that if the ambition coefficient would be applied, an effect would be that in the evolving economies no credits could be received any more for standard-type of technologies within the next 10 years whereas in the very poor countries, credits for such a technology could still be generated within the next 30 years.

Regarding the practical implementation of such concepts, the ongoing Article 6 piloting efforts were discussed. One activity developer noted that the application of an ambition coefficient could be feasible from the buyer country perspective but that it would require extensive capacity building on the host country side. In addition, differences between Article 6 procurement programmes such as KliK, the Swedish Energy Agency and TCAF were discussed. The initiatives are trying to be innovative but they all have their challenges. Some of these activities and programs are now running for several years and have not really found a way to deal with this. There is a competition of concepts in place. Interestingly, there was a clear statement that those activities which are most hands-on sometimes developed the most robust approaches. A further point that was raised is that if one leaves it to the competences of the host country to decide on the right approach, one may see a situation where representatives have diverging opinions which impedes the process.

Regarding alternative approaches, one participant stressed that technology change could indeed be triggered by baselines, referring to the application of a BAT-based approach in the steel sector to move from carbon- to hydrogen-based technology processes. The BAT-based benchmark must consider technological alternatives such as hydrogen-based technology in this case. It was further stressed that a time restriction is required for crediting on the basis of a benchmark as crediting might not be acceptable anymore for some countries around 2035 which implies political steering.

What concerns the application of the ambition coefficient, various participants of the group were pushing for sectoral approaches even if the sector characteristics are very different, also against the background that some sectors need to reach net-zero earlier than others. Another debate evolved around the question whether the ambition coefficient for a country should be linked to a country strategy or to a normative approach which relates to the subject whether the Paris Agreement is actually able to achieve its ambition.

4.3 Promoting sustainable development and mitigation synergies, while safeguarding planetary boundaries and trade-offs for ambition raising and transformational impact

In her presentation Temuulen Murun from IGES shared the experience of Japan in linking the Joint Crediting Mechanism (JCM) with the SDGs. From an early stage, the JCM aims to design projects with an SDG perspective. Temuulen Murun explained that the JCM applies a sustainable development guidance to assess the negative impacts and the JCM project contributions to the Sustainable Development Goals (positive impacts) in the partner countries. She stressed the need to design and plan projects form the SDG perspective at an early stage.

It was first discussed whether the approaches to sustainable development assessment should be best developed at the international level – to enable comparison at the global level – or if they should be designed at a national level. The opinion was stated that like in the JCM case presented between Japan and Indonesia, a scheme under Art.6 could include a mandatory requirement for countries involved in the transaction to use a country-specific guide, maybe based on a general one, and decide the SD assessment tool to be applied. The only international obligation would be to have an SD assessment tool in place, without specifying which one exactly. Such a scheme would be something between mandatory-voluntary and between international-national levels and would fit the Art. 6.2 cooperative and voluntary spirit. It was also mentioned that apart from the mandatory SD assessment tool, setting some minimum requirements could also provide an element of homogeneity across countries.

The question if the planetary boundaries and social foundation framework to SDGs could help to avoid burden shifting and safeguard or avoid negative impacts, was affirmed. However, it was also stressed that the difficulty would be the frameworks' operationalisation. It was further stressed that the concepts are interlinked as they both pursue ensuring life and well-being. Some other similarities may lay in their use/operationalization as assessment tools (guidelines are good but tools are better). SD assessments using the global SDGs are usually very comprehensive and can therefore be applied anywhere. However, for that same reason, they are not very particular and might fail to capture local specific characteristics. This problem can be bypassed by developing country-specific tools like in Costa Rica (SINAMECC). As for planetary boundaries and social foundations, the development of tools that allows their use at country-level is still work-in-progress.

The last question focused on the comparability of assessment results across countries. It was pointed out that having the same assessment tools, however important they may be to facilitate comparison and ranking, only has a second-order relevance when compared with actions. Having an assessment tool in place is important, sharing the same tool is not as important. Besides, it was also mentioned that, even if there is no common tool, some degree of homogeneity and comparability can be enabled by setting minimum requirements to be fulfilled by all users when doing an assessment. Setting such minimum requirements would in turn raise questions on what these should look like, e.g. should it cover a procedural guidance only or also include safeguards for no-harm-done to avoid negative impacts. It was stressed that in the CDM context, the only minimum requirement in place is a letter of approval (LoA) by the host county that declares a particular project contributes to sustainable development. However, the criteria and evidence such an LoA statement is based upon was not always clear and varied from country to country.

5 Concluding remarks

Karen Holm Olsen noted that it is fascinating to see that transformational change is becoming a concept that people relate to not only in transparency but also in carbon markets. Besides, she

stressed that it is important to talk the same language on this concept of transformational change to enable ambition raising of NDCs.

Stephan Hoch closed the workshop by highlighting that we have little time to achieve the required transformation and that Article 6 carbon markets are among the tools that can be used to accelerate transformational change and enable NDC ambition raising. Still, as Article 6 rules have still not been finalized, it is important to generate practical experience with how carbon markets can contribute to transformational change through pilot activities.

In general, some of the presented transformation characteristics for ambitious Article 6 activities were met with broad agreement. Challenges regarding some transformation characteristics' practical implementation such as moving towards dynamic baselines through the application of an "ambition coefficient" were highlighted, but it was also recognized that transformational change will require innovative ideas. Regarding the transformation characteristic 'mitigation outcomes at scale, sustained over time', a tension was perceivable between top-down and bottom-up approaches. Even though small-scale, bottom-up approaches as in Costa Rica will be required, transformational activities need to be bold, meaning that an emphasis should be put on upscaling activities. This insight will be considered in the final report of this research project. Besides, the proposed incentive structure will put more emphasis on its practical implementation as some incentives (e.g., acquisition of credits only if buyer countries have stringent NDC targets) might not be implementable consistently at a global level. Overall, it became clear that the incentive structure needs to be embedded in the long-term evolution of the global carbon market landscape and architecture, which will itself see a transformation from mitigation activities focused e.g. on energy and industry sectors, to a gradual increase of GHG removal activities through natural and technical approaches.

Annex I: Agenda of the workshop

Table 1: Workshop agenda

Time	Topic	Speaker
14:00-14:05	Welcome remarks	Malin Ahlberg, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany
14:05-14:10	Context of the research project	Anne Götzinger, German Environment Agency
14:10-14:15	Introduction of speakers and agenda	Stephan Hoch, Moderator, Perspectives Climate Research
Session 1: Defining and operationalising transformational change for Article 6 cooperation		
14:15-14:35	Introducing a definition of transformational change and transformation characteristics for Article 6 cooperation	Karen Holm Olsen, UNEP DTU Partnership
14:35-14:45	An absolute approach to safeguard planetary boundaries for determining a safe and just operating space for Article 6 programmes	Morten Ryberg, DTU Sustainability, Technical University of Denmark (DTU)
14:45-14:55	Implementing the transformational change concept as additionality criterion for Article 6 to contribute to NDC ambition raising at the national level	Felipe de León, Ministry of Environment, Costa Rica – speaking here in a private capacity
14:55-15:15	Q&A session with the audience	
Session 2: Establishing an incentive structure for transformational change		
15:15-15:30	From conceptual options to strengthen the transformational impact of Article 6 to introducing an incentive structure	Stephan Hoch and Juliana Kessler, Perspectives Climate Research
15:30-15:40	Brief introduction of the three case studies Morocco: Organic waste to energy activity Costa Rica: Modal shift to non-motorised transport Pakistan: Integrating Article 6 in competitive power auctions	Yves Keller, First Climate
15:40-15:45	Host country engagement in Article 6 readiness activities and piloting	Syeda Hadika Jamshaid, Ministry of Climate Change, Pakistan
15:45-15:55	Q&A session with the audience	
15:55-16:10	**Break**	
Session 3: Considerations of implementing an incentive structure for transformational change		
16:10-16:15	Transition to Breakout Groups (BOG)	
16:15-17:00	BOG1: Additionality for transformational impact (and the role of negative and positive lists)	Moderated by Yves Keller, Input presentation by Michael Gillenwater (GHG Management Institute)
16:15-17:00	BOG2: Baseline setting in line with transformational change	Moderated by Axel Michaelowa, Input presentation by Luca Lo Re (IEA)
16:15-17:00	BOG3: Promoting sustainable development and mitigation synergies, while safeguarding planetary boundaries and trade-offs for ambition raising and transformational impact	Moderated by Karen Holm Olsen, Input presentation by Temuulen Murun (IGES)

Session 4: Discussion		
17:00-17:25	Reporting back from breakout groups and discussion	Summary by moderators and case study presenters, participants
17:25-17:30	Concluding remarks, wrap up	BMU, UBA Stephan Hoch (PCR) Karen Holm Olsen (UNEP DTU)