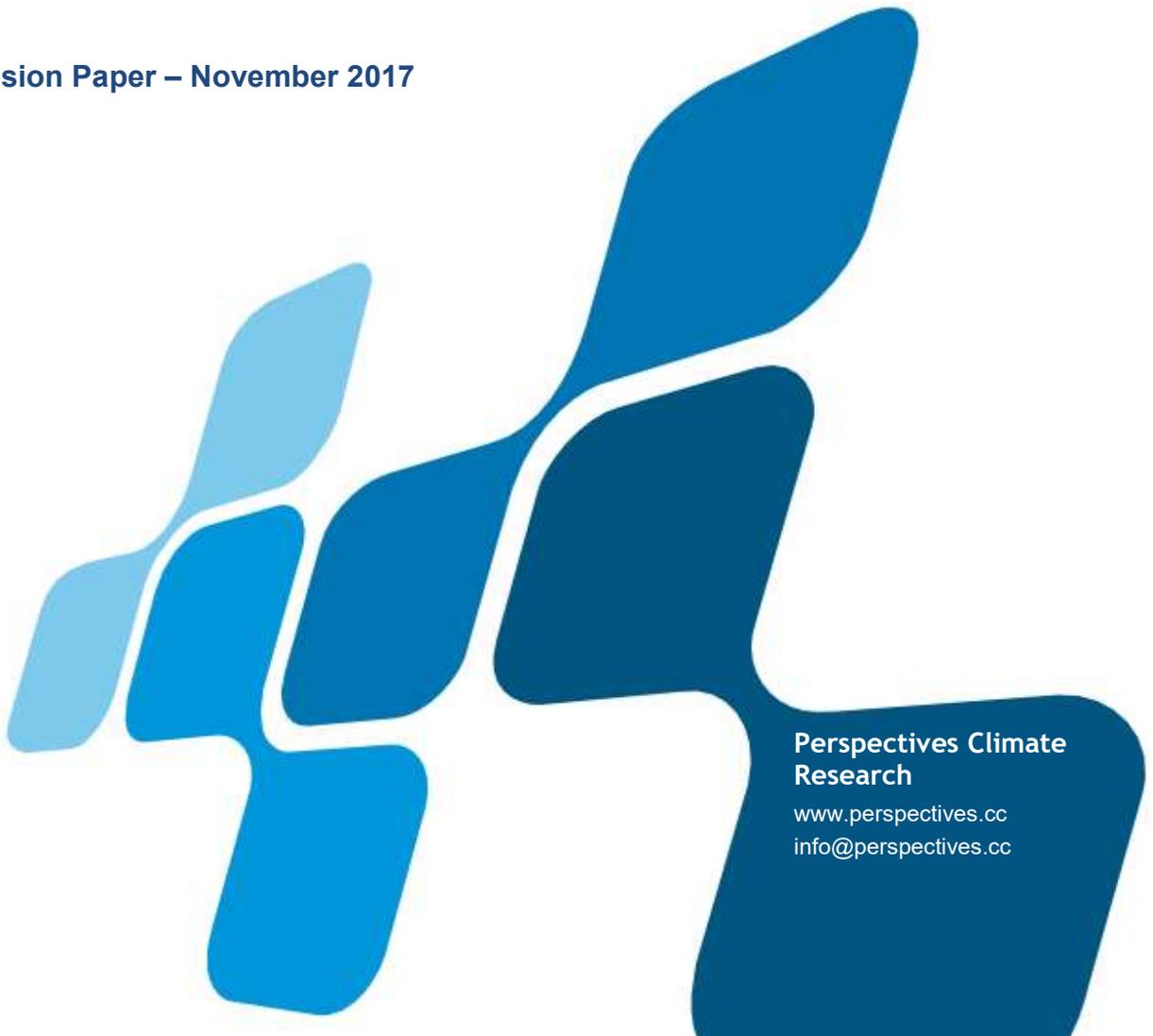


Ensuring additionality under Art. 6 of the Paris Agreement

Suggestions for modalities and procedures for crediting of mitigation under Art. 6.2 and 6.4 and public climate finance provision under Art. 6.8

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Preface

Rethinking additionality

One of the key issues mandated by COP 21 concerning Article 6 is drawing conclusions from the experiences of the Kyoto Mechanisms. There are many lessons to learn from all elements of the Kyoto Mechanisms. However, the lessons' relevance lies not in improving the existing mechanisms under the outdated conditions of the Kyoto Protocol, but within the intention to build the upcoming new carbon markets more efficiently and more environmentally sound. The approaches under Art. 6 must be designed to support increasing NDC ambition on the road to meet the long-term goals agreed in Paris.

The additionality of achieved emission reductions in conjunction with a complete system of robust accounting are indispensable elements of carbon market mechanisms. Regulations and practices under the Kyoto Mechanisms provide experiences with possible solutions and risks but cannot meet the broader requirements of ambition raising and 'progression over time' of the Paris Agreement.

Axel Michaelowa's considerations and reflections on a revised and expanded understanding of additionality lead to concrete suggestions on modalities, rules and procedures on Article 6.4 and, furthermore, to suggestions bearing in mind the different types of regulations formally required for the implementation of Article 6.2 and Article 6.8. Michaelowa and his colleagues underline that additionality requirements are key to carbon markets – but also necessary when climate finance will be used.

The progress of UNFCCC negotiations since Paris might be seen as slow, but the recent round of Article 6 submissions is promising and gives reason to expect that the upcoming meetings can and will concentrate on the core elements of Article 6. With that focus there might be a good chance to deliver regulations for the cooperative mechanisms as part of the Paris Rule Book in time.

This paper may help facilitate negotiations in an area which has largely not yet been covered.

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Executive Summary

Additionality of mitigation (and adaptation) undertaken through the “Paris Mechanisms” under Art. 6 is a crucial precondition for the credibility and long-term viability of these mechanisms. If non-additional activities generate mitigation credits under Art. 6.2 and 6.4 or receive public climate finance under Art. 6.8, the ambitious global targets of the Paris Agreement become more difficult to reach.

In determining the additionality rules for the Paris Mechanisms, the experiences with additionality determination under the Kyoto Mechanisms need to be taken into account. The lessons of the CDM are particularly instructive. During the CDM’s initial “gold rush” period, many non-additional projects were registered because project developers could claim additionality using an ill-defined “barrier test”. As a reaction, regulators replaced the barrier test by an investment test. Immediately, the share of non-additional projects fell substantially. Over time, the investment test was refined and default values for key parameters were introduced. Critics of the CDM’s additionality test argue that the testing was too complex and substantially increased transactions costs for project developers. Yet, it was required for safeguarding the environmental integrity of the mechanism.

Additionality determination is strongly dependent on the scale of an intervention, which can take the form of a specific project, a programme of activities or a policy instrument. Under CDM and JI, national policy instruments were not eligible for generating emission credits. With the advent of upscaled crediting under the Paris Mechanisms, it is important to understand when a policy instrument is additional. This is particularly relevant in the context of seller countries whose NDCs are generating “hot air”. It is important to understand the **level of ambition level of a NDC**, as this impacts the willingness of a country to sell “surplus” emissions (hot air). **Emissions sources/sectors not covered** under an NDC should not be eligible for Art. 6.2, and require a policy/activity-specific additionality test for Art. 6.4.

For Art. 6.8, the differentiation of policy interventions taken under “**conditional and unconditional**” parts of NDCs will be politically relevant. Unconditional policy interventions would be non-additional because the implementing country can implement them without external support. However, this might create a bias in favour of those countries that have defined less ambitious NDCs. An extra test for conditional NDC interventions therefore is adequate for measures under Art. 6.8.

Figure 1 summarizes the proposed additionality testing for Art. 6 mechanisms for a scenario of low-frequency national baseline checks and/or Climate Finance earmarking for Art. 6.2 and 6.4 activities.

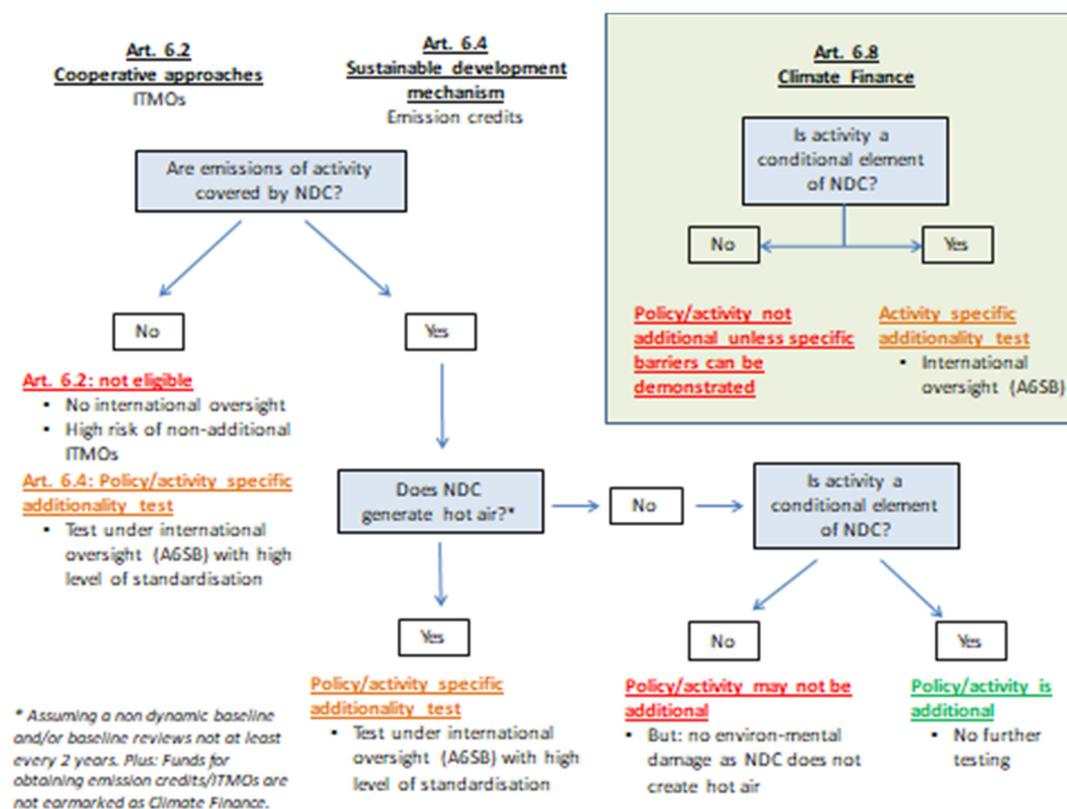


Figure 1: Overview of proposed additionality testing for Art. 6 mechanisms (Scenario of low-frequency national baseline checks and/or Climate Finance earmarking for Art. 6.2 and 6.4 activities)

Independent from the previous discussion, additionality testing should be differentiated by **type of policy instrument**. As a starting point for further discussion¹, we propose the following:

- *Regulatory mitigation policy instruments* that do not require large financial interventions should not be deemed additional unless real barriers are demonstrated e.g. required access to finance in foreign currency. In cases of regulation that mandates a certain efficiency of a technology, a pragmatic approach would assess the payback period that would lead to investment into that technology. Academic literature and industry practice agree that 4 to 5 years would be a typical threshold that would not be opposed by industrial lobbyists.
- *Carbon pricing policies* such as carbon taxes and emission trading schemes (ETS) could automatically qualify as additional provided the carbon price exceeds a certain threshold, which should be differentiated according to the development level of a country. We propose 5 €/ t CO₂ for developing countries and 10 €/ t CO₂ for industrialized countries. This assumes that political opposition, which is the key barrier for carbon pricing, is directly proportional to

¹ Further investigation would be required for elaboration of a more detailed proposal for policy-type specific additionality testing.

the price level. For emissions trading systems, a further test may be the stringency of initial allocation; systems with overallocation would fail that test. Seller countries could be exempted from carbon pricing instrument level additionality testing if they credibly show that their NDC mitigation targets go beyond business-as-usual.

- *Financial incentive schemes* - such as renewable energy feed-in tariffs, tax reductions for particularly energy efficient companies, financial bonuses for buying particularly efficient appliances (e.g. LEDs rather than incandescent light bulbs) or cars (including retirement payments) tend towards being additional, but would require further testing in the context of national circumstances.
- The same applies for *large infrastructure programmes* such as establishing/expanding/improving public transport. One can here draw from the lessons learnt in the CDM context.
- For *project and programme-type activities*, a thorough investment test with standardization of input parameters should be mandatory for all activities except the very smallest ones. The regulators should provide default values for rate of return thresholds applying the experiences used under the CDM.

These additionality tests should be defined in the form of methodologies that are approved by an “**Art. 6 Supervisory Board**” (**A6SB**). The A6SB would apply these methodologies directly under Art. 6.4, and outsource their implementation to governments in the case of Art. 6.2, provided that these governments use independent validators accredited by the A6SB. If it is impossible to agree on credible and conservative additionality tests in the context of Art. 6, a club of high integrity markets could agree on applying such tests for their credit purchases. The effectiveness of such an approach would depend on the size of the club and its market power.

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1. Introduction

The Paris Agreement (PA) has been a milestone achievement of international climate policy that gives rise to hope that global ambition to fight climate change will increase over the upcoming years. The PA sets out the long-term goal of keeping average global temperature increase to well below 2°C compared to pre-industrial levels, with an aspirational 1.5°C target. In contrast to previous treaties every country has the freedom to specify how much mitigation it wants to undertake in a “bottom up” process that results in the development of its Nationally Determined Contribution (NDC). In order to promote collaboration between countries for meeting the goals set out in their NDCs in a flexible and cost-effective way, the PA provides an array of market and non-market mechanisms in its Article 6.

More specifically, Article 6.2 defines Cooperative Approaches (CA) which can be used to transfer “internationally transferred mitigation outcomes” (ITMOs) to fulfill a country’s NDC targets. CAs are generally understood to be a means through which parties can trade ITMOs bilaterally or in groups for instance through greenhouse gas (GHG) crediting mechanisms, linking of emission trading schemes or direct government-to-government transfers. Article 6.4 establishes a new market mechanism for generation of emissions credits – often called “Sustainable Development Mechanism” (SDM) – which is centrally governed by a United Nations Framework Convention on Climate Change (UNFCCC) body and building on principles of the Kyoto Protocol’s Clean Development Mechanism (CDM). In contrast to the SDM and CAs, Art. 6.8 provides a framework for non-market approaches, which does not allow transfer of mitigation outcomes. At this point in time it is unclear how such approaches will function at the end; Art. 6.8 might for example become a framework for public climate finance flows². The detailed rules and procedures for the Article 6 mechanisms are to be defined in the second half of 2018 at the latest. This process can be compared with the negotiation of the Marrakech Accords, which specified the rules for the Kyoto Mechanisms, in the years following the agreement on the Kyoto Protocol. However, given that no convergence of views on the scope and design of the mechanisms could be observed even after the spring negotiation round of 2017, the timeline becomes increasingly elusive.

A key challenge for the new mechanisms will be the demonstration of additionality of mitigation activities under all the sub-articles of Art. 6, and potential adaptation activities under Art. 6.8. The PA decision text states that Article 6.4 rules and procedures should *only* honor “reductions in emissions that are additional to any that would otherwise occur” (UNFCCC 2015, p. 6). Additionality is a critical issue for every activity benefitting from carbon markets or public climate finance. No donor wants to spend money on climate action that does not really contribute to mitigation, adaptation or development because it would have happened anyway. If it would have happened anyway, the

² As a first attempt for operationalization of Art. 6.8, the AfDB (AfDB 2016) has proposed the Adaptation Benefit Mechanism (ABM) describing its potential technical features and governance arrangements and suggesting a pilot phase before 2020.

scarce climate finance resources would be wasted. Only if there is trust that activities credited under Art. 6.2 / 6.4 or receiving public climate finance under Art. 6.8 are actually enabled only through the revenue from the sale of carbon credits or public funding, respectively, the Paris Mechanisms can be politically sustainable. Otherwise, mitigation ambition (and adaptation outcomes) of the Paris Agreement would be diluted, due to spurious mitigation credits and diversion of climate finance to business as usual activities.

A political problem is that the concept of additionality has been contested in the context of the Kyoto Protocol's Clean Development Mechanism (CDM) and Joint Implementation (JI). Moreover, it has proven to be complex when it came to practical implementation. Ever since the advent of market mechanisms and climate finance, some actors wanted to reduce complexity of mechanism rules, speed up the disbursement of climate finance or get cheap emission credits regardless of whether the underlying activity was really additional. Others intended to uphold the environmental integrity of carbon markets and strive for efficient spending of international climate finance.

In order for the Article 6 mechanisms to become functional instruments that provide real mitigation (and adaptation) outcomes it is necessary to learn from past experiences. Over a decade of experience with the CDM and JI have shown what works and what does not work with regards to mitigation projects and programmes under a situation where the seller country has no mitigation commitment (CDM), and where it has an absolute, multi-year commitment (JI). It also has shown that it matters whether the mitigation commitment is going beyond business-as-usual or whether "hot air" is generated due to an inflated baseline for country emissions.

The Paris Mechanisms go beyond the Kyoto Mechanisms in the sense that they are likely to include crediting of policy instruments. Moreover, seller countries now have very different types of mitigation commitments ranging from economy-wide, absolute multi-year emission budgets to lists of sub-sectoral activities whose outcomes are not framed in GHG-related terms. An additional layer of complexity is the varying level of ambition of NDCs.

The objective of this paper is to provide suggestions for additionality rules in the context of:

1. Mitigation activities under Article 6.2 and 6.4 that generate emissions credits, taking into account the degree of coverage of the NDC and whether the NDC of the seller country could generate "hot air"
 - a. Generation of ITMOs/emission credits from "baseline and credit" systems
 - i. Projects
 - ii. Programmes
 - iii. Policy instruments
 - b. Generation of ITMOs from "cap and trade" systems
2. Mitigation and adaptation under Article 6.8 that receives public climate finance

2. Relevance of additionality in the bottom up system of the Paris Agreement

2.1. Origin and early stages of additionality testing

The question of whether a project is “additional” has emerged in a variety of contexts over the last two decades, not only for environmental protection projects but also for the financing of development projects in general. What should be kept in mind is that applying the concept of additionality is an inherently political issue.

Two major climate finance vehicles, namely the CDM and the Global Environmental Facility (GEF) highlight how policy-makers learnt and applied additionality over time. With the establishment of the Multilateral Fund of the Montreal Protocol in 1991 and the GEF appointed as “financial mechanism” for the Montreal Protocol in 1992, a first vision on the application of additionality was formulated. In the context of GEF, the “incremental cost” analysis in project approval decisions gained momentum. Relative to a specified baseline, these institutions would only cover the incremental part of a proposed project’s financing needs (Michaelowa 1998; Figueres and Streck 2008). Resources from the GEF could only be used to cover the additional costs that are incurred by project owner transforming a project with national/local benefits into one with global environmental benefits, e.g. mitigation of GHG emission reduction.

Although the concept of additionality had been discussed in the context of market mechanisms since the establishment of the Clean Air Act of the United States in 1977, consensus on the application of additionality only started to emerge in the context of CDM and Joint Implementation (JI). The CDM meth panel developed a first version of the CDM Additionality Tool in 2004, which included several tests – regulatory, investment, barrier, and common practice tests – by which to assess the additionality of a proposed project (UNFCCC 2004). Until today the validity of CDM additionality has often been subject to criticism by researchers, NGOs and negotiators that spilled over into the media (Michaelowa and Purohit 2007). The criticism focused on the fact that project developers and governments tried to game the CDM (and Joint Implementation (JI)) system and evaluations showed that projects have been approved that were clearly not additional. In response, elaborate investment tests were set up and have functioned reasonably well, but generated significant transaction costs. However, the collapse of the CDM market has led to the regulators becoming more lenient again by introducing automatic additionality for activities below a certain size, or positive lists of activities in order to “save” the remnants of the market.

2.2. Why additionality testing is required for Art. 6 mechanisms

If there were no additionality requirements, the following advantages would result:

- Savings of transaction costs on an aggregated level because valuable negotiation time could be reallocated to other, critical issues-no political agreement on additionality concepts for Art. 6 mechanisms is required
- No costs for implementation of additionality checks for projects/activities – i.e. costs for additionality testing, validation, monitoring, verification.

However, the disadvantages of missing or insufficient additionality tests for Art. 6 activities are huge:

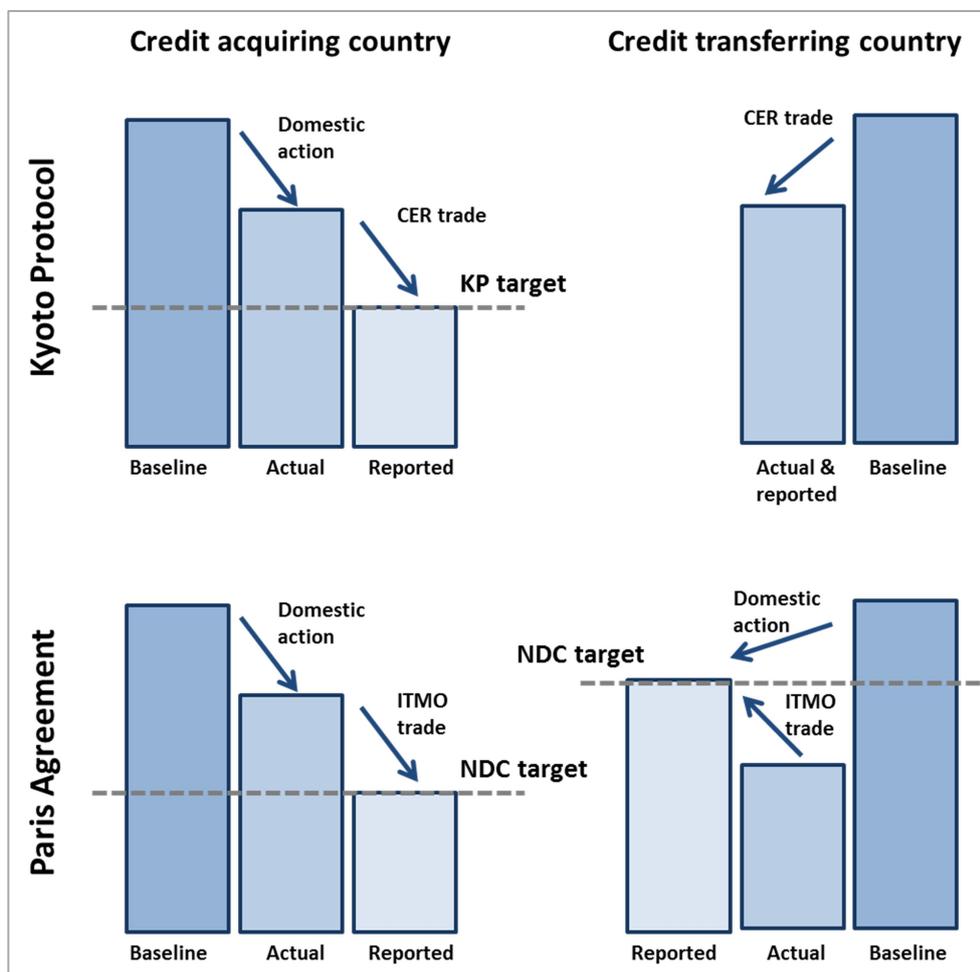
- Funding of non-additional activities wastes scarce funds available for mitigation and adaptation.
- Only the country that receives funding for non-additional activities profits from that funding, whereas 154 countries³ plus the donor country are losing out.
- In terms of reaching the ultimate objective of the UNFCCC and in terms of suffering from the negative impacts of climate change, even 196 countries lose out – while only the country gains that receives funding for a non-additional activity.

As of August 2017, 159 Parties have ratified the PA and committed themselves to mitigation targets set out in their NDC (UNFCCC 2017). The fact that all countries now have targets may lead to the perception that there is no additionality issue because issuance of non-additional credits by a government leads to a higher mitigation need to reach its NDC. This argument had already been applied during the definition of rules for JI under the Kyoto Protocol, leading to the specification of two “tracks” – Track 2 with international oversight through the JI Supervisory Committee that applied additionality testing comparable to the CDM, and Track 1 where the host country could issue emission credits at its discretion.

However, as it turned out in the case of JI, some countries in transition whose emission budget was not binding due to business-as-usual emissions being below the Kyoto targets created hundreds of millions of spurious JI emission credits within a few weeks under Track 1 (Kollmuss et al., 2015). A repetition of this “laundering of hot air” would be contradictory to the ultimate objective of the UNFCCC as well as of the PA and must therefore not be allowed in the context of Art. 6 mechanisms. Figure 2 below visualizes the interlinkages of Art. 6 transactions between countries.

³ 197 Parties to the UNFCCC minus 43 Annex-I Countries.

Figure 2: Negative impacts of hot air on global mitigation efforts in case of insufficient additionality testing in Art. 6 mechanisms



Source: adapted from Spalding-Fecher et al. (2016)

There would not be a need for additionality tests for Art. 6 mechanisms if

- a) all countries had ambitious NDCs with a sufficient level of stringency, and
- b) if all NDCs would cover all sectors and emission sources. Countries with ambitious targets have an interest to only transfer credits for *real* emission reductions (if at all) to other countries.

Allowing crediting of non-additional activities would put achieving their NDC target at risk. In other words, if emission reductions that did not really occur would be transferred out of a host country, it would make the achievement of its NDC target more difficult⁴.

⁴ Assuming a comprehensive accounting scheme (national inventories) and ambitious NDC targets.

2.2.1. Generation of “hot air” through NDCs

Through implementation of Art. 6 mechanisms, NDC targets and baselines become interconnected. Under the PA, countries are free to choose baselines as per their political priorities. Projecting future emissions is a process that is highly dependent on variables such as economic and population growth, change in economic structure and energy prices.

Any situation where the mitigation target is less stringent than a credible business-as-usual (BAU) path generates “hot air”. In this case no mitigation actions beyond existing policies would be required to meet the target (Kollmuss et al. 2015). Governments serve for short periods and have an interest in revenues that accrue now while costs are shifted towards the future. So they will be happy to sell credits issued against an overstated baseline.

Looking at the baselines in current NDCs, it is likely that many countries could issue credits against overstated baselines. Schneider et al. (2017) compared NDC targets with independently developed BAU emission projections in order to explore to which extent NDC targets will contain hot air. They found that in the lax-target scenario (only unconditional targets) there would be 3.5 Gt CO₂eq of hot air, which represents 66% of emission reductions from ambitious countries with NDC targets below BAU. The ten countries Russia, Turkey, Paraguay, Vietnam, Nigeria, Bangladesh, Ukraine, Burundi, Kenya, Burkina Faso and the Democratic Republic of Congo are responsible for 79% of hot air in the low target scenario. A particularly striking case is Turkey whose NDC has been rated by the NDC analysis platform Climate Action Tracker as “inadequate”. Without land-use, land-use change and forestry (LULUCF) emissions, Turkey’s NDC target represents a 389% increase in emissions from 1990 levels by 2030, while the baseline increases by 512% from 1990 (Climate Action Tracker 2017). In the strict-target scenario (unconditional and conditional) there would still be 2.2 Gt CO₂eq of hot air, representing 22% of emission reductions from ambitious countries with NDC targets below BAU (Schneider et al. 2017).

2.2.2. Emission sources not covered by NDCs

Various countries have NDCs whose mitigation contribution excludes certain sectors. Approximately 6.1 Gt CO₂eq corresponding to 12-14% of projected emissions in 2030 are not covered by targets under current NDCs (Schneider et al. 2017).

These emission sources are principally outside of the Paris mitigation system and thus can be addressed in a way similar to the CDM under Art. 6. This means that additionality of emission credits or ITMOs from mitigation in sectors not covered by NDCs must be ensured as one would otherwise reduce mitigation ambition – potentially on a significant scale. Depending on the degree of international oversight, Art. 6.2 and Art. 6.4 activities may have to be treated differently.

If Art. 6.2 is devoid of international oversight, the risk of governments agreeing on a transfer of non-additional units is very high. Thus, activities in sectors outside of NDCs should not be eligible under Art. 6.2.

Art. 6.4 activities will be subject to international oversight in a way similar to the CDM, which allows to apply stringent additionality rules to activities outside NDCs. Thus, the generic rules proposed below should apply.

The situation gets more complex when in the future through the revision of NDCs non-covered sectors are brought “under” the NDC. This would lead to a situation where the seller country needs to decide whether to continue selling the credits or to use the mitigation to reach the NDC target. This situation would lead to a loss of revenue and therefore it has been argued that it disincentivizes expansion of NDC coverage.

2.3. Possible generic additionality definitions for Art. 6 mechanisms

There is not yet a definition of additionality in the context of Art. 6 mechanisms of the PA. While the ultimate objective is to ensure the environmental integrity of Art.6 and the PA, one first needs to have a common understanding of the additionality concept. A lot of intelligence has been created over the past 17 years at the UNFCCC Secretariat, which should be applied for the concrete design and implementation of Art. 6.4.

Under the Kyoto Mechanisms, additionality has been defined as an activity being different from BAU (“additional to any that would occur in the absence of the certified project activity”).

While this definition appears suitable for projects and programmes, where BAU can be defined in terms of economically rational behavior of project/programme proponents, it is challenging for policy instruments. How can BAU be defined for a policy instrument or for an entire sector/country? This is the problem which led to the exclusion of crediting for policy instruments by the CDM Executive Board.

Defining **BAU on the country level** could make use of economic/energy modelling, which has been routinely done in the past. The problem is that BAU forecasts have often proven remarkably off the mark, especially if they are to cover long time periods. This is due to unforeseen changes in technology that influence prices of different fuels and types of energy, shift the shares of economic sectors in the total economy, as well as unexpected economic crises. The former is illustrated nicely through the unexpected reduction in costs of solar photovoltaics, which have made that technology competitive much earlier than thought only a few years ago. The latter is illustrated by the financial and economic crisis of 2008, which led to much lower levels of industrial production for a number of years than forecast before 2008. This wreaked havoc in the EU emissions trading scheme because

the allocation of allowances had been made on the basis of the pre-2008 forecasts, and thus the system became heavily overallocated.

Simplified approaches for country-level BAU determination proposed in the past include:

- Extrapolation of historical emissions trends. This approach suffers from its lacking ability to consider surprises (see discussion in the preceding paragraph)
- Use of benchmarks (e.g. tCO₂-eq/USD GDP). This suffers from the challenge of disaggregation. A unique benchmark for all countries could not take into account differences in country factor endowments, renewable energy potential, economic structure etc. Taking each country's unique situation into account would lead to a country-specific benchmark, which would require country-specific studies and, hence, efforts.

A possible solution to the BAU forecasting problem on the country level is use of a “**dynamic**” **baseline** approach, where the baseline calculation is defined ex-ante, but the parameters that enter the calculation are only quantified ex-post. We suggest testing dynamic baselines during the first revision of the NDCs. Alternatively, the frequency of country-level BAU baseline emissions needs to be sufficiently high – e.g. at maximum every two years.

Obviously, the challenge remains how to introduce a country-level BAU assessment process under the current PA rule negotiation process, given the difficulty to even get agreement on transparency provisions for NDCs.

If countries are not willing to agree on dynamic baselines or highly-frequent baseline updates (max. every 2 years) with standardized procedures, the only other option to ensure environmental integrity is to implement policy specific additionality tests (see section 0 below).

3. Additionality in the context of conditional and non-conditional NDC components in the context of Climate Finance

3.1. Climate finance and additionality under the conditional part of the NDC

Most NDCs of developing countries consist of two mitigation components – one conditional on international finance and a non-conditional one. Under the non-conditional pledge, a variety of different measures and policies are expected to be implemented without financial support from industrialized countries. In principle, the non-conditional part formulates a scenario where new climate policies are implemented as BAU before external financial support is received. However, countries could still decide to sell credits from mitigation action under the conditional part (and strengthen other policies in order to reach the target). In the following discussion, we differentiate two scenarios.

Scenario 1 assumes that acquisitions of credits/ITMOs under Art. 6.2 and 6.4 are not labelled as international climate finance by the buyer countries. For those credits, it does not matter under which part of the NDC the activity happens as long as it can be proven that the activity itself is additional (see section 4 below). Given that revenues from Art. 6.8 will be seen as international climate finance, a principal approach could be to see the non-conditional scenario as baseline for any Art. 6.8 activity and then check each activity separately for the sources of finance it is receiving. This baseline is likely to represent what would happen without support through Article 6.8. Activities that are already receiving international financing would only be seen as additional if this financing is insufficient to implement the activity. The strong advantage is that this approach is – in contrast to former approaches - not backwards looking but instead future oriented because it anticipates the introduction of policies that planned in the NDC's non-conditional part.

However, such an approach comes with significant challenges given the significant differences of the current NDC “patchwork”. On the one hand, the NDCs differ from each other in terms of their understanding of conditionality. Negotiators are required to define what “unconditional” and “conditional” actually means. Other challenges concern technical issues such as differing time frames, the level of aggregation in the country (crediting mechanisms would require project, programme or at least sectoral targets or baselines) and varying target types (e.g. India's intensity target). Finally, and most importantly, the ambition of pledges plays an immense role (see discussion in section 2.2.1).

Scenario 2 assumes that cash-flows under Art. 6.2 and/or Art. 6.4 are (partially) labelled as Climate Finance. In this case, it matters and should lead to policy/activity specific additionality testing.

3.2. Additionality under the non-conditional part of the NDC

Assuming that the non-conditional elements of an NDC can be implemented as planned, the non-conditional NDC constitutes the baseline for any activities beyond what has been described in the NDC. Then, any such activity would not require a distinct additionality check if the baseline underlying the non-conditional part is seen as conservatively reflecting business-as-usual. This situation would be akin to JI without “hot air”, where the government decides which mitigation units to sell and which to keep.

The discussion above shows that for the environmental integrity of Art. 6 mechanisms the level of ambition of NDCs is crucial. No country will publicly admit that its NDC was not sufficiently ambitious.

As described above, one solution would be **to centralize the calculation of emission baselines** for each sector that will host an Art. 6.2 or 6.4 activity. Upon the (voluntary) request of a Party, the Art. 6 Supervisory Board (A6SB) would define the baseline emissions according to a standard methodology. The same standard methodology would be applied to all countries that plan to host an NDC in that sector, and it would apply as many default values (e.g. population growth, GDP data, emissions intensity factors) as possible.

This centralization of baseline emission calculation would be an improvement and simplification of CDM rules, and would create more trust of all countries that the results are not biased. At the same time, it would explicitly NOT be a judgement of the level of ambition of a country’s NDC – which might not be acceptable politically. In addition, the participation in Art. 6 mechanisms is voluntary, so Parties would not have to fear an external control unless they voluntarily decide to use Art. 6 as a host/receiving country.

If Art. 6.8 is interpreted in the sense that it will be used for activities that receive climate financing without generating credits, countries wanting to receive funding could propose their measure on a platform administered by the A6SB provided the activity passes the relevant additionality test.

4. Proposed step-wise approach for additionality determination of Art. 6 mechanisms

In the previous paragraphs, we have discussed a high number of factors that influence the necessity and potential character of Art. 6 additionality determination. In order to create a manageable process while considering all these important parameters, we propose a step-wise approach.

Doing so, we differentiate between a scenario in which Parties agree on a high-frequency of BAU emission updates (i.e. at least every 2 years in order to reduce the hot air risk) or better “baseline stringency” and a scenario with low BAU update frequency. The latter has a higher hot air risk and therefore requires a more stringent additionality approach.

4.1. High-frequency BAU determination and no Climate Finance earmarking for Art. 6.2 and 6.4 activities

In a scenario of high-frequency verification of baseline stringency of ambitious NDCs through e.g. the A6SB and in which funding for Art. 6.2/6.4 purchases is not earmarked as Climate Finance, a project-specific additionality testing may not be required.

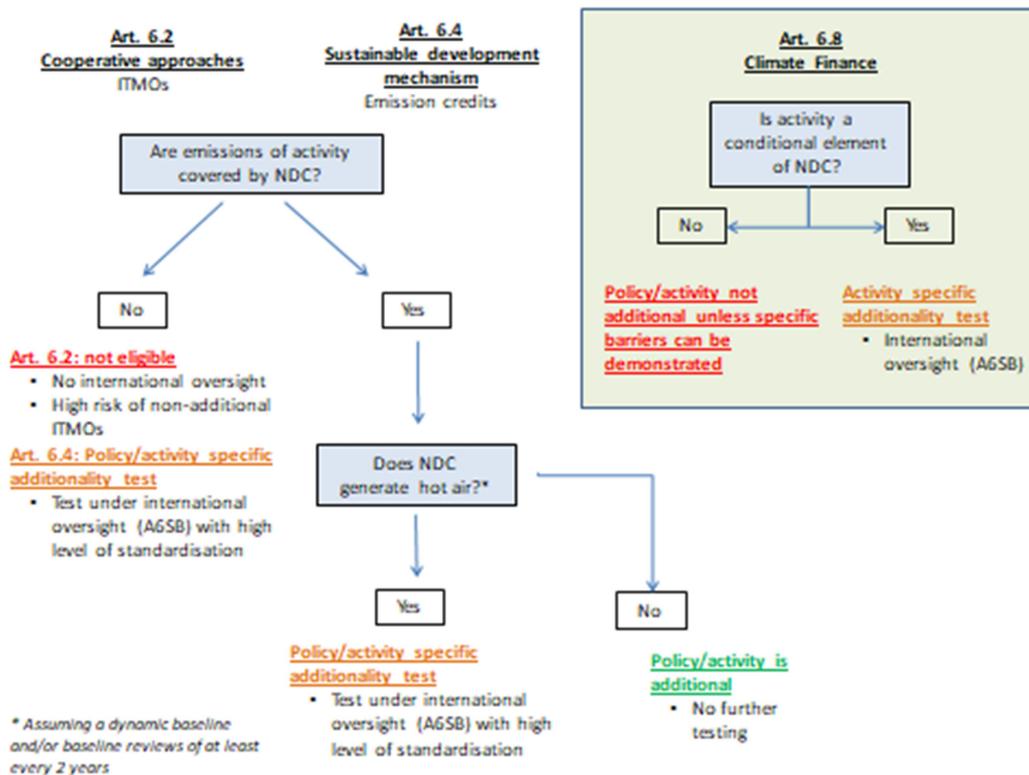


Figure 3: Proposed additionality testing for Art. 6 mechanisms (Scenario of high-frequency national baseline checks and no Climate Finance earmarking for Art. 6.2 and 6.4 activities)

4.2. Low-frequency BAU determination and/or Climate Finance earmarking for Art. 6.2 and 6.4 activities

In this scenario, we argue for a policy/activity specific additionality test for all Art. 6.2/6.4 activities that take place in countries where baseline stringency is not verified by A6SB at least every two years (or that apply a dynamic baseline).

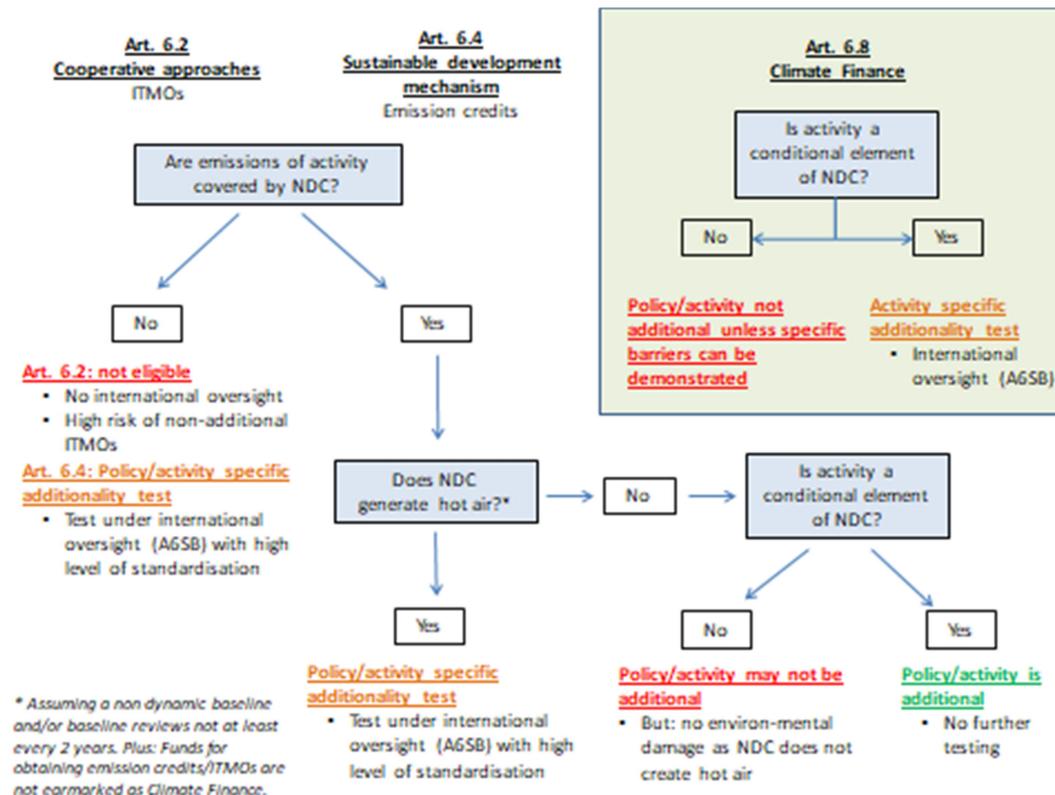


Figure 4: Proposed additionality testing for Art. 6 mechanisms (Scenario of low-frequency national baseline checks and/or Climate Finance earmarking for Art. 6.2 and 6.4 activities). Note that this figure is identical with Figure 1 at the beginning of the document.

Note that we also argue for policy/activity specific tests if funding for Art. 6.2/6.4 purchases is earmarked as Climate Finance.

5. Additionality of policy instruments

Crediting of policy instruments or mitigation achieved by entire sectors is seen by many as an important component of the Paris Mechanisms. How can additionality of policy instruments be determined without having to assess each mitigation action triggered by the policy instrument? Principally, a policy instrument can be seen as additional when its costs exceed its benefits. A policy instrument could also face prohibitive barriers that are overcome by an outside intervention. For each type of policy an additionality test should be defined by the Art. 6 Supervisory Board (A6SB).

5.1. Regulatory instruments

Generally, regulation addresses mitigation which in principle would be profitable (so-called “no-regret options”) but is not undertaken in the business-as-usual situation due to incentive problems like the famous tenant – owner dilemma preventing efficiency improvements in buildings, or lack of information about technology performance and failure risk. In contrast to that, carbon pricing aims at mobilizing mitigation that has costs and thus would not be undertaken under business-as-usual even in the absence of information or incentive problems. As far as a country benefits from the removal of incentive-related barriers, such regulatory instruments should not be deemed additional unless real barriers are demonstrated e.g. access to finance in particular foreign currency. In cases of regulation that mandates a certain efficiency of a technology, a pragmatic approach would assess the payback period that would lead to investment into that technology. Academic literature and industry practice agree that 4 to 5 years – i.e. an internal rate of return of around 20% per year would be a typical threshold. While this rate of return is way above interest rates on capital markets, industries apply these high rates due to perceptions of risk. Experience with regulation in industrialized countries shows that opposition by industrial lobby groups is relatively low if regulation harnesses “no-regret options” but increases steeply if going further. We thus propose to introduce a payback period threshold for additionality testing of regulation.

5.2. Carbon pricing instruments

Instruments that generate an explicit or implicit carbon price are diverse, ranging from ETS and offset schemes to carbon taxes. Usually, the stringency of the system is reflected by the price level. Systems have a high price if units are scarce, due to a demand overhang. However, systems can still have positive prices even if there is no immediate scarcity as shown in the EU ETS when banking of units into the future is allowed.

Positive carbon prices can make political sense even in the absence of climate change concerns as they generate sustainable development co-benefits, such as improved health due to lowered air, water and soil pollution. For example, in China a main reason for introduction of an emission trading

scheme is the popular pressure to reduce the extreme levels of urban air pollution. Theoretically, a carbon pricing system would be additional once the costs of the scheme exceed the co-benefits. However, it is usually rather difficult to measure and monetize the co-benefits. Moreover, experience with the development of Nationally Appropriate Mitigation Actions (NAMAs) in developing countries shows that policymakers often do not believe in the actual generation of the co-benefits. We thus do not further pursue the approach of cost-benefit testing of policies for additionality assessment.

While carbon pricing schemes can be designed in a way to fully “recycle” revenues, they will mobilize opposition by those entities that have to pay the carbon price. This is especially the case when the price cannot be “dodged” as in the context of a carbon tax without exemptions. Thus, historically it has been difficult to introduce carbon taxes that cover the entire economy. Even in rich and progressive countries like Sweden, it took more than a decade after the introduction of the carbon tax to expand its coverage to industry. In all countries, the initial level of the carbon tax universally was low and could only be increased in steps over time.

In contrast, an emission trading system allows entities operating in sectors without international competition to pass through allowance prices to the consumer, essentially not leading to any cost for the entities. If the allowances were allocated free of charge according to historical emissions, these entities would even make “windfall profits”, as happened in the EU ETS. Lobbying also was almost universally able to reduce the stringency of allowance allocation, which is the reason for almost all current ETS to be overallocated.

We therefore assume that lobbying against a carbon pricing system is proportional to the price level. Applying historical experience, carbon prices of up to 5 €/t CO₂ are politically feasible even in emerging economies such as China (ETS), India (coal tax), Chile and Mexico (carbon tax). Political opposition gets stiff at prices above 15 € t CO₂ as seen in Australia and the EU; no emerging economy system has a carbon price of that level.

We thus propose to apply a differentiated threshold system for additionality of carbon pricing:

- Carbon pricing is not additional anywhere if the average price over more than a year lies below 5 €/ t CO₂
- Carbon pricing is not additional in industrialized countries if the average price over more than a year lies below 10 €/ t CO₂

Many stakeholders propose that Art. 6.2 should allow generation of ITMOs through linking of ETS. Given the proliferation of overallocated ETS, we propose that for ETS regardless of their price a further test of the initial allocation is undertaken. ETS with an overallocation would not be seen as additional and could not generate ITMOs.

Given that countries should be free to choose their set of policy instruments if their NDC mitigation targets are credibly found to be stringent, they should be exempt from carbon pricing additionality testing in that case.

5.3. Subsidies for mitigation technologies and budget allocations for large infrastructure programmes

Subsidy schemes such as feed-in tariffs for renewable energy or grants for low-carbon investment are easier to implement than carbon pricing schemes due to political economy reasons. Subsidies usually benefit a very specific group of actors that lobbies for the introduction of the subsidies. Historically, mitigation subsidies have only emerged when lobby groups producing mitigation technologies had become strong, as shown in the context of wind and solar energy in Denmark, Germany and Spain.

A similar reasoning applies to grants or public budget allocations to large infrastructure projects. Classically, investment costs for urban mass rapid transport systems are very high and never justified by climate change mitigation alone.

Subsidy schemes have very different designs so it is not easy to choose a clear indicator for their additionality. A starting point may be to calculate an implicit carbon price and then apply the thresholds defined in the section on carbon pricing schemes.

6. Additionality testing of projects and programmes

For project and programme-type activities, the erosion of environmental integrity through positive lists and automatic additionality seen during the last years of the CDM should be stopped. Rapid increases in attractiveness of low-carbon technologies, e.g. seen for photovoltaic and wind power plants need to be captured by additionality tests. While real economy barriers such as limited availability of foreign currency may remain prohibitive for renewables in some low-income countries, their additionality cannot be convincingly explained in more mature emerging economies. A thorough investment test with standardization of input parameters should be mandatory for all projects and programmes under Art. 6.4 except the very smallest ones. Baseline and credit systems under Art. 6.2 should apply the same tests.

7. Recommendations for the negotiations on Art. 6

Coming back to the structure established in the introduction, we propose the following

1. Regardless of whether activities are undertaken under Article 6.2 and 6.4, it needs to be checked whether the NDC of the seller country could generate “hot air”. In that case, specific additionality testing for **all** activities is required. The same is the case for activities not covered by the seller’s NDC.
2. ITMOs/emission credits can be generated from “baseline and credit” systems if
 - a. Projects pass an investment test with standardized input criteria, comparable to the checking of a loan application by a financial institution
 - b. Programmes pass an investment test as defined in a) for a typical activity under the programme. In case of significant changes of input criteria over time, the investment test needs to be repeated.
 - c. Payback periods for regulation-driven technologies exceed a pre-defined threshold level
 - d. Carbon pricing schemes generate a price exceeding predefined thresholds over a certain period of time
3. ITMOs from “cap and trade” systems can only be generated if the system is not overallocated.
4. Mitigation and adaptation activities that receive public climate finance could only be taken into account under Article 6.8 if they go beyond the non-conditional part of the NDC.

Parties should be invited by the COP to make submissions on Art. 6 additionality structured as proposed at the end of the introduction with concrete proposals what additionality tests seem feasible from their point of view. These submissions should be negotiated during the spring session of the Subsidiary Bodies in 2018.

7.1. Additionality governance for the different mechanisms

Additionality governance should be allocated to an Art. 6 Supervisory Board (A6SB) that would operate along the lines of the CDM Executive Board. It should directly control all activities under Art. 6.4 and approve additionality testing of activities under Art. 6.2. For the latter, governments could administer the additionality testing on their own provided they use independent third party validators accredited by the A6SB.

7.2. Validation, verification and certification

Experiences with independent third party validation of additionality under the CDM were decidedly mixed because validators had an incentive to leniently validate in order to get more contracts in the future from the same project developer. Moreover, competitive pressure on fees led to inadequate human resources being allocated for validation. In order to improve the situation, fees of validators should be standardized and the A6SB should allocate validators in a randomized process or do validation with own staff. This would reduce possibilities for collusion between validators and activity developers. The A6SB should also immediately suspend validators if they are found to provide substandard services.

7.3. Impacts on the NDC revision process

As shown in the context of the discussion on “E+/E- policies” in the CDM, there is a widespread fear that revenues from Art. 6 mechanisms could slow down the increase of ambition of NDCs during their revision. The argument is as follows: if a country makes its NDC target more stringent, it will reduce its supply of credits / ITMOs and thus reduce its revenue. The argument is only partially correct, as it ignores the development of the credit/ITMO price. When the aggregate mitigation target of all NDCs becomes more stringent, the demand for credits will rise while the supply will fall. Thus, the price will increase. The revenue impact then depends on the price elasticity. In case of a high elasticity, a seller country’s credit revenues may increase even if its supply falls. Of course, a country may want to fully free ride on the effort of all others and benefit from the price rise, while keeping its supply unchanged. Such a case can never be excluded in a bottom-up system like the Paris Agreement, and needs to be addressed by “naming and shaming”.

Another aspect of this is that mitigation technologies are never static. So, mitigation costs and volumes will shift over time, and this will have to be taken into account. Some technologies will under most circumstances no longer be additional, while new technologies emerge that are initially additional everywhere.

7.4. Possibilities outside the negotiation process to implement credible and robust additionality determination

If it is not possible to agree on additionality testing for Art. 6 under the PA negotiation process, options of safeguarding additionality outside the UNFCCC process need to be considered.

As shown under the CDM, where concerted action by buyer countries led to the de facto exclusion of emission credits with problematic characteristics from the market, a “club of high integrity Art. 6 credit buyers” could be set up by governments that prefer strong additionality. This club would require stringent additionality tests for all its credit purchases. The larger the club, the higher the impact on credit prices that pass the club’s criteria, and the lower the prices for “non-club” credits.

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