



TRANSFORMATIVE  
CARBON ASSET FACILITY

# Transformative Carbon Asset Facility (TCAF)

**Discussion Note: Different approaches to mitigate overselling risks of mitigation outcomes under Article 6 of the Paris Agreement.**

February 2022

## Different approaches to mitigate overselling risks of mitigation outcomes under Article 6 of the Paris Agreement.

At the 26<sup>th</sup> Conference of the Parties of the United Nations Framework Convention on Climate Change (COP26) held in Glasgow, UK during November 2021, Parties to the Paris Agreement finalized rules for international carbon market transactions under the Agreement's Article 6.<sup>1</sup>

This note will argue that despite this important achievement in the UNFCCC negotiation process and despite a strong economic case for a global Article 6 carbon market there are barriers for a market to emerge. The note will discuss different approaches to overcome these barriers.

It will look exclusively at carbon market transactions undertaken between countries for NDC compliance excluding double counting through applying corresponding adjustments to emission balances according to the COP26 Article 6 rules.

The note is a deliverable under the Transformative Carbon Asset (TCAF)<sup>2</sup> technical work program. It assumes that the reader is familiar with the details of the COP26 Article 6 rules.

### **(i) The economic case for a global carbon market and the barriers**

It is a well-known finding in economic literature that an international carbon market can substantially reduce the costs of achieving pre-defined national mitigation targets by enabling mitigation to take place where it is cheapest. This is more the case the further the structure of the mitigation targets deviates from the cost-efficient mitigation distribution to achieve a given global mitigation result and the more countries differ in mitigation costs. Stated differently, for a given overall amount of global mitigation spending an international carbon market can enable countries to increase their ambition and to achieve more mitigation.

A recent study found that an international carbon market could cut the cost of achieving the mitigation targets of the first set of Nationally Determined Contributions (NDCs) in half, saving countries \$300 billion in 2030 in compliance costs for a given level of global mitigation or enabling at the same cost an additional 9 billion tons of emission reductions.<sup>3</sup> These modeling results are by order of magnitude within the range of a former study undertaken by the World Bank.<sup>4</sup>

It is important to note that such modelling is based on the assumption of perfect information, perfect foresight, and zero transaction costs: Countries know their mitigation opportunities and related costs with certainty (known marginal abatement cost (MAC) curves); they have certainty that all policies and measures implemented from today to 2030 (for the first NDCs) will lead them exactly where they want to be in mitigation, NDC achievement, or NDC overachievement; they can access a fully functional and liquid

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<sup>1</sup> The finalized Article 6 rules can be found here: <https://unfccc.int/process-and-meetings/conferences/glasgow-climate-change-conference-october-november-2021/outcomes-of-the-glasgow-climate-change-conference>

<sup>2</sup> On TCAF see: <https://tcafwb.org/>

<sup>3</sup> Edmonds, J., et al: How much could Article 6 enhance nationally determined contribution ambition toward Paris Agreement goals through economic efficiency?, *Climate Change Economics*, Vol. 12, No. 2 (2021), <https://www.worldscientific.com/doi/full/10.1142/S201000782150007X>

<sup>4</sup> World Bank; Ecofys; Vivid Economics. 2016. *State and Trends of Carbon Pricing 2016*. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/25160>

carbon market at no transaction costs at any time both in the role of a buyer or of a seller; and they know with certainty that all other countries will at any time play to the agreed rulebook of the Paris Agreement including the rules on Article 6.

Uncertainty on mitigation opportunities, mitigation costs, performance of mitigation policies and actions, and behavior of other countries; as well as transaction costs to market access create barriers to engage in international carbon market transactions both on the buyer and the seller side.

First experiences from initiatives piloting Article 6 such as the Transformative Carbon Asset Facility (TCAF) have shown that for developing countries interested in selling carbon assets the main concern is to avoid overselling, i.e., a situation where the own NDC target will be missed because mitigation outcomes were transferred to another country and cannot longer be accounted against the own NDC.

This note will focus on overselling risk as the most important barrier to engage in carbon market transactions acknowledging that there are risks on the buyer side as well: buying countries do not know with certainty their domestic MAC curves neither, nor their overall needs for carbon assets to comply with their own targets. In addition, both selling and buying countries are concerned with uncertainty on NDC ambition and domestic mitigation efforts of potential carbon market trading partners.

#### **(i) Planning within Nationally Determined Contributions**

Solid NDC planning is an obvious measure to mitigate overselling risks. Countries interested in selling carbon assets while meeting their own NDC target have all interest in planning for target overachievement. Countries that have a long-term strategy (LTS) or are engaged in developing one can furthermore consider embed their carbon market strategy not only in NDC implementation but also in long-term planning.

While the risk of overselling decreases the more mitigation activities countries are implementing to overachieve their NDC target (provided those mitigation activities are not strongly positively correlated in mitigation performance), some level of risk will remain due to uncertainty of the performance of the implemented policies and actions, the evolution of baseline emissions, and the possibility of exogenous shocks.

Exogenous shocks coming late in the NDC implementation period are particularly difficult to mitigate as the availability of backstop mitigation activities is typically limited, i.e., activities that can be deployed at short notice.<sup>5</sup> Vulnerability to exogenous shocks increases through the prevalence of single-year NDC mitigation targets.<sup>6</sup>

Being strategic on selecting the concrete mitigation activities for transfers of carbon assets can be a further overselling risk mitigation strategy. Assuming countries prefer to fail on planned carbon asset transfers over failing on NDC achievement it would be reasonable to select the riskier activities for transfer

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<sup>5</sup> Importing clean power from a neighboring country while reducing fossil fuel-based generation is an example for a backstop mitigation activity that might be available to some countries to a certain degree.

<sup>6</sup> Single-year targets are the most common target type adopted under current Paris Agreement NDCs: 106 NDCs have chosen a 2030 single-year target covering 70% of global emissions. See UBA/DEHSt (2016), Categorization of INDCs in the light of Art. 6 of the Paris Agreement - Discussion Paper, [https://www.dehst.de/SharedDocs/downloads/EN/projectmechanisms/Categorization\\_of\\_INDCs\\_Paris\\_agreement\\_discussion\\_paper.html](https://www.dehst.de/SharedDocs/downloads/EN/projectmechanisms/Categorization_of_INDCs_Paris_agreement_discussion_paper.html)

purposes such as policy actions with more uncertain outcomes as compared to concrete investment projects using proven technology.<sup>7</sup>

Furthermore, setting baselines below business-as-usual levels reflecting unconditional NDC targets to the degree possible can reduce overselling risks.

Mitigating overselling risks through solid NDC (and LTS) planning is a prerequisite to enable carbon market participation without regret, but it requires substantial technical capacity that most countries are still to build up.

## **(ii) Transaction structures under uncertainty**

Markets in general show a remarkable capability in trade innovation bringing forward an array of contract types and related transaction structures including spot transactions, forward transactions, options, conditional transactions, etc. Different transaction structures come at different levels of risk and risk distribution.

This section discusses if and how overselling risk can be mitigated through choosing appropriate transaction structures for contracting the transfer of carbon assets.

### *Ex-post contracting<sup>8</sup>*

The most obvious way to overcome NDC compliance uncertainty is to simply refrain from carbon asset transfers until the NDC compliance positions are known and then to transfer surpluses to compensate for deficits in the true-up period. Such ex-post transfers were possible under the Kyoto Protocol among countries that operated under an emissions cap (Annex I countries). Ex-post contracting in so-called Annual Emission Allocations (AEAs) is also foreseen under the European Union's effort sharing directives regulating the part of the EU economies not covered by the EU's Emissions Trading System (ETS) including for the EU's 2030 minus 55% target.<sup>9</sup>

Ex-post contracting works by definition under uncertainty but a carbon market exclusively relying on ex-post contracting would likely substantially fall short of its optimal size. The reason is that carbon revenues from ex-post transactions are highly uncertain ex-ante when investment and policy decisions are made,

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<sup>7</sup> Besides mitigation activity selection pricing of carbon assets reflecting at a minimum the marginal cost of NDC achievement, i.e., opportunity cost pricing is crucial to avoid regret. This note will not discuss opportunity cost pricing of carbon assets. For an introduction in this topic see: Crediting blueprint synthesis report, TCAF 2021, [file:///C:/Users/wb272211/Downloads/TCAF%20Crediting%20Blueprint%20Synthesis%20Report%20Final%20February%202021%20\(1\)%20\(4\).pdf](file:///C:/Users/wb272211/Downloads/TCAF%20Crediting%20Blueprint%20Synthesis%20Report%20Final%20February%202021%20(1)%20(4).pdf)

<sup>8</sup> This note uses the term ex-post contracting and ex-post market for carbon asset transfers taking place after the mitigation target compliance positions of participating countries are known, i.e., ex-post to the NDC target year, and the term ex-ante contracting and ex-ante market for contracting taking place before, i.e., ex-ante to the NDC target year. This is different from the distinction primary market versus secondary market which distinguishes the first transfer of a carbon asset from its source to its first buyer from any subsequent transfer of the asset. Primary and secondary transactions are possible both under ex-ante and under ex-post trading.

<sup>9</sup> On the EU effort sharing regulation see: [https://ec.europa.eu/clima/eu-action/effort-sharing-member-states-emission-targets/effort-sharing-2021-2030-targets-and-flexibilities\\_en](https://ec.europa.eu/clima/eu-action/effort-sharing-member-states-emission-targets/effort-sharing-2021-2030-targets-and-flexibilities_en). On the potential relevance of AEA trading for some EU countries see: <https://www.cleanenergywire.org/factsheets/germanys-climate-obligations-under-eu-effort-sharing-scheme>

and they come only in the true-up period of the target year, e.g., in 2033 for mitigation activities to be implemented now.

Still ex-post contracting can be important in providing countries with a safety net in case their mitigation efforts appear to be insufficient for target achievement, e.g., due to exogenous shocks. If it is possible to balance a deficit position in the target year with a surplus achieved somewhere else countries might be willing to adopt more ambitious mitigation targets.

Here it is important to note that an ex-post market can play an important role in facilitating ex-ante contracting (see below). Countries that oversold ex-ante could compensate ex-post through carbon asset purchases in the true-up period. Through providing means to mitigate overselling risk an ex-post market can be a key enabler of an ex-ante market.

Despite the importance of an ex-post market the COP26 Article 6 rules do not easily allow for such an ex-post market to emerge. According to the Article 6 rules internationally transferred mitigation outcomes (ITMOs) need to be generated through concrete (ex-ante) pre-defined cooperative approaches. Methods on corresponding adjustments furthermore discount the compliance value of ITMOs the shorter the mitigation outcome generation period (crediting period in case of baseline-and-crediting mechanisms) is relative to the NDC implementation period.<sup>10</sup> Finally banking of ITMOs in the next NDC period is not allowed.<sup>11</sup>

This is a major difference from the Kyoto Protocol where Annex I countries could trade Assigned Amount Units (AAUs) that simply reflected a surplus of economy-wide mitigation relative to target under international emissions trading at full compliance value and under generous banking rules embedded in a legally binding compliance regime.

Huge volumes of surplus AAUs within Eastern Europe countries resulting from their industrial collapse in the early 1990s biased Kyoto carbon market transactions towards countries without effective carbon constraints<sup>12</sup> raising concerns on environmental integrity. The root cause for this problem is however not International Emissions Trading (IET) or the possibility of banking mitigation from one compliance period to the next but setting emission targets above business-as-usual (BAU) emissions.<sup>13</sup>

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<sup>10</sup> This is the case under the so-called averaging method where emission reductions achieved over a crediting period are averaged based on the length of the entire NDC period, e.g., emission reductions achieved in the two years 2027-2028 would be divided by ten to arrive to an average over a 2021-2030 NDC period. For a detailed discussion of the Article 6 methods for corresponding adjustments see: TCAF discussion note: Corresponding Adjustments, TCAF 2020, [file:///C:/Users/wb272211/Downloads/TCAF-Corresponding%20adjustments\\_discussion%20paper\\_FINAL.September%202020%20\(7\).pdf](file:///C:/Users/wb272211/Downloads/TCAF-Corresponding%20adjustments_discussion%20paper_FINAL.September%202020%20(7).pdf)

<sup>11</sup> See: Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement, [https://unfccc.int/sites/default/files/resource/cma3\\_auv\\_12a\\_PA\\_6.2.pdf](https://unfccc.int/sites/default/files/resource/cma3_auv_12a_PA_6.2.pdf)

<sup>12</sup> This is the main reasons why the Kyoto carbon market did not generate any substantial experience of carbon trading among countries with effective carbon constraint that could have informed a potential Article 6 carbon market.

<sup>13</sup> Carbon Markets under the Kyoto Protocol: Lessons Learned for Building an International Carbon Market under the Paris Agreement," World Bank Working Paper, Washington, DC 2018, <https://documents1.worldbank.org/curated/en/650081545377054720/pdf/133140-19-12-2018-17-11-20-CarbonMarketsUnderKPWeb.pdf>

It might be possible to rebuild IET, connect national ETS's, establish an ex-post market, rebuild elements of a compliance regime, and rebuild potentially at least some degree of intertemporal flexibility through bilateral or plurilateral action under Article 6 in defining these market mechanisms and measures in themselves as cooperative approaches while avoiding the issues faced under the Kyoto Protocol. However, creating such club solutions under the Paris Agreement likely requires long negotiation processes between the interested countries and might therefore not be an option available in the short to medium term (see below).

### *Ex-ante contracting*

Under the Kyoto Protocol's carbon crediting mechanisms, CDM and JI, ex-ante forward contracts constituted the dominant market modality. Overselling was, by definition, not an issue for developing countries hosting CDM project activities as these countries had no mitigation target under the Kyoto Protocol. JI countries operated under an emissions cap but almost all JI activity was centered in Eastern European countries where industrial collapse pushed emissions substantially below target levels. Almost no carbon trading happened through these Kyoto mechanisms among countries with an (initially expected) effective emissions constraint, i.e., an emissions cap below BAU emissions.<sup>14</sup>

CDM and JI allowed for long crediting periods of ten years or more and forward contracts for expected emission reductions dominated the market whereas spot contracts were rather uncommon in the primary market. Carbon revenue streams from selling emission reductions improved the commercial viability of mitigation projects facilitating their implementation.

Forward contracts reflected well the regulatory additionality requirement under which the essential role of CDM and JI for project implementation had to be demonstrated. The carbon market provides a revenue stream for quantified emission reductions that concrete pre-defined projects generate over time and the promise of this revenue stream makes these projects happen.

Article 6.4 of the Paris Agreement replicates and even reinforces (e.g., on additionality) this CDM/JI concept but even Article 6.2 incorporates elements of it: ITMOs are for concrete pre-defined cooperative approaches and they must be additional in themselves. Cooperative approaches, although not defined, can include in common understanding of Article 6.2 not only carbon crediting, but also emissions trading schemes and other collaborative policies, but they cannot just consist of non-attributed surplus mitigation relative to NDC targets. This ex-ante approach is also reflected in the rules on corresponding adjustments under which Article 6.4 emission reductions and ITMOs are transferred within the NDC implementation period while the corresponding adjustments happen in the NDC target period (year).

For these reasons ex-ante forward contracting seems to be a highly relevant transaction structure for an Article 6 carbon market as was the case for the Kyoto Protocol's carbon market. Different from the practice under the Kyoto Protocol, however, countries engaging in trade now all have emission constraints (NDC targets).

As discussed above countries with effective carbon constraints face an opportunity cost in transferring mitigation outcomes: what is sold to another country is lost for domestic NDC compliance and must be correspondingly adjusted in emission accounts. Under uncertainty (see above) this opportunity cost is

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<sup>14</sup> JI projects in Western European and New Zealand had only a 3% share in total JI issuance, UNED/DTU JI pipeline overview, <https://www.cdmpipeline.org/>, accessed in February 2022.

unknown creating an overselling risk that can prevent countries from engaging in a carbon market transaction.

One can think about different ways to mitigate this overselling risk. Countries interested in selling ex-ante could hedge their transactions through purchasing call-options that can be exercised in an ex-post market or trust in the availability of a spot ex-post market. However, as discussed above, there are elements in the COP26 Article 6 rules that might prevent an ex-post market to easily emerge.

A type of international ITMO reserve could become a substitute for an ex-post market but as the COP26 Article rules do not allow for banking of ITMOs from one NDC implementation period to the next, building up such a reserve is challenging.<sup>15</sup>

#### *Conditional contracting of ITMOs*

A possible way out of this dilemma might be conditional contracting of ITMOs. Under conditional contracting an ITMO selling country would only undertake corresponding adjustments in case of overachieving its NDC target and in a volume limited by the overachievement, like in ex-post contracting. It would however already receive some type of benefit from the buyer country at the time it makes its mitigation decisions, like in ex-ante contracting.

One type of conditional contracting is a put option for the selling country. Under this contract type the selling country obtains the benefit of an offtake guarantee for mitigation exceeding its target ex-post at a fixed price. Typically put options are sold or auctioned in a market and not provided for free as the buying country bears a capital commitment cost for which it needs to be compensated.

Put options eliminate overselling and market risks but do not provide the option holder, i.e., the selling country with ex-ante payments facilitating the implementation of mitigation activities. On the contrary the option holder must pay the option price ex-ante. Put options might therefore be more interesting for carbon market transactions between developed countries than for transactions involving developing countries in need for ex-ante payments to facilitate implementation of mitigation activities.

As an alternative to put options, conditional ITMO contracting could be done under modalities where the buying country provides ex-ante payments to the selling country for a right of first refusal on ITMOs or for an ITMO call option limited to mitigation exceeding the host country NDC target.

The buying country could for example pay on an annual basis for verified emission reductions (VERs) generated through a mitigation activity at a price that covers the cost of implementation and receive a right of first refusal or a call option on ITMOs for mitigation exceeding the host country NDC target. The selling country would undertake corresponding adjustments for mitigation exceeding its NDC target and convert the VERs in ITMOs and receive a further payment in the typical case where the pre-agreed ITMO price exceeds the VER price.

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<sup>15</sup> Some ex-post market liquidity could result from previously unauthorized Article 6.4 emission reductions that could receive late authorization in the NDC year and thus get converted to NDC compliance assets (see below on using climate finance as an enabler for Article 6 transactions). Furthermore, the CDM CERs allowed to be carried over from the Kyoto Protocol's second commitment period under Art.6.4 guidance could be used for reserve purposes. However, volumes are limited and reaching a consensus among a sufficient number of parties to the Paris Agreement on this usage modality for Kyoto legacy units might be challenging.

Such a transaction structure is more advantageous for the selling country than a put option but shifts substantial risk to the buyer country that could not receive compliance grade ITMOs in case the seller does not (over)achieve its NDC target despite VER payments already made.

### **(iii) Possible measures of market enablement**

#### *Changing the Article 6 rules*

Following from the discussion above allowing the direct transfer of mitigation achieved above NDC targets in an ex-post market and banking of ITMO into subsequent NDC periods could provide critical flexibility to mitigate overselling risks. This is however not an option available in the short to medium term as a review of the Article 6 rules is only scheduled to begin in 2028 and to end in 2030. Furthermore, providing this additional flexibility would require further measures to safeguard environmental integrity such as agreeing on a legally binding compliance regime and measures ensuring that all NDCs mitigation targets are indeed below BAU.

#### *Club solutions*

In principle parties to the Paris Agreement could in bi- or plurilateral settings agree on mechanisms that would facilitate Article 6 carbon market transactions. A group of countries (club) could, e.g., mutually agree on penalty and catching-up rules for non-compliance with their NDC targets, i.e., agree on a sort of a club-level compliance regime that the Paris Agreement itself does not provide.

A club of parties could also establish an international emissions trading scheme as a collaborative action under Article 6.2. creating a liquid ex-post market that could facilitate ex-ante trading among club members. It might even be possible to simulate some level of banking of mitigation outcomes from one NDC period to the next through club-level collaborative NDC planning and management and to establish a reserve of mitigation outcomes.

Club solutions certainly have the potential to facilitate an Article 6 carbon market. Experience has shown however that forming clubs would likely require long and complex negotiation processes and trust building. Furthermore, such clubs would need to be composed of countries at different income levels and stages of development, which could make these coordinating tasks more difficult.

#### *Use of climate finance to facilitate market transactions*

As discussed above conditional ITMO contracting with ex-ante payments might be a workable Article 6 carbon market transaction structure under the Paris Agreement that could enable market access for developing countries. Buyer countries might however be reluctant to put sizeable funds at risk of not receiving compliance grade ITMOs.

A no-regret strategy from a buyer country perspective could be to use dedicated climate finance<sup>16</sup> instead of ITMO procurement funds for conditional ITMO contracting.

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<sup>16</sup> Dedicated climate finance is provided through specialized climate funds with the main objective to achieve climate outcomes. Different from dedicated climate finance is climate-related development finance, i.e., the share of development finance that generates climate co-benefits.



The most direct way of doing that is to disburse dedicated climate finance for VERs (VER results-based climate finance, VER-RBCF) subject to an ITMO conditionality (conditional call option or right of first refusal). An ITMO conditionality can however as well be added to other forms of RBCF or to activity-based climate finance operations. Such call options might command a price depending on demand and supply of ITMOs and delivery modalities of climate finance.

Important here is to ensure that dedicated climate finance disbursed under ITMO conditionality is fully reimbursed through ITMO procurement funds. This can simply be done in the ex-post part of the transaction when the seller country undertakes corresponding adjustments. Without such reimbursement (replenishment) climate finance funds with full convertibility to ITMO would just be used for ITMO procurement, not foreseen under the Paris Agreement, not intended by climate finance providers, and not acceptable to developing country recipients of climate finance. Furthermore, non-reimbursement of climate finance would lead to climate finance subsidizing carbon market transactions, which is inefficient from an economic point of view<sup>17</sup> and which can generate unintended distributional effects.

Under this modality a part of available dedicated climate finance funding would become revolving funds for Article 6 carbon market facilitation. However, dedicated climate finance is of limited volume, approximately USD 3 billion annually in 2017.<sup>18</sup> Only a fraction of this funding could realistically be used for carbon market facilitation as outlined above.

#### **(iv) Conclusions**

A new international carbon market could play an important if not critical role in achieving the decarbonization targets of the Paris Agreement. COP26 successfully overcame a major political deadlock in agreeing on the final rules of Article 6 carbon market transactions.

Higher levels of ambition and inclusion of all countries in mitigation contributions create a much larger potential for a carbon market under the Paris Agreement compared to the Kyoto Protocol.

However, assuming that under the Paris Agreement all emissions are effectively capped through NDC targets below BAU there are no mitigation outcomes countries can transfer without losing them for their own NDC compliance purposes.

Under uncertainty of NDC target achievement and without sizeable and short-term available backstopping mitigation technologies and measures countries might be reluctant to engage in ITMO transfers. Potential mechanisms to overcome this uncertainty barrier are not easily available under the Paris Agreement and the COP26 Article 6 rules. Lack of a compliance regime, absence of an ex-post market, and ruling out of banking complicate market solutions to mitigate overselling risks.

Solid NDC planning, implementing mitigation activities expected to overachieve mitigation targets, and using below BAU baselines reflecting unconditional NDC targets reduce overselling risks. Selecting cost-efficient mitigation activities that come at higher delivery risk for ITMO generation than individual

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<sup>17</sup> Strand, Jon. 2019. Climate Finance, Carbon Market Mechanisms and Finance "Blending" as Instruments to Support NDC Achievement under the Paris Agreement. Policy Research Working Paper; No. 8914. World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/31979>

<sup>18</sup> World Bank Group. 2020. Transformative Climate Finance: A New Approach for Climate Finance to Achieve Low-Carbon Resilient Development in Developing Countries. World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/33917>

investment projects could be a further risk mitigation strategy, as well as planning in recourse to backstop mitigation activities where possible.

Changing the Article 6 rules does not seem to be an option before 2030 and is challenging due to the complexity of the required negotiation and trust building process.

Creating club-solutions under the Paris Agreement that complement the Article 6 rules with club-rules introducing compliance regimes, ex-post markets, banking and potential reserves seems to be possible under existing Article 6 rules. However, establishing such club-solutions is likely to require long and complex negotiation and trust-building processes, and may fail to embed all important countries.

Market facilitation in a shorter term could result from using a part of the available dedicated climate finance to build market readiness in developing countries through technical assistance and upfront grants as well as for suitable types of conditional ITMO contracting while ensuring replenishment through reimbursement of such climate funds with ITMO funding. Dedicated climate finance available for that purpose is scarce and might not reach beyond a piloting stage. However, if this modality proved to be an effective way to overcome the constraints facing developing countries, some of the available ITMO funding could be potentially converted to climate finance for conditional ITMO contracting.

The following table provides an overview of the options to mitigate the risk of overselling of ITMOs discussed in this note to facilitate potential Article 6 transactions.

**Table 1: Different approaches to mitigate overselling risks of ITMOs**

<b>Risk mitigation option</b>	<b>Description</b>	<b>Discussion</b>
<b>Regulatory measures and carbon clubs</b>		
Changing Article 6 rules	Establishing an ex-post market through IET, intertemporal flexibility, compliance regime.	Major enabler but only post-2030 if feasible at all.
Carbon Clubs	As above for subset of countries.	Second best to above, likely feasible under existing rules, challenging before 2030.
<b>Risk mitigation transaction structures</b>		
Put options for seller	Seller as the put option holder has right but not obligation to sell ITMOs and can postpone transfer/CA decision to true-up period.	Seller does not receive payments before true-up period (pays option price instead). Likely more relevant for high-income countries. Buyer who issues the put option need to set aside funding to fulfill its ITMO purchase obligation in case seller decides to exercise options.
Conditional call option for buyer	Buyer has right but not obligation to purchase ITMOs from seller conditional on seller's target achievement.	Seller receives call option price immediately but ITMO payments only in true-up period. Unlikely to support mitigation program that involves physical investment and needs funding support to bridge viability gap. Likely more relevant for high-income countries.
<b>Seller country NDC planning</b>		
Solid NDC planning	Overprogramming of mitigation activities, robust implementation.	Prerequisite for carbon market participation, limited under uncertainty.
Backstop mitigation activities	Contingency planning of activities that can generate mitigation at short notice.	Limited availability and likely not for all countries.
Smart activity selection	Selecting higher risk mitigation actions, e.g., policies for ITMO transfers.	Trade-off overselling risk – ITMO performance risk
Conservative baselines	Setting baselines below BAU and reflecting unconditional NDC targets	Breaking down NDC targets to individual mitigation activities is only possible to limited degree
<b>Facilitation of ITMO transfers</b>		
Technical assistance and climate finance grants	Support NDC planning.	Important for lower income countries.
Climate Finance to enable implementation of mitigation activities	Climate finance pays for mitigation activity implementation and is reimbursed through ex-post ITMO purchases.	Limited availability of dedicated climate finance.