Accounting Architecture Arising from Article 6 of the Paris Agreement and the Assessment of Additionality

Note for Discussion – July 2018

The design of the Kyoto Protocol resulted in an emissions accounting architecture that is a mixture of allowance allocation against a cap, combined with a provision for project based credits originating outside the cap. Credits effectively raise the cap when they are imported into a covered system. Within the Kyoto Protocol, allowance allocation was handled through the Assigned Amount Unit against targets agreed by developed countries (Annex 1) and the most widespread crediting system was the Clean Development Mechanism (CDM) which operated on a project by project basis in developing countries. This basic design has been translated into many jurisdictions, including locations such as California which is not covered by the Kyoto Protocol.

A feature of these systems is that the accounting normally handles the entities within the cap and the project outside the cap, but no attempt is made to account for the total greenhouse gas impact on the atmosphere or against a global goal to reduce overall greenhouse gas emissions. There is an implicit assumption that the sum of the various parts adds up such that the overall outcome is better than not having conducted the exercise at all. This happens because only a small percentage of the global economy sits under a cap, so there is no mechanism available to account for the total impact. This is one reason why some Parties challenged the appropriateness of the Kyoto Protocol itself.

A further issue related to the Kyoto architecture was the macro accounting around crediting through the CDM. Projects vary in type, ranging from clearly measurable emission reductions (e.g. capturing land-fill methane) to notional reductions (e.g. a wind turbine is built, but the alternative might have been more coal). Particularly in the case of the latter example which is an energy mix question, there is normally no resolution between the local project and the overall energy mix direction of the host country. A key question is typically left unanswered; if the import of credits into a cap-and-trade system raises the cap, has there been an equivalent, albeit probably notional, decline elsewhere.

The Paris Agreement is built on the concept of Nationally Determined Contributions (NDC). These are set at national level and offer a direction of travel for a given economy

in terms of its energy mix and/or greenhouse gas emissions. Although the first set of NDCs offered in the run-up to COP21 were varied in nature and in some cases only covered specific activities within the economy, over time they will likely converge in style and, for the Paris Agreement to deliver, must expand to cover all anthropogenic greenhouse gas sources.

The NDCs also lead us down another path – that of quantification. The first assessment of NDCs conducted by the UNFCCC in October 2015 and then refreshed in May 2016 required the quantification of all NDCs in terms of annual emissions and cumulative emissions through to 2030. This was necessary to establish an equivalent level of warming of the climate system, which is driven largely by the cumulative emissions of carbon dioxide over time. Without such an assessment, the UN cannot advise the Parties on progress towards the goal of the Paris Agreement.

The UNFCCC didn't have a full emissions inventory on which to base this calculation, so they established one from the best data available. But Article 13 of the Paris Agreement introduces a transparency framework and calls on Parties to regularly provide;

- *A national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases, prepared using good practice methodologies accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement;*

- *Information necessary to track progress made in implementing and achieving its nationally determined contribution under Article 4.*

The foundation for transparency is measurement and reporting, which further implies that emissions quantification is a foundation element of the Paris Agreement. Although nationally determined and always voluntary, the Agreement effectively establishes a cap, albeit notional in many cases, on national emissions in every country. The caps are also effectively declining over time, even for countries with emissions still rising as development drives industrialization.

Article 6 introduces the prospect of carbon unit trading through its internationally transferred mitigation outcomes (ITMO) and emissions mitigation mechanism (EMM). Text in paragraphs 6.2 and 6.5 is included to avoid any possibility of double counting;

- *. . . internationally transferred mitigation outcomes towards nationally determined contributions. . . . . shall apply robust accounting to ensure, inter alia, the avoidance of double counting,*
- *Emission reductions resulting from the mechanism referred to in paragraph 4 of this Article shall not be used to demonstrate achievement of the host Party's nationally determined contribution if used by another Party to demonstrate achievement of its nationally determined contribution.*

These provisions, in combination with the progressive shift towards quantification of all emission sinks and sources, means that full national accounting for offset crediting should take place for both the recipient and the source of the units. For the recipient, there may be no change in their procedures in that the introduction and counting of outside units is already built in to the inventory processes underpinning the trading systems. But the source country will be required to make an equivalent reduction (also referred to as a "corresponding adjustment") from their stated NDC, therefore tightening their contribution. This was a feature of the Joint Implementation (JI) mechanism under the Kyoto Protocol, but was not the required practice in the CDM.

Rather than the quantified approach outlined above, the CDM imposed an additionality test, or a qualitative assessment of the project to assess its impact on emissions. In the Decision Text that accompanied the Paris Agreement, which is effectively the instruction manual for implementation, the need for additionality is referred to in relation to Article 6.4, the emissions mitigation mechanism. The Decision Text says;

- *Recommends that the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement adopt rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Agreement on the basis of:*

  . . . .
  . . . .
  (d) Reductions in emissions that are additional to any that would otherwise occur;

The Article 6 negotiators have already grappled with this to some extent as the concept appears in the '*Informal document containing the draft elements'*, Annex XII.D, released in mid-March. In that document three possible definitions for additionality are considered, i.e.;

An Article 6, paragraph 4, activity to be additional by demonstrating that:

Option A {reference to what would otherwise have occurred}

(a) Emissions are reduced below those that would have occurred in the absence of the activity.

Option B {definition related to activity being beyond the NDC}

(b) The reduction of emissions goes beyond what would be achieved through the delivery of the NDCs of the host Party {further development may be required for implementation}.

Option C {definition linked to scope of NDC}

(c) {further development may be required for implementation}.

As noted previously, the concept of additionality stems from the Clean Development Mechanism (CDM) of the Kyoto Protocol, where Article 12.5 specifies that emission reductions are only to be certified under the CDM if they are additional to any that would occur in the absence of the certified project activity. In his 2009 paper '***Additionality in the Clean Development Mechanism: Why and What?***', Benito Müller outlined a number of different ways in which additionality constraints under the CDM can be argued for. For example, there are arguments (i) from 'environmental integrity', (ii) from implementing Article 4.7 (of the Convention), and (iii) from the need to safeguard Annex I domestic mitigation efforts. Müller notes that the most important and widely used argument, is that additionality is needed to protect the environmental integrity of the regime. Being an offset mechanism, the CDM requires additionality to ensure that any ton emitted in developed countries against a CER must not increase the level of emissions permitted under the regime.

Under the CDM, additionality became something of a quasi-science, with baselines established for projects against which assessments could be made. The UNFCCC **developed a toolkit**, which recommended a scenario based approach for determination of additionality. But despite the effort put in, the analysis is largely subjective in nature. It all depended on what the assessor thought the future might bring, versus an objective numerical approach based on specific goals. The reason behind this

is that developing countries didn't have targets under the Kyoto Protocol, so environmental integrity could only be assessed, rather than measured.

Translating this concept to the Paris Agreement argues for new thinking on additionality in that the structure behind Paris requires all participating countries to have some form of target or goal embedded within their respective Nationally Determined Contributions (NDC). Paragraph 5 of Article 6 also specifies that emission reductions resulting from the 6.4 mechanism shall not be used to demonstrate achievement of the host Party's nationally determined contribution if used by another Party to demonstrate achievement of its nationally determined contribution. This would happen if reduction units created under the mechanism were transferred to another Party without an accounting protocol. Doing so, would be classified as double counting. Within the Decision Text, there is a further requirement that double counting is avoided on the basis of a corresponding adjustment by both Parties for anthropogenic emissions by sources and/or removals by sinks covered by their nationally determined contributions under the Agreement.

The above discussion points to a more numerical and therefore objective approach to accounting for transfers under the Paris Agreement, in that corresponding adjustments are most easily executed when NDCs are quantified. It also means that the more traditional complex assessment of additionality can be avoided, in that the corresponding adjustments ensure that environmental integrity is maintained.

If such a corresponding adjustment is made, then in the case of the host Party, the transferred quantity must be additional. This is because the host Party, having made the transfer, must find further, presumably lower cost, mitigation opportunities in their own economy to meet the stated goal of their NDC. This in turn means that the transferred actions were in addition to the requirements of the NDC, hence additionality can always be claimed. The quantification of systems is ideally done in units of CO2, but could even be in units of clean electricity or capacity in the case of renewable energy based NDCs.

Attempting any other assessment process to establish whether an activity goes beyond the NDC of the host Party is fraught with difficulty. In most instances this will be almost impossible to assess due to the difficulty of establishing the contribution of a single activity to the overall national emission pathway. Even if assessment is possible, it may be an extended period before the assessment can be made due to the need to collect and collate all the greenhouse gas data for the whole NDC. This will lead to any emission reduction units from the activity being untradeable in that they will carry

considerable performance risk related to the outcome of an assessment that will be both uncertain and take a year or more to be delivered.

An extension of this approach to additionality is that units created under the 6.4 mechanism don't require the same level of scrutiny as units created under the CDM. Should an activity produce an abundance of units which are then sold outside the host county, always a concern under the CDM through the application of a generous baseline, then the corresponding adjustment will act as a deterrent by demanding even greater mitigation efforts by the host. Although this isn't a desirable way to operate the mechanism, it is nevertheless self-correcting.

The current informal text under consideration doesn't clearly identify the above route towards assessing additionality, but presumably Option B could fill this need. The text might then read;

- The reduction of emissions goes beyond what would be achieved through the delivery of the NDC of the host Party. The host Party's nationally determined contribution is adjusted numerically by an amount corresponding to any use of the emission reduction of said activity by another Party to achieve its nationally determined contribution, ensuring that additionality is established.

As the talks on the Paris rule book approach COP 24, there is a need to rethink additionality, jettison the model founded for good reasons under the Kyoto Protocol, and embrace a more quantified and objective approach to this subject.

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