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ARTICLE 6 OF THE PARIS AGREEMENT: REVISITING GLOBAL EMISSIONS ACCOUNTING

The design of the Kyoto Protocol resulted in a particular emissions accounting architecture that has seen widespread adoption, even within jurisdictions not covered by the Protocol itself. That architecture is a mixture of allowance allocation as seen in cap-and-trade systems, but combined with a provision for project based credits originating outside the cap. These effectively raise the cap as they are imported into the covered cap-and-trade system.

Within the Kyoto Protocol, allowance allocation is handled through the Assigned Amount Unit (AAU) and the most widespread crediting or offset system is the Clean Development Mechanism (CDM) which operates on a project by project basis in developing countries. Similarly in California, which is not covered by the Kyoto Protocol, allocation is handled through the distribution or sale of California Greenhouse Gas Allowances and external projects through the ARB Compliance Offset Protocol and issuance of ARB Offset Credits.

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.

A further issue related to the current structure is the macro accounting of the

external credit. Projects vary in type, ranging from clearly measurable emission reductions (e.g. capturing landfill 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.

But as the Paris Agreement starts to take hold, this will likely change.

The 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 aim of the Paris Agreement, i.e.;

Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels,

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

THERE IS NO
MECHANISM AVAILABLE
TO ACCOUNT FOR THE
TOTAL IMPACT.

ACCOUNTING FOR INTERNATIONAL TRANSFERS UNDER THE PARIS AGREEMENT

Example:

A transfer to Canada from Kenya.

Canada NDC - Canada intends to achieve an economy-wide target to reduce its greenhouse gas emissions by 30% below 2005 levels by 2030. This equates to an effective cumulative emissions cap of 5650 Mt over the period 2020 to 2030 for all GHGs.

Kenya NDC - Kenya seeks to abate its GHG emissions by 30% by 2030 relative to the BAU scenario of 143 MtCO₂eq. This equates to a notional emissions cap of 1000 Mt over the period 2020 to 2030 for all GHGs.

Kenya plans to expand tree cover to 10% of land area within its NDC. If it does this through Canadian sourced funding in exchange for a nature based transfer using the mitigation mechanism (EMM based ITMO) of 50 million tonnes CO₂ over the ten year period, the following happens;

- Canada cap rises to 5700 Mt
- Kenya NDC shifts to 37% by 2030 to account for the 50 million tonne transfer
- An ITMO to the effect of 50 million tonnes shifts from Kenya to Canada.

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 set to effectively decline 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 outcome (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 must take place for both the recipient and the source of the units. For the recipient, there will be no change in that the introduction of units will raise the effective national cap on emissions. But the source country will be required to make an equivalent reduction 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.

The example shown in the box illustrates this through a hypothetical case for a nature based transfer (NBT) from Kenya to Canada, utilising the EMM as a means to acquire the necessary funding. The impact on the Kenya NDC implies a shift from a stated reduction of 30% from Business as Usual (BAU) in 2030, to some 37% below BAU. This ensures there is no double counting of the transferred amount and maintains the full integrity of the overall NDC approach such that the implied global cumulative emissions goal of the NDCs is maintained. However, Kenya will need to find further reductions in its economy as a result. One implication of this is that the price of carbon units may rise due to the additional demand that an overall emissions cap, even a notional one, places on the global economy.

Article 6 of the Paris Agreement offers great potential for carbon market development and emissions trading, therefore driving a lowest cost mitigation outcome and directing funding and financing to low emission technologies. But it will also introduce an accounting rigour that has only featured in some quarters to date. This will likely change the supply demand balance, leading to a more robust and enduring carbon market.

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