



A VISION FOR THE MARKET PROVISIONS OF THE PARIS AGREEMENT



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May 2016

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EXECUTIVE SUMMARY

To limit warming to well below 2°C, emissions mitigation must scale up to a world of net zero¹ emissions in the second half of the century, or in little as 35 years² to achieve the 1.5°C goal. An important next step in advancing the Paris Agreement is the acceleration of adoption of carbon pricing. Many business leaders and government officials urge the use of carbon pricing as the most effective policy instrument in directly tackling emissions. Article 6 of the Agreement provides a foundation for international cooperation through markets, with the value of carbon pricing incentives noted in paragraph 137 of the decision text.

The creation of carbon pricing systems and the transfer of units between them can direct large scale financing towards the most effective mitigation activities whether sector level or project based. **The broader the base for a given carbon price, the more efficiently it operates and the lower the overall cost of managing emissions to the economies within which it is operating.** So, international links between markets can achieve even deeper cuts and assist the transfer of significant climate finance to help fund NDCs of interested developing economies.

Article 6 of the Paris Agreement provides the opportunity to expand the reach of carbon pricing to enable full implementation of Nationally Determined Contributions (NDC). Its development should be guided by the fundamental principles of ensuring environmental integrity and avoiding double counting. Article 6 has two key features:

1. It describes the use of internationally transferred mitigation outcomes (ITMO). The concept of exchange of carbon units, either notional or real, should be an underpinning feature of any ITMO to ensure appropriate accounting.
2. It establishes a mechanism to contribute to the mitigation of greenhouse gas emissions, or an Emissions Mitigation Mechanism (EMM), and support sustainable development. The EMM, in conjunction with the ITMO, could be designed to promote carbon pricing. With the full implementation of the Paris Agreement, the EMM could offer a universal carbon allowance or credit for those countries that choose to use it, facilitating trade between NDCs (i.e. ITMO), providing registry facilities and therefore offering the prospect of carbon pricing in many economies. This in turn could channel additional investment. Therefore, IETA recommends a broad interpretation of Article 6.4 and having an open framework that will help governments account for emission reductions achieved.

IETA offers this straw-man vision for Article 6 implementation as a basis for discussion over the coming months with a view to towards more widespread adoption of carbon pricing.

¹Referred to in the Agreement (Article 4) as: to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century

²Energy system transformations for limiting end-of-century warming to below 1.5 °C, Rogelj et al, Nature Climate Change, June 2015

BACKGROUND

The Paris Agreement will likely set the stage for action on climate change into the second half of the century, if not much longer. During that time the Agreement must operate on a scale commensurate with the energy, forestry and agriculture systems and be sufficiently robust so as to deliver a sharp drop in global emissions. While the Kyoto Protocol operated on an economy wide basis in a limited number of countries and at a relatively small scale in all others, the Paris Agreement must completely transcend this in order to realize the ambition embedded within it. Economy-wide action must become the model, both through large scale sectoral and project activity.

Over the same period and largely for reasons of scale and reach, we would expect to see further development of carbon pricing systems and instruments at national level as countries implement their Nationally Determined Contributions (NDCs). In order to limit competitiveness concerns and to facilitate global trade without distortionary influences, these systems should harmonize and eventually converge, such that a single prevailing carbon price begins to emerge. Although that process may take many years, it is the expected direction of travel. Economic theory also argues for market harmonization in that the broader the base for a given carbon price, the more efficiently it operates and the lower the overall cost of managing emissions to the economies within which it is operating.

Harmonization of systems can come through linking of national carbon pricing systems, which in turn requires accounting for the transfers that result. In particular, strong provisions will be required to avoid double counting and ensure that any exchange of

units is correctly accounted for in national inventory reporting.

An important next step following on from the Paris Agreement and as noted in paragraph 137 of the decision text, is for the acceleration of adoption of carbon pricing, recognizing the effectiveness of this policy instrument in providing incentives to reduce emissions. The creation of carbon pricing systems and the transfer of units between them can also direct large scale financing towards mitigation activities. During the first period of the Kyoto Protocol, the use of the CDM, even at modest scale, directed tens of billions of dollars of finance to projects in emerging economies. Likewise, the voluntary carbon market has also directed significant additional dollars to similar projects, albeit often in other sectors such as forestry and agriculture.

Within the context described above sit the carbon trading or market-based provisions of Article 6 of the Paris Agreement. The Article (see Annex 1) also caters for a non-market based approach, which may complement the market-based approach but is not within the scope of this paper.

NATIONALLY DETERMINED CONTRIBUTIONS (NDC)

All Parties to the Paris Agreement are required to communicate NDCs. For all Parties, this represents a future emissions trajectory, typically five to ten years. This is equally true for countries that have submitted a series of actions that comprise their NDC, as it is for countries that have specified a particular emissions target where a carbon emissions trajectory can be derived.

In its initial INDC assessment report³, the UNFCCC Secretariat determined the effectiveness of the pre-

³Synthesis report on the aggregate effect of the intended nationally determined contributions, FCCC/CP/2015/7, para. 83

Paris INDCs in terms of deviation from a business as usual emissions trajectory, even though this level of detail wasn't provided by all the 119 submissions they had at the time of the assessment. Several countries stated in their INDCs that the level of commitment they are putting forward is conditional upon having **access to international carbon markets in the Paris Agreement**. Overall, **91 INDCs mention the use of markets**.

In the context of emission trajectories, there are three archetype NDCs that could be considered;

Fixed Economy Wide Emissions Pathway (Type 1):

This is an NDC based on a specific emissions target. For example, the economy is at 100 emission units in some reference year and has a trajectory that takes it to a new point of emissions in a future year. The total number of units between the two years represents a fixed emissions limit that should not be exceeded.

There is a comprehensive national GHG inventory and international reporting system in place which tracks emissions and could incorporate carbon unit trade.

Examples of Type 1 NDCs include the European Union, the United States, Brazil and Japan.

Anticipated Economy Wide Emissions Pathway (Type 2):

This is an NDC based on a desired emissions trajectory, which may be expressed as a deviation from business as usual, an emissions intensity at some future date, or simply a peaking year.

For example, an economy may be expecting a certain rise in emissions over the forward period, but anticipates a different outcome subject to the

full implementation of its NDC. There are two emission limits to deal with; the first is the limit related to the projected or business as usual rise in emissions over the forward period. The second is the limit associated with the anticipated or target outcome itself and can be converted into an absolute emissions limit over the period.

The country in question may not have a robust GHG inventory, in which case the opportunity for economy wide carbon trading may initially be limited. It is possible, however, for a national emissions trading system to use a fixed baseline and reduction target for some sectors within a Type 2 NDC.

Examples of Type 2 NDCs include China, the Republic of Korea, Mexico, and Indonesia.

Other NDC Types (Type 3):

There are a wide variety of NDCs based on a set of actions within the economy that gives rise to a notional emissions trajectory. The effort is focused on implementing the actions, such as energy efficiency projects, forest sequestration, or renewable energy deployment, rather than on managing carbon dioxide and other greenhouse gas emissions. No emissions limit is immediately attributable to such an NDC, and therefore the opportunity for international trade of carbon units is more limited. However, if a sector within a Type 3 NDC operated against a baseline of some description, basic overall national GHG accounting could open it to trading opportunities.

Examples of Type 3 NDCs include Papua New Guinea, Uruguay, Samoa, and Bolivia.

Future NDC development (i.e. post 2020) should see a shift towards Type 1 and Type 2 structures.

Carbon trading between Type 1 NDCs is relatively straightforward, given the existence of registries, the likely implementation of cap-and-trade architecture in some part of the economy and the robust governance that these bring. While the Type 1 NDCs typically reflect single point-year targets, the trading systems would likely require annualized targets for each year of a compliance period to avoid double counting.

Carbon trading involving a Type 2 NDC requires additional consideration, in that models based on previously established international emissions trading architecture may not be appropriate. In particular, within a number of existing emissions trading systems established to date, the concept of crediting (a form of offset for emissions) has evolved.

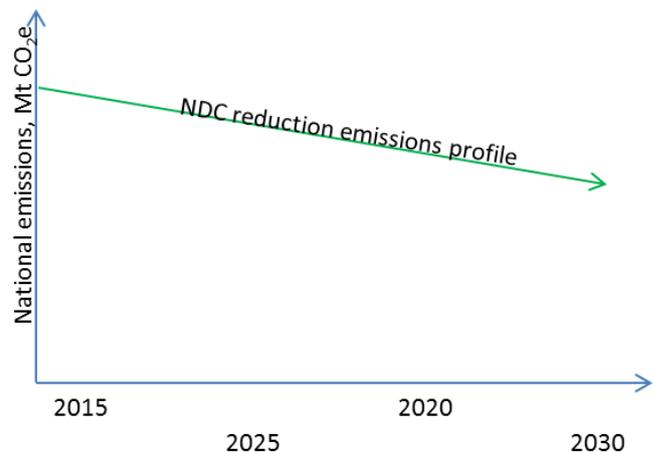
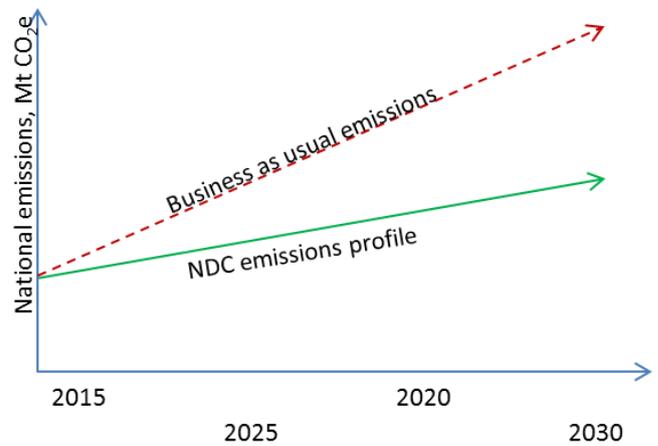
In these systems a project can be defined which represents either a real (from a known XX tonnes to an expected YY tonnes) or notional (an expected YY tonnes, which is lower than a counterfactual XX tonnes) reduction in emissions outside the sectors not covered by the trading system itself. The difference “XX-YY” could then be realised as credits or offsets and be used to extend the supply of allowances within a trading system by effectively adding to the existing allowance pool. These units are typically awarded after an action is taken and a verification report is reviewed and approved by a regulator.

The transfer of these units from the project outside the trading system to the recipient inside the system has typically only impacted the emissions inventory of the latter. This construction has been possible because of the limited scope of climate action globally under the Kyoto Protocol; only certain countries and specific sectors have emission reduction goals, and therefore only these entities

had a responsibility to directly manage and report on their emissions inventories, to the extent that they accounted for trade.

But the structure of the Paris Agreement and its overarching goal to eventually manage the entire global emissions inventory fundamentally changes this construction, as it involves all countries.

In the illustrations below are examples of two NDC constructions. The first is an NDC that proposes to shift the emissions profile from the Business as Usual (BAU) projection to a new, lower projection (Type 2). The projection may have a dependency, such as the availability of climate finance. A second country proposes an NDC on the basis of a quantifiable reduction goal (Type 1).



Under the Paris Agreement, the green 'emissions profile' lines should both be delivered. This means that reductions from the BAU line to the NDC line in a given Type 2 country cannot immediately be used as offsets elsewhere, which may have been the case previously under the Kyoto system. Rather, if emissions trading between these two systems dictates that projects are preferentially executed in the Type 2 NDC country, the transfer of units from that system must be accounted for such that the total emissions of the two entities does not exceed the total dictated by the green lines.

A similar accounting structure existed under the Kyoto Protocol through Joint Implementation (JI), covering the implementation of a project in a country whose emissions were governed by an allocation of AAUs. Under that system, the host country of the project would effectively transfer AAUs to the recipient country, but this typically occurred through use of Emissions Reduction Units (ERU) under JI. The host country would be left with fewer AAUs and therefore a more stringent national target, but one that had nevertheless attracted external investment.

ARTICLE 6.2-6.3 - ITMO

Article 6.2 of the Paris Agreement describes the use of internationally transferred mitigation outcomes (ITMOs). This will provide a means to balance, without double counting, any carbon based trade between NDCs that might take place. This might be on a bilateral basis, through clustered carbon market clubs or possibly via a more centralised UNFCCC based approach.

For example, **the linking of two cap-and-trade systems that sit within respective NDC envelopes and the movement of units between them could be accounted for through the ITMO provisions.** At the point of true-up, one of the systems (System A) would have a net gain of units against its national allocation and the other (System B) a net reduction. That amount would be the ITMO but it is System B that has created the ITMO in that additional mitigation has taken place under that NDC. System A is the recipient of additional allowances for its cap-and-trade system. Overall emissions in B are lower than they would have been. Money has also flowed from A to B in that A has purchased the units, but it is B that has invested to reduce emissions. Both jurisdictions gain economic benefits: one from the funds to invest in reductions, and the other in the savings of higher costs. This type of ITMO trading is already taking place in North America under the California-Quebec carbon market.

The concept of exchange of carbon units, either notional or real, should be an underpinning feature of any ITMO. This aligns the ITMO with a cumulative emissions model and therefore ensures avoidance of double counting, a core provision of the Paris Agreement.

However, not all NDCs may comprise a cap-and-trade system, which argues for additional interpretations of the ITMO while retaining the carbon unit exchange accounting principle. For this, it is important to return to the NDC archetypes.

Type 1: An ITMO in relation to such an NDC is relatively straightforward in that the emissions limit of the transferees is adjusted directly, for example through the allowance accounting in a national GHG registry. Under such a system, any sub-national system can trade externally, as the national registry is adjusted accordingly.

Type 2: Under certain conditions, an ITMO may be able to proceed against the projected emissions limit. An ITMO can always proceed against the implementation or fixed emissions limit provided it is supported by suitable carbon accounting. The latter case is the same as a Type 1 ITMO.

Type 3: As carbon dioxide emissions are not being directly managed, an ITMO cannot be immediately executed under such a system. Some form of carbon accounting would be required to underpin the ITMO.

Within the Type 2 NDC, the Party involved may wish to execute an ITMO, but the emissions trajectory that the country is operating against is less defined than for a Type 1 NDC. This argues for assignment of carbon units against the NDC such that an ITMO can proceed and the benefits that it offers can be realised. This then brings the discussion to Article 6.4 of the Paris Agreement.

ARTICLE 6.4 - A MECHANISM TO CONTRIBUTE TO MITIGATION

The second component part of Article 6 is the creation of a mechanism to contribute to the mitigation of greenhouse gas emissions, or an Emissions Mitigation Mechanism (EMM)⁴. Its core purpose could be defined so as to deliver an emissions reduction against some reference which is contained within the NDC, but also to ensure an overall reduction in global emissions while delivering sustainable development benefits. Because an EMM can connect with the emission mitigation objectives of another party, it can act to facilitate an ITMO. IETA believes that EMM must

become a broad framework mechanism within which many types of mitigation approaches can be executed with assured additionality and avoidance of double counting, rather than a single purpose mechanism such as the CDM under the Kyoto Protocol.

The focus of emissions reduction and limitation needs to be the application at scale with a view to a world of net-zero emissions in the second half of the century. Under the most ambitious 1.5°C reduction scenario, net zero emissions may be required in as little as 35 years⁵. The principle application of the EMM must be to encourage large scale emissions mitigation through sector and project based activities at national level and transfer of significant finance to help fund NDCs of interested developing economies.

The view of many economic experts is that markets provide the most efficient way of achieving deep emission reductions through the implementation of carbon pricing by the national government. This can attract investment and offer the prospect of broad-based change across the economy if used properly. But many countries may not be in a position to immediately implement a carbon price yet have put forward ambitious NDCs that call for large scale intervention across their economies. Therefore, a broad interpretation of Article 6.4 (the EMM) may be desirable. IETA recommends having an open framework that will help governments account for emission reductions achieved, with robust requirements to avoid double counting and ensure environmental integrity.

⁴Some observers have referred to this as a Sustainable Development Mechanism (SDM), but the Paris Agreement is not explicit on this point. Rather, it requires sustainable development as a desired co-benefit of emissions mitigation, which is the principle purpose of the mechanism.

⁵Energy system transformations for limiting end-of-century warming to below 1.5 °C, Rogelj et al, Nature Climate Change, June 2015 by sinks of greenhouse gases in the second half of this century



With the full implementation of the Paris Agreement such a framework could see the EMM offering both universal carbon allowance and crediting units for those countries that choose to use them, facilitating trade between NDCs (i.e. ITMO), providing registry accounting and offering the prospect of carbon pricing in many economies.

The EMM could be designed to offer registry facilities, establish sector baselines and issue sovereign credits for performance in excess of those baselines, which might then be purchased by external climate funds to channel investment. It could potentially recognize third-party standards and registries that meet its quality criteria. In a Type 3 jurisdiction the EMM could potentially award units to projects or programmes for reductions that cut deeper than the planned action in the NDC, so as to assure that an overall mitigation in global emissions has occurred as required by Article 6.4 (d).

An additional application could see the EMM offer a form of emission allowance in a given country, with allocation determined at sovereign level but aligned with the NDC. In such an instance, the host country might avail itself of a UN-run centralized registry to enhance its ability to link with other Parties' systems. External climate funds could purchase and ultimately retire such allowances from such a system, providing much needed investment but also forcing the national emissions down through carbon pricing and allowance based compliance. For example, the Green Climate Fund has been established to deliver specific projects, but it could also be structured as a future buyer of carbon units, effectively acting as a proxy carbon price in countries that require one or providing liquidity and financial flow into a developing country ETS that is seeking to generate investments. The World Bank Pilot Auction Facility

for Methane and Climate Mitigation functions in this way.

The balance between domestic action, international trade of allowances with other systems and withdrawal of units to drive down emissions in exchange for direct funding might require some level of international oversight. As a first step for example, this could take the form of an annual report summarizing trade flows by participants in cooperative trading blocs. If multiple trading blocs emerge, an overarching report could be developed by the UNFCCC Secretariat or other designated body, but subject to expert peer review. In the example of California and Quebec, this function is outsourced to an expert organization that provides regular market surveillance updates.

In summary, the EMM of Article 6.4 could be designed to provide flexibility for countries seeking to implement carbon pricing mechanisms by offering the following;

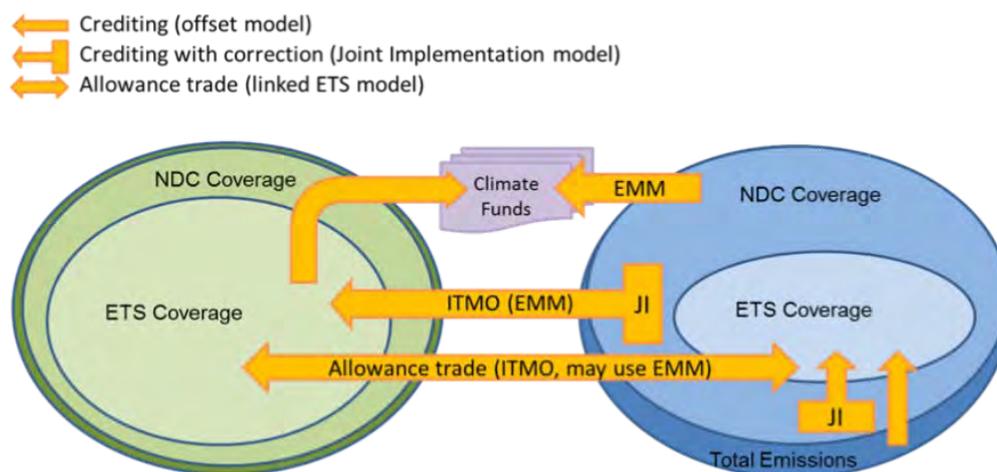
- Quantify and deliver emission reductions (as an allowance type of unit) against an emissions reference level in a Party's NDC;
- Provide a universal emission reduction credit or emissions allowance that can be transferred from one country to another as an ITMO;
- Encourage large-scale emissions mitigation activities as cost-effectively as possible;
- Undergo and follow oversight rules on the EMM set by the COP;
- Promote sustainable development through economic transition across all sectors of the economy.

A STRAW-MAN VISION FOR THE IMPLEMENTATION OF ARTICLE 6 IN THE CONTEXT OF NDCs

The use of Article 6 should always be in the context of the implementation of an NDC, although in the immediate post-Paris implementation there may be scope for direct crediting from sectors of some national economies not covered by the respective NDC.

The chart below (based on an original concept from OECD) illustrates a potential implementation of cooperative approaches, using Article 6 and the NDC structure of the Paris Agreement to deliver carbon pricing into national economies.

Post 2020 Article 6 Evolution



NDCs evolve quickly to cover most, if not all, of the GHG emissions from a national economy.

As NDC coverage increases and national GHG accounting matures, NDCs become more carbon pricing based with the EMM as the underpinning allowance for those countries not using a domestic allowance structure. Trade of allowances (ITMO) grows, bringing both economy of scale and economic benefits to those using the ITMO/EMM structure.

In the early years of implementation, emissions trading systems exchange allowances through linkage (ITMO), continue purchasing of offsets from outside the NDC boundaries, and begin to establish links with NDCs looking towards a carbon pricing basis. Where national governments choose to make use of Article 6, the EMM is used to establish the necessary carbon units within those NDCs and underpin them with registries and the necessary accounting. Carbon pricing is further embedded through the purchase of EMM units for retirement by multi-lateral climate funds or by joint implementation structured trading with other NDCs. This could be at a project level, but ideally scaling up to a sectoral (e.g. power generation) approach.

NEXT STEPS

IETA offers this straw-man vision as a basis for dialogue and discussion over the coming months with a view to beginning the design of the concepts laid down in Article 6 of the Paris Agreement at COP22 in Marrakech.

ANNEX 1: ARTICLE 6 OF THE PARIS AGREEMENT

Paragraphs 6.1, 6.2, 6.3 and 6.4 comprise the carbon trading provisions offered by the Agreement;

Parties recognize that some Parties choose to pursue voluntary cooperation in the implementation of their nationally determined contributions to allow for higher ambition in their mitigation and adaptation actions and to promote sustainable development and environmental integrity.

Parties shall, where engaging on a voluntary basis in cooperative approaches that involve the use of internationally transferred mitigation outcomes towards nationally determined contributions, promote sustainable development and ensure environmental integrity and transparency, including in governance, and shall apply robust accounting to ensure, inter alia, the avoidance of double counting, consistent with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement.

The use of internationally transferred mitigation outcomes to achieve nationally determined contributions under this Agreement shall be voluntary and authorized by participating Parties.

A mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development is hereby established under the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement for use by Parties on a voluntary basis. It shall be supervised by a body designated by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, and shall aim:

To promote the mitigation of greenhouse gas emissions while fostering sustainable development;

To incentivize and facilitate participation in the mitigation of greenhouse gas emissions by public and private entities authorized by a Party;

To contribute to the reduction of emission levels in the host Party, which will benefit from mitigation activities resulting in emission reductions that can also be used by another Party to fulfil its nationally determined contribution; and

To deliver an overall mitigation in global emissions.

Should you have any follow up questions on this paper, please

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