

ROLE OF REGIONAL CARBON MARKETS IN ARTICLE 6.2 OF PARIS AGREEMENT

CLIMATE NEGOTIATION



CLIMATE
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CARBON
MARKETS



COP25#



ARTICLE 6



PROJECT BASED
MECHANISM



COOPERATIVE
APPROACHES

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DISCLAIMER:

This article covers a high-level analysis of emerging draft text on Article 6.2 and understanding of some of the Party positions without going into details of various climate policy instruments and their connection to climate negotiations on Article 6. The views expressed are purely of the authors and do not represent any organization, Party or stakeholder.



1. INTRODUCTION AND PURPOSE

Through a Special Report in October 2018, Intergovernmental Panel on Climate Change (IPCC) has clearly given the direst warning about the catastrophic impact of Climate Change in near future. The report states that we have only 12 years in hand to take decisive action on Climate Mitigation before situation is out of our hands, and that the world must be net carbon neutral by 2050. UN Environment's 2018 report on emissions gap¹ that needs to be covered in next 12 years paints a dismal picture of where we are heading to and how much emissions world needs to reduce to meet 1.5 deg target set by Paris Agreement. Fig-1 below shows gap between what collective Nationally Determined Contribution efforts can achieve and what is needed for 1.5 deg C target.

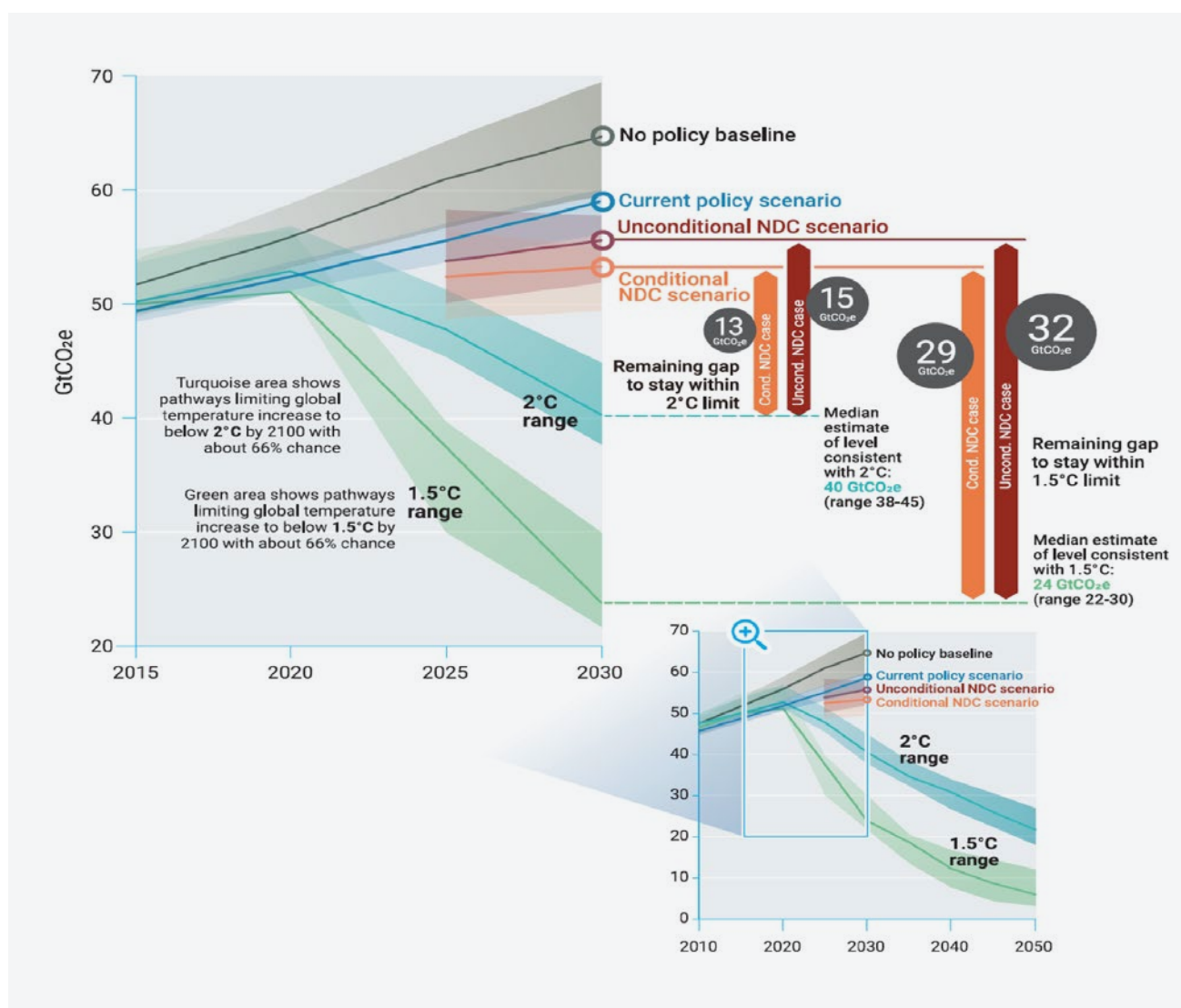


Figure-1: Gap in emission reductions from that is required to meet 1.5 deg C target

¹ <https://www.unenvironment.org/resources/emissions-gap-report-2018>

Paris Agreement is world's largest multilateral agreement under the umbrella of United Nations Framework Convention of Climate Change (UNFCCC) that aims to provide foundation for low carbon economy to limit global warming below 2 deg C (and below 1.5 deg as far as possible) as compared to pre-industrial levels. Parties have worked hard to finally agree on most of the elements of Paris Agreement Implementation Rulebook (Paris Rule Book) at Twenty-fourth UNFCCC Conference of Parties (COP24)². The agreement could not be reached on Article 6 on carbon market and non-market-based approaches, for which a draft text is forwarded for SBSTA's further discussions in 2019.

This article is written to provide a brief understanding and proposals on the following, with a hope that it provides important ideas on the ongoing negotiations on Article 6 of Paris Agreement.

- How the approved Katowice text, especially on article 13 on Transparency Framework for Action and Support, is a major improvement over Kyoto Mechanisms.
- Based on approved text (and yet-to-be-agreed draft text under article 6.2), how countries will adopt the MRV for mitigation, especially using article 6.2 on cooperative approaches.
- How the experiences gained in the past under Kyoto Mechanisms (especially Clean Development Mechanism (CDM) and Joint Implementation (JI)) and European Union Emission Trading System (EU-ETS) will play the role in shaping the future of mitigation.
- How and why regional GHG programs institutionalized and agreed between cooperating countries under article 6.2 will play a significant role in mitigation.
- What are different ways in which the sectors of economy can raise ambition for mitigation and sustainable development through regional carbon market instruments.

2. DEFINITIONS

For the purpose of this document, following terms are defined.

Additionality: Characteristic of the GHG reduction project activity that ensures that emission reduction caused by it are additional to that would have happened in absence of project activity.

GHG program: A GHG project certification and carbon credit issuance program, that creates regulatory framework including standards, procedures, guidelines and forms and templates, develops governance structure to facilitate the result-based financing of GHG reduction project activity in the area of its jurisdiction.

Carbon Credits: The verified and certified emission reductions by a GHG program resulted due to implementation and operation of GHG reduction project activity. The difference between Internationally Transferable Mitigation Outcomes (ITMOs See definition of ITMOs) and a carbon credits is that ITMOs are generated post international or/and country level MRV (as envisaged under article 13- transparency mechanism of Paris agreement and Paris Rulebook on Article 13), whereas the carbon credits from the voluntary GHG schemes are generated based on project level MRV.

Compliance-based Carbon Market: The platform created by a GHG program for GHG emission reduction project owners (or sellers of carbon credits), and project supporters (or buyers of carbon credits) to facilitate a regular stream of carbon finance to project owner to enable the implementation/operation of GHG reduction project, and claim the carbon credits for compliance purposes (e.g. international aviation sector having obligation under CORSIA scheme of International Civil Aviation Organization (ICAO)). The ownership of compliance carbon credits issued by GHG program is transferred from project owner to project supporter.

² Refer <https://lnkd.in/dXjV7Ph> for the documents released at COP24 at Katowice, Poland.

Voluntary Carbon Market: The platform created by a GHG program for GHG emission reduction project owners (or sellers of carbon credits), and project supporters (or buyers of carbon credits) to facilitate a regular stream of carbon finance to project owner to enable the implementation/operation of GHG reduction project, and claim the carbon credits for its own voluntary purpose (e.g. carbon neutrality of its products, services, activities or events). To avoid double accounting of emission reductions, the voluntary carbon credits issued by GHG program are either cancelled from registry before being used or retired from registry after the purpose of carbon neutrality is met.

Clean Development Mechanism (CDM): The Clean Development Mechanism (CDM), defined in Article 12 of the Kyoto Protocol, allows a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol (Annex B Party) to implement an emission-reduction project in developing countries. Such projects can earn saleable certified emission reduction (CER) credits, each equivalent to one ton of CO₂, which can be counted towards meeting Kyoto targets. CDM is the biggest compliance-based carbon market of Kyoto World, that may officially stop registering projects after 2020, the end of second commitment period of Kyoto Protocol. The compliance-based carbon credits supplied by CDM are traded at all-time low prices due to poor demand by developed countries.

Joint Implementation (JI): The mechanism known as “Joint Implementation”, defined in Article 6 of the Kyoto Protocol, allows a country with an emission reduction or limitation commitment under the Kyoto Protocol (Annex B Party) to earn emission reduction units (ERUs) from an emission-reduction or emission removal project in another Annex B Party, each equivalent to one ton of CO₂, which can be counted towards meeting its Kyoto target.

Emission Trading System: Emissions trading System (ETS), or cap-and-trade (CAT) system, is a market-based approach for reducing GHG emissions that provides economic incentives to industries (or organizations) for achieving reductions in the emissions. In contrast to command-and-control environmental regulations such as best available technology (BAT) standards and government subsidies, ETS programs are a type of flexible environmental regulation that allows organizations to decide how best to meet policy targets. Various countries, states and groups of companies have adopted such trading systems, notably for mitigating climate change.

Carbon Tax: A carbon tax is a fee imposed on the burning of carbon-based fuels (coal, oil, gas). Carbon tax is the core policy instrument for reducing and eventually eliminating the use of fossil fuels and mitigating climate change.

Nationally Determined Contributions (NDCs): Nationally determined contributions (NDCs) are at the heart of the Paris Agreement for achievement of its long-term goals. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions. Such measures may or may not include carbon market instruments.

Absolute reduction target of NDC: The target expressed in NDC in terms of absolute number of Ton CO₂ emission reductions as compared to a given baseline year.

Intensity-based target of NDC: The target expressed in NDC in relative terms of CO₂ emission reductions as compared to a given baseline year e.g. reduction in Ton CO₂ per USD of GDP.

Quantified NDC Sectors: Those Sectors covered in NDC which have specific quantified emission reduction (and potential quantified sustainable development parameters) targets of the cooperating countries.

Non-quantified NDC Sectors: Other sectors that are either not covered in NDC or covered but have qualitative or descriptive emission reduction and sustainable development criteria. These sectors play important role in low-carbon growth of economy of the country. Depending upon NDC, examples of such sectors could be: (i) international aviation sector with obligation to ICAO under CORSIA; (ii) tourism sector, sports sector, commercial sector, IT sector, residential sector etc.; (iii) temporary or project-based but emission-intensive sectors such as new events taking place in country e.g. Olympic, football world cup. The sectors of International Aviation and Maritime have separate GHG inventory accounting system than UNFCCC accounting system, therefore, these sectors are not included in NDCs which are reported under UNFCCC process.

Internationally Transferable Mitigation Outcomes (ITMOs): As per Paris Agreement (Article 6.2) Internationally Transferable Mitigation Outcomes (ITMOs) may be generated and used by Parties towards meeting NDCs, while engaging on a voluntary basis in cooperative approaches to 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 (CMA)**. If a country A reduces more emissions than its NDC target threshold, excess emission reductions undergo international MRV at country level to generate ITMOs. These ITMOs can be purchased by country C (one of the countries cooperating under cooperative approaches of article 6.2), which has a deficit to achieve its NDC target threshold. Exact basis for generation of ITMOs is yet to be decided under Article 6, however an approach is provided in this article.

3. HISTORY OF MULTILATERAL CARBON MARKET MECHANISMS

Clean Development Mechanism (CDM) and Joint Implementation (JI) are two flexibility mechanisms of Kyoto Protocol that primarily define the global compliance-based carbon market so far. Kyoto Protocol rests the responsibility of GHG mechanisms upon Annex-I countries (or developed countries) that can use the flexibility mechanisms discussed above involving the Non-Annex-I countries (or developing countries) in their efforts to meet targets. CDM is a huge success with 250+ baseline and monitoring methodologies covering the emission reduction algorithm for all possible project-based mitigation opportunities in almost all sectors of the world. CDM, a truly inclusive instrument, was a key tool for developing countries to implement carbon reduction projects using carbon finance from developed countries, while developed countries enjoyed the benefit of receiving cost effective certified emission reductions (CERs) to meet their Kyoto targets. A lot has been said about CDM for its role in catalyzing climate actions and resulting into many cascading benefits beyond its periphery. Based on a report published in 2012³, more than 200 Billion USD investment was brought by CDM into climate mitigation. While approximately 2 Billion Ton CO₂ equivalent emission reductions are achieved by almost 9000 projects and programme of activities registered by different countries by 2018, the indirect emission reductions due to projects, measures and policies are expected to be much higher. JI was a moderate success though, despite of the fact that JI project rules were much flexible as compared to CDM.

4. CORE ISSUE OF KYOTO MARKET MECHANISMS ESPECIALLY CDM

4.1 Additionality, governance and sustainable development: Despite its success, CDM was often criticized for its registration of business-as-usual projects that lack additionality and equally the bureaucracy of its processes. CDM is also not regarded as robust evaluator of sustainable development benefits of projects, as it always considered it to be the prerogative of host country. This article will not discuss how far those criticisms were valid, as much has already been said about it. The CDM Policy Dialogues⁴ organized by UNFCCC in 2012 with wide consultation of different stakeholders has conducted in-depth analysis of various aspects of CDM and presented its report to the Parties.

³ Benefits of The Clean Development Mechanism: https://cdm.unfccc.int/about/dev_ben/ABC_2012.pdf

⁴ <http://www.cdmpolicydialogue.org/report/rpt110912.pdf>

4.2 Double accounting: The process of finalizing the article 6 of Paris Agreement has taken in account the lessons learned from Kyoto World. The key lesson is probably the necessity of avoidance of double accounting of emission reductions by countries transacting carbon credits. Despite conservative approaches used by CDM methodologies for calculation of emission reduction, CDM is often said to be zero-sum game, as developing country reduces emissions and sells certified emission reductions (CERs) to developed countries to allow them to increase emissions by corresponding amount. Further, despite the transfer of ownership of traded CERs by developing country to developed country, the impact of project was counted in the inventory of the developing country. On other hand developed countries also claimed the offsets through its reporting to UNFCCC. This led to double accounting of emission reductions in global context. This issue, however, was addressed in JI especially by EU-ETS by adjusting the AAUs of selling country against Emission Reduction Units (ERUs) sold by it.

4.3 Isolated accounting of projects: Further, the organizations in developing countries voluntarily implemented CDM projects in isolation and received carbon revenues. The overall performance of the companies was never questioned in absence of any requirements. Despite several CDM projects implemented by sector of a specific country, the sector could increase emissions as there were no requirements for sectoral targets for developing countries. Under Paris Agreement, sector is tasked to reduce its emissions in absolute or relative terms, and isolated focus on sectoral projects is avoided.

4.4 Lessons from sectoral approach of ETS: Long-term successful operation of European Union Emission Trading System (EU-ETS) has provided key learnings in the process. EU-ETS has set a direction on how sectoral approach and sectoral crediting can work towards cleaning the entire sector. Grown over last 13 years, EU-ETS now covers 11000 energy intensive installations in EU with a target of 40% reduction by 2030 as compared to 2015 baseline. The stringent regulations and dynamic benchmark-based baselines of ETS are expected to help improving GDP carbon intensity of EU over the years. Post first commitment period of Kyoto Protocol (2012), EU-ETS has reshaped itself more-or-less like cooperative approach conceived under article 6.2, where it stopped buying carbon credits from developing countries (except from Least Developed Countries) keeping all mitigation efforts within EU. This is mainly due to reported reason of carbon leakage, that led many GHG intensive industrial units from EU to shift to developing countries to acquire benefit of CDM revenues, incurring net economic loss to Europe.

5. PROVISIONS TO ADDRESS ABOVE CORE ISSUES IN APPROVED AND DRAFT TEXT OF PARIS RULE BOOK

5.1 National Baseline: Article 13 agreed by Parties in Katowice clearly defined country level mitigation MRV to ensure absolute or intensity-based reduction in countries' GHG inventory. The definition of baseline is strikingly different than that under project-based mechanism (CDM) as the actual inventory in Ton CO₂ or T CO₂/GDP is referred as baseline unlike paragraph 48(a), (b) or (c) of Marrakech Accord.

5.2 Inventory-based accounting giving rise to sectoral approaches: ITMOs are generated based on difference between absolute/intensity-based reduction in GHG inventory (single or multiple year) and the targeted threshold for reduction. The estimation of single-year inventory is to be carried out for different sectors using relevant IPCC GHG inventory guidelines and projections for multi-year baseline is to be determined using different policy scenarios that already exist in baseline year without any additional action. Further, the quantified targets set by country will help it to determine the forecasted emission reductions or reduction in carbon intensity. Setting a sectoral target is not easy, as it requires good assessment of marginal abatement costs of the sector as well as that of individual entities of the sector. Such determination of abatement costs requires internal analysis by companies on the options available to reduce carbon intensity of its products/services. This has been done by developed countries in the past and programmes such as Partnership for Market Readiness (PMR) of World Bank are building capacity of developing countries for it. Carbon Tax is another way of achieving sectoral reductions but requires a great

deal of study for arriving at an appropriate level of tax that creates the pinch to the sectors and forces them to reduce emissions rather than paying tax.

5.3 ITMO features: As per Paris agreement, mitigation targets will be achieved by countries by domestic actions as well as by use of ITMOs supplied by cooperating countries under article 6.2. Although accounting rules on ITMOs are yet to be finally agreed, there are views among Parties (as evident from bracketed draft text of article 6.2 released in Katowice) that such ITMOs must generate net emission reductions through their partial voluntary cancellation or use of discounting approaches. The countries cooperating with each other under article 6.2 will have common matrices of ITMOs, so that they deliver commonly agreed sustainable development outcomes apart from emission reductions. Another view evident from draft text is that these ITMOs can only be traded between the same sectors of different countries, to avoid intra-sector crediting and deal with host of other accounting issues. These features of article 6.2 indicate the significant roles that sectoral mechanism such as ETS or carbon tax will play in achieving emission reductions. However, one must keep in mind that ETSs work well for countries with multiple entities in the same sector to allow sectoral crediting. But the countries (and group of countries cooperating under article 6.2) which have limited number of entities in a sector cannot determine a realistic marginal abatement cost and level of benchmark as comparison among entities is not available.

Fig-2 below provides example of means available to cooperating countries for achieving NDC targets.

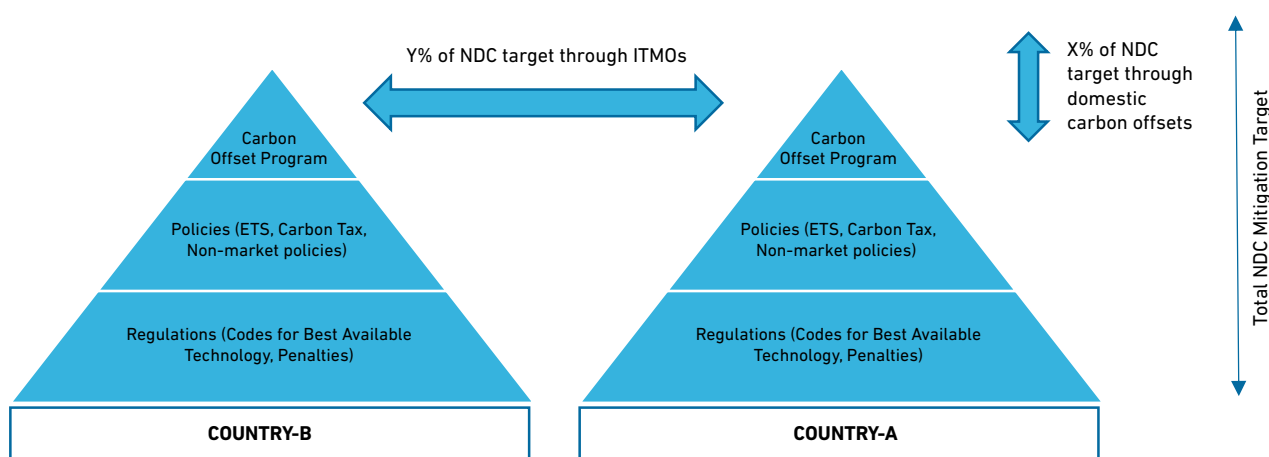


Figure-2: Means to achieve NDC targets under cooperative approaches

6. PROPOSALS FOR IMPLEMENTATION OF COOPERATIVE APPROACHES UNDER ARTICLE 6.2

It is clear that despite great improvements carried out in international agreement in an effort to develop water tight climate regime, demanding the countries to implement ratcheting mechanism and expecting them to raise ambitions towards 1.5 deg target will burden them excessively, unless clear rules are set for flexible market-based and non-market-based policy instruments to meet their NDC targets under article 6 of Paris Agreement. Following are some of the proposals on article 6.2 implementation that further UNFCCC negotiations towards Chile may take into consideration.

6.1 Quantification of NDCs: It is recommended that uniform mitigation approach is followed by the countries in setting NDCs. The countries must define a business-as-usual (BAU) baseline scenario, commit to certain targets (absolute or relative) of emission reductions and should quantify the emission reductions based on these targets. This is also important to compare the levels of ambition of countries cooperating under article 6.2.

6.2 Instruments to achieve mitigation target: The idea conceived in the new draft text of article 6.2 is to create absolute net emission reductions, which is well thought of. The instruments to achieve the emission reductions are not discussed so far. Probably the spirit behind it is that the cooperating countries on article 6.2 should be best left to their discretion on what type of instruments they want to use to meet their NDC targets, whether policy, regulation, standards, ETS, carbon tax, domestic or regional project-based crediting programs, or mix of some or all the above. But more guidance is needed on what kind of instruments can help to generate ITMOs. This is especially since there are views among Parties imposing limitations such as; neither the ITMOs generated can be sold to others sector not covered in a quantified NDC, nor any carbon offsets can be purchased by a quantified NDC sector from a project implemented in a sector outside of quantified NDC.

6.3 Role of Carbon Offsets in meeting NDC targets: A country (or group of cooperating countries under article 6.2) should be able to decide at any time to adopt domestic or regional GHG Program to meet its NDC targets. This helps countries to achieve NDC target at lower abatement costs. The range of limit on the use of carbon offsets to meet NDC targets can be stated e.g. up to X% of NDC target. The countries should be given flexibility to determine the value of 'X%' based on the national circumstances. For example, as discussed above, for smaller countries with no or relatively few entities in each sector, it is not recommended to implement ETS to achieve its NDC for practical reasons. In this case, countries should have flexibility to choose the higher value of 'X%' which implies small countries rely more on carbon offsets provided by regional GHG programs. This is the lesson to be learned from EU-ETS that allowed its companies to use limited proportion of CDM/JI carbon credits in place of EUAs.

6.4 Proposal on common metric of ITMOs: In addition to improving operation and maintenance practices, the sectors target climate mitigation mainly by implementing GHG reduction projects with low-carbon technology or solution. Therefore, projects are the key to achieve emission reductions, and must be at the heart of achievement of targeted emission reductions.

Article 6.2 expects ITMOs to be "additional" and deliver sustainable development (SD) outcomes. However, based on current understanding of ITMOs, which are essentially the difference between actual GHG inventory and targeted emissions, ITMOs can be additional but it is difficult to characterize them with SD features. On the other hand, projects bring several sustainable development benefits apart from emission reductions. For example, a green building certified by a green building certification system such as GSAS⁵ has fifty sustainability indicators including GHG emission reduction achieved by building. It is proposed

⁵ RGSAS stands for Global Sustainability Assessment System. Refer GSAS Technical Guide at <http://www.gord.qa/admin/Content/Link116201825819.pdf>

that SD features should be tagged to ITMOs through the type of projects implemented by quantified sectors and the carbon offsets procured. These projects are the best means of defining sustainable development that sectors will inherit into ITMOs they deliver. One way to define common metric on sustainability outcomes of ITMOs is through sustainability rating of GHG reduction projects that sector has implemented to generate ITMOs.

6.5 Proposal on use of regional GHG programs for cooperative approaches: Carbon markets help to get revenues to quantified NDC sectors to implement ambitious projects by selling carbon credits. Similarly, carbon markets make available required carbon offsets for quantified NDC sectors from non-quantified sectors to help them reach mitigation targets. Regional GHG programs facilitate economic incentivization of emission reductions through carbon credits issued to projects. The countries under cooperative approaches may agree to list of GHG program/s which will generate regional carbon credits based on stringent international protocols. To avoid carbon leakage and allow domestic sustainable development, countries may agree to limit most of the carbon credits generated from the cooperating countries only. The rules of such GHG programs are to be decided by cooperating countries, as the programs are for their use and it is their ultimate responsibility to deliver targeted reduction in national emissions. The regional markets bring following salient benefits among cooperating countries.

- Fuels sustainable development based on country or regional priorities
- Encourages the investment in domestic and regional climate actions
- Encourages development and use of more relevant regional standards for mitigation
- Helps avoiding carbon leakage that EU witnessed during Kyoto Mechanism
- Easier accounting and corresponding adjustments as the GHG inventories as the boundaries of mitigation are well known
- Facilitates clear tracking of climate finance
- Encourages south-south cooperation
- The supply and demand scenario of carbon credits are better known, so predictability of carbon finance can be judged in a sound manner

6.6 Proposals on the various applications of regional carbon markets for cooperative approaches: Following proposals are made to bring more flexibilities for the countries in achieving targeted emission reductions, by using project-based regional carbon markets. These proposals essentially outline different ways in which project-based carbon credits can be used for compliance and voluntary purposes, and how double accounting can be avoided through accurate corresponding adjustments required under Paris Agreement.

6.6.1 Proposal-1: Carbon Credits generated by non-quantified NDC sector and supplied to quantified NDC sector

- Although NDC should mainly focus on sectoral mitigation and allow only a limited percentage of contribution to be met by carbon credits or offsets, this proposal helps cost-effective implementation of mitigation programme of a sector. The proposal is clarified by following example. If non-quantified NDC sector of residential housing can supply project-based carbon credits to a quantified NDC steel sector, by installing rooftop PV systems, then such credits should be allowed to the steel sector to account for in its contribution in NDC.
- When a sector purchases domestic credits as above and still generates ITMOs after surpassing its target, such ITMOs can be transferred only after deducting the equivalent domestic carbon credits from the total emission reductions achieved above target. This is because in all conditions, sectors should avoid being a trader of carbon credits by converting them into ITMOs.

- Double accounting under this proposal is avoided by ensuring that the project owner does not claim the reduction in its GHG footprint.
- This proposal helps to meet the sustainable development objective and catalyze climate action in the entire economy of the country, irrespective of which sector forms the part of quantified NDC.

6.6.2 Proposal-2: Carbon credits generated by quantified NDC sector and supplied to non-quantified NDC sector

- Quantified sectors achieve most of their targeted carbon reductions using GHG reduction projects. Such projects can be partly financed by buyer of carbon credits from non-quantified sectors for their carbon neutrality, either for voluntary or compliance purposes.
- This proposal can be based on the compliance principle or voluntary principle, depending upon who the recipient is. The receiving companies of carbon credits shall claim the ownership of emission reductions if they are using them for compliance purposes (e.g. Airlines using them for compliance obligation under CORSIA). In this case, the supplier of carbon credits shall not be allowed to claim emission reduction and therefore must make corresponding adjustment in its GHG inventory. If the buyer of credits is buying it for voluntary purposes (e.g. claiming carbon neutrality of products, services or events), such carbon credits shall not be claimed by recipient in its GHG inventory and therefore only claimed in the GHG inventory of project owner or credit supplier.
- The decision by sector to sell for voluntary or compliance purpose rests purely based on decision of ownership of credits that may have implication on carbon price as well. Entities can choose compliance-based sell of credits that makes them lose ownership of credits, only when they have assurance that entity and sector will meet NDC targets for the year despite selling the credits.
- This proposal generates great economic value for the sector and the country. Money received by quantified sector by sell of credits can help implementing more climate-friendly technologies and solutions in the country.
- The quantities of ITMOs generated by the quantified sector should be adjusted by deducting corresponding domestic voluntary and compliance carbon credits sold from the total emission reductions achieved. This is to avoid selling same emission reductions two times that is potential double accounting.

6.6.3 Proposal-3: Carbon Credits between Quantified NDC sectors

- The sectors covered in quantified NDC that have lower marginal abatement costs should also be allowed to supply the carbon credits to other sectors which are covered in quantified NDC but have higher marginal abatement costs. The carbon revenue received for its carbon credits permits the company to implement the innovative projects.
- This will help the country to meet its NDC targets at lower abatement costs due to use of market instruments.
- The entities supplying the project-based credits can only supply additional emission reductions if it is sure of meeting its own target as well as entire sector will meet target despite selling of credits.
- Such supply of credits shall be correspondingly adjusted by increasing the inventory of supplying sector and reducing the inventory of receiving sector.
- This mechanism helps country to meet its overall NDC target before any ITMOs can be supplied to other countries cooperating under article 6.2.

6.6.4 Proposal-4: Carbon Credits between Non-Quantified NDC sectors

- This proposal is for transaction of carbon credits between non-quantified NDC sectors.
- The regional GHG program supplying cancelled carbon credits for the voluntary purpose of carbon neutrality of the entities in non-quantified NDC sectors can help to catalyze climate actions in these sectors and contribute to greening of the economy.

- Voluntary credits are only accounted in the inventory of project owner (based on actual GHG inventory) and buyers cannot claim them as part of their inventory. Buyers can claim the voluntary financial contribution they have made in bringing about the emission reductions.
- The regional GHG program supplying carbon credits for the compliance purpose of international aviation sector under CORSIA (a non-quantified NDC sector) can help to catalyze climate actions globally.
- This proposal can be implemented simultaneously and collectively among all the countries cooperating under article 6.2.

Table-1 below provides the summary of the above proposals.

	Proposal-1: Carbon Credits generated by non-quantified NDC sector and supplied to quantified NDC sector	Proposal-2: Carbon credits generated by quantified NDC sector and supplied to non-quantified NDC sector	Proposal-3: Carbon Credits between Quantified NDC sectors	Proposal-4: Carbon Credits between Non-Quantified NDC sectors
Nature	Compliance	Voluntary or compliance	Compliance	Voluntary or compliance
Emission reductions owner	Quantified sector	Quantified sector if voluntary cancelled carbon credits; non-quantified sector if compliance credits. Only allowed to sell compliance credit if entity and sector are on the path of achieving target.	Quantified sector receiving the carbon credits. Only allowed to sell if entity and sector are on the path of achieving target.	Project owner if voluntary cancelled carbon credits; project buyer if compliance credits.
What quantified sector gets?	Reduction in emissions to meet NDC target.	In case of voluntary, carbon revenue plus reduction in emissions to meet NDC target; In case of compliance (e.g. CORSIA), higher carbon revenue than voluntary.	The credit buying sector has higher cost of abatement, so cost attractive emission reductions can be received from another sector to meet its NDC target. The offset supplying sector receives the revenue for the emission reductions achieved beyond the target.	
What non-quantified sector gets?	Carbon revenue for implementation of project and generating carbon credits.	(i) If voluntary carbon neutrality claim and claim of their contribution for emission reduction in quantified sector of NDC; (ii) In case of compliance such as international aviation sector compliance under CORSIA, meeting compliance requirements.	NA	(i) If voluntary, carbon neutrality claim (ii) In case of compliance such as international aviation sector compliance under CORSIA, meeting compliance requirements.
Further Corresponding Adjustment	ITMOs generated (if any) should not include emission reductions claimed using offsets, not allowing the sector to play a role of a carbon credit trader.	ITMOs generated (if any) should not include carbon credits sold domestically for voluntary or compliance purposes to avoid two times market use.	Increase the GHG inventory of supplying sector and reduce the inventory of receiving sector.	(i) If voluntary, carbon neutrality claim (ii) In case of compliance such as international aviation sector compliance under CORSIA, meeting compliance requirements.
	NA	ITMOs generated (if any) should not include carbon credits sold domestically for voluntary or compliance purposes to avoid two times market use.	Increase the GHG inventory of supplying sector and reduce the inventory of receiving sector.	
	NA			

Table-1: Summary of the proposals on use of regional carbon markets for cooperative approaches

Figure-3 below provides schematics of above proposals at a glance.

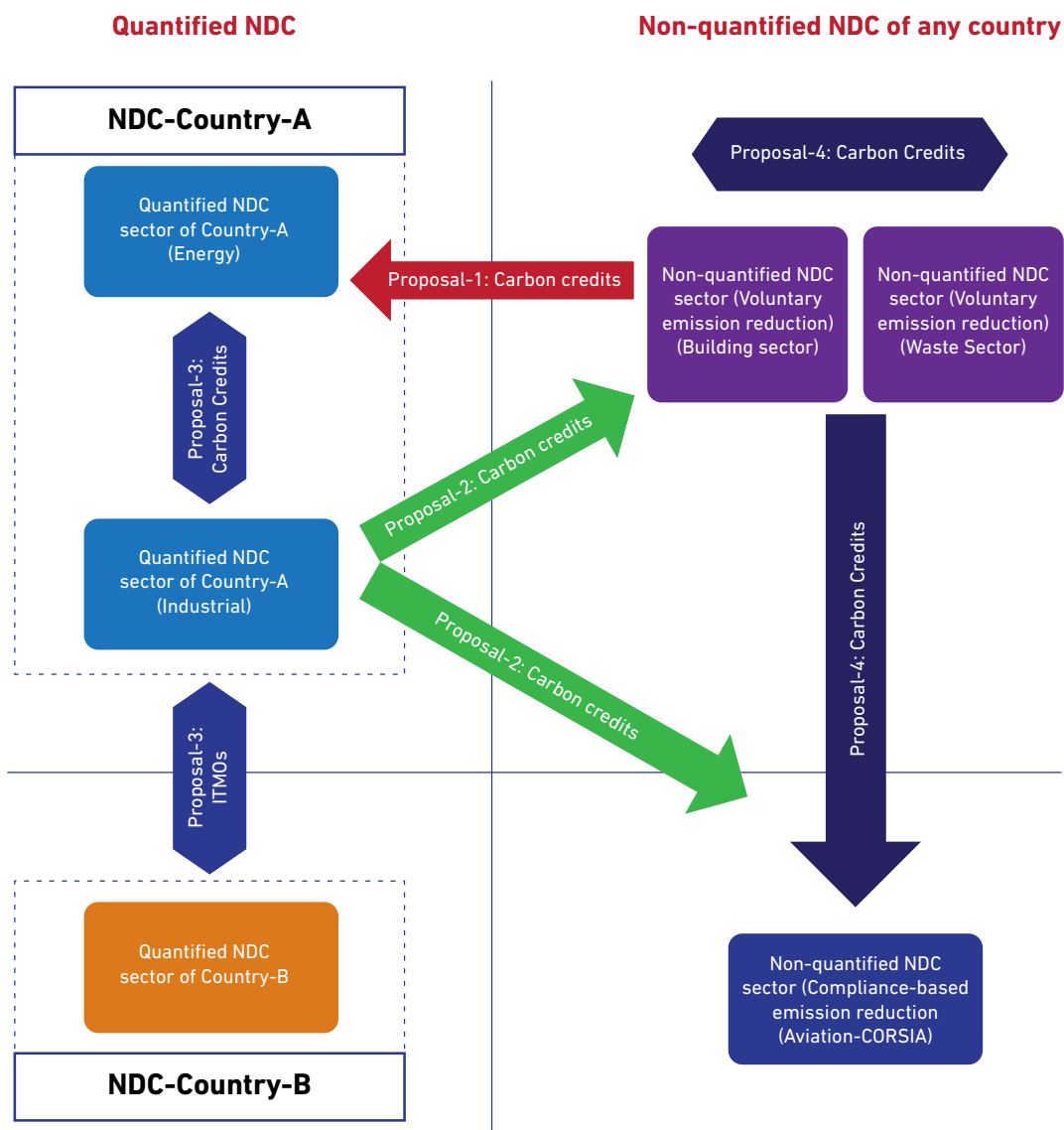


Figure-3: Proposals on use of carbon markets for cooperative approaches

6.7 Proposal for use of Sustainable Development Mechanism (SDM) under Article 6.4 together with Cooperative Approaches under Article 6.2: The international carbon market and voluntary carbon markets may co-exist to help countries meet their NDCs. SDM under article 6.4 should automatically qualify to supply the credits discussed in above proposals as the standards developed under 6.4 shall be more international in nature and likely to be more stringent. However, it should be cooperating countries' prerogative whether they want to use carbon credits from regional voluntary program or SDM to meet their mitigation targets. Use of article 6.4 may be permitted of course subject to due corresponding adjustment in the accounting of emissions as the boundary of adjustment enlarges in case of use of international credits. This aspect must be discussed and agreed upon in the final text on 6.4.

7. CONCLUSION

Unlike Kyoto Mechanisms, Paris Agreement makes all the countries responsible for mitigation of climate change. Kyoto mechanisms were overly focused on the mitigation targets of developed countries without paying much attention to what developing countries are doing. For example, there was potential double accounting of emissions as developed countries were tasked to reduce emissions, but developing countries helping them under CDM mechanism were also accounting the reductions in their GHG inventories.

The Paris Rulebook for transparent framework for actions and support is ready after COP 24 but demanding the countries to implement ratcheting mechanism and expecting them to raise ambitions towards 1.5 deg target will burden them excessively without setting clear rules for flexible market-based and non-market-based policy instruments to meet their NDC targets under article 6 of Paris Agreement.

Implementation of any global mechanism requires adoption of full proof accounting of emissions, and article 6.2 has a better control on it, as the boundary for transfer of carbon credits and internationally transferable mitigation outcomes (ITMOs) is limited i.e. cooperating countries under article 6.2. However, for article 6.4 the accounting is complicated as ITMOs (or carbon credits) are potentially transferred between countries without boundaries, that requires a global registry with complex algorithms.

GHG reduction projects are key to reduction of emissions and sustainable development by sectoral entities. Project-based crediting mechanisms create a cost-effective approach of mitigation and sustainable development, that can be implemented by country irrespective of its size and type of economy. Under project-based crediting mechanism implemented using article 6.2, sectors can raise carbon revenues for their projects from the project supporters in cooperating countries. As explained in this article, there can be several possible ways in which regional carbon credits and ITMOs under article 6.2 can bring economically attractive opportunities for quantified and non-quantified sectors to cut emissions. The project supporters can either be owners of credits or just claim the contribution, depending upon the purpose of their support, whether compliance-based or voluntary. The sectors should also be allowed under article 6.2 to meet their mitigation target to some extent by purchasing carbon offsets. The attractiveness of carbon offset is that it makes an entry at a point where traditional mitigation and sectoral approaches become cost prohibitive.

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