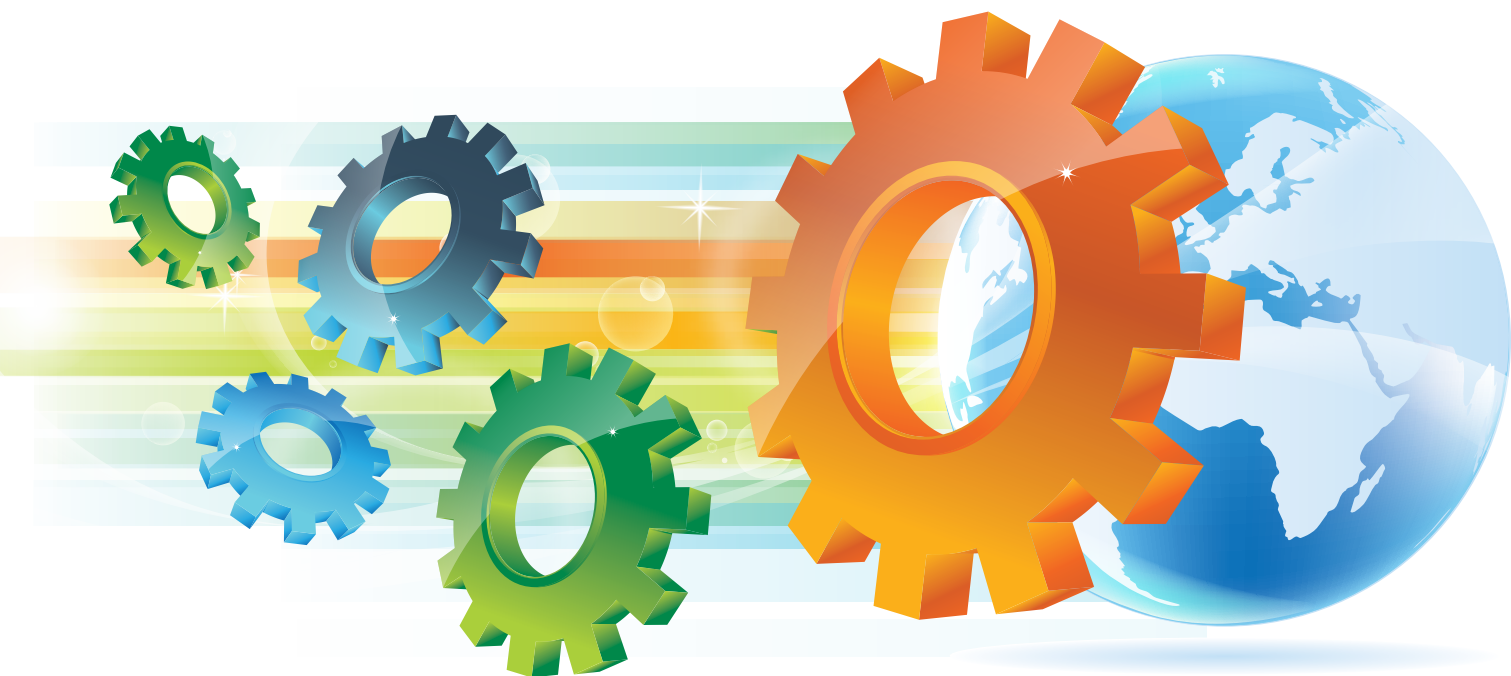


Clean Development Mechanism as Catalyst for Sustainable Development Mechanism Under Article 6.4

DISCUSSION PAPER

R. R. Rashmi and Ritu Ahuja



THE ENERGY AND RESOURCES INSTITUTE
Creating Innovative Solutions for a Sustainable Future

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Executive Summary

COP 25 comes at a crucial time in the global climate change discourse. On the one hand, urgency to limit temperatures below 2°C is being increasingly felt across the globe. On the other hand, market mechanisms that can help incentivize action to limit these temperature rises are yet to be finalized. Among some pertinent issues under Article 6 of the Paris Agreement, one of the widely debated ones is transitional arrangements from Clean Development Mechanism (CDM) of the Kyoto Protocol to Article 6.4 mechanism (often referred to as the Sustainable Development Mechanism (SDM)) of the Paris Agreement. This transition has three dimensions: (i) migration of existing projects and programmes of activities; (ii) migration of certified emission reductions (CERs), and (iii) validity of baseline and monitoring methodologies and other rules of CDM under Article 6.4.

Developing countries have been pressing for acceptance of transitional arrangements along all the three dimensions. However, there is stiff resistance from many developed countries to the recognition of CDM projects and CERs as valid instruments under SDM, on grounds of anticipated lack of environmental integrity and additionality to ambition.

As a new perspective to the discourse, this paper argues that transitioning from CDM to SDM will act as a catalyst for advancing the new mechanism rather than acting as a hurdle to its success. Some of the key findings and inferences of the paper are: the CDM will be required to fill the inevitable void before SDM is in full force; that CDM will catalyse the growth of SDM and put prices on an upward trajectory rather than depress it; and finally that, by removing the trust deficit the CDM will strengthen the climate ambition and environmental integrity in the long run.

The new project activities under the SDM are likely to take at least 3 years before they can issue new credits, just as CDM projects did. In this void, existing CERs will act as an incentive to continue emission reduction efforts by registered projects until new projects under SDM are eligible to issue the credits. The analysis also shows that demand from Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and Nationally Determined Contributions (NDCs) commitments post-2020 will be enough to fully absorb the supply of about 2.5 billion CERs before 2024, i.e. less than 4 years after the SDM comes in force. It is also argued that the threat of rock-bottom prices is short-lived. The proposed SDM will build itself on the experience gained from CDM, and will have a broader scope in terms of environmental integrity, and the use of the carbon credits. If the SDM builds on existing CDM methodologies, it will strengthen the governance mechanism for integrity and additionality.

Lastly, private sector actors have invested heavily in eligible projects under the CDM and are likely to be the ones investing in SDM. Trust deficit in the market mechanism must be removed to provide a strong perception of legal certainty to the CDM and SDM, so that investments in emission reduction projects are only increased and not halted.



Introduction

COP 25 is the last Conference of the Parties (COP) before countries will go through their first round of revisions in their NDCs in 2020. It is also the COP where one of the last remaining sections of the Paris Agreement rulebook—operationalization of Article 6, is to be finalized. Among the items yet to be agreed under Article 6 is the transition of projects and unused CERs under Clean Development Mechanism (CDM) of the Kyoto Protocol.

The transition of CDM has three dimensions, namely (i) the migration of existing projects and pro-programmes of activities and allowing them to issue units eligible for trading as Article 6.4 emission reductions (A6.4ERs), eligible for trading as Internationally Traded Mitigation Outcomes (IITMOs) following the Article 6.2 guidance; (ii) migration or carryover of CERs already issued by the existing projects and programmes under the Kyoto Protocol for meeting the commitments under the Paris Agreement; and (iii) validity of baseline and monitoring methodologies as well as accreditation standards for designated operational entities (DOEs) and other rules of Kyoto mechanisms in application to projects and programmes of activities under Article 6.4

It is argued that full carry-over of CERs from CDM may undermine environmental integrity of the SDM as it may allow countries to use pre-2020 CERs towards meeting post-2020 mitigation targets. It is also argued that the large volume of potentially available CERs in 2020 could result in lower prices for credits and discourage the private sector investment in new Article 6.4 mechanism activities from the outset.

The arguments for inclusion of Kyoto Projects and credits under the new mechanism are equally strong. The transition will ensure the sanctity of international legal obligations intact and act as a launch pad for the new mechanism before it can start generating credits. Furthermore, it will also protect the financial investments already made by private sector in pre-2020 Kyoto markets.

As of April 2019, the total capital investment made in CDM project activities was almost USD 547 billion¹. Of these, 73% of the projects are still active (See Table 1). In India alone, 89% of investment in CDM projects till date is still active. Table 1 shows key statistics around CDM highlighting the large investment already made under it.

Table 1: Investment under CDM: India and the world

Parameter	World	India
Total projects registered under CDM (units)	7,979	1,376
Total CERs issued (in million units)	1,995	253
Total capital investment in projects still active (in million USD)	396,728	100,732
Total capital investment in all projects till date (in million USD)	546,643	113,495
Percentage of capital investment still active	73%	89%

Source: CDM Registry Issuance Report as at 30 April 2019, UNFCCC

¹ UNFCCC. 2019. CDM insights. Details available at

<https://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html#ptimes>, last accessed on November 4, 2019



In the subsequent sections of this paper, a case for making the transition is built keeping in view the commonly argued apprehensions against the transition. While there are many sources of demand for unused CERs post-2020², this paper builds its case considering two such major sources: CORSIA and NDCs of the Parties.

Among various sources of demand for unused CERs, CORSIA presents the largest and most proximate international market mechanism that could use these credits. The International Civil Aviation Organization's 39th Assembly decided to achieve carbon neutral growth from 2020 by establishing this market-based mechanism. A total of 70 out of 191 member states, which represent more than 87.7% of international aviation activity, intend to voluntarily participate in the CORSIA from its pilot phase, thus making it an immediate platform to use unused CERs³. Proposed to be rolled out in three phases starting from 2021, it has an offset demand potential of about 2.7 billion tonnes of CO₂ till 2035 (Schneider & La Hoz Theuer 2017).

Apart from providing an immediate and sizeable market for CERs, the mechanism itself stands to gain from using existing CDM credits. It will serve two crucial purposes: supporting stranded CDM projects and ensuring sufficient supply of credits needed to kick-start CORSIA's implementation. Existing unused CERs will lead to lower compliance costs in the voluntary and pilot phases, thereby initiating ease of compliance as the mechanism picks up.

The other major source of demand for unused CERs is from NDCs of various countries. As in April 2016, NDCs had been received from 96% of the Parties to the Convention. Parties that have communicated INDCs cover about 99% of the emissions of all the Parties to the Convention (UNFCCC 2016). Unused CERs up to 2020 could be used in different

ways towards achieving NDC targets post-2020. They could be used domestically or transferred internationally by a country to achieve its own or others' NDC targets. More details of this are yet to be worked out in the negotiations at COP 25; however, what remains certain is that there is enough demand from NDCs for absorbing CERs.

These two avenues of transitional arrangements between CDM and SDM are further discussed in more detail highlighting their potential in acting as a catalyst in enabling a successful transition.

Arguments Made Against Transition of CERs to SDM

a) Environmental integrity

One of the most critical elements of SDM under Article 6 is ensuring environmental integrity. Broadly, ensuring environmental integrity would imply that mitigation efforts in the form of a market-based instrument result in net emission reductions. It has been argued that allowing the transition of projects and credits under CDM might negatively impact environmental integrity and additionality, because Parties may use existing CERs to meet their NDCs thereby resulting in no 'new' emission reduction that would have otherwise occurred under Article 6.4 (Lo Re & Vaidulya 2019). Furthermore, double counting is one of the critical problems that could undermine environmental integrity. There are concerns that the same emission reduction could be claimed by the host country and the buyer country or the buying company (for instance in the context of CORSIA). Double counting, in such cases, would undermine environmental integrity.

² Demand for CERs may largely come from two sources: Voluntary Demand and Compliance Demand. Compliance demand includes demand from existing mechanisms such as EU ETS, China ETS, South Korean ETS, etc. It also includes compliance regulations to offset carbon tax liabilities such as the carbon tax schemes in South Africa and Columbia. Voluntary demand comes from voluntary pledges by countries, organizations, development banks and agencies and private or public actors involved in the voluntary cancellation of credits. Some governments, such as that of Norway run CER purchase programmes, wherein it agreed to buy carbon credits from stranded UN-approved projects facing a risk of discontinuation due to the low prices of CERs.

³ UNFCCC. 2017. CER demand, CDM outlook and Article 6 of the Paris Agreement, UNFCCC, 2017. Details available at https://unfccc.int/files/na/application/pdf/04_current_cer_demand_cdm_and_art_6_of_the_pa_nm.pdf, last accessed on November 4, 2019



b) Dampening ambition

In continuation to the concern regarding integrity and additionality, it has been argued that enabling a full transition of CERs from CDM to SDM might undermine the post-2020 ambition of the Parties. This has led to two major concerns. First, some Parties might be able to meet their NDC targets without having to invest in new projects; and second, Parties will be discouraged to undertake any new emission reduction projects outside NDCs. Both of these will eventually dampen the ambition.

c) Dilution of market and reduced incentive

It is argued that low demand, confronted with a high supply of unused CERs, will keep the already rock bottom prices of CERs low. This further adds to the fear that investors will not be interested in financing new emission reduction projects under SDM, thereby threatening the success of the new mechanism.

Building the case for transition

India being the largest issuer of CERs after China implies that the transition of CDM projects and unused credits plays a pertinent role for India. In this section, it is argued that for both registered projects and unused CERs, a transition is not only desired but also optimal.

a) CDM will fill the inevitable void before SDM is in full force

Before SDM comes in full force, a void may occur on two accounts- technical and operational. On the technical front, on an average, the time taken from validation of a project till its approval and commencement of the process of monitoring is about 36.3 months (UNFCCC 2019). Even the time between validation and the registration of the project (before it becomes eligible to issue credits) is about 28.3 months (UNFCCC 2019). This is only marginally less than the time taken till the commencement of monitoring

of the respective project. In a scenario where neither CDM projects nor the CERs get transitioned into the SDM, the new projects are likely to take another 3 years at least, till the new credits can be issued. On the operational front, even if the rulebook on article 6 is agreed at COP25, time will be required before the agreed modalities are operational and Parties are fully ready to implement those.

This implies that there is likely to be a void of at least 3 years, if not more. Such a void will be filled by the CDM credits and project activities which are transitioned. It will also ensure the continuity and potential for scaling up of existing mitigation activities active on the ground. In the absence of any transition, many mitigation activities might cease operation, actually hindering and not promoting ambition.

b) CDM will catalyse the growth of SDM and put prices on an upward trajectory

The usual argument against transition is that the supply of unused CERs vastly exceeds the potential sources of demand for their use. While this may be correct, it is imperative to recognize that supply will exceed demand only shortly until it is fully absorbed, after which, the demand-supply equilibrium will reinstate itself and the market will function as it naturally would. In our analysis, we estimate the oversupply from Project Activities and find that it is fully absorbed between 3 and 4 years, after the SDM comes into effect.

In order to show that the duration of 'oversupply' of unused CERs is short lived, the data on supply of unused CERs and demand from immediate and large sources – CORSIA and NDC – is used. For this analysis, net potential supply of 2.5 billion CERs, estimated by UNFCCC, is used (UNFCCC 2019). This number depicts the potential supply of credits till 2020 from those CDM project activities that have been issuing credits in the past. This number excludes the potential supply from those projects which are dormant⁴.

⁴ Dormant Projects are excluded from analysis because it is unlikely that these projects will apply for crediting period renewal. Even in the case they do, they will have to undergo higher scrutiny for additionality. In either case, the stakes remain higher for transition of currently active CDM project activities.



Demand side comprises pre and post-2020 demand. Pre-2020 demand is estimated to be 0.32 billion units, which comprises demand from compliance buyers, voluntary pledges, development banks, and voluntary cancellation of credits by private or public sector actors (Fearneough, Day, Warnecke, et al. 2018). Demand post-2020 is assumed primarily from CORSIA and NDC demand⁵, that is, 2.7 and 3.6 billion units, respectively. Table 2 collates the total supply and demand of CERs and analyses the extent of over supply for each year starting 2020.

As shown in the above analysis, even by the end of 2022, 60% of excess supply is fully absorbed. This is a reassuring number that supports a case for allowing complete transition of CERs for at least 36 months, the time taken by new projects to get off the ground and start generating new credits.

» Second, it can be argued that the probability of transitioned CERs affecting the market price of credits and lowering the integrity of emission reductions is low. The excess supply scenario is likely

Table 2: Oversupply analysis

Category	2020	2021	2022	2023	2024	2025
Total supply	2.5					
Demand till 2020	0.32					
CORSIA		0.04	0.04	0.04	0.09	0.09
NDC		0.56	0.56	0.56	0.56	0.56
Total demand	0.32	0.6	0.6	0.6	0.65	0.65
Oversupply	2.18	1.58	0.98	0.38	-0.27	-0.92

Sources: Demand – (UNFCCC 2016), (Schneider & Theuer 2017), and (Fearneough, Day, Warnecke, et al. 2018); Supply – (UNFCCC 2019)

The following are the inferences that can be made from Table 1:

» First, it is found that oversupply of CERs is fully absorbed between 2023 and 2024. In fact, more than 60% of the unused CERs are fully absorbed before 2022 using the two predominant sources of demand – NDCs and CORSIA. Figure 1 reiterates this point.

to be the case for the initial 3–4 years till the time the entire excess supply of CERs is absorbed and the new mechanism is ready for implementation. It is possible that in the initial years, the price would remain low, but this is likely to correct itself in a relatively short period of time post after prices would start to rise in response to new demand from SDM. This is likely

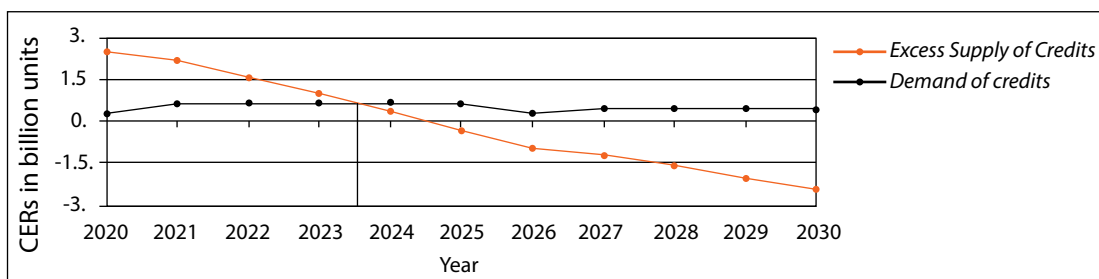


Figure 1: Demand–supply trajectory of credits till 2030

⁵ NDC demand refers to the demand from NDC commitments by Parties till date.



to stimulate a virtuous cycle by further incentivizing newer emission abatement projects under SDM. It is during this period that prices are likely to pick up. The threat of rock-bottom prices is therefore only short lived.

c) Ambition and integrity will be strengthened

In any market mechanism, information asymmetry will exist between project developers and regulators. It is the measuring, reporting, and verification (MRV) mechanisms, compliance, and governance that can be enhanced to minimize the externalities. The proposed SDM will build itself on the experience gained from CDM.

CDM has vetted and approved about 260 methodologies for measuring baseline emissions and monitoring the emission reductions achieved by registered projects in a broad variety of sectors. CDM has evolved steeply over its span; methodologies have been standardized, reforms were made to improve governance, and additionality rules were made more robust (Michaelowa, 2012). It is a significant feat and has also succeeded in creating strong infrastructural forward linkages for any new market mechanism to build on.

Similarly, on the issue of double counting, necessary infrastructure is essential in resolving it. Tracking via the International Transaction Log and recording in the central registry administered by the UNFCCC helped in preventing double counting. The CDM experience can, therefore, be useful in establishing the requisite infrastructure for avoiding double counting amongst programmes.

SDM, however, has a broader scope than CDM, in terms of ensuring environmental integrity, use of the carbon credits, liquidity and tradability of units, role of non-state stakeholders, and impact on sustainable development. To link the issue of environmental integrity only with transition of legacy units is, therefore, not appropriate. Instead, the focus should be on enhancing the vigour of governance mechanisms with a system for multilateral supervision under the aegis of the UNFCCC.

Similarly for ambition, an important feature in the Paris Agreement is that all the ratifying countries have made

mitigation pledges in the form of their NDCs. These NDCs are likely to increase their scope and ambition in future with subsequent revisions. It is premature to assume that all projects under the CDM will overlap with the NDC targets of the respective host countries. NDC targets may even need more, if not different, projects to meet their deadlines. Further, most developing country NDCs are partly conditional upon financial support. This implies that the revenue of CERs is a condition for them to meet their NDC targets, not a risk. Making the transition of all unused CERs is necessary for various reasons that are argued earlier. Integrity and ambition, which form the very basis of an international climate deal, rest on sound principles that must be adhered to with full regard to the legal obligations of the existing market mechanisms.

Essentially, a robust and transparent reporting system is required to ensure accurate accounting of national GHG emissions. Further to prevent double counting, explicit and specific rules for accounting under both the Articles 6.2 and 6.4 will be crucial. The purpose of both the Articles 6.2 and 6.4 varies from one another. This matter of appropriate accounting rules for market mechanisms is still a subject of negotiation among the Parties. The issue of double counting will, therefore, have to be interpreted in a manner such that it does not impede the transition of pre-2020 credits into the new mechanism. The final resolution will depend vastly upon the mutual understanding that the Parties arrive at in respect to the relationship of the Article 6.4 mechanisms with Article 6.2 vis-à-vis the transitional arrangements. The need of a strong international oversight aimed at ensuring the robustness of the accounting in market mechanisms needs to be balanced against the needs of sustainable development and technological innovations.

d) Removing trust deficit

The importance of securing the trust of private investors in the market mechanism cannot be over-looked. Private sector actors have invested heavily in the eligible projects under the CDM. CERs generated from CDM have undergone stringent criteria and processes. They should, therefore, be eligible to participate in the market under the post-2020 regime. The private players are likely to be the ones



investing in SDM. It is, therefore, imperative that the trust of the private investors and the market sentiment around global carbon markets be reinstated and reassured. As shown above, transitioning CERs will fill the void before the SDM fully takes off. In the process, it will also restore prices

at equilibrium from demand and supply. Moreover, it will also establish the predictability and stability of the market mechanisms created under international agreements. In this process, investors' trust is likely to be reinstated in the credibility of the new market mechanism.



Conclusion

In a first of its kind and largely well received, the CDM of the Kyoto Protocol, is by far the largest carbon offset instrument in the world. It succeeded in expanding the size of global market for reducing carbon emissions and mobilizing finance towards climate action in developing countries.

The crediting rules and revised additionality assessments under the CDM make the CERs, issued under it, as valuable as any other emission reduction unit, for they adhere to the principles of additionality and are issued after following all the necessary legal procedures and methodological

guidance under the international protocols. Our analysis highlights the necessity of undertaking a full transition of unused CERs from CDM projects in order to create a trust in the international processes and the market mechanisms.

Considering the the urgency of achieving at least the 2°C target, SDM must include and, if necessary, improve upon the existing mechanisms, which are already fairly detailed, instead of reinventing the wheel. In this context, the transition of CERs should be looked as a stepping stone from one mechanism to another.



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TERI's Centre for Global Environment Research (CGER) has core competencies in research on global, national, and sub-national climate policy, outlining effective policy initiatives that integrate developing country concerns in addressing global environmental challenges. The Centre builds on a strong interdisciplinary team comprising economists, physical scientists, engineers, and social scientists to aid in holistic climate change planning and decision making. The Centre is actively involved in advocating policy actions for implementing the India's nationally determined contributions. The Centre through its research on the various articles of the Paris Agreement has developed options for operationalizing the agreement. The team is also exploring linkages between climate-induced migration to develop understanding on the results.

The Centre has been regularly carrying out outreach and capacity-building programmes for various stakeholders on different subjects such as mainstreaming climate action in development policies, understanding role of co-benefits in meeting climate action targets, etc.

The team is also currently assisting various bilateral, multilateral, and government donor agencies in implementing projects related to greenhouse gas (GHG) inventories, domestic monitoring, reporting, and verification of mitigation and adaptation actions, enhancing energy efficiency, assessing the key climate finance models and schemes on achieving climate goals and to understand and provide inputs for developing carbon markets, and developing stakeholder-driven cooling platform for devising techno-economic feasible options for cooling sector.

The Centre extended its research and capacity-building activities to other developing countries and emerging economies through a strong research-based collaborative programme in Fiji. A number of international collaborations with institutions of global repute have ensured that there is exchange of knowledge and expertise and strengthening of the core competencies within the area. For the ensuing years, the Centre is prioritizing research on market-based mechanisms for climate change mitigation, managing hydrological disasters, sub-national actions through State Action Plans on Climate Change in India, and efficient refrigerant transitions.

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