

Functional elements of Carbon Markets in the future Climate Agreement

The call for global carbon pricing is probably the most prominent message that emerges from the marathon negotiations of the Paris accord which we hope will be concluded by the end of this year. While the Project Developer Forum, together with numerous other companies, business associations and countries, has signed the [World Bank's Declaration](#) on Carbon Pricing, the fundamental design elements and mechanisms remain uncertain. To foster progress on this topic, the Secretariat of the UN Framework Convention on Climate Change (UNFCCC) is promoting regional workshops where country delegates have the opportunity to discuss and define their positions. The [Latin American and Caribbean Regional Workshop on Carbon Finance](#), took place on the 7th and 8th of September and this article shall summarize [The Project Developer Forums contribution](#) and some elements of the resulting discussion.

In fact, the Kyoto Protocol (KP) had already designed the Clean Development Mechanism (CDM) as a global carbon market tool, but as only industrialized countries that ratified the KP had binding targets, global GHG emissions since 2000 grew by 2.2% per year, close to twice the average rate observed before. Going forward, the [International Energy Agency](#) (IEA) calculates that the objective of limiting global average warming to less than 2°C implies a remaining global carbon budget of about 1000 Gt, which is equivalent to 20 years of current emissions. Allocating this budget in terms of time, economic sector and geography is the problem that the global climate architecture has to solve.

At the same time, developing countries face other challenges as they host 90% of the world's population growth and their energy demand increases rapidly as people are lifted out of poverty. With urging challenges in health and education, these nations lack the capital to finance expensive clean infrastructure, even if such investments offer sustainability benefits in the long term. Whilst focusing on more obvious contemporary needs and new challenges, these societies are gradually tainting their future emission trajectory with GHG intensive infrastructure that is not compatible with our remaining carbon budget.

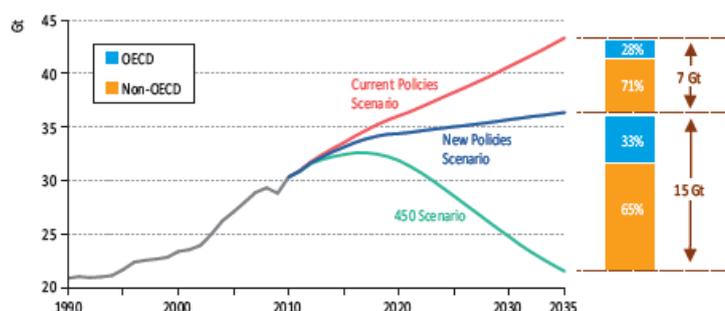


Figure 1: Due to growing population and energy demand the IEA forecasts that 2/3 of global GHG mitigation has to be achieved in developing countries.

To address this, the IEA calculates that carbon prices in OECD (Organisation for Economic Co-operation and Development) countries should converge to \$120/t CO₂ and in advanced developing countries should rise from \$10/t in 2020 to \$95/t in 2035. While direct linking of carbon markets in the short term is difficult, indirect linking based on the use of common emission reduction crediting instruments would promote price convergence and capital flows. With this objective, the UNFCCC is discussing a new market mechanism, but without concrete progress, parties are again looking at the possibility of using and reforming the CDM.

To date, more than 7,500 projects have been registered with the CDM and financed by at least USD 360 billion in mostly private sector capital. The result has been the avoidance of up to one Gt CO₂ per year, representing about 6.5% of developing country emissions. With an estimated abatement cost of 12 USD per t of CO₂ on average, the mechanism also demonstrated cost effectiveness, especially if compared to the high intrinsic cost of European GHG abatement subsidies.

Together with the evolution of the CDM, circumstances have also changed: The fundament of the Paris Accord is that all countries announce mitigation objectives as Intended Nationally Determined Contributions (INDCs) by October at the latest. Moreover, while the CDM's original function was to give flexibility to the commitments of industrialized nations, now some developing and newly industrialized countries are using it to promote domestic private sector GHG mitigation investments, for example:

- China, with seven operational pilot Emission Trading Schemes (ETS), is using a CDM based domestic crediting mechanism to transfer the ETS price signal to new installations and sectors that are not covered by the systems.
- South Korea is allowing CDM as a compliance instrument in its domestic ETS. While initially only domestic credits are eligible, [Korea's INDC submission](#) announces that it will “*use carbon credits from international market mechanisms to achieve its 2030 mitigation target*”.
- Mexico and South Africa drafted legislation to establish a carbon tax that can be compensated by delivering carbon credits. Once operational, this provision will establish a floor price in the range of 3 to 4 USD/tCO₂ for domestic GHG abatement projects, while investors would still be free to export credits if better prices are offered.

In addition, the International Civil Aviation Organization ICAO is entering the arena with a potentially staggering demand for Carbon Credits. ICAO is committed to carbon neutral growth as of 2020 and the [Environmental Defense Fund](#) estimates that this will demand between 8 and 11 Gt of carbon credits in the period up to 2040. While ICAO is promoting other mechanisms to widen supply, actors acknowledge that the CDM is the first and most robust tool to use.

In any case, the fundament of any functioning international carbon market is transparent accounting in relation to unequivocal national emission targets. With the definition of adequate INDCs, countries will establish discrete emission caps that will act as references for international transfer and accounting of mitigation units. The possibility of such a solution has been studied by the [Harvard Project on Climate Agreements](#) that concludes that this is straight forward as long as the Paris accord facilitates – or at least avoids inhibiting – such international linkage.

In a scenario where units for international transfer are adequately credited or debited to the domestic targets of buyers and sellers, the CDM could be a universal tool for globally consistent Measurement, Reporting and Verification as well as a mechanism capable of promoting the private sector investment that is needed. Investors know that there is urgent demand for GHG mitigation, but to act they need an assurance that the results of early action before 2020 will be recognized by future domestic and international climate change policies. As more and more actors and countries are stepping forward to endorse the role of the CDM, not only for early action but also as a fundamental element of the future global climate regime, momentum is building once again.

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