

From Kyoto to Glasgow:

Volumes and types of unused Certified Emission Reductions (CERs)

Raphaela Kotsch, University of Zurich & Zurich University of Applied Sciences, raphaela.kotsch@uzh.ch

Regina Betz, Center for Energy and the Environment (CEE), Zurich University of Applied Sciences, betz@zhaw.ch

Overview

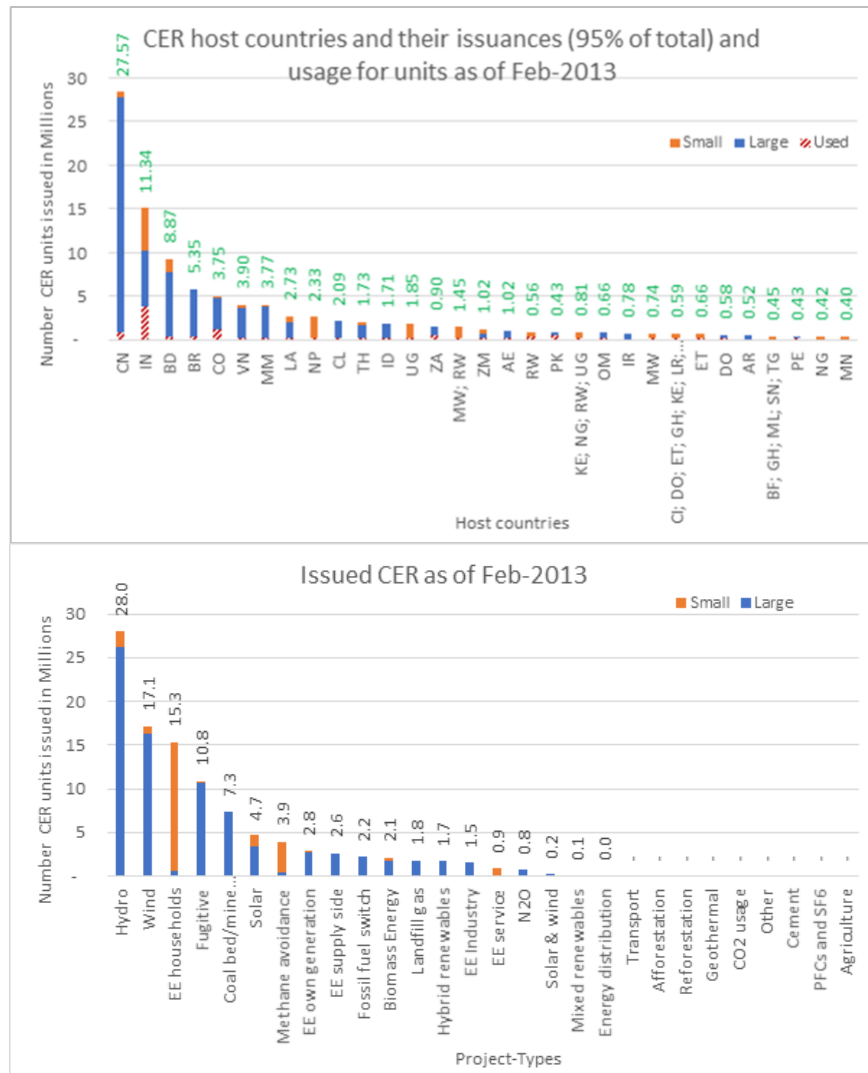
During the 26th Conference of the Parties to the United Nations Framework Convention (COP26) in Glasgow, Parties to the Paris Agreement adopted rules for a new market mechanism under Article 6 of the Paris Agreement. With this new rules, Parties decided that certified emission reductions (CERs) from activities registered under the clean development mechanism (CDM) on or after 1 January 2013 may be used towards nationally determined contributions (NDCs) until 2030. In this paper, we analyse how this decision affects unused CERs on the market.

Methods

Based on carbon market transaction and account data from national and regional registries and the UNFCCC, we built a database of CER holdings and use. We thus present a novel analysis of unused CERs as of the end of 2020, combining a 'top down' analysis of data through 'backward induction' from reports of countries and the CDM registry to the United Nations Framework Convention on Climate Change (UNFCCC) with a 'bottom-up' analysis of national registries of Annex B countries. Estimating the number of unused CERs is challenging as a combination of different sources with different cut-of dates as well as details of is available, reflecting that the process of standardizing transparency under the Kyoto regime is not sufficient. There are highly different national approaches to publication and sharing of data, with dates for disaggregated registry information varying from 2018 (EU and Switzerland) to 2021 (Japan).

Results

Unused CERs conservatively amount to about 0.8-0.9 billion, about 40% of total issuance to date. The volume of CERs in the CDM registry alone reaches 0.4 billion. Regarding registration vintages, the bulk of unused CERs stems from activities registered before 2013. Therefore, all post 2013 options limit CER transition to well below 30 million. The host countries most vocal for unlimited CER transition are also those that have the highest volume of unused CERs to date. Africa would benefit quite strongly from a 2016 cut-off, given that is has achieved significant issuances from recently registered projects.



Conclusions

Various proposals for limiting CER transition from the Kyoto to the Paris Agreement market mechanisms have been made, for example the introduction of cut-off thresholds for the registration date of projects generating eligible CERs, as well as project type specific CER eligibility criteria. This study assesses quantitative implications of the decisions made at COP26 in Glasgow regarding the volume of CERs transitioned, based on data regarding CERs which are currently unused. The study uses a combination of publicly accessible data, as well as supplementary data made available by several governments, and thus builds on a unique and up-to-date data base. Moreover, the study situates its findings in the broader context of the historical evolution of international carbon markets, their governance architecture and reporting and review processes, particularly regarding learning from past experiences under the CDM and improving the efficacy of the Paris Agreement market mechanisms under Articles 6.2 and 6.4.