

Linking national emissions inventories to economic accounting

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How can emissions reporting be transformed into emissions accounts? Maria Lidén, Senior Advisor, Environmental Accounts and Natural Resources at Statistics Sweden, asserted that this endeavour is possible. Statistics Sweden² has managed to successfully improve each successive inventory of air emissions. Every new set of national economic accounts has been better than the preceding one. There is no need for extra services to account for emissions—the only need is to transform the data.

Data used to communicate a country's emissions under the United Nations Framework Convention on Climate Change (UNFCCC) commitments must be more detailed. High-quality UNFCCC data have become a source of comparison regarding emissions accounting. Ms. Lidén remarked that access to the highest level of data from greenhouse gas emissions inventories is necessary. As data from the Biennial Update Reports are too aggregated, there must be healthy cooperation with the greenhouse gas emissions inventory, and to understand these data, the report of the inventory is also necessary.

She highlights the importance of learning from the experiences of other countries. economy reduction in emissions must be targeted, and emissions beyond a country's territory must be accounted for: should national accounts comprise emissions caused by Brazil (and/or Brazilians) outside the country? Which is more accurate: applying the territorial principle or the residence principle?

Ms. Lidén suggested caution when making assumptions, such as assuming that the emissions from the road transport of Brazilians residing outside the country is the same as that of foreign nationals living in Brazil, and that aviation and marine fuel used by foreign aircrafts and ships in Brazil are equal to those used by Brazilian craft outside Brazil. Depending on national circumstances, a faulty premise can compromise accounting.

Brazilian emissions accounts are somewhat relative. Mauro Meirelles, Specialist Supervisor in Greenhouse Gas Emissions Analysis for the Brazilian Ministry of Science, Technology,

Innovations and Communications explained that the most difficult step is to obtain the data to construct the accounts. Some regulatory efforts could fill in the gaps for certain sectors to inform their emissions, with provisions to protect their confidentiality. He also explained how the Brazilian inventory of greenhouse gas emissions and removal is structured.³ He explained the National Communication delivered by Brazil as a Non-Annex I Party of the UNFCCC; described the emissions inventory as useful towards the achievement of national emissions reduction commitments voluntarily assumed by Brazil; and presented the Biennial Update Reports, first submitted in 2014, which updated data from the 2010 inventory and subsequently submitted in 2017, using 2012 data.

Edson Domingues, Associate Professor of Economic Sciences and Researcher at CEDEPLAR/UFMG, presented the Brazilian experience of simulating climate policy alternatives based on economic arguments by modelling emissions inventories and national accounts. He stated that while he was experimenting towards making national accounts compatible with emissions inventories in his research, making different sources of data compatible is not a simple task at all. Significantly more work is still required to develop correspondence tables to devise carbon pricing policies using computable general equilibrium models.

Notes:

1. This seminar was a joint initiative between Ipea, the International Policy Centre for Inclusive Growth (IPC-IG), the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*—IBGE) and the Economic Commission for Latin America and the Caribbean (ECLAC) in Brazil, requested by the Brazilian Ministry of the Environment, financially supported by the Institute for Climate and Society (ICS) and with the technical support of Rede Clima. Technical Rapporteur: Flávia Witkowski Frangetto. For additional information, see <http://www.ipc-undp.org/pub/eng/JP16_Report_International_Seminar_on_Linking_Climate_Change.pdf>.
2. Sweden's System of Environmental and Economic Accounts can be found at <<https://www.scb.se/en/finding-statistics/statistics-by-subject-area/environment/environmental-accounts-and-sustainable-development/system-of-environmental-and-economic-accounts/>>.
3. Brazilian emissions data are available at <<http://sirene.mcti.gov.br/>>.