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Measuring a fair and ambitious climate agreement using cumulative emissions

Policy makers have called for a 'fair and ambitious' global climate agreement. Scientific constraints, such as the allowable carbon emissions to avoid exceeding a 2°C global warming limit, can help define ambitious approaches to climate targets. However, fairly sharing the mitigation challenge to meet a global target involves human values rather than just scientific facts. We apply a framework based on cumulative emissions of carbon dioxide to compare the consistency of countries' current emission pledges to the ambition of keeping global temperatures below 1.5°C and 2°C. The EU and US pledges are close to a 2°C level of ambition only if the remaining emission allowance is distributed based on current emission shares, which is unlikely to be viewed as 'fair' by others who presently emit less. China's and India's emission targets are inconsistent with a 2°C level of ambition across a range of measures of fairness, primarily owing to emissions that continue to grow into the 2020s and are often close to Business as Usual. Given the diminishingly small allowable carbon dioxide emissions, lifting ambition consistent with a 1.5°C or 2°C limit requires unprecedented emission reductions in all countries for all reasonable fairness criteria.

Bio

Glen Peters has been a Senior Researcher at CICERO for more than seven years. Previously he was a post-doctoral researcher at the Industrial Ecology Programme at NTNU. While at the University of Newcastle (Australia) he received a University Medal and Deans Medal for undergraduate performance (Mathematics/Physics) and the DH Trollope Medal for his PhD (Environmental Engineering). He has twice received the Environmental Science & Technology Best Policy Paper Award (2007, 2009). Dr Peters is a worldwide authority on socio-economic drivers of emissions. He has performed pioneering work on how international trade intricately connects emission drivers in different countries. Recent work has focused on trends in carbon emissions, socio-economic drivers, and future emission pathways at the global and country level (particularly China and India). Other key research areas include emission metrics and the carbon cycle. Dr Peters is on the Scientific Steering Committee of the Global Carbon Project.

Center for Climate and Energy Decision Making Seminars



18 Oct. 2016
12:00-1:30pm ET

Wean Hall 3701
Carnegie Mellon University

Lunch will be served at 11:50am.
Seminar is presented under the
auspices of CEDM and the department
of Engineering and Public Policy.

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