

CLIMATE POLICY PLEDGES ARE AN IMPORTANT STEP FORWARD BUT FALL SHORT OF 2°C

Climate policy pledges are an important step forward but fall short of 2°C PUBLIC
 RELEASE DATE: [| E-mail] Share Contact: Jacopo
 Crimijacopo.crimi@feem.it International Institute for Applied Systems
 Analysis@IIASAVienna Researchers have released one of the most comprehensive
 assessments of the timing and amount of greenhouse gas emissions that each of the world's
 major economies could produce under different scenarios, i.e. without new climate
 policies, for the currently discussed pledges, and under a scenario that limits future
 temperature rise to 2°C. "The pledges made so far lead to earlier emission peaking in many
 countries, with 1-1.5 °C less total warming than without these policies, but not sufficient to
 meet the 2°C target. Under the proposed commitments, cumulative CO2 emissions in China
 would be reduced by half. Yet, together with those of the other Asian economies they would
 exceed the total emission budget compatible with 2°C--about 1000 Gt CO2," says Massimo
 Tavoni (Fondazione Eni Enrico Mattei and Politecnico di Milano) who coordinated the
 project in press in the journal Nature Climate Change . "Reducing emissions while
 limiting costs requires a significant contribution from developing countries. This could
 create unfair distribution of costs. Compensatory measures could address these" Tavoni
 adds. The study finds that financial support in the order of 100-150 billion USD /year by 2030
 could achieve efficiency and cover the total investments in low carbon technologies
 needed in developing countries for the 2°C target. Fiscal revenues from instruments such as
 carbon taxes could also cover the clean energy investment gaps. The study was
 conducted by a team of six European research institutions, using six different modeling
 tools. "The IPCC AR5 report has clearly highlighted the level of global effort needed to
 stabilize the climate," says Tavoni. "But a quantitative assessment of the regional
 implications of post 2020 climate policies, which brings together different modeling tools
 was missing. This is what the paper has achieved." The study is directly linked to the
 ongoing climate negotiation process and highlights the challenges on the road from Lima
 to Paris. "In our 2°C scenarios, global emissions peak around 2020. This is in clear
 contrast to our other scenarios projecting forward the pledges currently discussed by the
 major economies. They lead to a peaking of global emissions around or after 2040" says
 Elmar Kriegler, senior scientist at the Potsdam Institute for Climate Impact Research and
 co-leader of the study. "A large part of the emission reductions, if to be realized at lowest
 cost, would come from emerging economies such as China or India. The implication is
 clear. If a future climate agreement aims to tap into these abatement potentials, it would
 likely need to include mechanisms to compensate developing countries for part of their
 abatement effort." Keywan Riahi, director of the Energy program at the International
 Institute for Applied Systems Analysis (IIASA) and a co-leader of the project, says, "This was
 the first study to examine regional climate mitigation potentials and needs in a real-life
 scenario, where the countries in the world start to transition from the currently fragmented
 climate policy regime towards global cooperative action. As a result, our study provides
 critical information for setting regional emission targets for the time period beyond 2020.
 We find that equitable solutions, which balance the costs across regions, would provide
 more "emission allowances" to the currently emerging economies. Yet even in these
 scenarios, countries like China will have to cut emissions to about half in 2050 to keep the
 2°C target within reach." Detlef van Vuuren, senior researcher at PBL Netherlands
 Environmental Assessment agency and co-leader of the project emphasizes the importance
 of the study for the international negotiations. "Our scenarios show the importance of a
 near-term peak in all global regions to avoid rapid and expensive emission reductions
 later. They also clearly show how different sectors can contribute to the overall emission
 reductions. Emission reductions need to come from changing energy supply, reducing
 energy demand - but also from changes in agricultural practices targeted at reducing
 non-CO2 emissions and deforestation." ### Researchers from the following
 institutions contributed to the research: Fondazione Eni Enrico Mattei (FEEM), Potsdam
 Institute for Climate Impact Research (PIK), International Institute for Applied Systems
 Analysis (IIASA), Utrecht University, London School of Economics and Political Science
 (LSE), Northwest National Laboratory/Joint Global Change Research Institute (PNNL/JGCRI),
 Energy Research Centre of the Netherlands (ECN) References: Massimo Tavoni,
 Elmar Kriegler, Keywan Riahi, Detlef P. van Vuuren, Tino Aboumahboub, Alex Bowen,
 Katherine Calvin, Emanuele Campiglio, Tom Kober, Jessica Jewell, Gunnar
 Luderer, Giacomo Marangoni, David McCollum, Mariësse van Sluisveld, Anne Zimmer and
 Bob van der Zwaan 'Post-2020 climate agreements in the major economies assessed in
 the light of global models' DOI: 10.1038/NCLIMATE2475 [| E-mail Share] AAAS and
 EurekAlert! are not responsible for the accuracy of news releases posted to EurekAlert! by
 contributing institutions or for the use of any information through the EurekAlert! system.