

Climate change impacts could amplify global inequalities even under ambitious GHG emission reduction policies

Milan, 12th July 2016 – Researchers from Fondazione Eni Enrico Mattei (FEEM), Italy, and the Netherlands Environmental Assessment Agency (PBL), the Netherlands, have authored an article in the international journal *Environmental Research Letters* on the possible consequences of climate change mitigation and adaptation policies on global inequalities: "Alleviating inequality in climate policy costs: an integrated perspective on mitigation, damage and adaptation".

The study is particularly policy-relevant in the light of the historical climate agreement reached last year in Paris that for the first time introduced "political parity" between adaptation and mitigation. The results have been produced within the context of the FP7 European project [LIMITS](#) coordinated by Fondazione Eni Enrico Mattei (FEEM). *"The perception of fairness has always played an important role in climate negotiations and policymakers care about the regional distribution of climate costs. Yet, the scientific literature has mostly focused on the distributional implications of mitigation policies only, without considering the damages remaining and the adaptation measures needed to cope with them. This study shows that the distribution of damages and adaptation costs remains unequal even under a 2 degree stabilization policy."* says Enrica De Cian, senior researcher at FEEM and CMCC.

The study utilizes two integrated assessment models to examine five emission reduction policy scenarios and to compare three different effort sharing schemes distributing the global mitigation effort: 1) greater mitigation effort where costs are lower, 2) distribution of the mitigation effort so as to equalize regional mitigation costs, 3) distribution of the mitigation effort so as to equalize total climate costs, including mitigation, residual damages, and adaptation. The study shows that not considering the latter two cost items, damages and adaptation, could amplify the inequalities already created by mitigation policies.

A global carbon market and international emission trading could compensate the countries mostly affected by mitigation, adaptation, and damage costs. Such an instrument, however, requires a broader view on equity that explicitly considers the regional disparities in total climate costs, including damages and adaptation. The additional financial transfers needed to compensate residual damages and adaptation costs could reach the order of magnitude of five hundred billion dollars in 2050, even under an ambitious mitigation policy stabilizing global average temperature increase below 2 degree Celsius compared to the pre-industrial levels.

Massimo Tavoni, coordinator of the research program "Mitigation, Innovation and Transformation Pathways" at FEEM and principal investigator of the LIMITS project, says that we need more studies like this one. *"Equity considerations should take into account all cost items associated with climate change. For the first time, the Paris Agreement has included adaptation as a long-term, global goal together with mitigation, certainly calling for more research on the interaction between mitigation, residual damages, and adaptation."*

For further information please contact:

Marcello Sacerdote
Communication and External Relations
Fondazione Eni Enrico Mattei
marcello.sacerdote@feem.it
Mob. 0039 344 1090597