



Project No 282846
LIMITS
**Low climate IMpact scenarios and the Implications of required Tight
emission control Strategies**

FP7-Cooperation-ENV
Collaborative project
Small or medium-scale focused research project

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RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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Introduction

Against the little progress in international climate policymaking, the Durban Platform for Enhanced Action has opened up the possibility for formulating new climate policy frameworks. The Durban process emphasises the role of the major economies in contrast to the traditional divide between developing and developed countries. It calls for a new climate treaty to be agreed upon in 2015 and to enter into force as early as 2020.

However, aligning the incentives of different regions in pursuing climate policies remains a challenge and requires new thinking about the global and regional implications of innovative architectures. **The first phase of the LIMITS project aims at addressing these questions by focusing on the impacts of implementing energy and low carbon policies with specific reference to the major economies.** By using state-of-the-art methodological instruments to assess climate policies, LIMITS aims at carrying out a rigorous assessment of what a stringent climate policy entails, and what is needed to overcome major impediments.

The impact of 2020 targets on the feasibility of achieving 2C

One of the project aims is to assess the feasibility of keeping temperature below 2C end depending on the intermediate actions that we will take in the near future. To this end, we have designed two policy packages that include both emission reduction pledges (based on the Copenhagen pledges) of individual countries and national technology targets like renewable energy capacity targets. The package, in its weak and stringent version, is implemented in the participating integrated assessment models (AIM, GCAM, IMAGE, MESSAGE, REMIND, TIAM-ECN, WITCH) and enables us to study the effects of such a fragmented climate policy regime on the feasibility and the costs of reaching the 2°C target.

This analysis will allow us to quantify the gap between business as usual, fragmented regional policy pledges at both their high and lower bounds and stabilization at 2°C levels. The gap will be assessed in both economic, climatic and investment terms.

Regional efforts and sharing the global burden

The second main topic in this first phase of LIMITS regards the regional implications of different burden-sharing schemes. The question of how to distribute the allocation of effort remains a vital and central one in climate policymaking, despite the difficulties to find an agreement. LIMITS is investigating 3 possible scenarios of effort sharing across the major economies: a first case in which a carbon tax is equally applied to all countries. A second one based on convergence from the current emission allocation to an equal per capita basis by mid century. And a final, innovative, scenario of equal effort in terms of equal relative GDP losses across regions.

This component will add policy relevance to the project by quantifying the regional incentives to join an international climate agreement, when including the possibility of exchanging emissions rights internationally. We will assess the extent to which transfers across the major regions are needed to satisfy different equity criteria, and discuss on their political and economic feasibility.

Investment needs and sectoral transformation

We are also assessing to what extent energy investments and fuel expenditures are going to increase or decrease under climate policy, what financial transfers would result from different allocations of mitigation effort, and what impacts they have on regional climate policy costs. This analysis is needed since very few assessments of the investment requirements for climate change policies have been carried out in the literature.

Particular attention will be devoted to the transformation needed to decarbonize the energy sector, as well as the implications of low carbon policies on land use and biofuels, a key topic given the competition over land between food production and bioenergy.

Outlook

The analysis is under way and is expected to be submitted for publication in a special issue of the journal *Climate Change Economics* by the end of the year. This will allow us to meet the IPCC deadline for inclusion in 5th assessment report. The results will be presented publicly at the next stakeholder meeting of the LIMITS project to be held in Amsterdam on February 13th.

The stakeholder meeting will also give the opportunity to present and discuss the second phase of the project, which will focus on the co-linkage of climate policies with air pollution and energy security policies, and on the role of physical investments and land use change. A strawman proposal for this second phase, including some original research, will be presented in February, with the research work initiating immediately afterwards.



Meetings and Events

Kick-off Meeting and 1st Stakeholder Workshop “Implementing Low Carbon Policies”

10-12 October 2011

Italy

2nd Project Meeting

06-08 June 2012

Germany

3rd Project Meeting and 2nd Stakeholder Workshop

12-14 February 2013

The Netherlands



LIMITS Consortium

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