



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

Final Publishable Summary Report
Annex to the Final Project Report - Figures

Period covered: from 01/10/2011 to 30/09/2014

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Duration: 36 months

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Project co-ordinator organisation: Fondazione Eni Enrico Mattei – FEEM

→ Figure 1

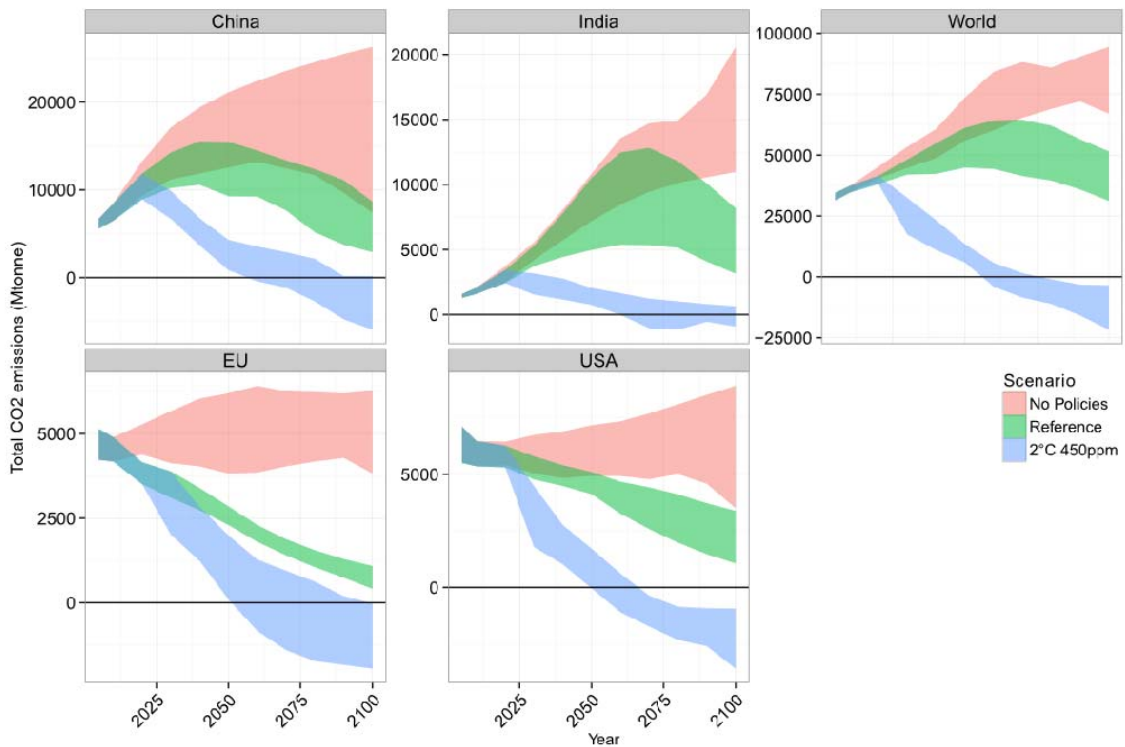


Figure 1: Regional CO₂ emission paths in scenarios with no policies, with reference policies reflecting the Copenhagen Pledges and their extension, and under a global climate policy agreement implemented after 2020.

→ Figure 2

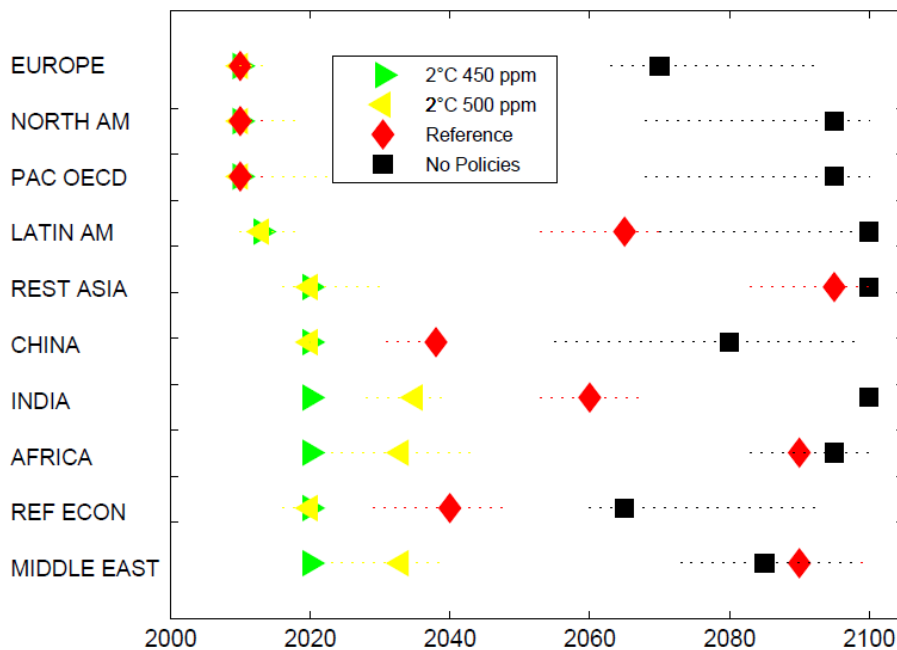


Figure 2: Peak Year – timing of regional maximum emissions (Kyoto gases, median across models). “2100” denotes an increasing emissions trajectory throughout the 21st century until the end of the time horizon of the models. Model time step is typically 5 to 10 years. “PAC OECD” stands for Pacific OECD countries, “EIT” stands for the economies in transition of the former Soviet Union.

→ Figure 3

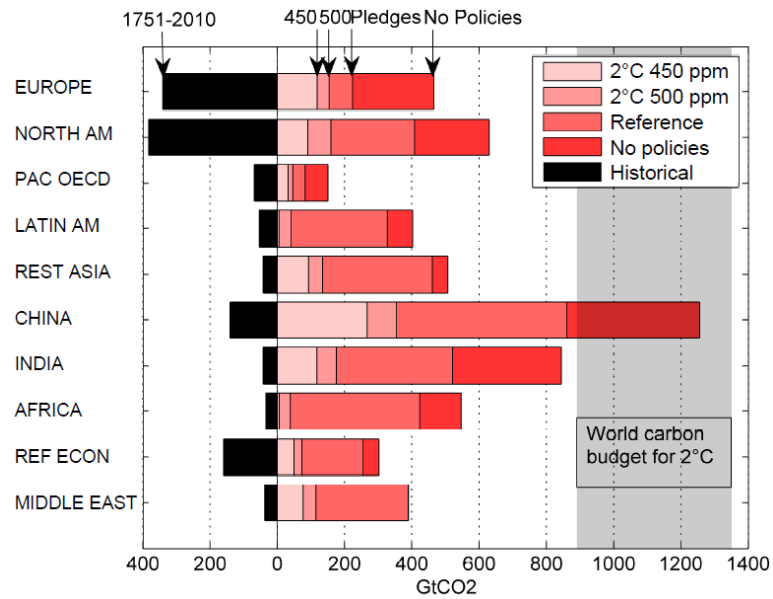


Figure 3. Regional carbon budgets, as cumulative CO₂ emissions for the period 2010-2100. All numbers are median values across models. Historical emissions are for the period 1751-2010. The shaded area shows the World carbon budget range for 2°C policies (450 ppm or 500 ppm) based on the model medians. “PAC OECD” stands for Pacific OECD countries, “EIT” stands for the economies in transition of the former Soviet Union.

→ Figure 4

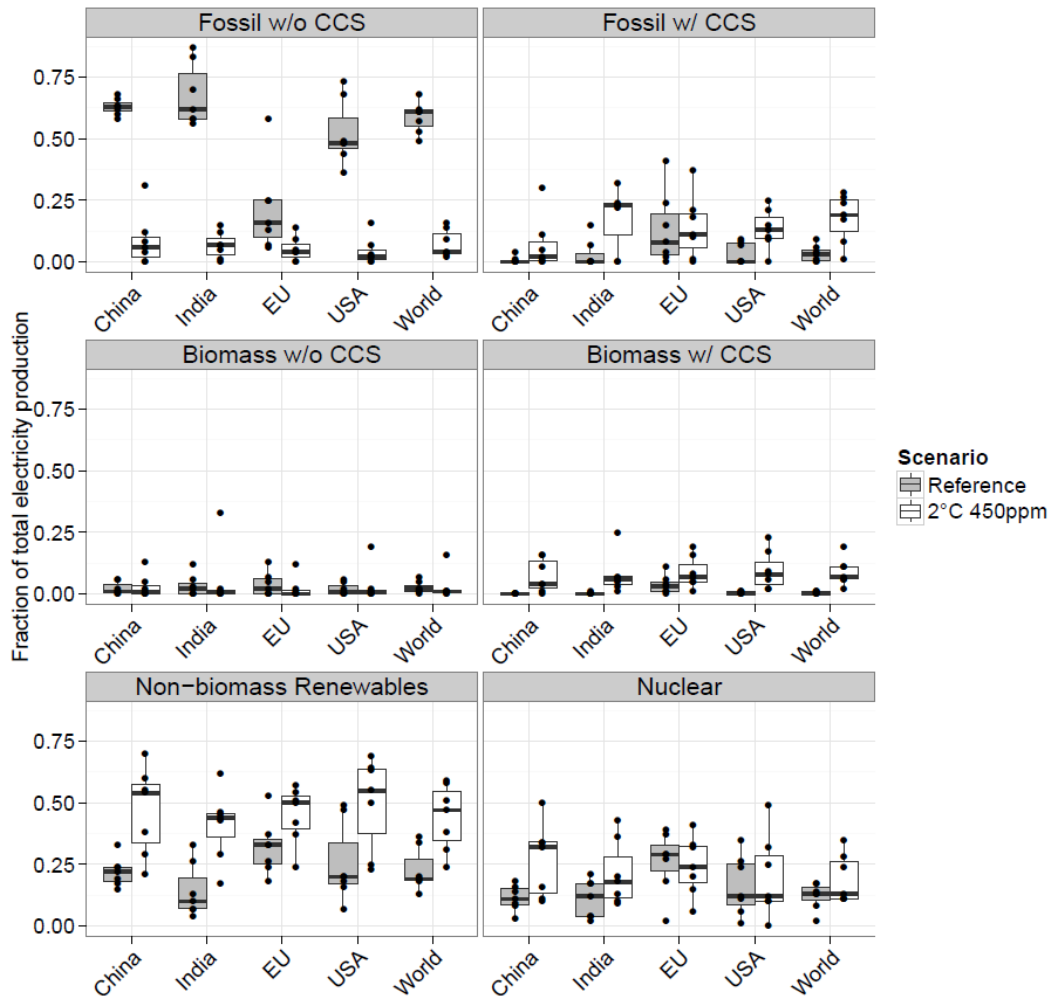


Figure 4: Fraction of electricity production for major and upcoming regions in 2050 in the Reference and 2°C 450 ppm scenarios. Non-biomass renewables consist of photovoltaics, concentrated solar power, onshore and offshore wind, and hydropower. CCS stands for carbon capture and storage.

→ Figure 5

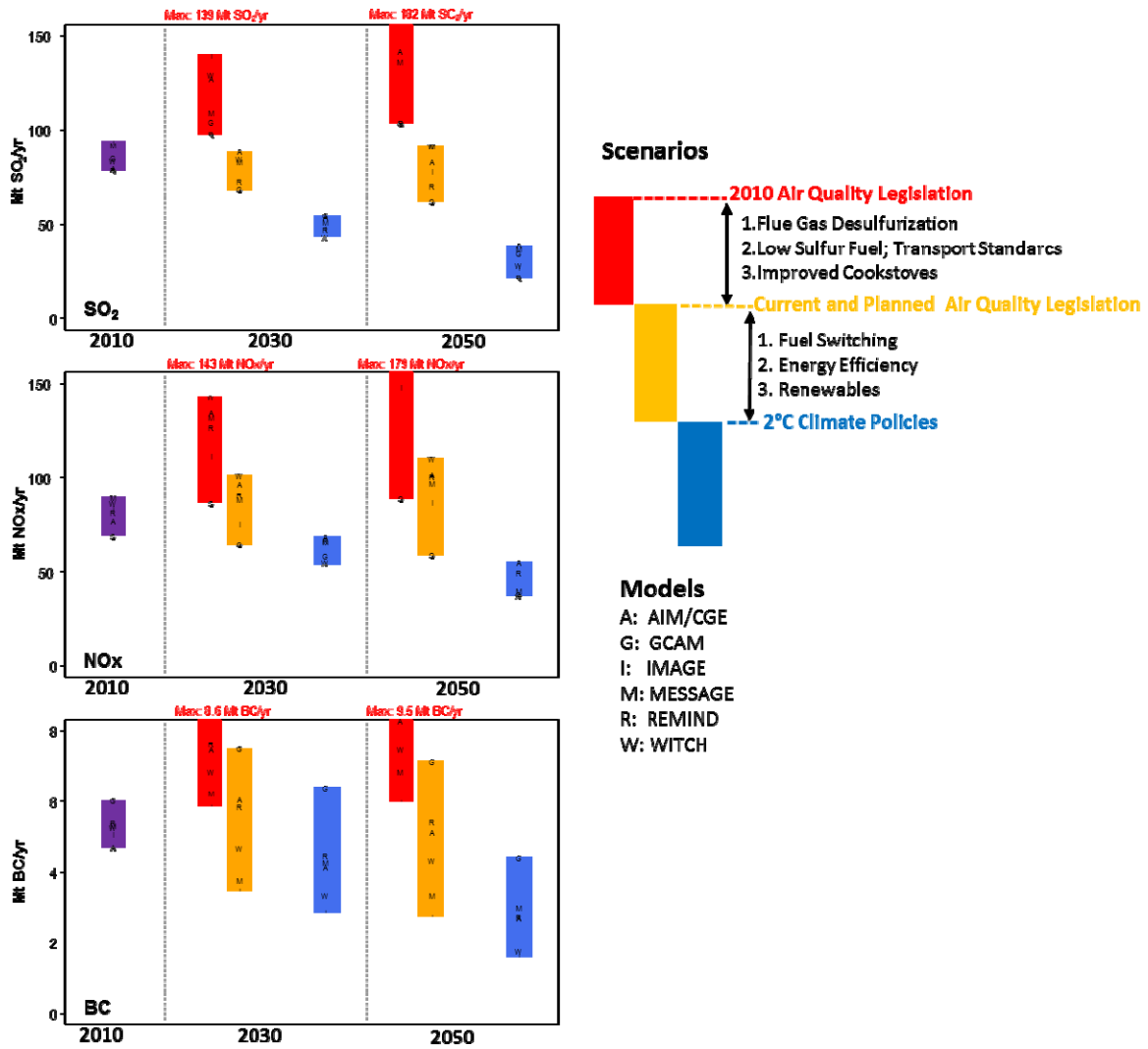


Figure 5: Range of Sulfur-di-oxide (SO₂), Nitrogen oxide (NO_x) and Black Carbon (BC) emissions across LIMITS models under alternative policy approaches. Red bars indicate no further implementation of air pollution policies beyond those in place in 2010 while the orange bars indicate a full implementation of current and planned pollution legislations. Blue bars then include additional 2°C global climate policies.

→ Figure 6

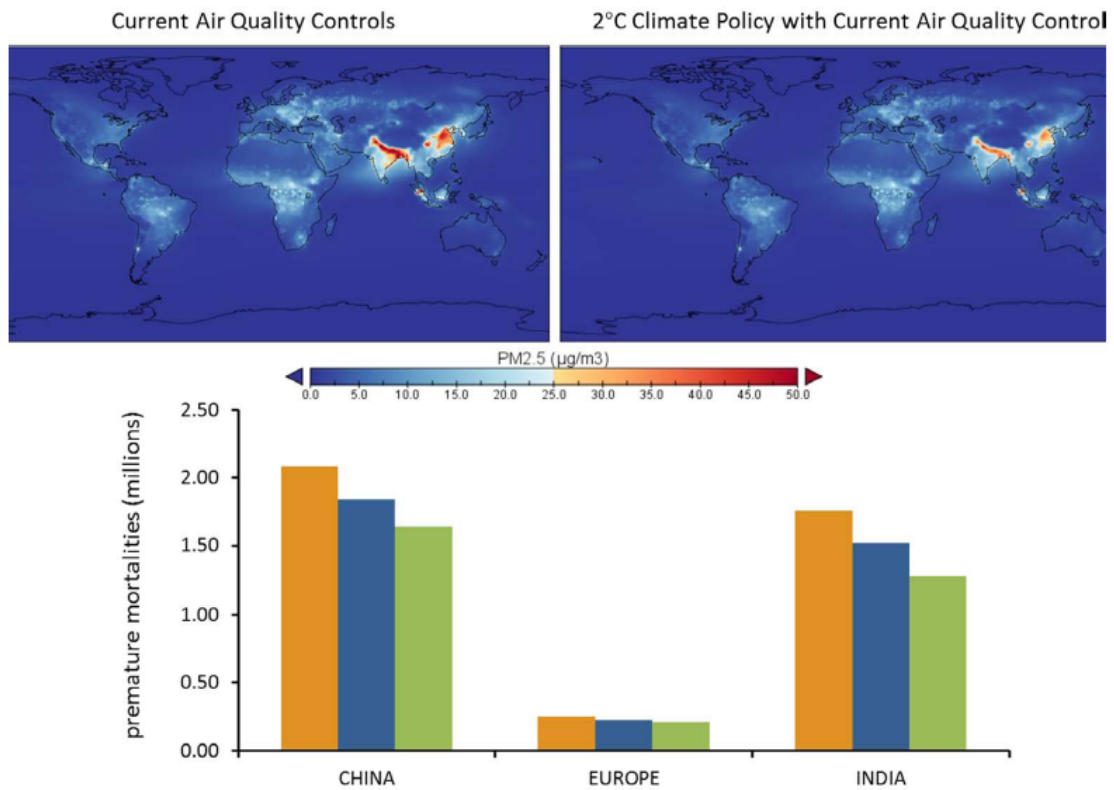


Figure 6: Top: Average anthropogenic PM_{2.5} fine particle concentration across models in 2030. Blue areas indicate values below 25µg/m³ which is the European Air Quality Guideline for long-term fine particulate matter. Bottom: Average of regional premature mortalities across models incurring from air pollution in 2030. Three cases are presented: the reference case with only current air quality controls (yellow); additional climate policies without further air quality controls (blue); stringent air quality controls without further climate policies (green).

→ Figure 7

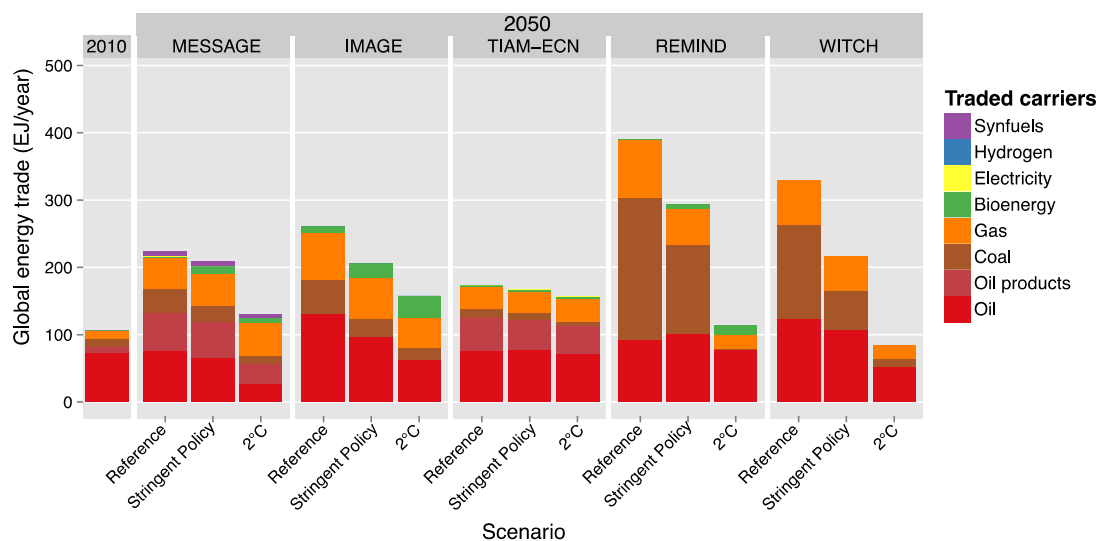


Figure 7: Energy trade in 2050 in the no policies case and with 2°C stabilization. Note that the 2°C scenario shown here assumes a stringent interpretation of the Copenhagen pledges (including conditional and voluntary pledges) prior to the adaption of the global climate regime in 2020.

→ Figure 8

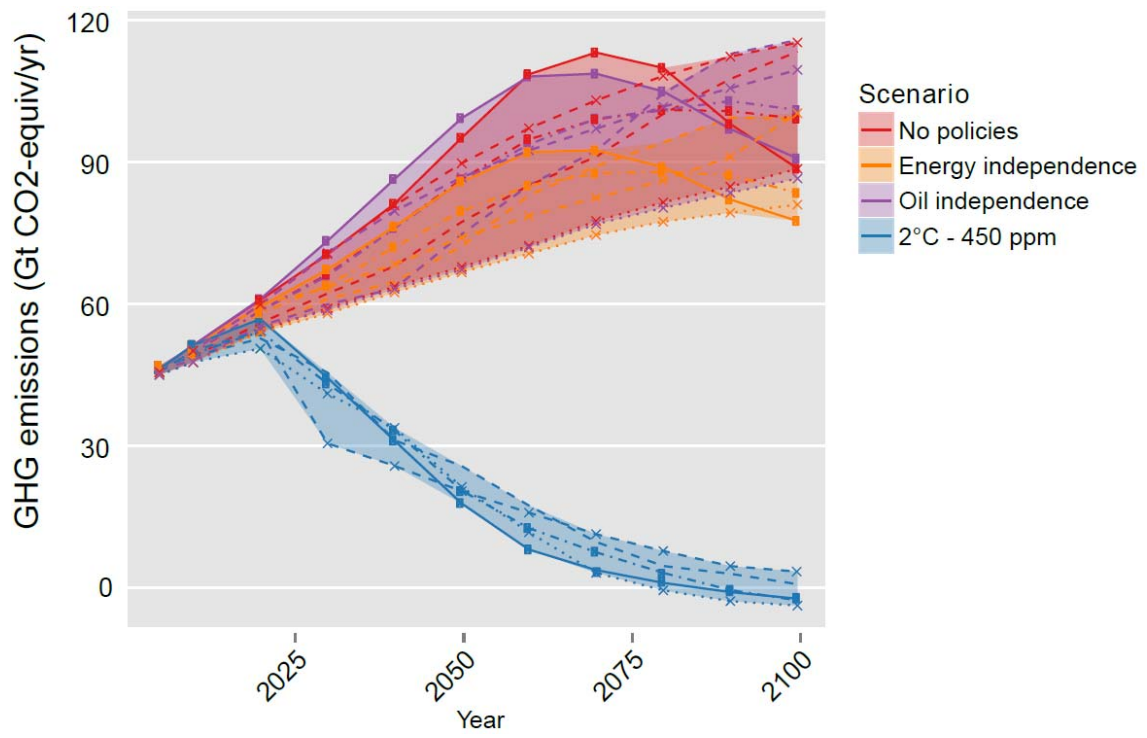


Figure 1: Limiting energy or oil imports has very little impact on GHG emissions