



**Advanced Model Development and Validation for the
Improved Analysis of Costs and Impacts of Mitigation Policies**



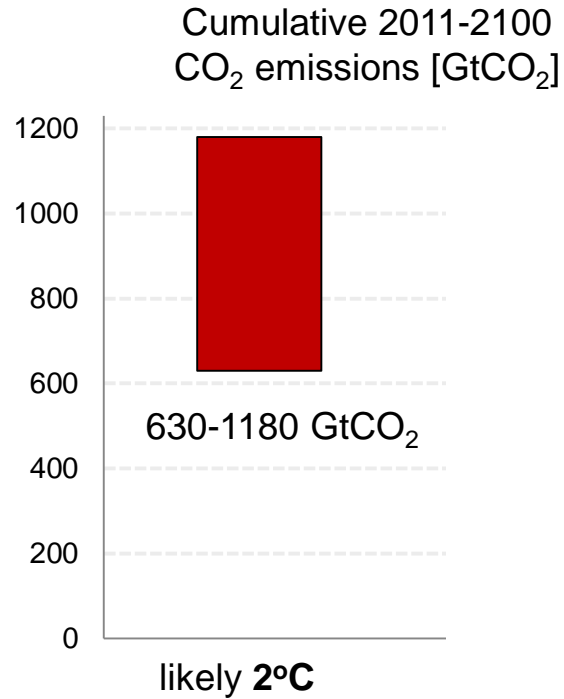
This project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 308329.

The challenge of limiting warming to 1.5-2°C

The ADVANCE consortium
Presenter: Gunnar Luderer,
Potsdam Institute for Climate Impact Research

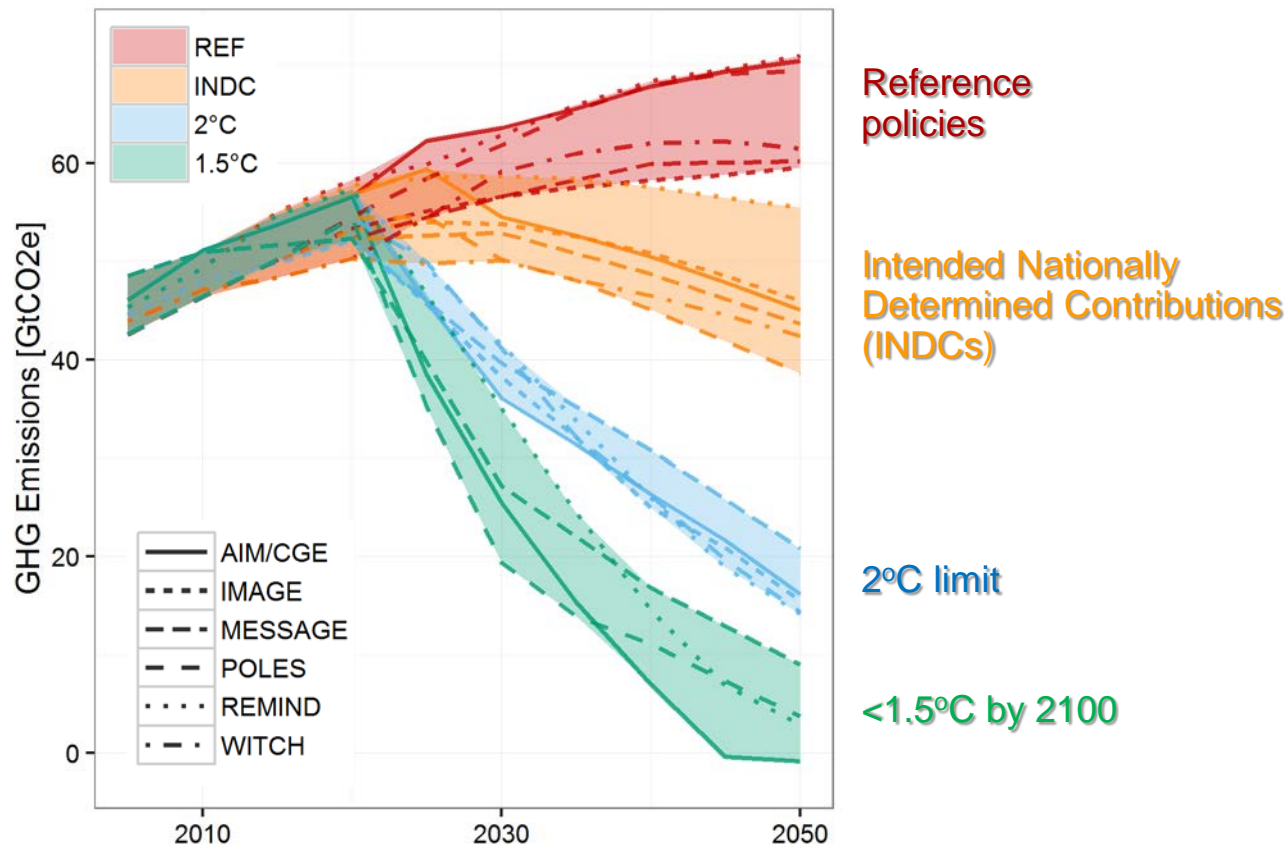
ADVANCE Final Conference
Brussels, 24 October 2016

Remaining CO₂ budget for 1.5°C

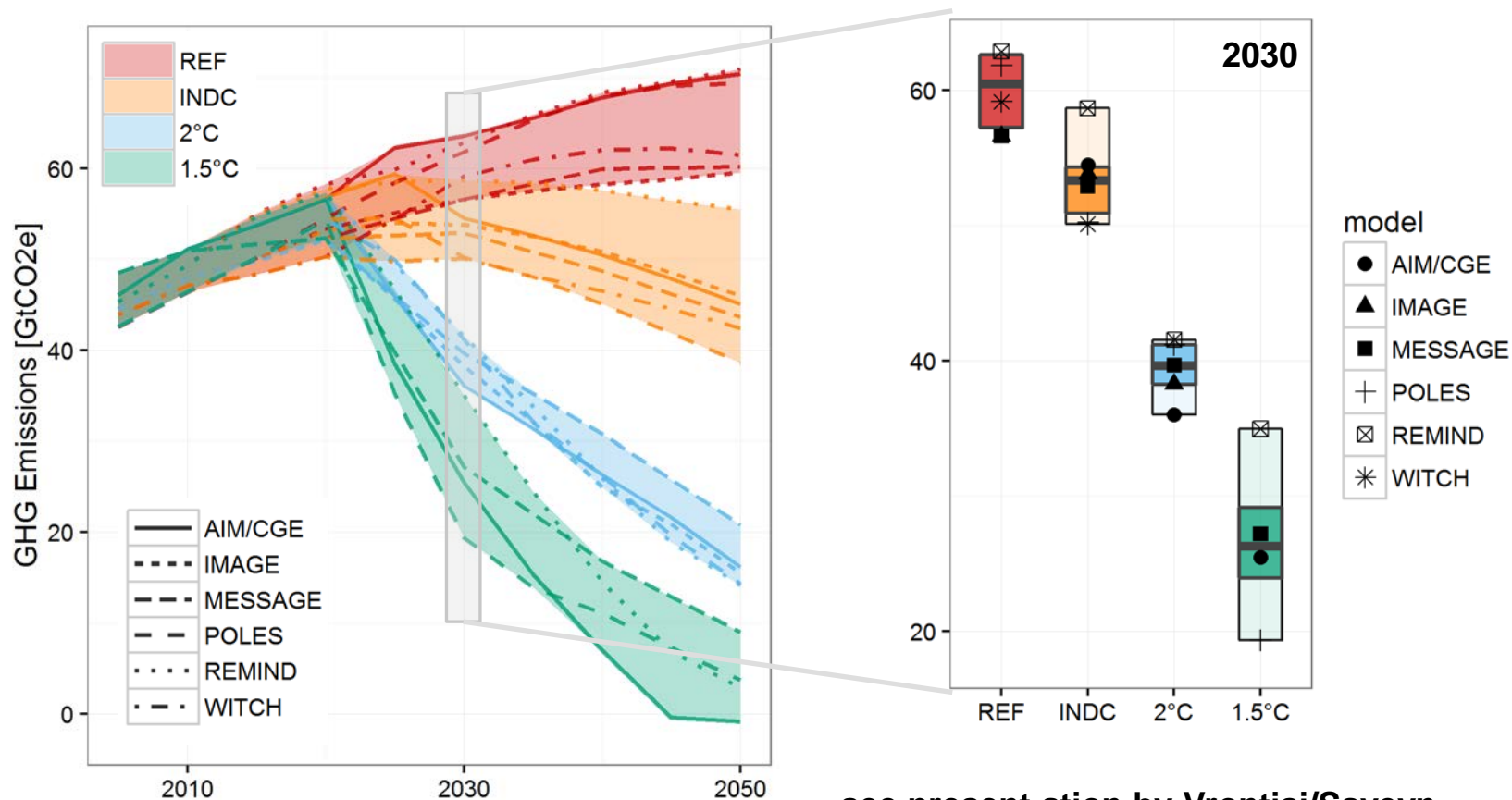


**Current global CO₂
emissions: 40 GtCO₂/yr**

Climate policy scenarios

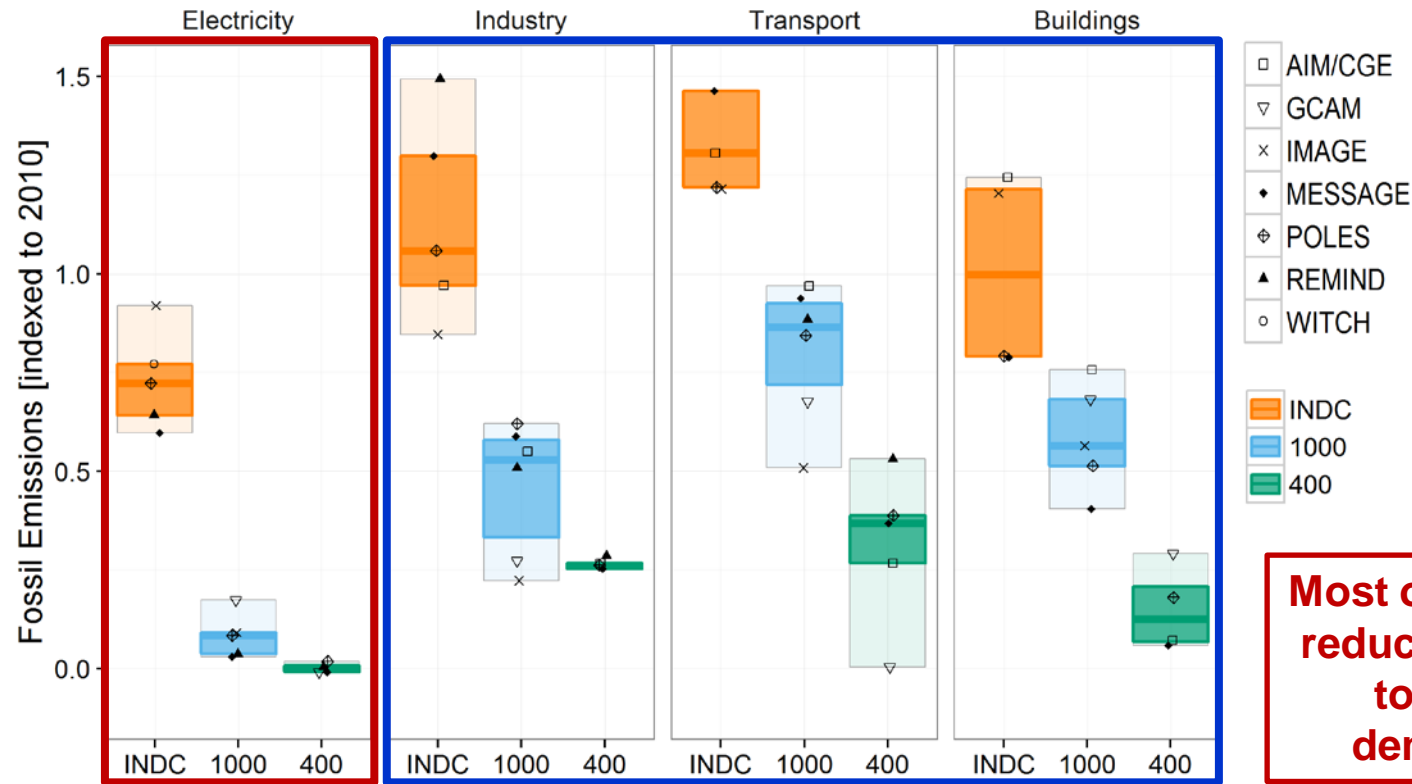


Additional action beyond the INDCs needed for 1.5/2°C



see presentation by Vrontisi/Saveyn

Decarbonization of energy sectors (2050)



Most of the additional reductions for 1.5°C to come from demand sectors

see present ations by Van Vuuren and Edelenbosch

Summary

- Most ADVANCE models find limiting warming to below 1.5°C by 2100 technically feasible, if mitigation ambition is scaled up drastically after 2020.
- Key elements of the energy sector transformation are
 - a rapid decarbonization of power supply
 - an accelerated phase-out of fossil fuels in energy demand sectors
- Carbon dioxide removal, e.g. via BECCS , of around 500-700 GtCO₂ needed to compensate for residual fossil emissions



Thanks!

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