

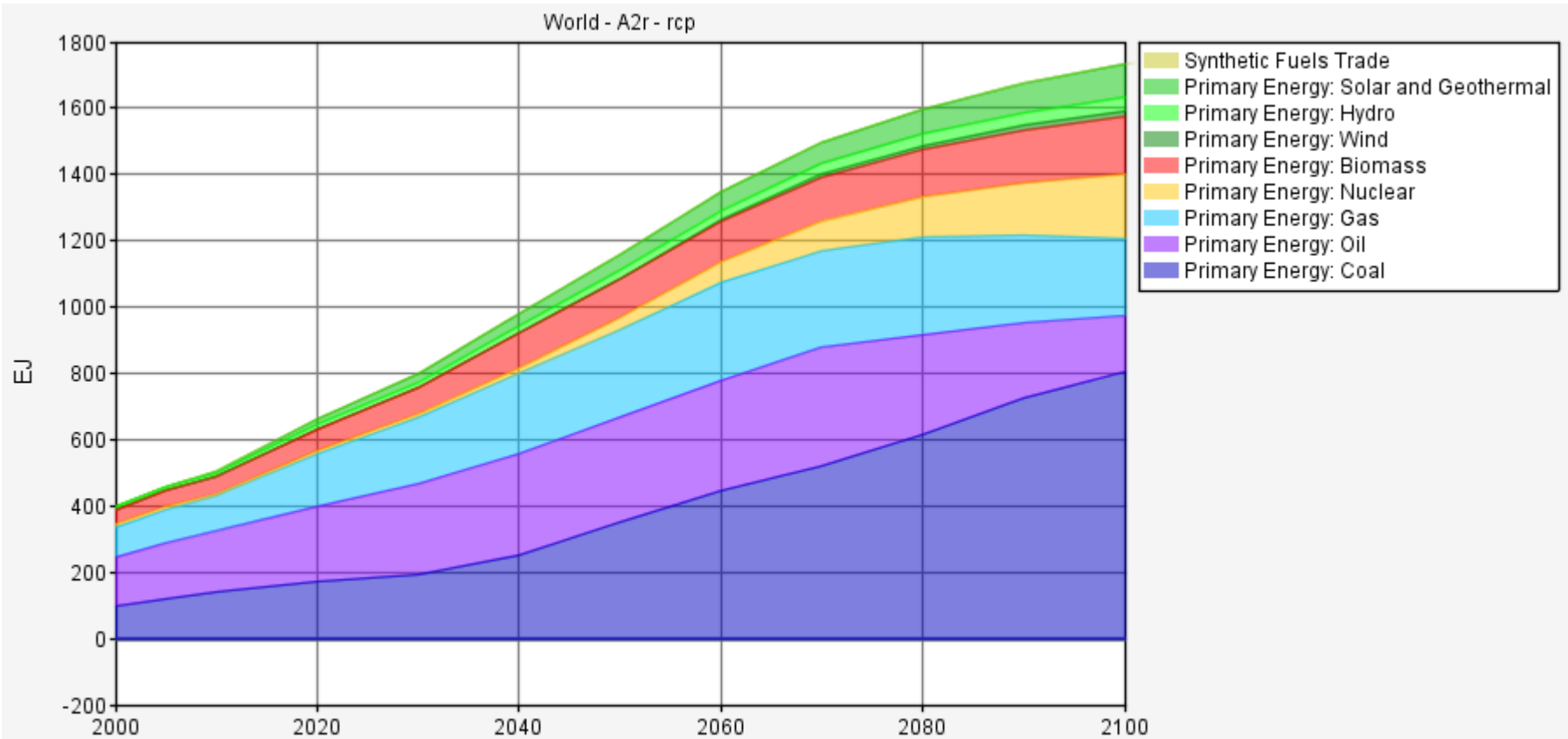
RCP 8.5 and some suggestions for follow-up IAMC activities

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RCP 8.5

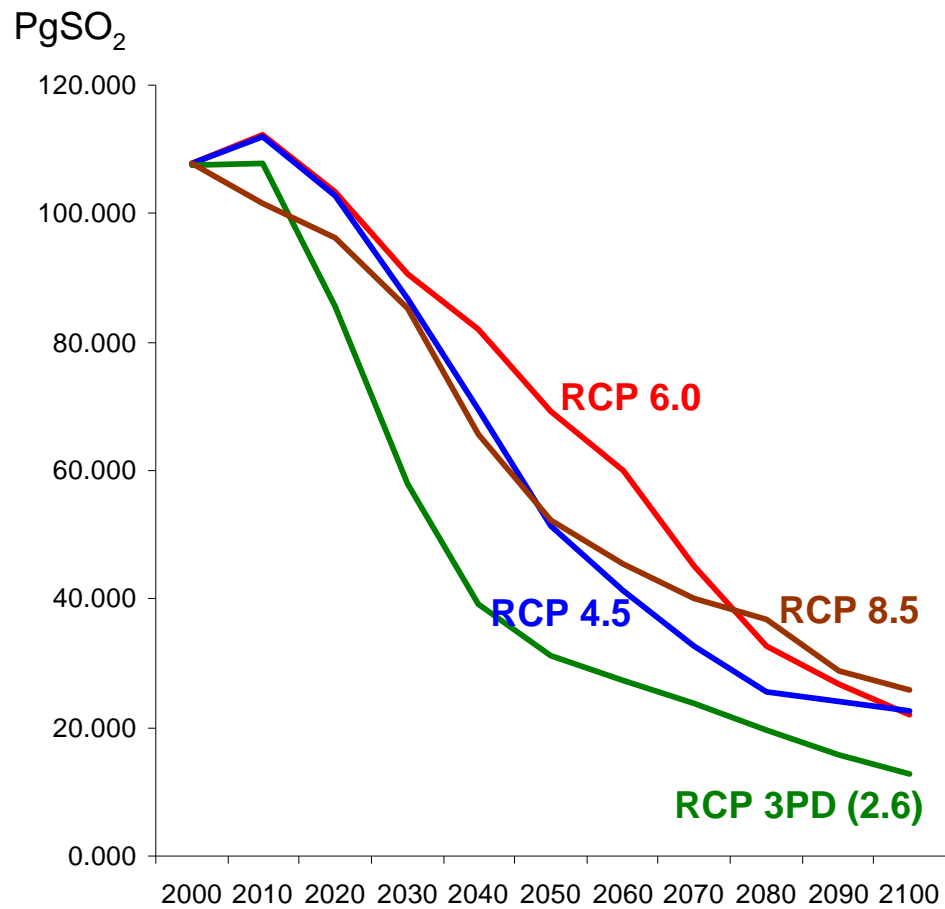
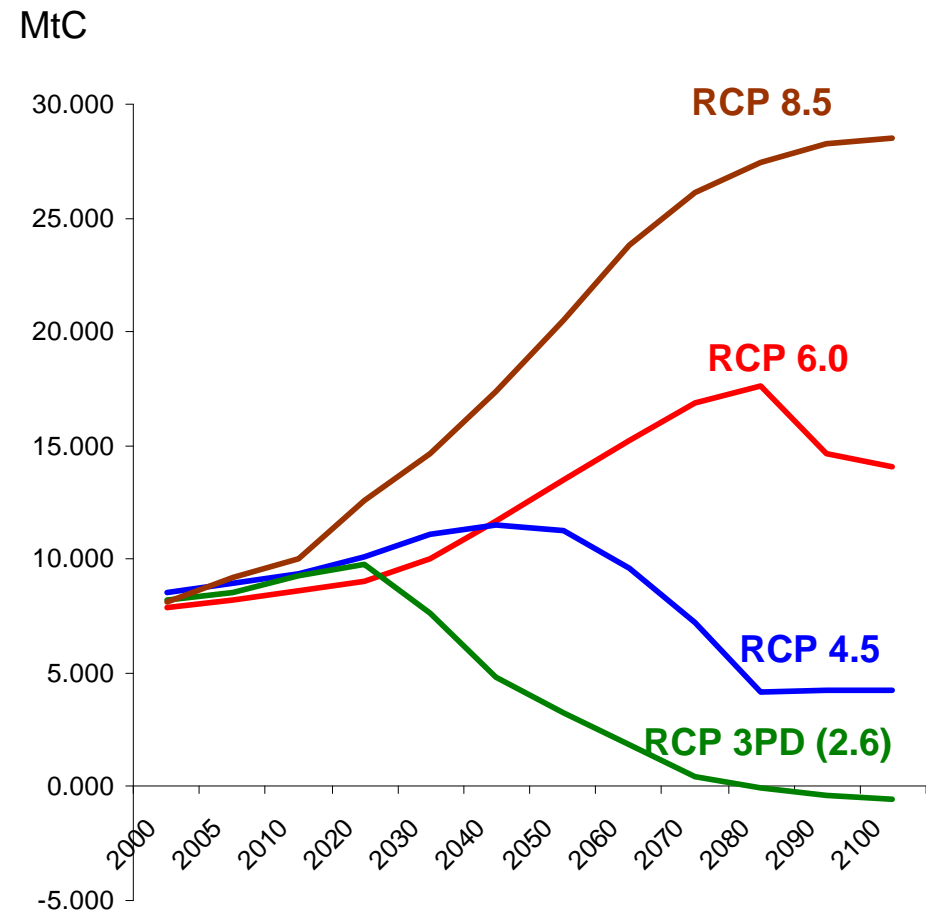
Primary Energy (World)



GHG Emissions & Pollutants

CO2 Emissions

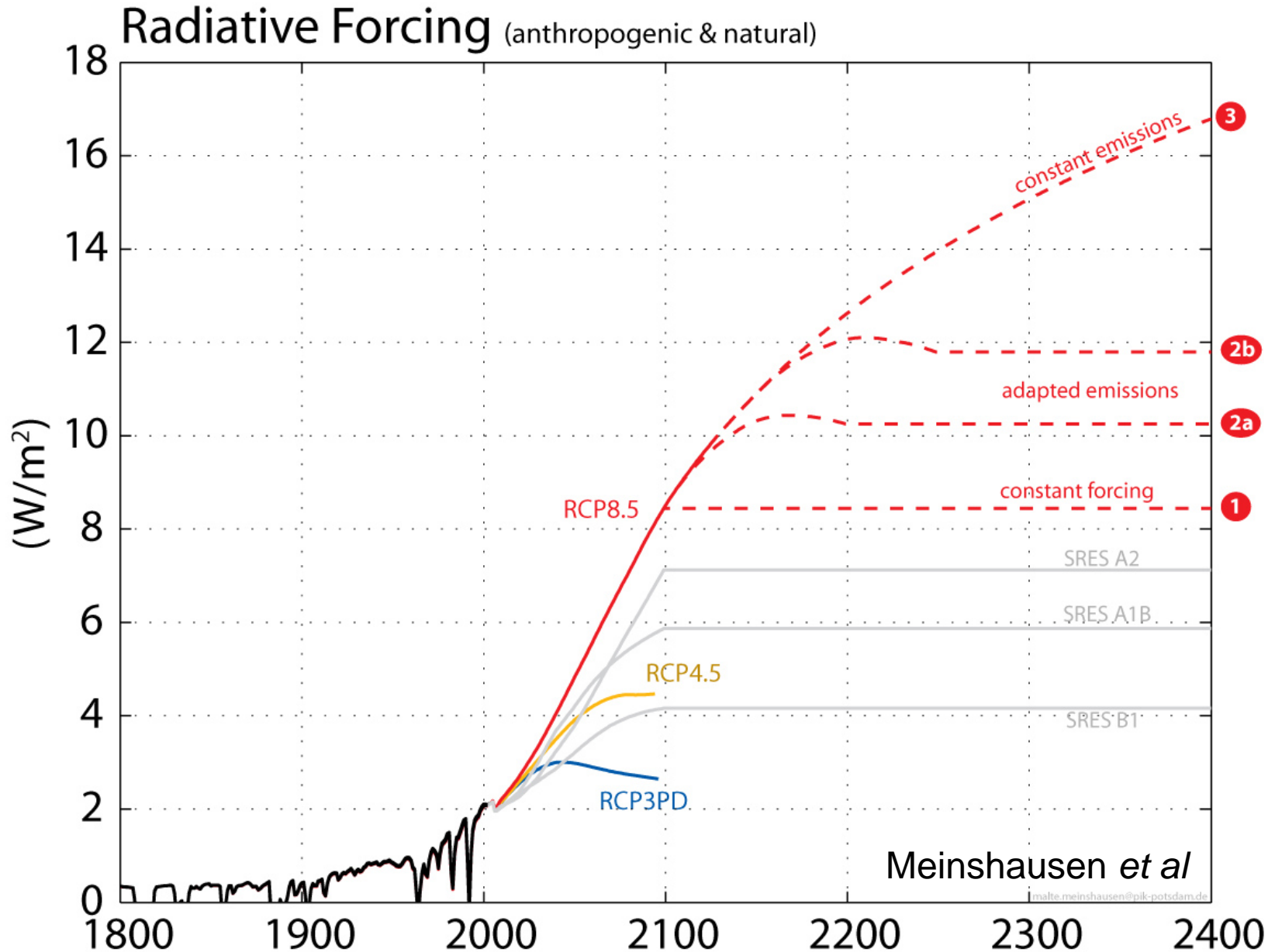
SOx Emissions



Progress on RCP 8.5

- ✓ Regional, sectoral, and spatial emissions
- ✓ Regional and spatial land-cover
- ✓ Smooth transition from the past (1850-2100) for pollutant emissions and reactive gases (Lamarque et al)
- ✓ Harmonization of land-cover across RCPs and transition from 1750 to 2100 (Hurtt et al)
- Under preparation:
 - Harmonization of other GHG emissions and concentrations
 - Extension to 2300

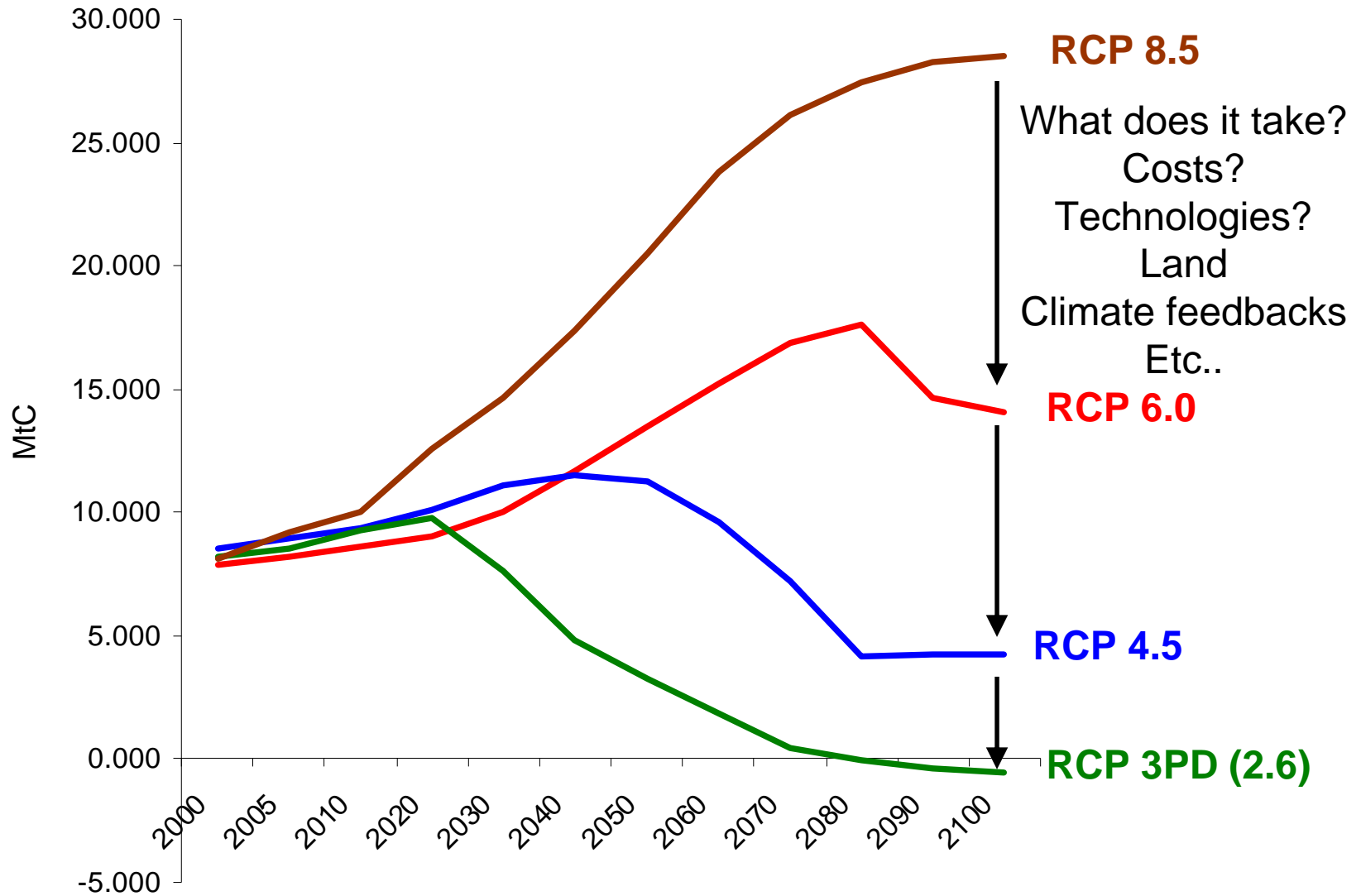
Extensions to 2300



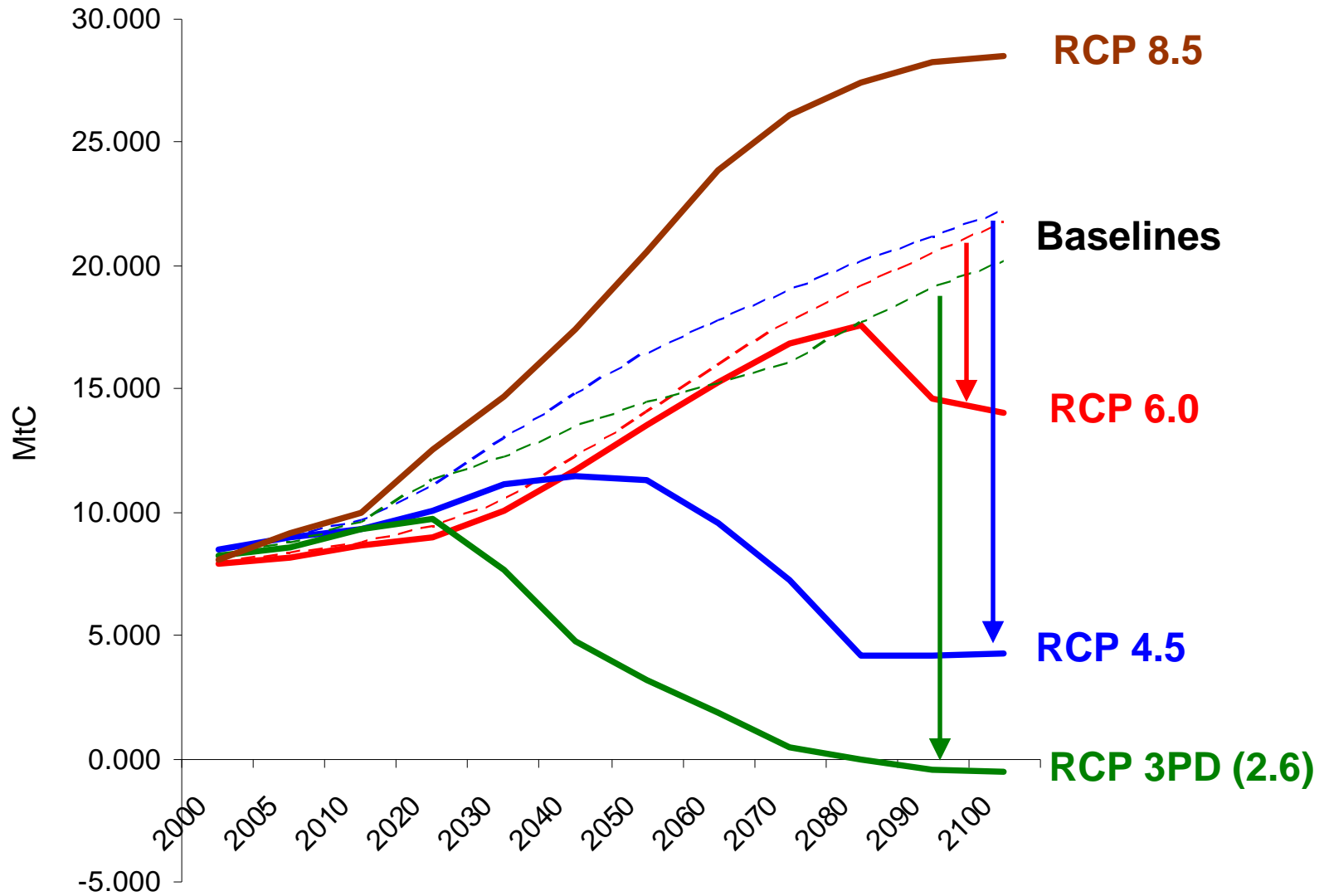
RCP Selection

- RCPs primarily selected to span a wide range of GHG emissions, concentrations, and forcings for climate modeling experiments
- Focus of each RCP team was to develop an internally consistent pathway, based on own socio-economic, demographic, technology, and other model assumptions

CO2 Emissions (World)

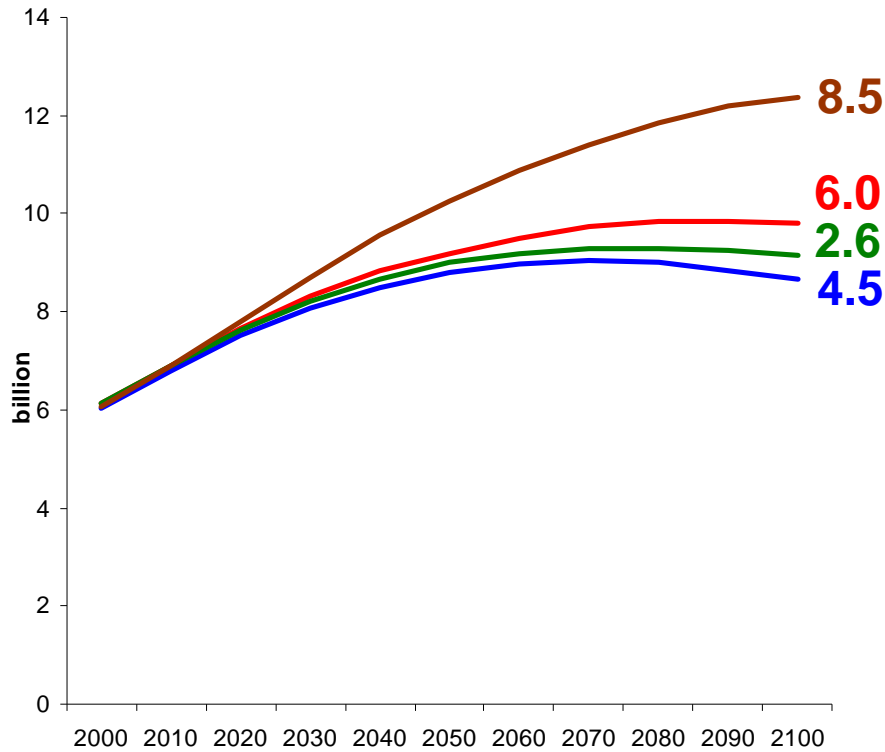


CO2 Emissions (World)

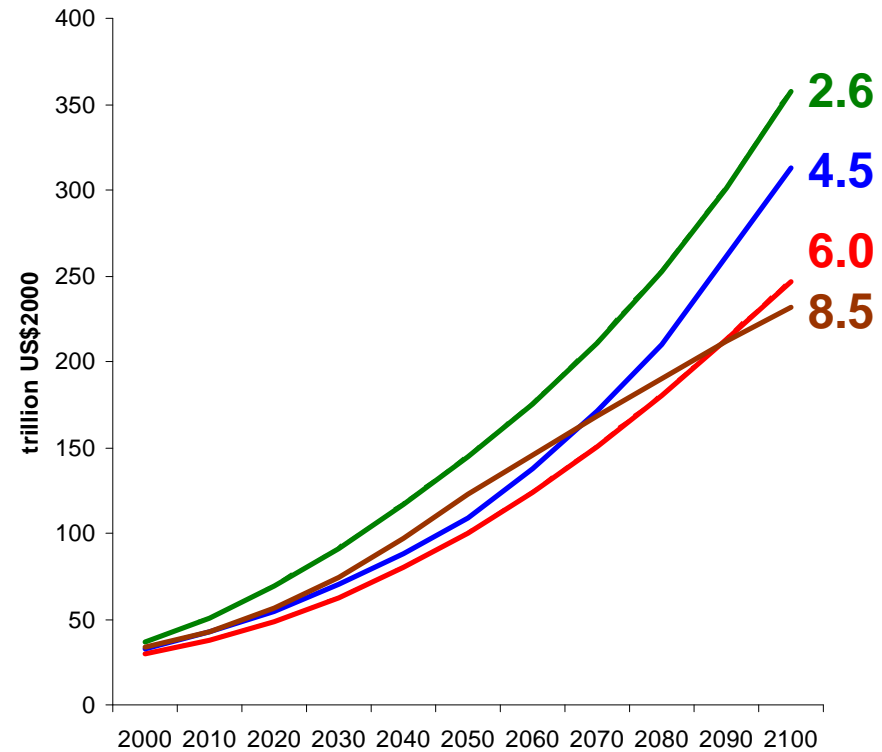


Baseline Assumptions

Population



GDP

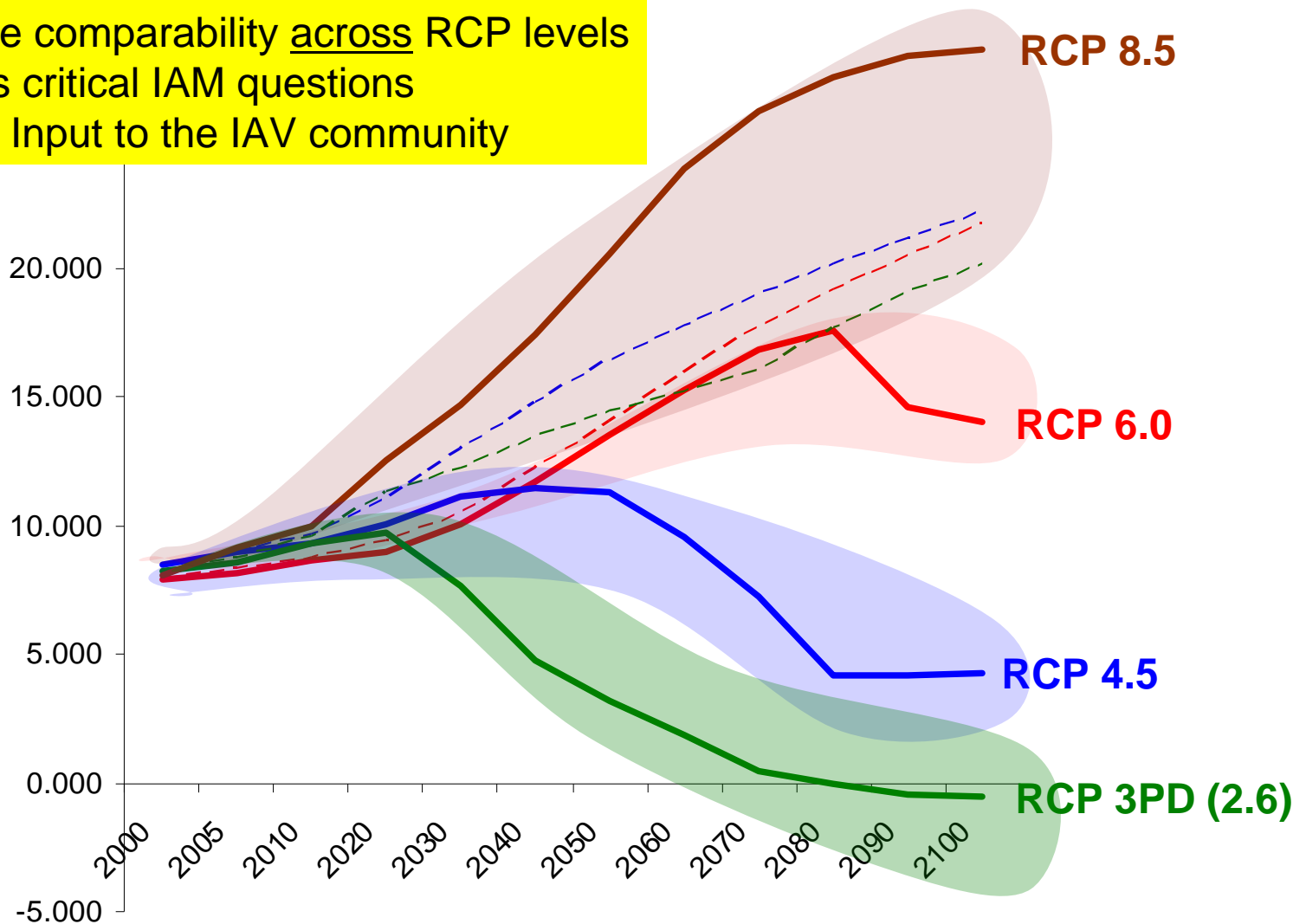


Climate characteristics were the only criteria for the selection of individual RCPs

CO2 Emissions (World)

Additional scenarios needed:

- 1) To bracket uncertainties
- 2) Enhance comparability across RCP levels
- 3) Address critical IAM questions
- 4) Provide Input to the IAV community



An Initial Activity

- Collect recently developed scenarios, eg:
 - 2.6 feasibility studies: ADAM, IMAGE/MESSAGE
 - EMF-22
 - IPCC Renewables Report
 - Etc..
- Establish reporting standards (protocols, definitions) that can be shared for alternative studies
- Development of a “Post-RCP” scenario database (eg for IAM-IAM and IAM-IAV exchange)
 - Including socioeconomic and technology specific information
 - Fully interactive and automated
 - for IAMC modeling teams to upload/download scenario data
 - evolutionary growing and thus maintained by the community
 - Quality check routines (eg, central climate model)

Modeling Comparison Projects

- “Second-best” scenarios
 - Non-participation (EMF22)
 - Technology (uncertainty and possible failure)
 - Explore feasibility of targets and costs without eg CCS/nuclear
 - Negative emissions technologies
 - Explore synergies and trade-offs with other policy priorities:
 - Energy Security
 - Energy Access
 - Hunger
 - Etc...

Attainability and costs of stabilization depends on the available technology options

