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Choice of an emission projection  
for the  
HTAP model experiment

# Question for HTAP

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IPCC modelling community will produce in November 2008

- four alternative emission scenarios
- with 10-years time steps to 2100 (2300?)

Emissions differ across

- scenarios (storylines),
- pollutants (NO<sub>x</sub>, CO, VOC, CH<sub>4</sub>),
- world regions,
- time steps.

Which scenario/year (in addition to base year) to choose for HTAP experiment to keep workload manageable?

# Criteria

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- Objective of HTAP experiment?
  - Model intercomparison or
  - informing policy process?
- Policy-relevant questions:
  - *What are the likely impacts of future changes in global emissions and climate on hemispheric background ozone and SR-relations?*
  - *Relevant time perspective? 2030? 2050?*

# Some indicative results

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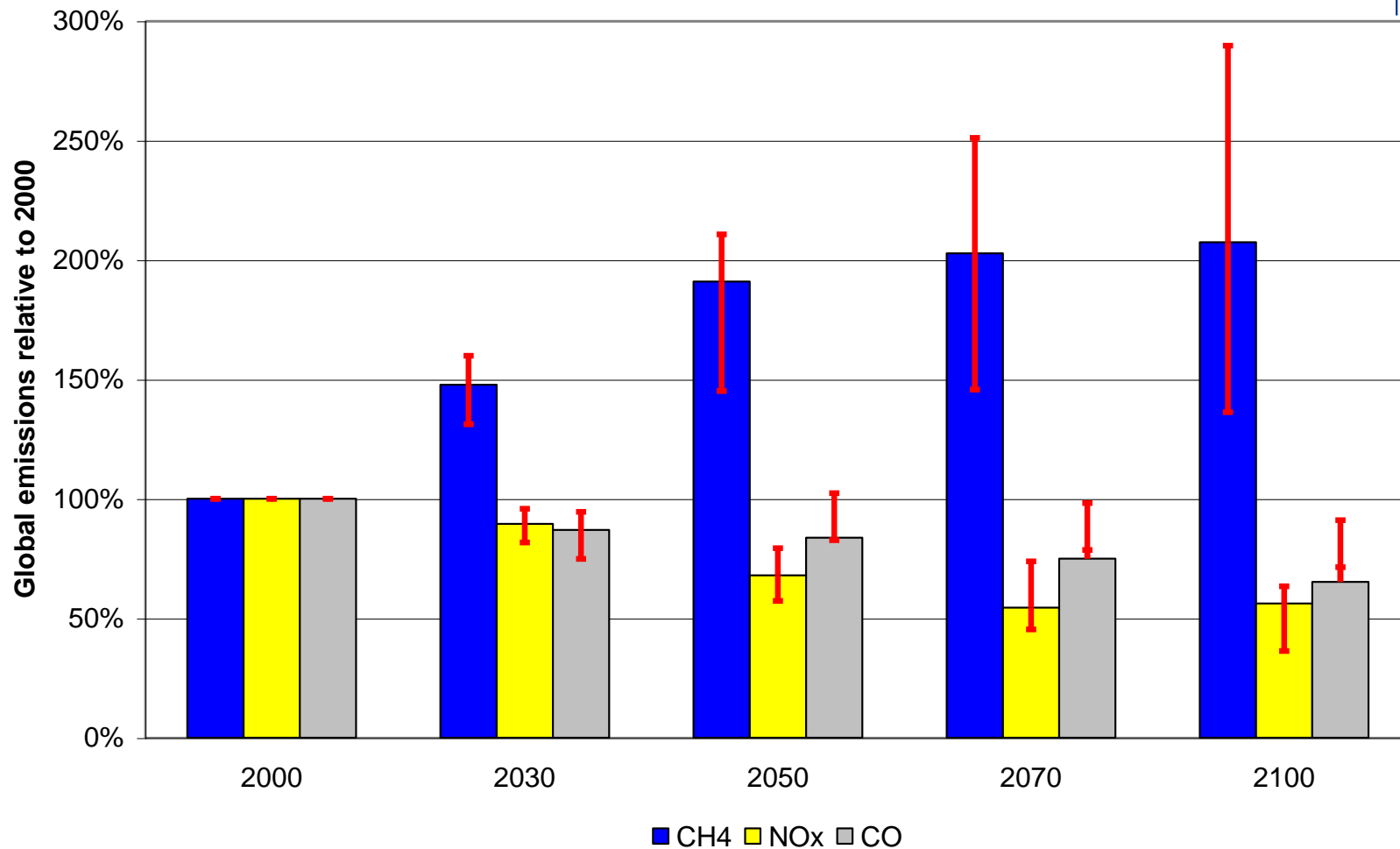


Indicative results from IIASA's MESSAGE model:

- revised for A2, B2, B1 SRES scenarios, (Riahi et al 2007)
- NO<sub>x</sub> and CO calculations include change in emission factors (as used for Royal Society study)
- MESSAGE results will be used for A2 scenario
- Not clear how other models (IMAGE, AIM, MINICAM) that will be used for other scenarios will treat change in emission factors

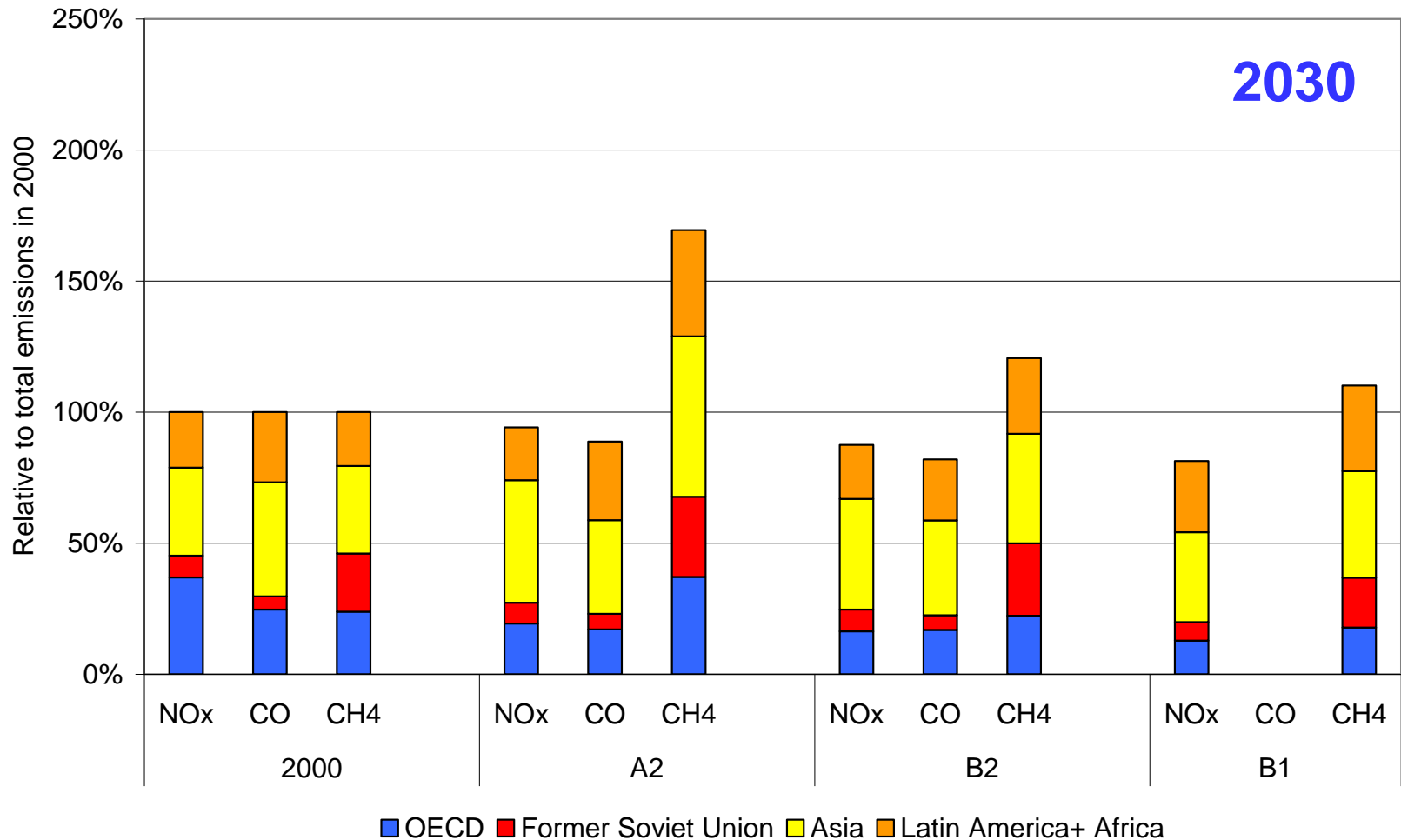
# Trends in global O<sub>3</sub> precursor emissions

B2, range given for A2-B1



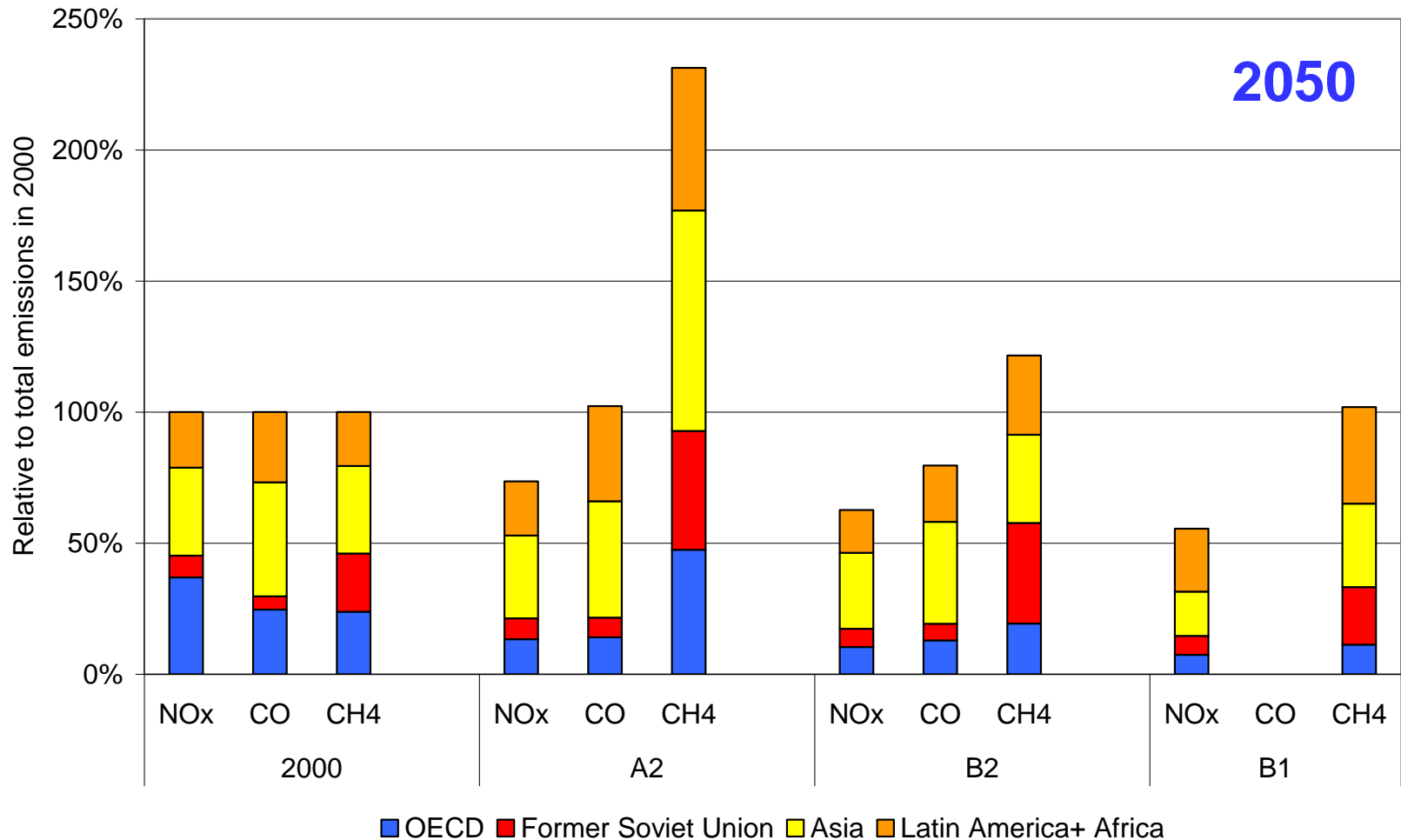
# O<sub>3</sub> precursor emissions of 3 new IPCC scenarios 2030 scaled to 2000

Provisional results from IIASA's MESSAGE model



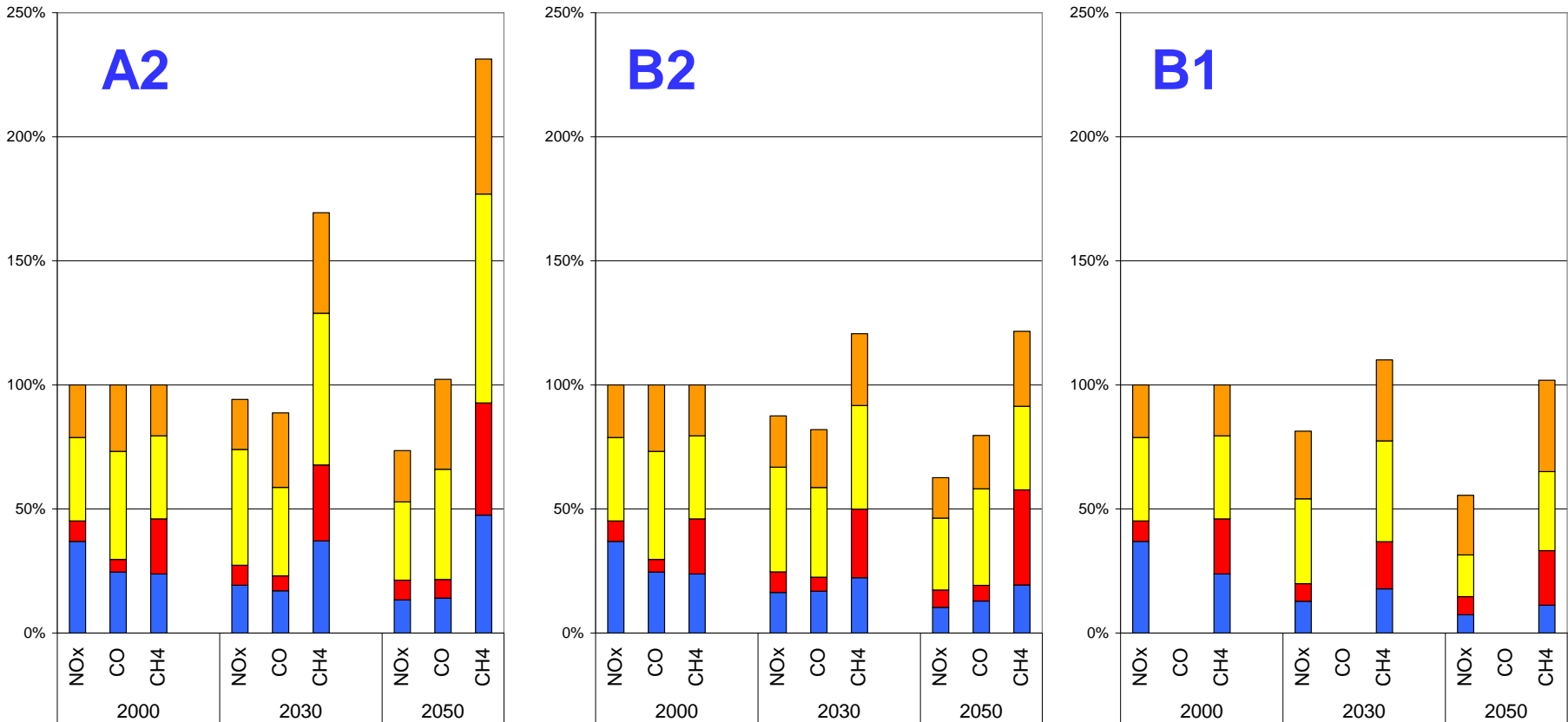
# O<sub>3</sub> precursor emissions of 3 new IPCC scenarios 2050 scaled to 2000

Provisional results from IIASA's MESSAGE model



# O<sub>3</sub> precursor emissions of 3 new IPCC scenarios 2030 and 2050, scaled to 2000

Provisional results from IIASA's MESSAGE model



■ OECD 
 ■ Former Soviet Union 
 ■ Asia 
 ■ Latin America+ Africa