

IIASA MESSAGE

Short-term Mitigation Potentials, Long-term Development and Uncertainties

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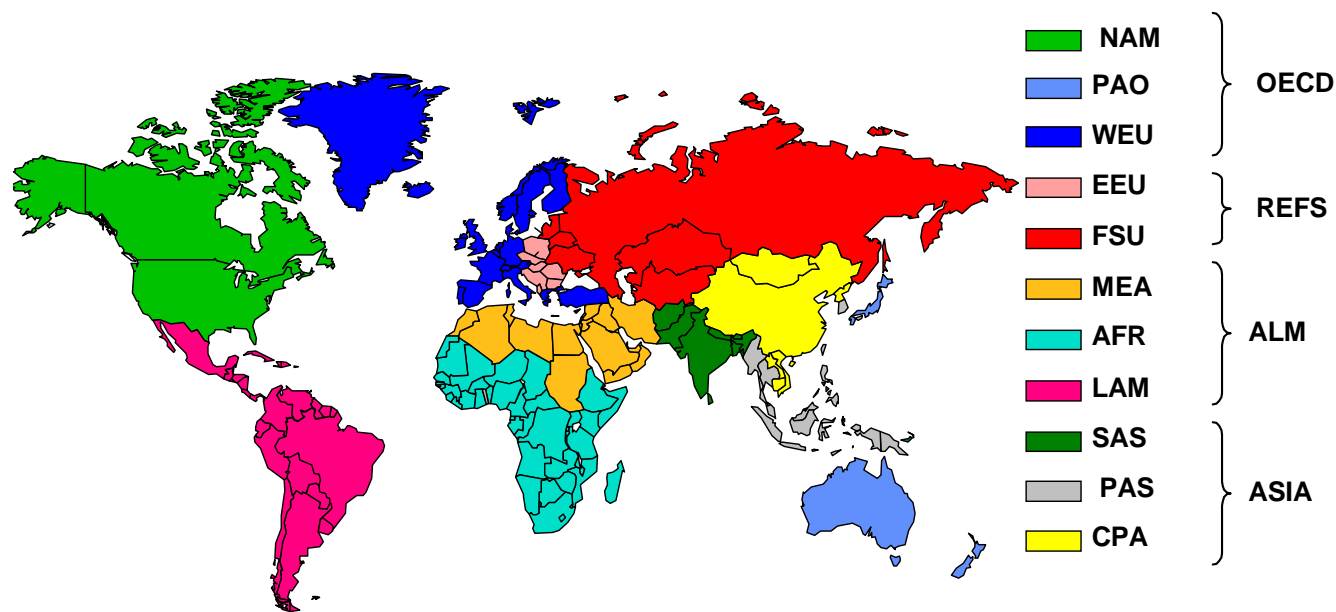
- IIASA IA Modeling Framework
- B2 Baseline Scenario
- B2 GHG Mitigation Potentials by 2020
- Link to long-term Scenarios
- Uncertainties in Mitigation Potentials



IIASA Integrated Assessment Framework



Regional Representation in MESSAGE



1 NAM North America

2 LAM Latin America & The Caribbean

3 WEU Western Europe

4 EEU Central & Eastern Europe

5 FSU Former Soviet Union

6 MEA Middle East & North Africa

7 AFR Sub-Saharan Africa

8 CPA Centrally Planned Asia & China

9 SAS South Asia

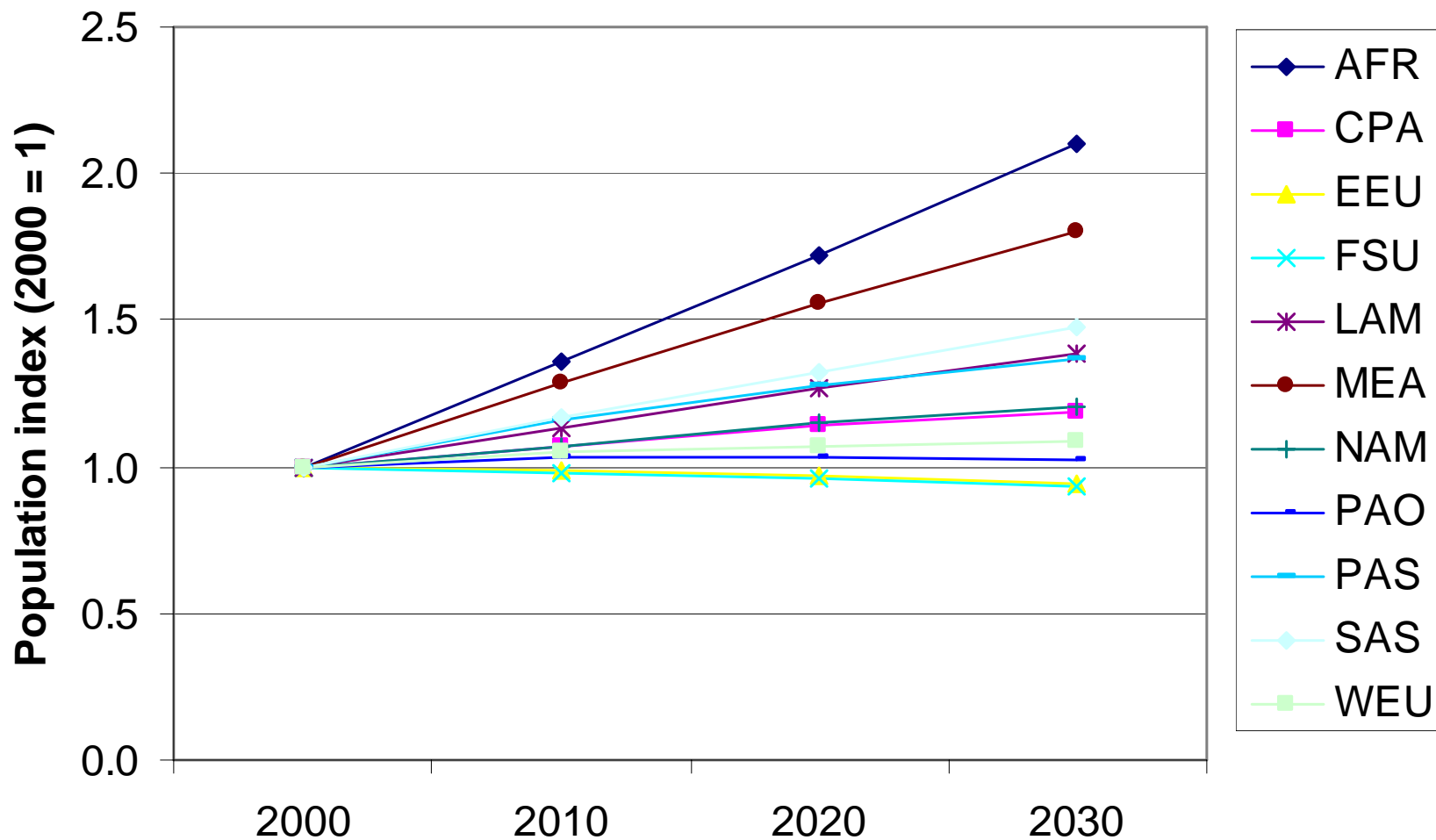
10 PAS Other Pacific Asia

11 PAO Pacific OECD

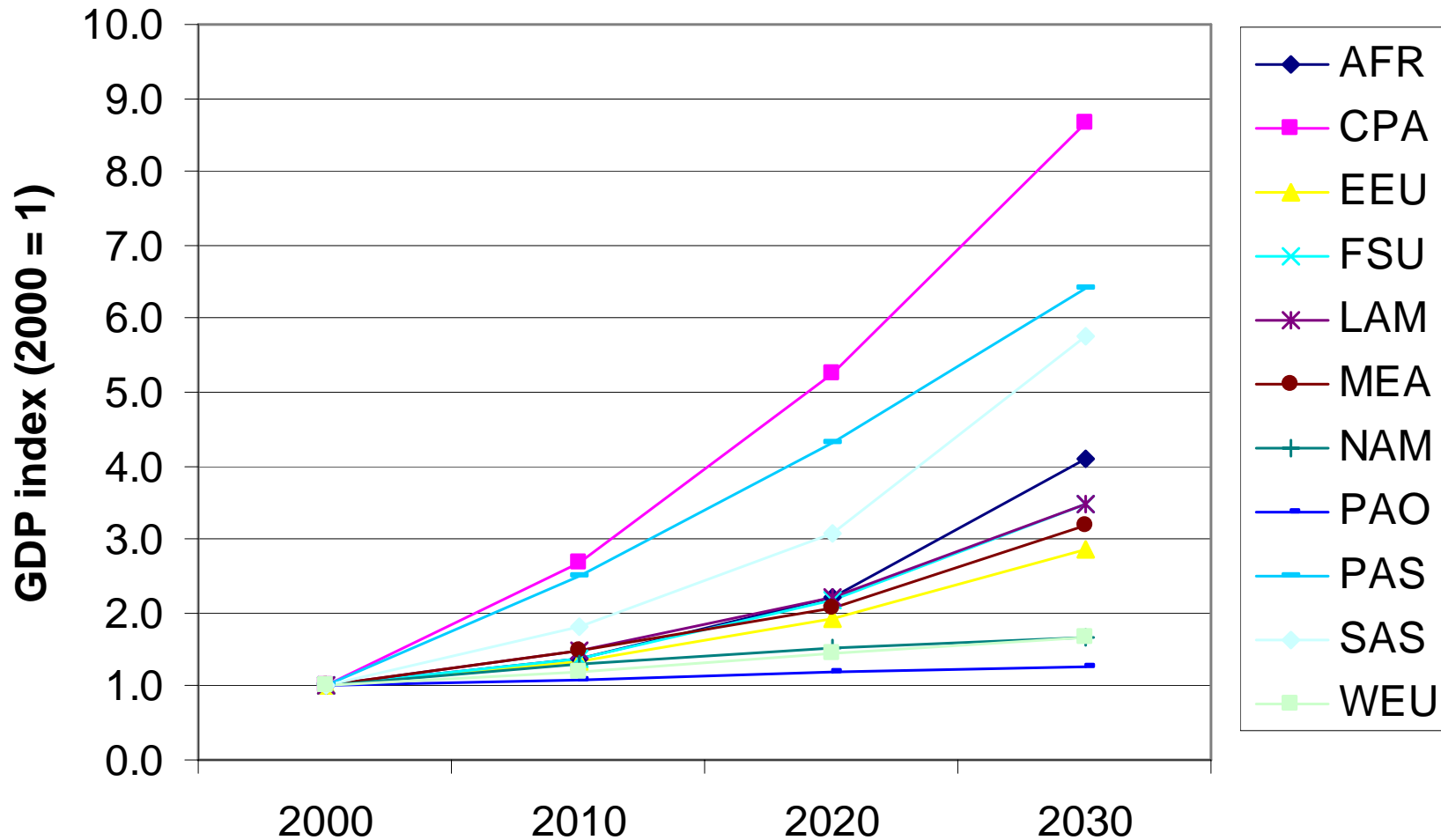
Scenario Overview (World by 2100)

	2000	A2	B2	B1
Population, 10 ⁹	6	12	10	7
GDP, 10 ¹² \$	27	189	238	328
PE, EJ	402	1744	1274	1045
GtC energy	7	27	14	7
GtC forests	1	<1	-1	-1
GtC-e all others	3	8	5	4
GtC-e total	11	35	19	10
ppmv (CO ₂ -equiv)	370	1432	976	831
Stabil. Levels (ppm-equiv)		670-1350	490-680	490-680

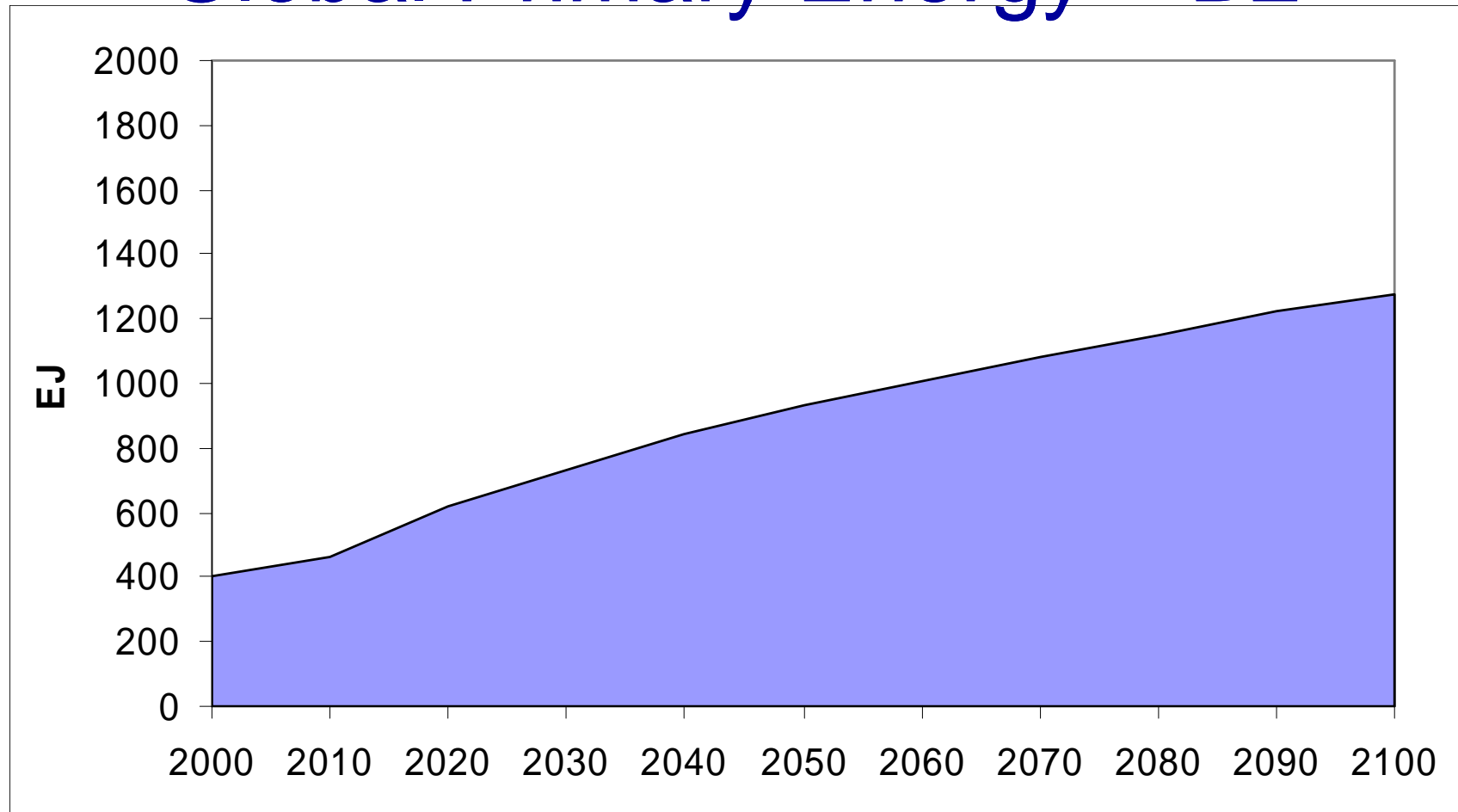
Population



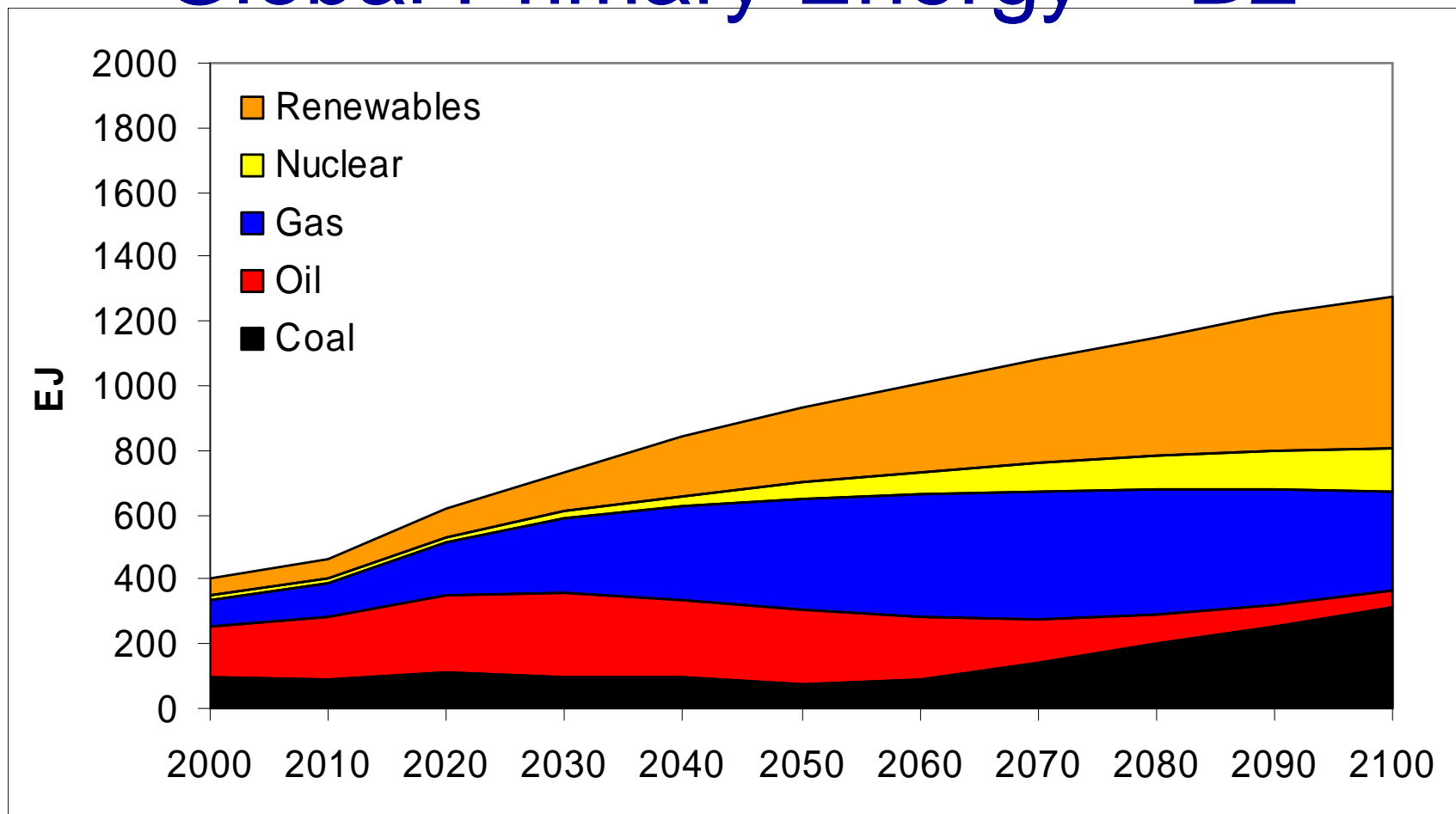
Gross Domestic Product (MER)



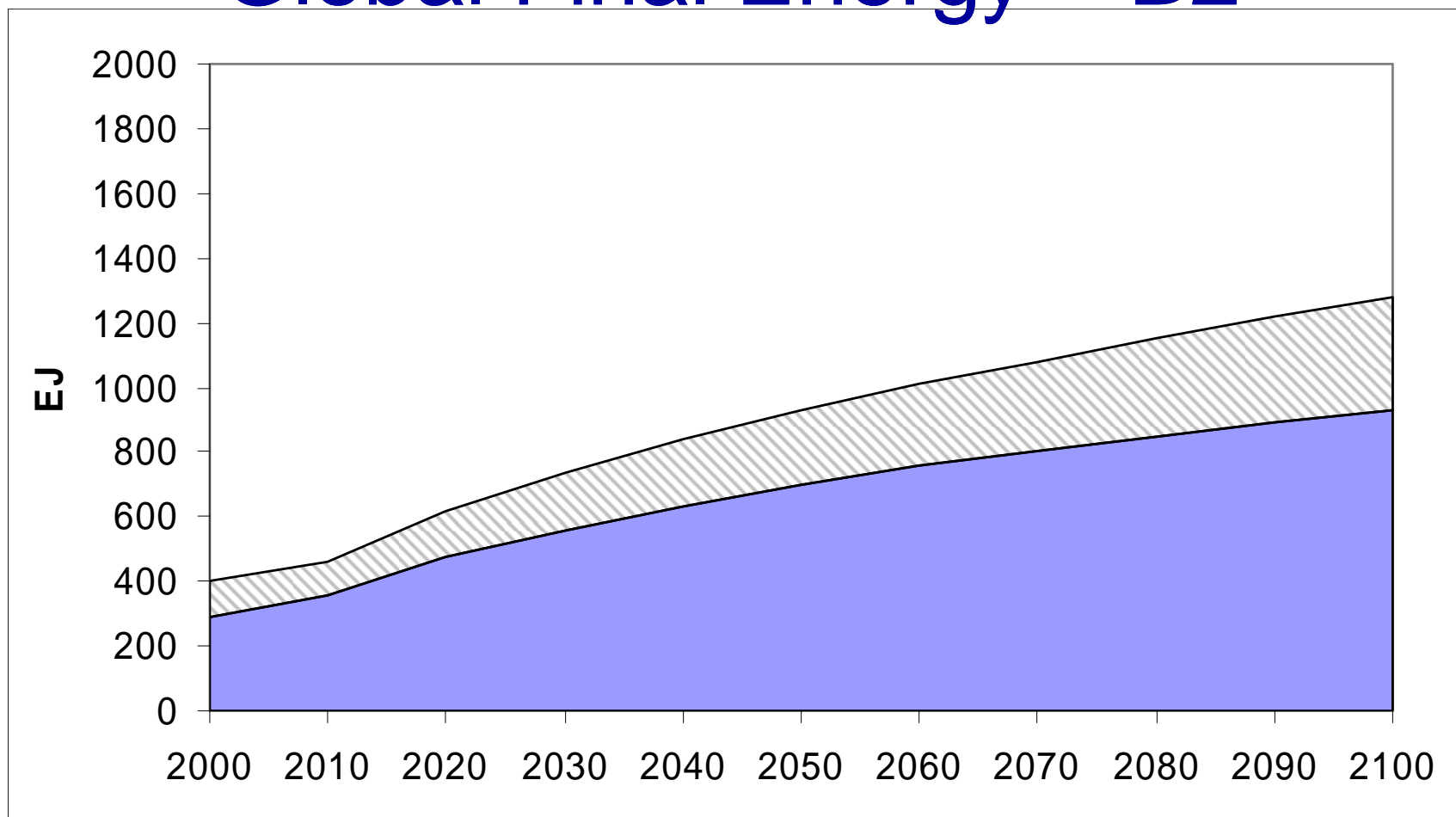
Global Primary Energy – B2



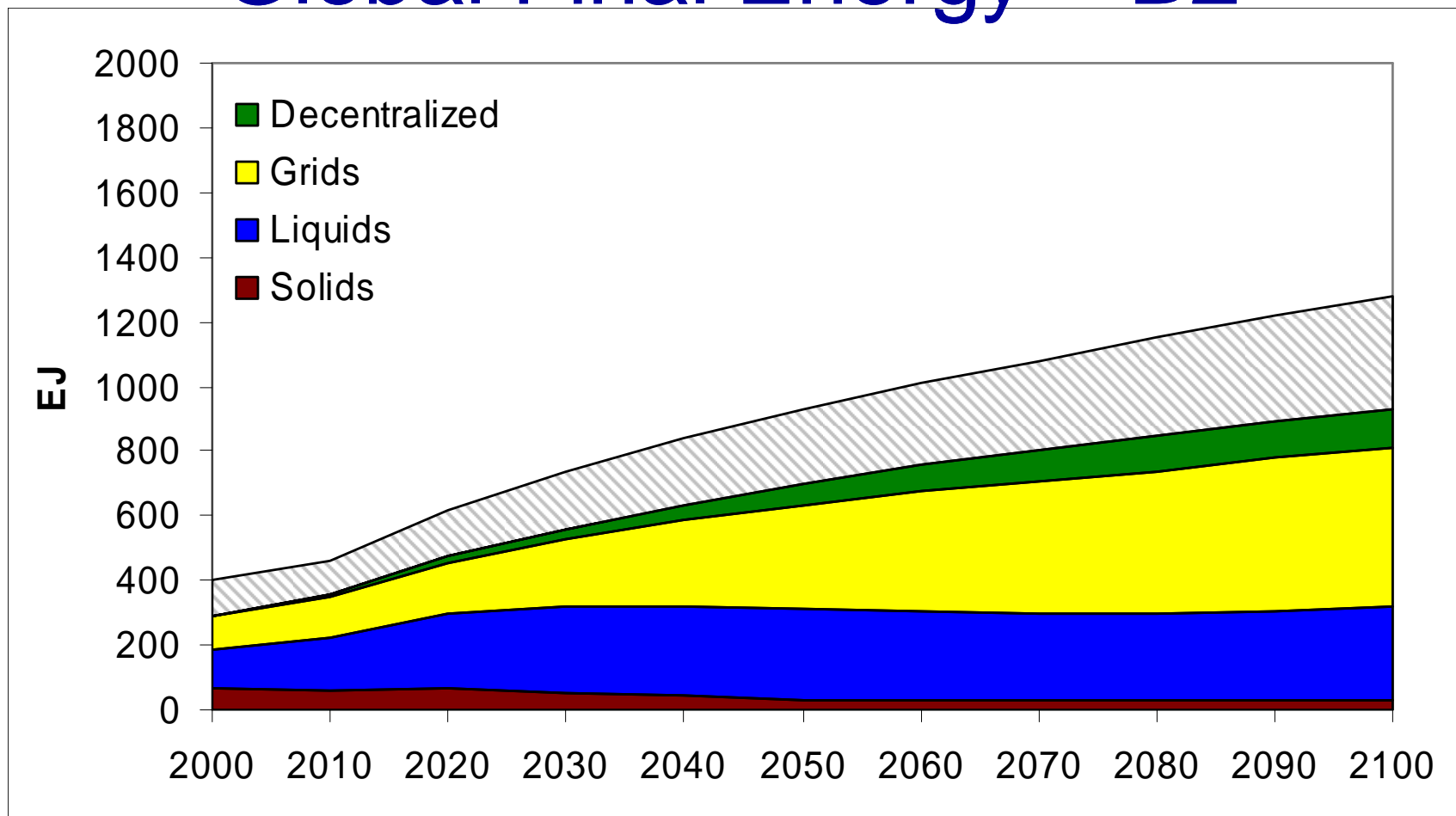
Global Primary Energy – B2



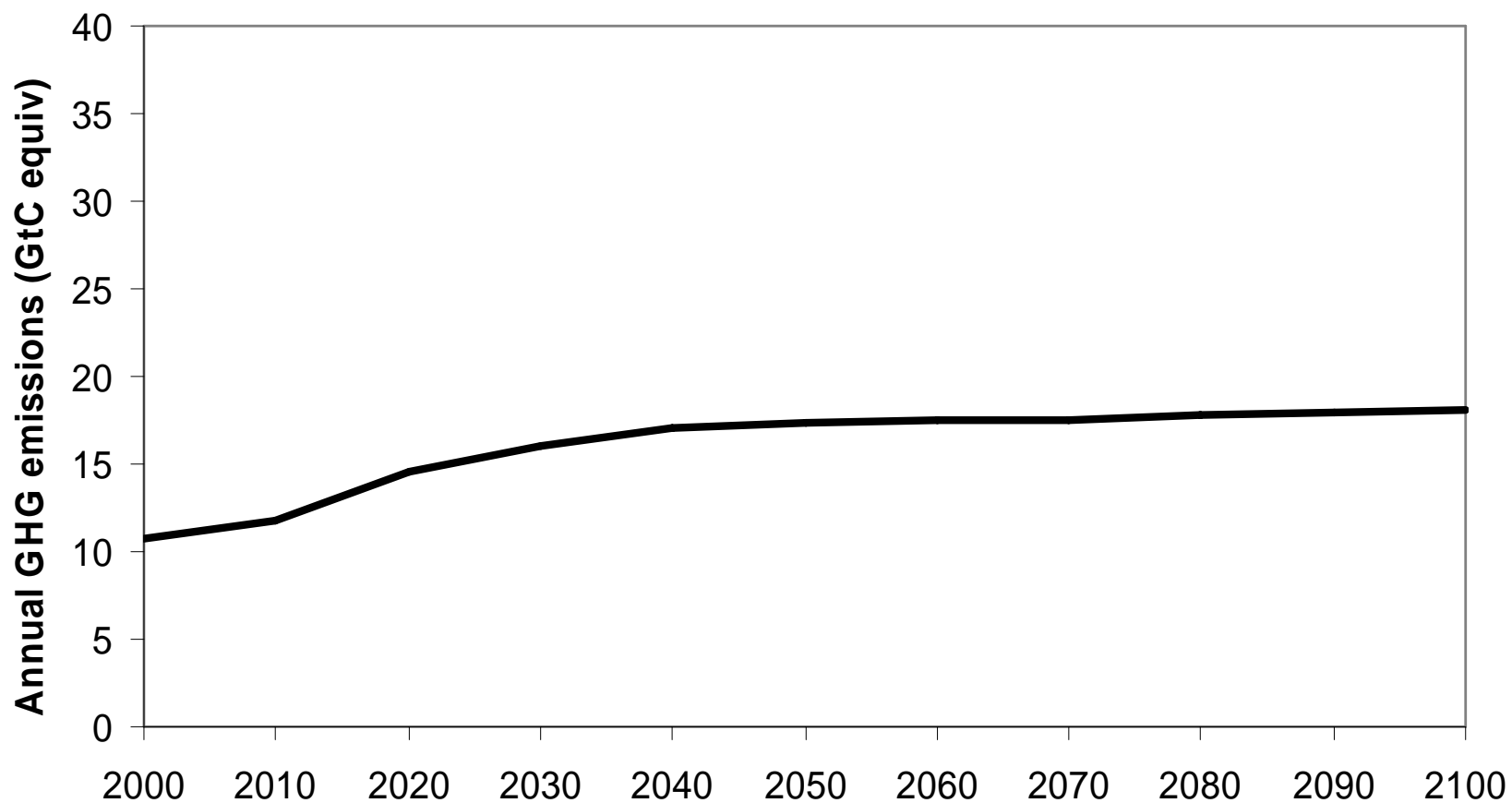
Global Final Energy – B2



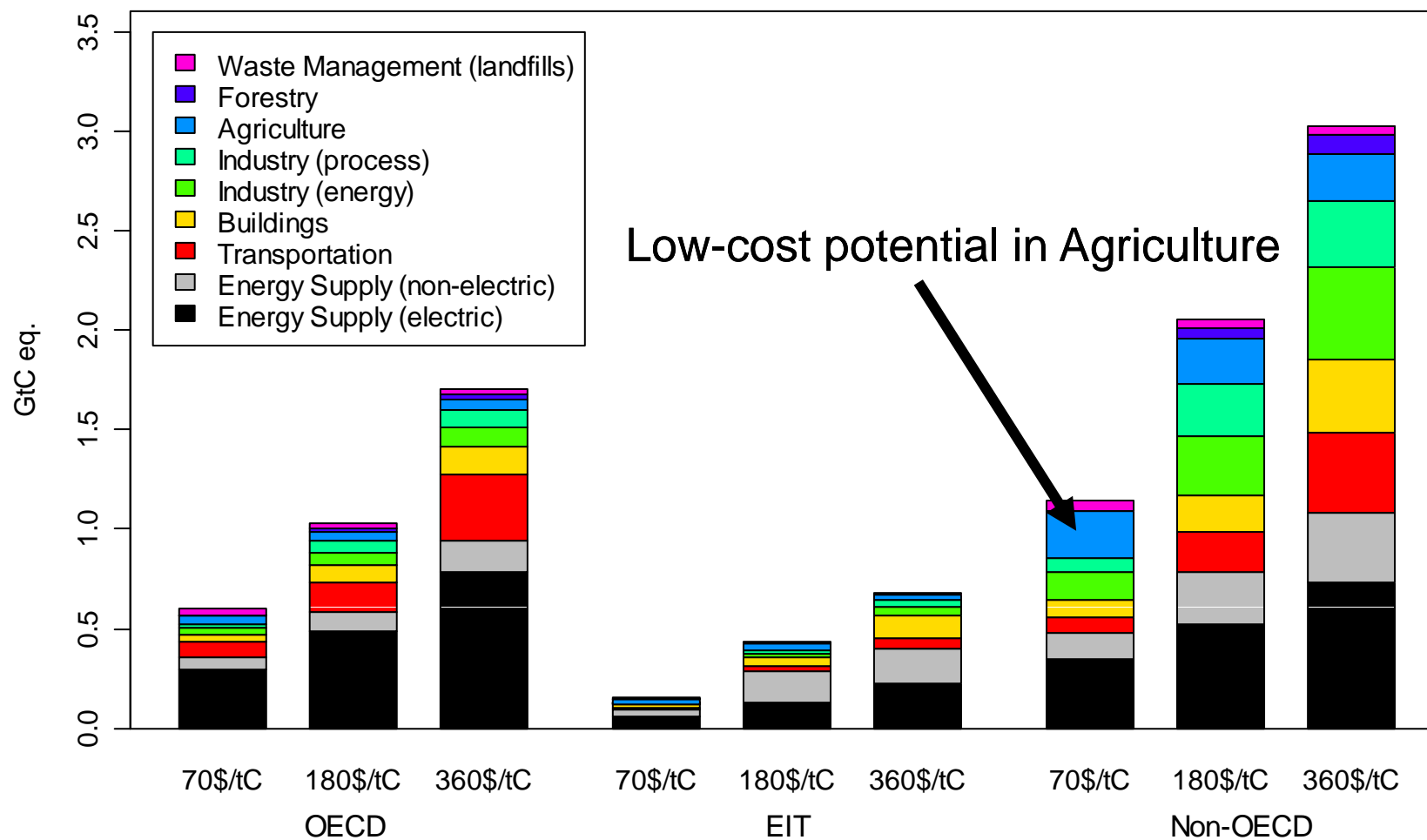
Global Final Energy – B2



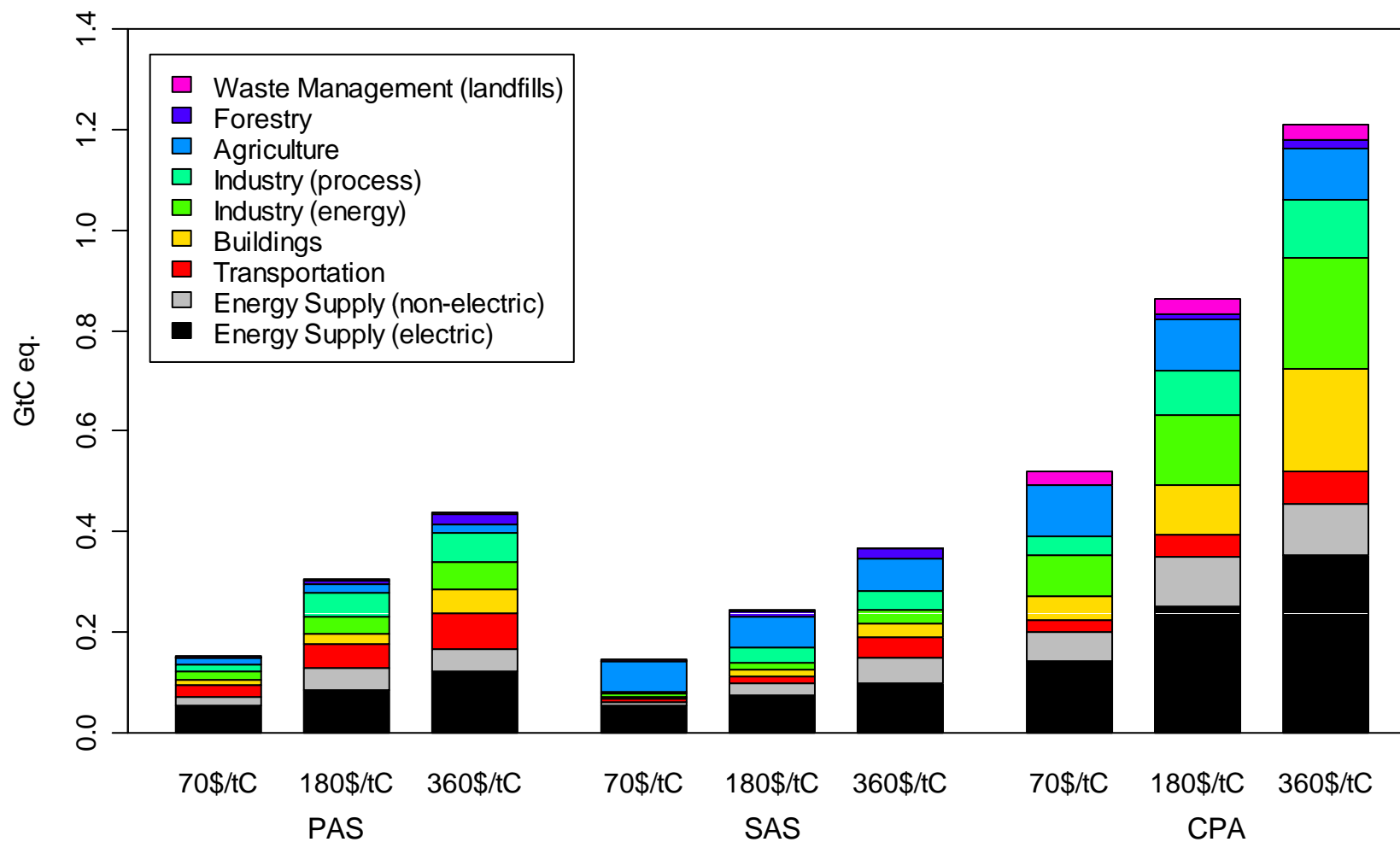
Global GHG Emissions – B2



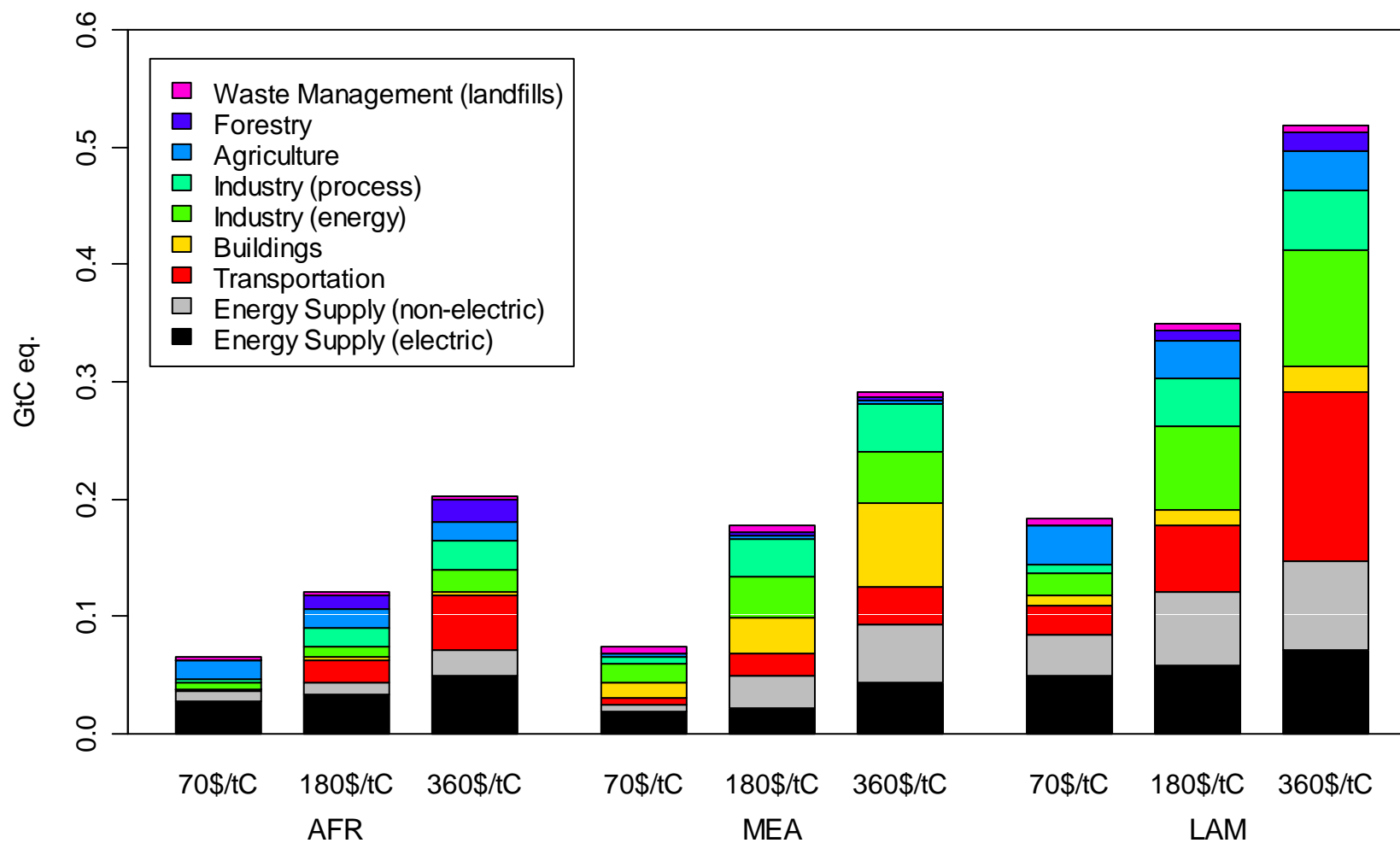
B2 GHG Mitigation Potentials by 2020



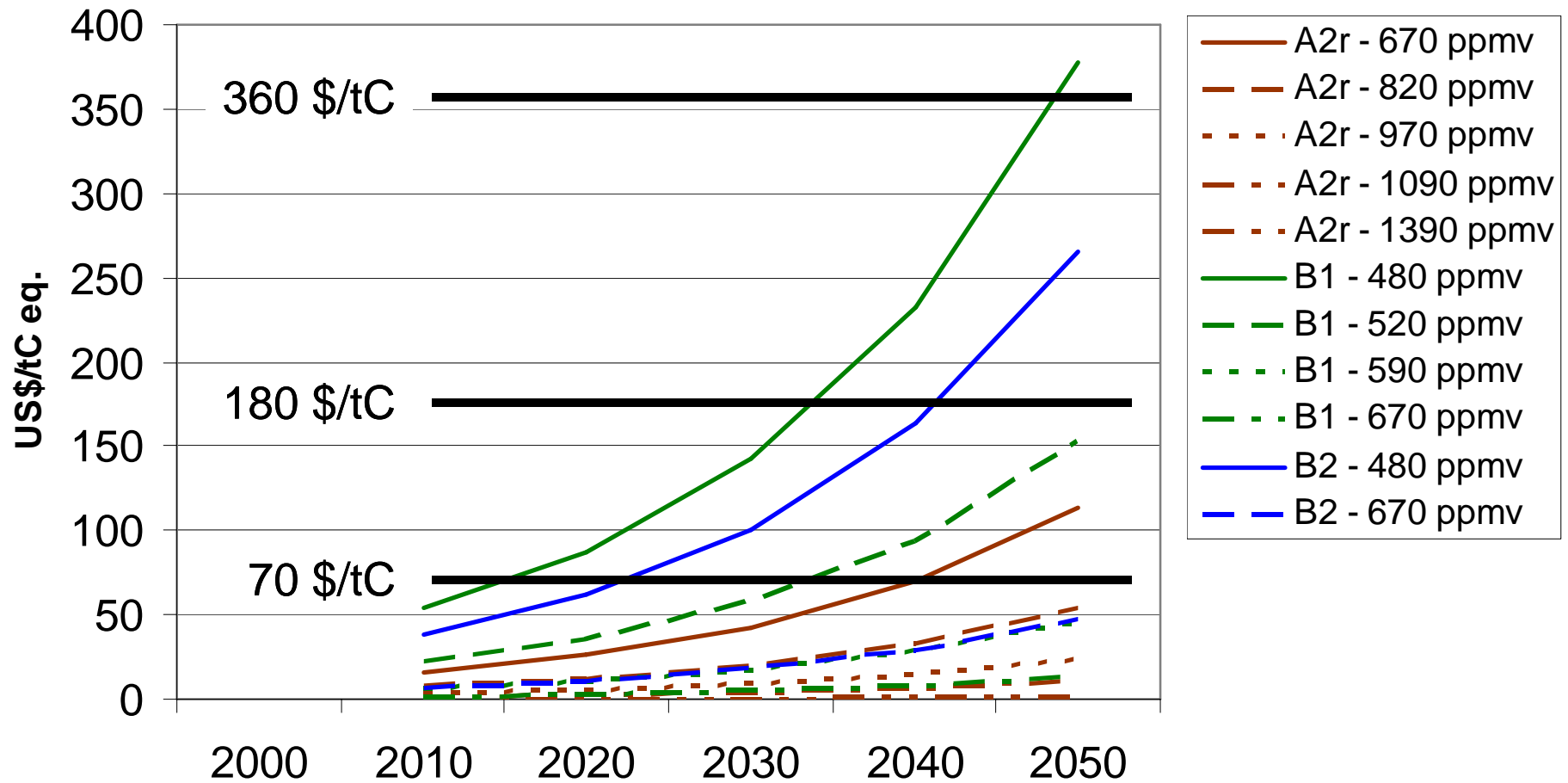
B2 GHG Mitigation Potentials by 2020



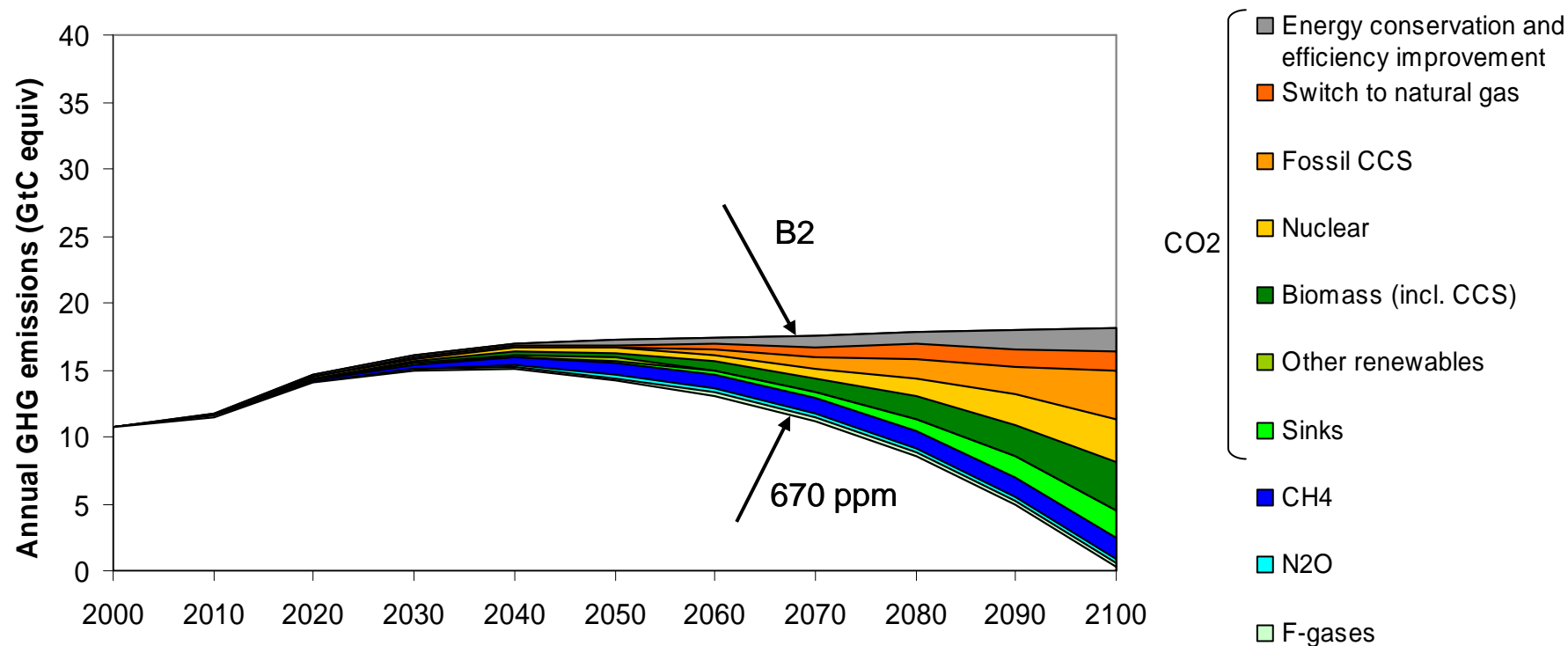
B2 GHG Mitigation Potentials by 2020



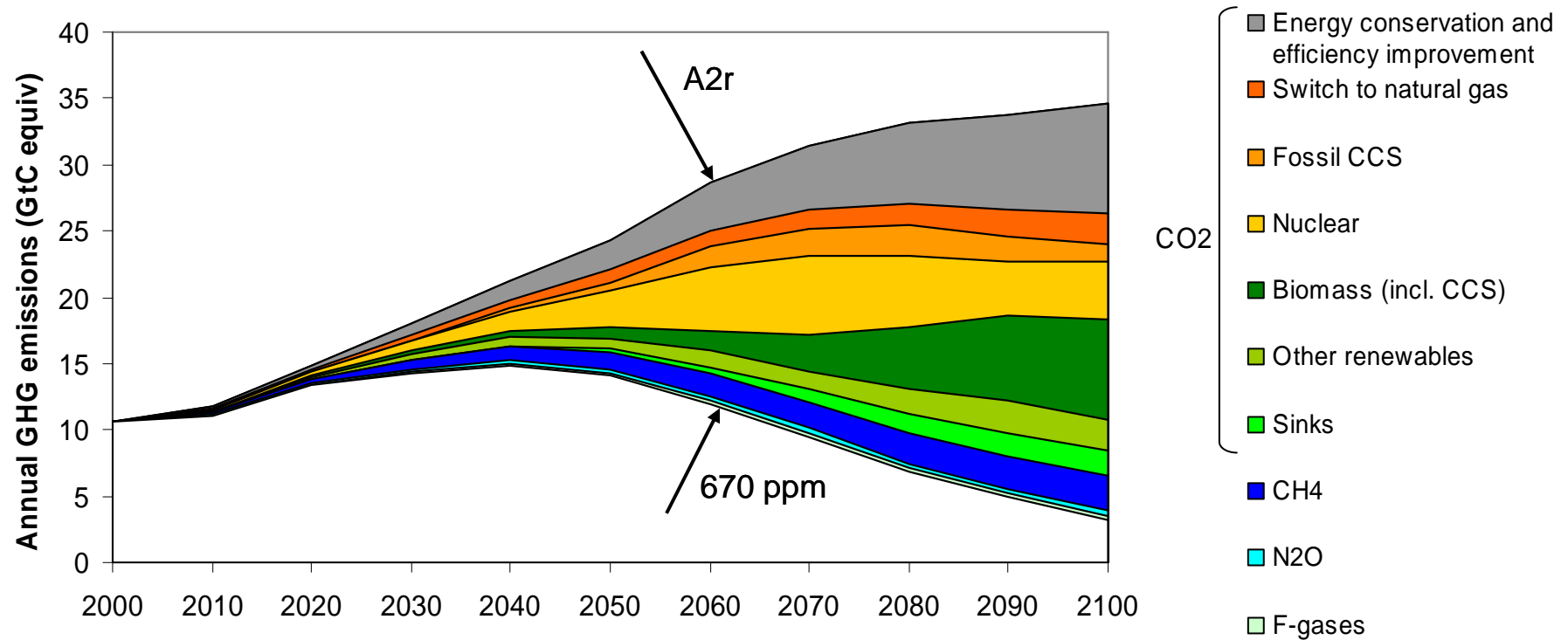
GHG Marginal Abatement Costs



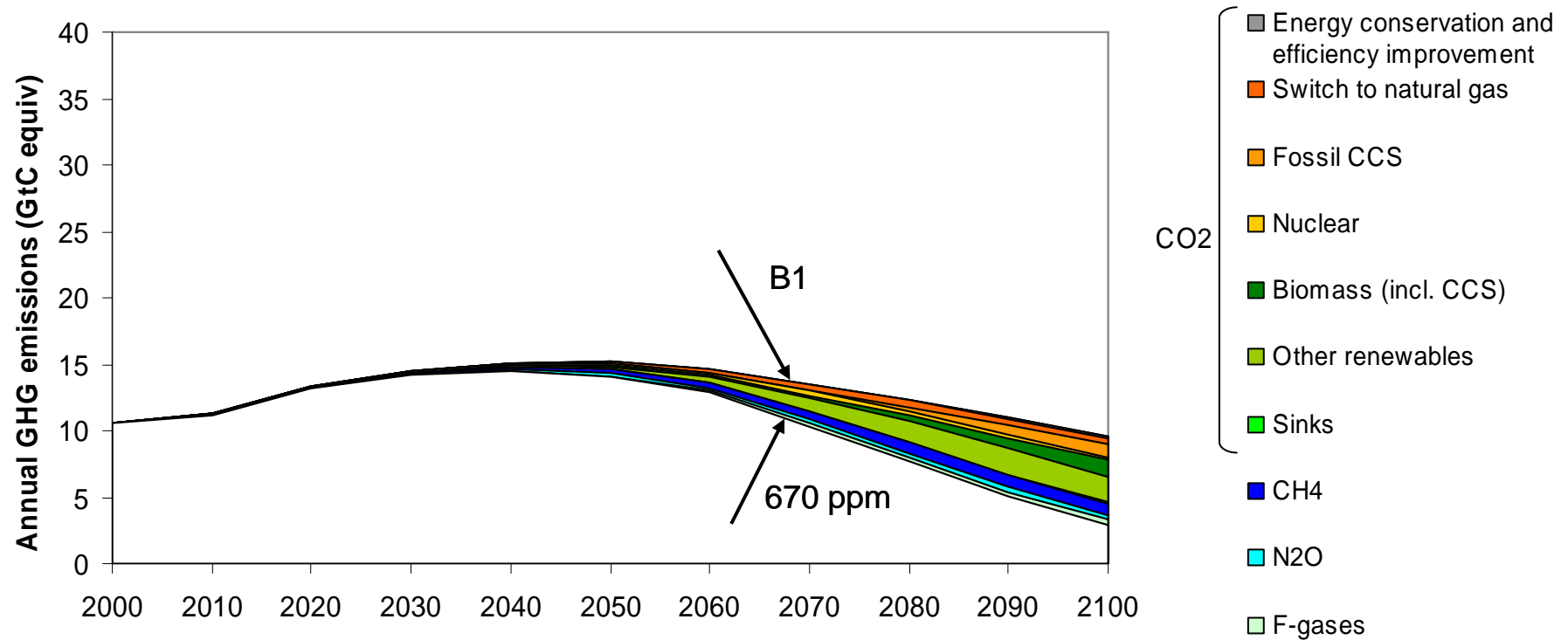
Global GHG Emissions: IIASA B2



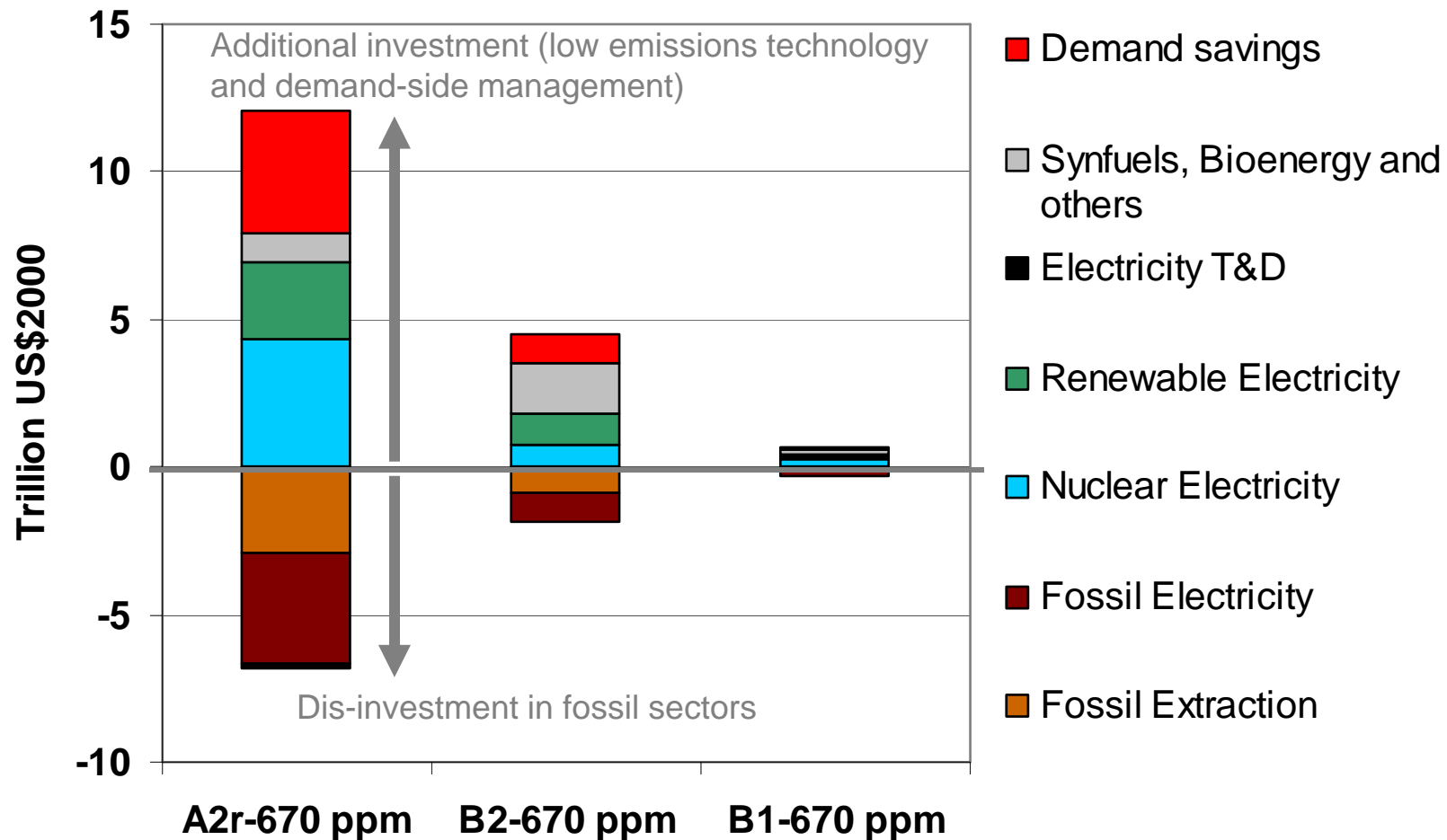
Global GHG Emissions: IIASA A2r



Global GHG Emissions: IIASA B1

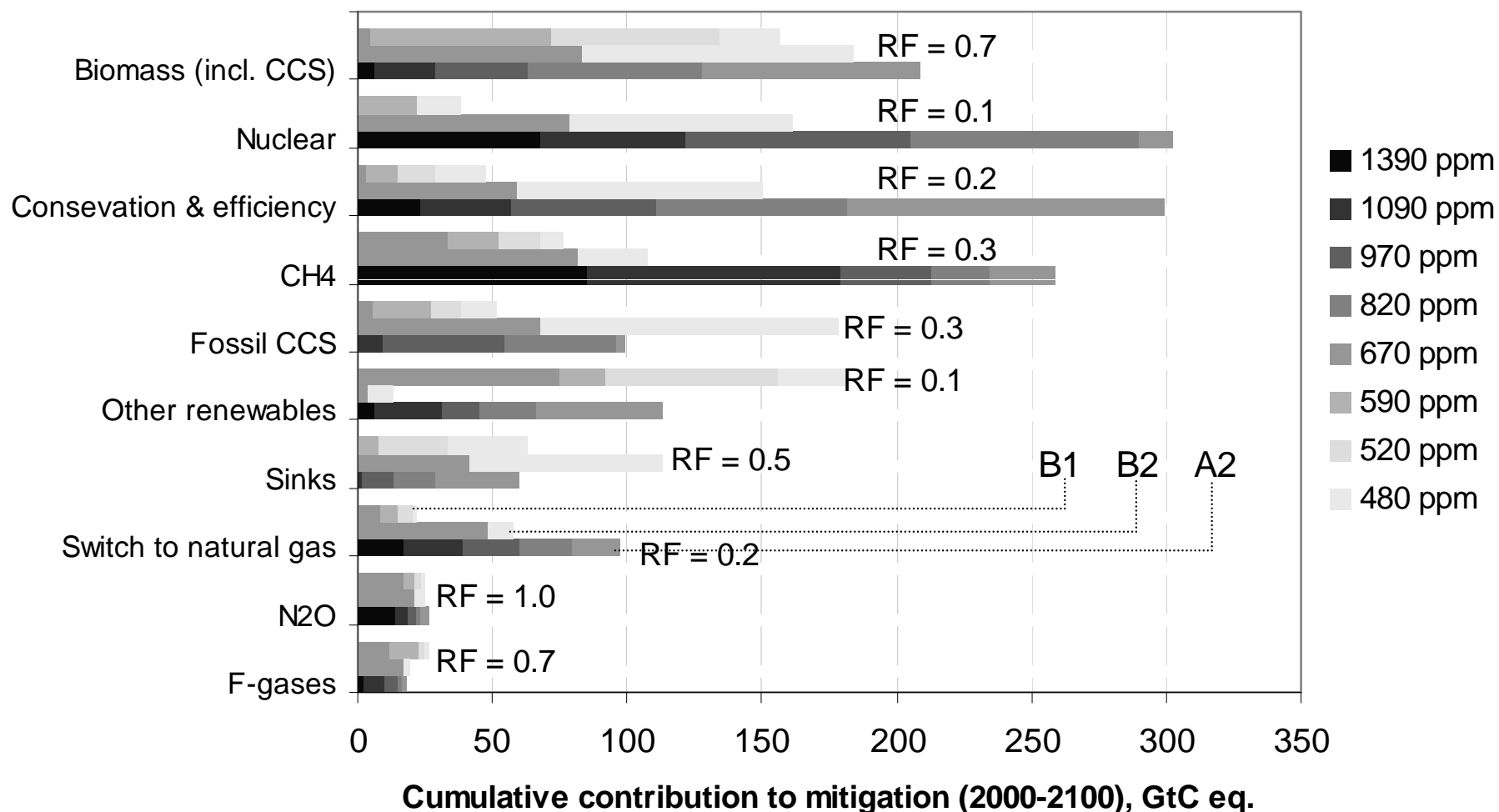


Changes of Investment Needs due to Climate Policy (2000-2050)



Emissions & Reduction Measures

Principal technology (clusters) and stabilization targets



Uncertainties in Mitigation Potentials

- Parametric Uncertainties:
 - Scenario assumptions: Population, Economy, ...
 - Technological Change
 - Baseline Uncertainty (low vs. high baseline emissions)
- Methodological Uncertainties:
 - Modeling Paradigm
 - Static vs. Dynamic
 - Timing (annual vs. cumulative GHG emissions)
- Inventory Uncertainties
- Interpretation:
 - Normative vs. Descriptive, ...

Thank You!