RÉDUCTION DES ÉMISSIONS ET STOCKAGE GÉOLOGIQUE DU CO_2
15-16 septembre 2005

"Scénarios alternatifs d'utilisation de l'énergie et émissions de CO_2 "

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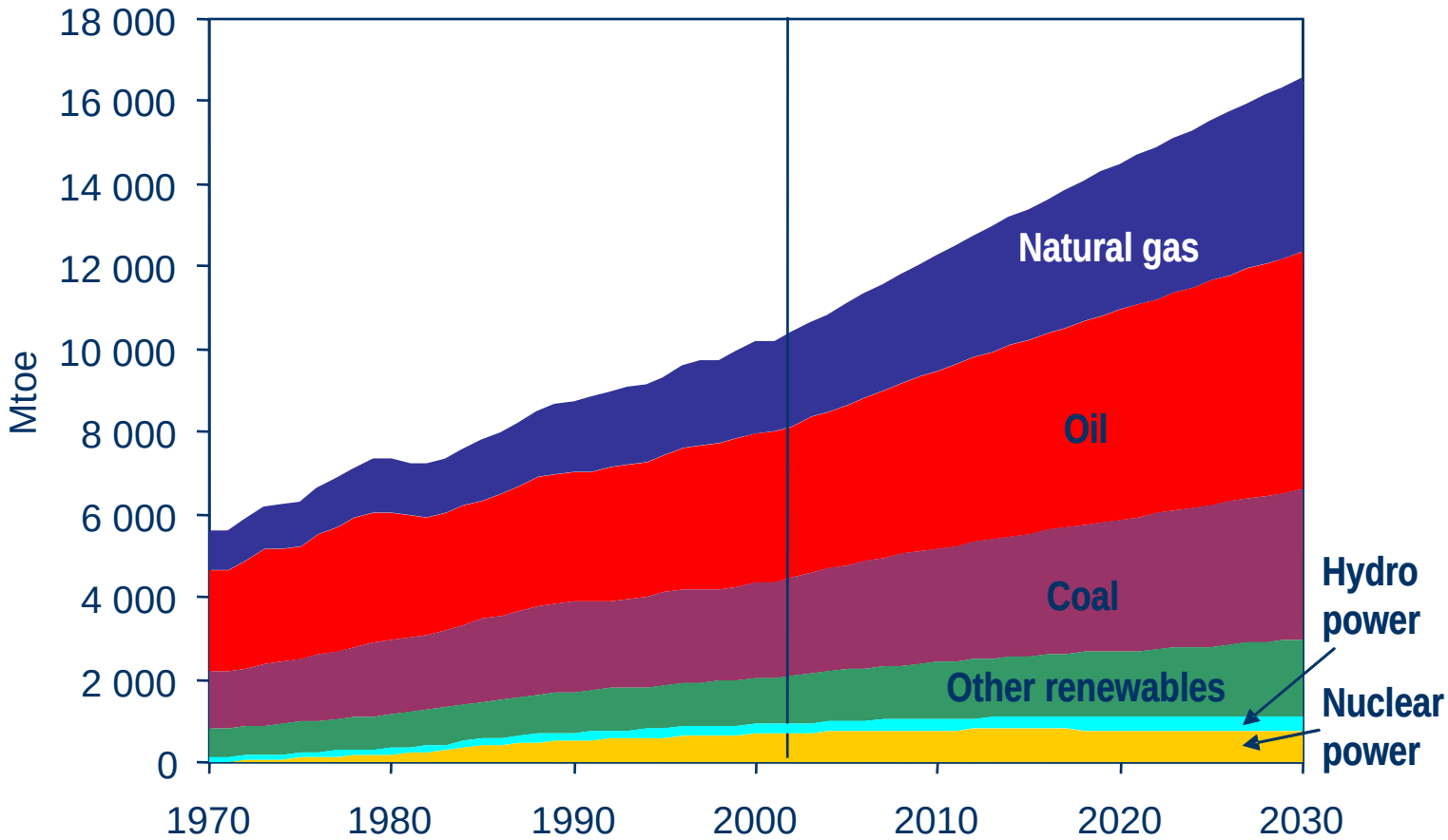
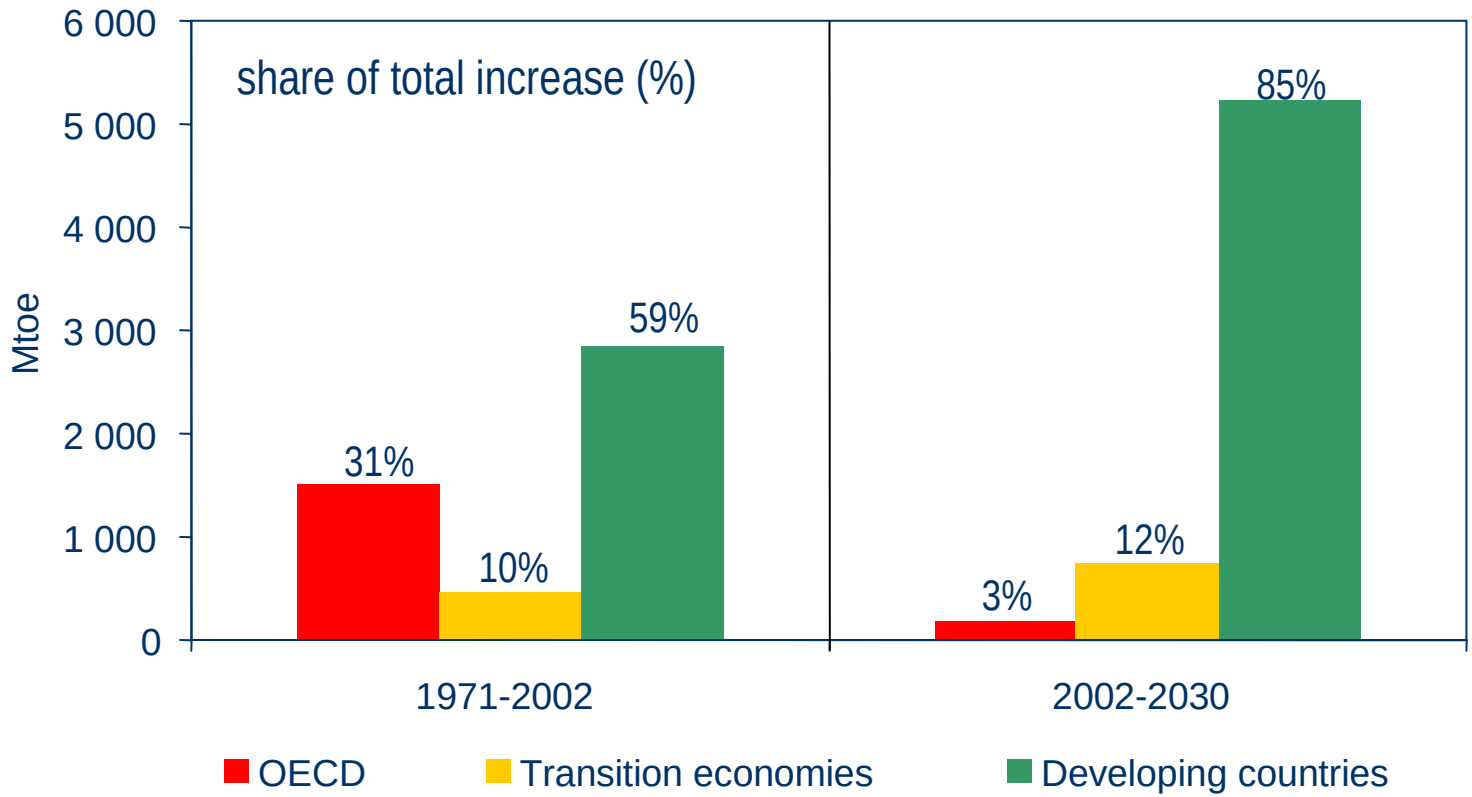
World Primary Energy Demand



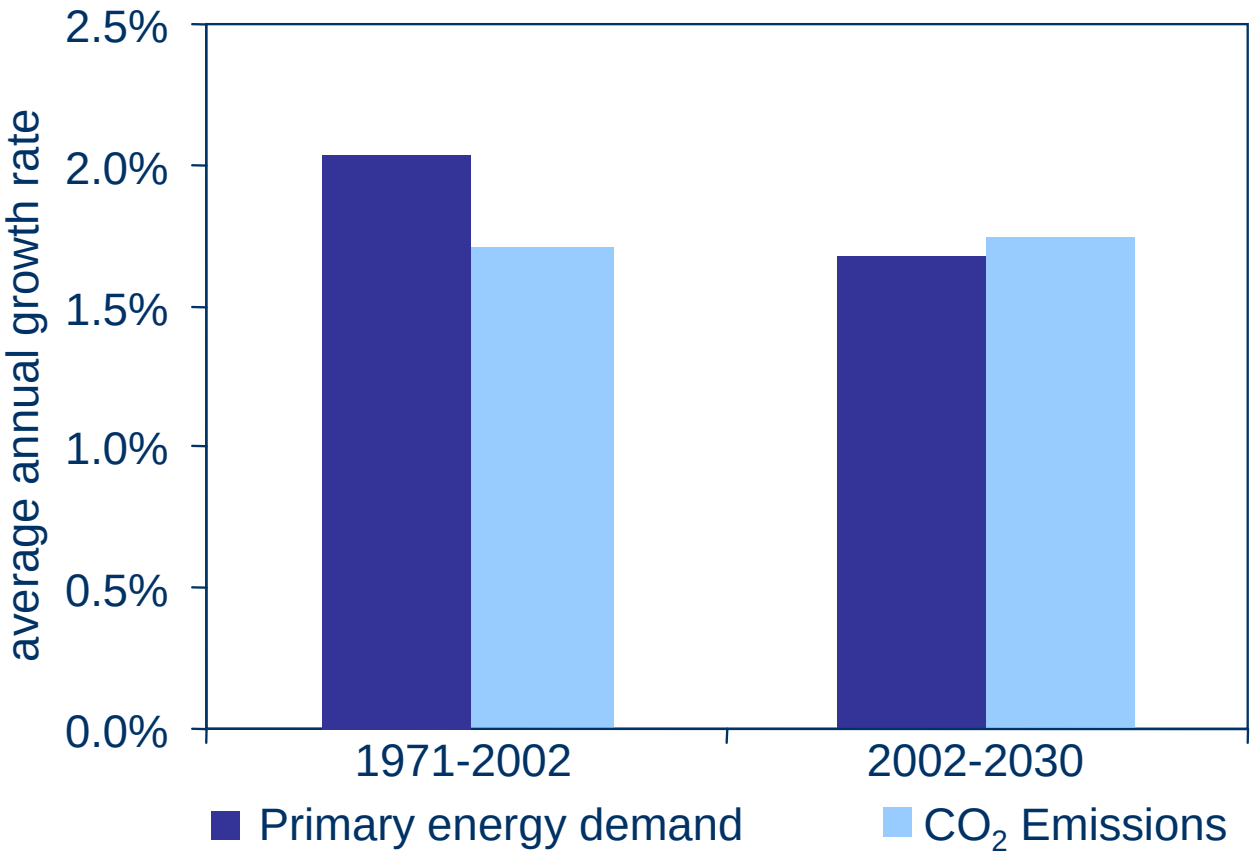
Fossil fuels will continue to dominate the global energy mix, while oil remains the leading fuel

Increase in World Primary Energy Production by Region



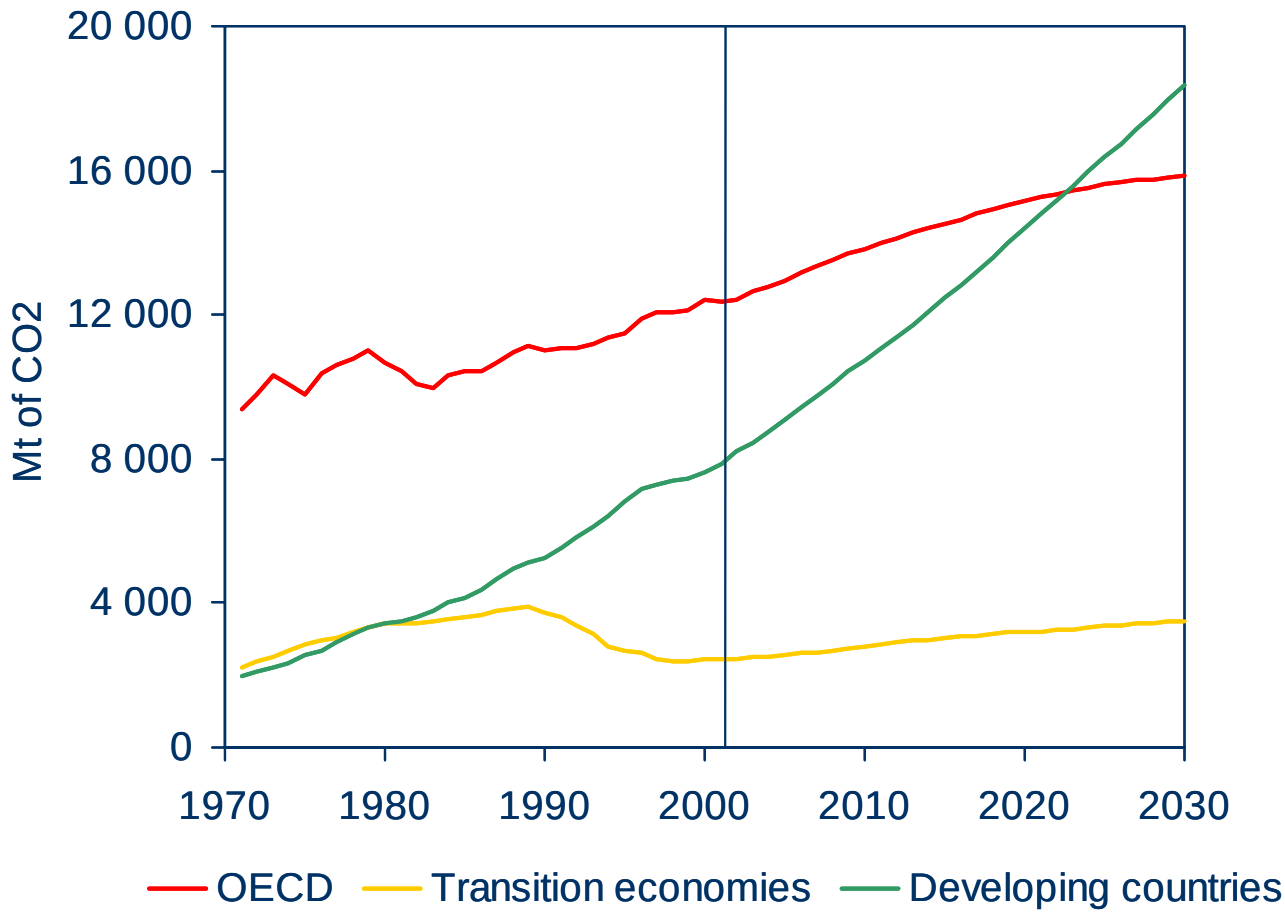
Almost all the increase in production to 2030 occurs outside the OECD

Growth in World Energy Demand and CO_2 Emissions



Average carbon content of primary energy increases slightly through 2030 – in contrast to past trends

World Energy-Related CO_2 Emissions

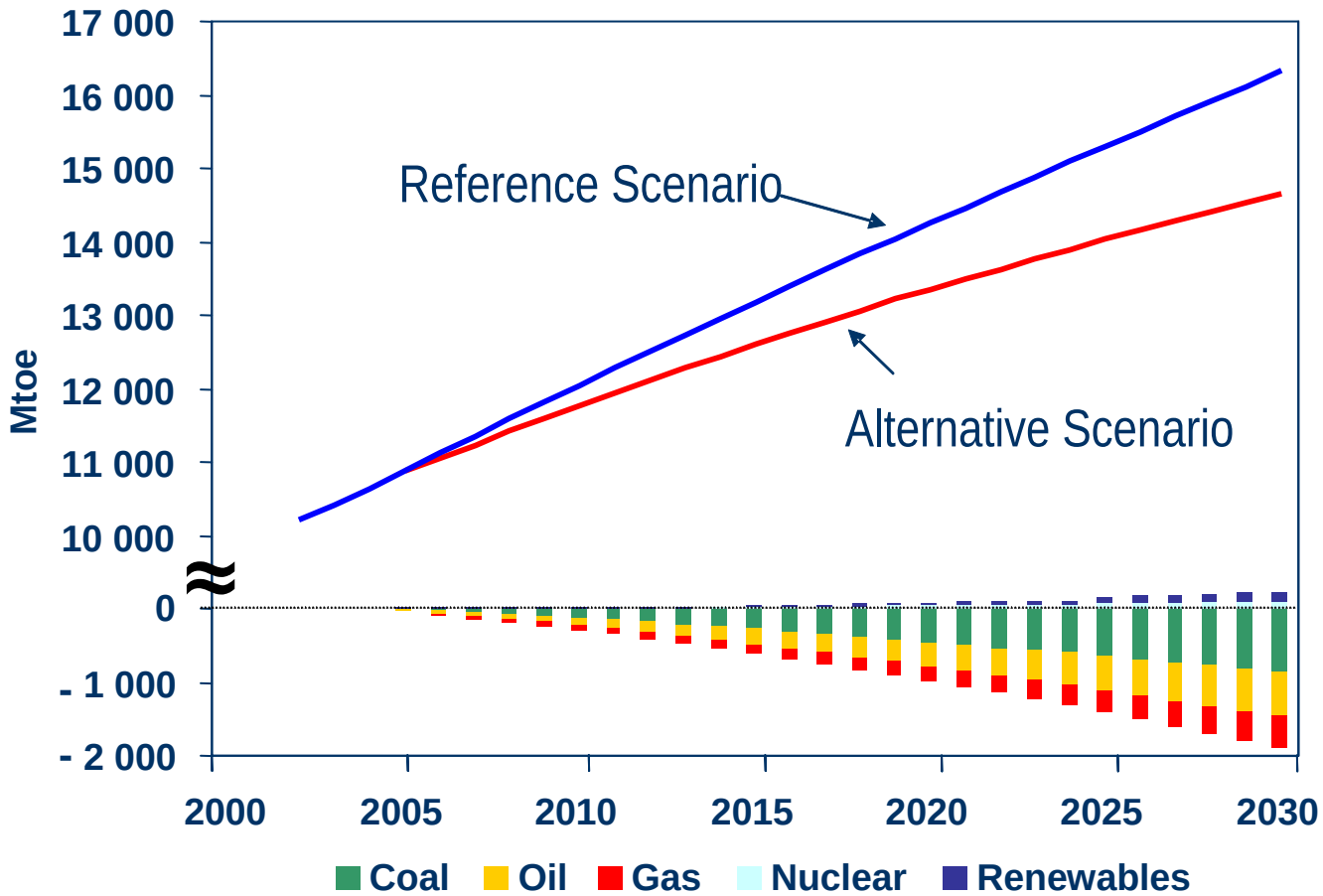


Global emissions grow 62% between now & 2030, with developing countries' emissions overtaking OECD's in the 2020s

World Alternative Policy Scenario

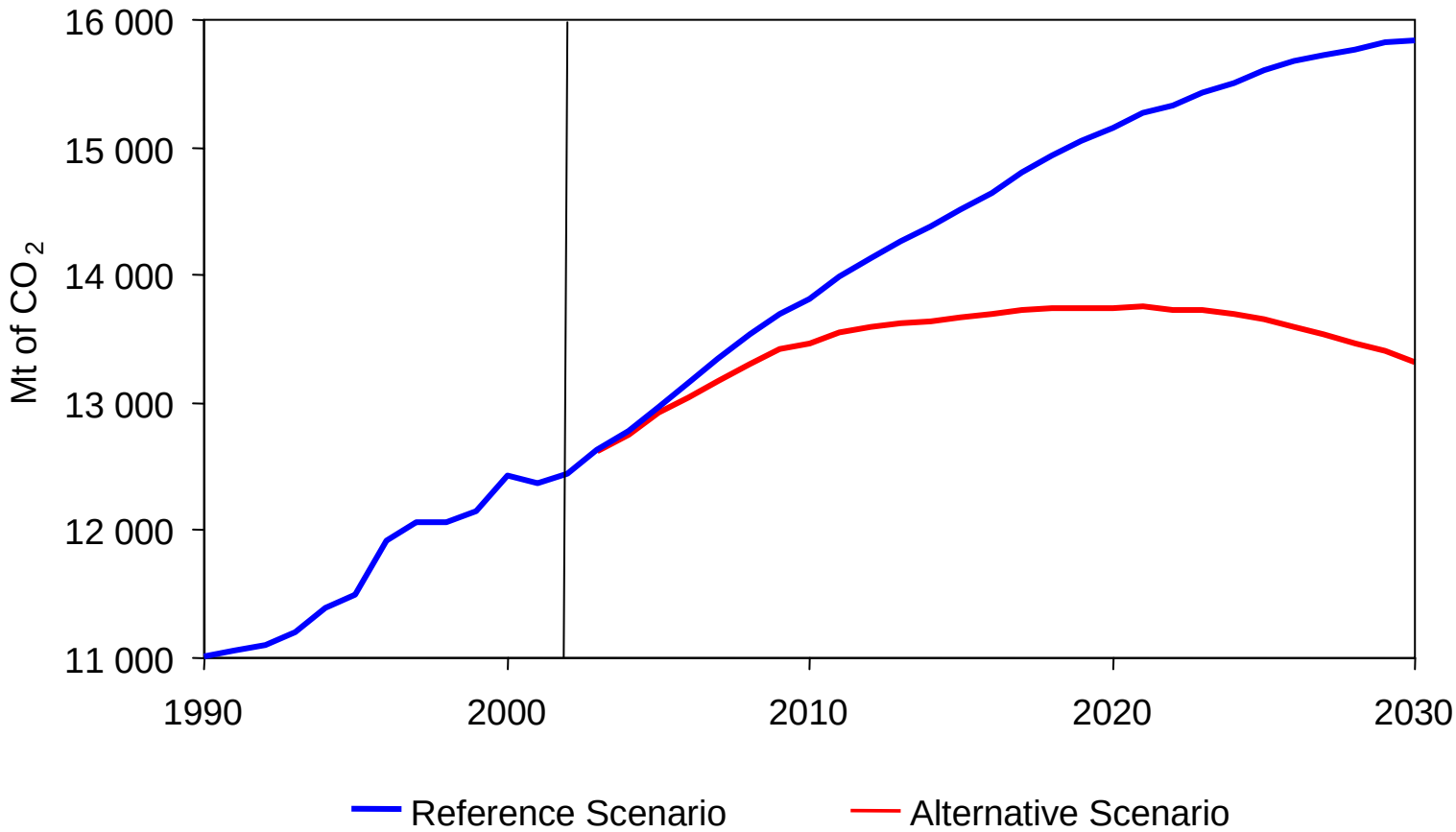
- Analyses impact of new environmental & energy-security policies worldwide
  - OECD: Policies currently under consideration
  - Non-OECD: Also includes more rapid declines in energy intensity resulting from faster deployment of more-efficient technology
- Impact on fuel mix, CO_2 emissions & investment needs
- Basic macroeconomic & population assumptions as for Reference Scenario, but energy prices change

World Primary Energy Demand in Reference & Alternative Scenarios



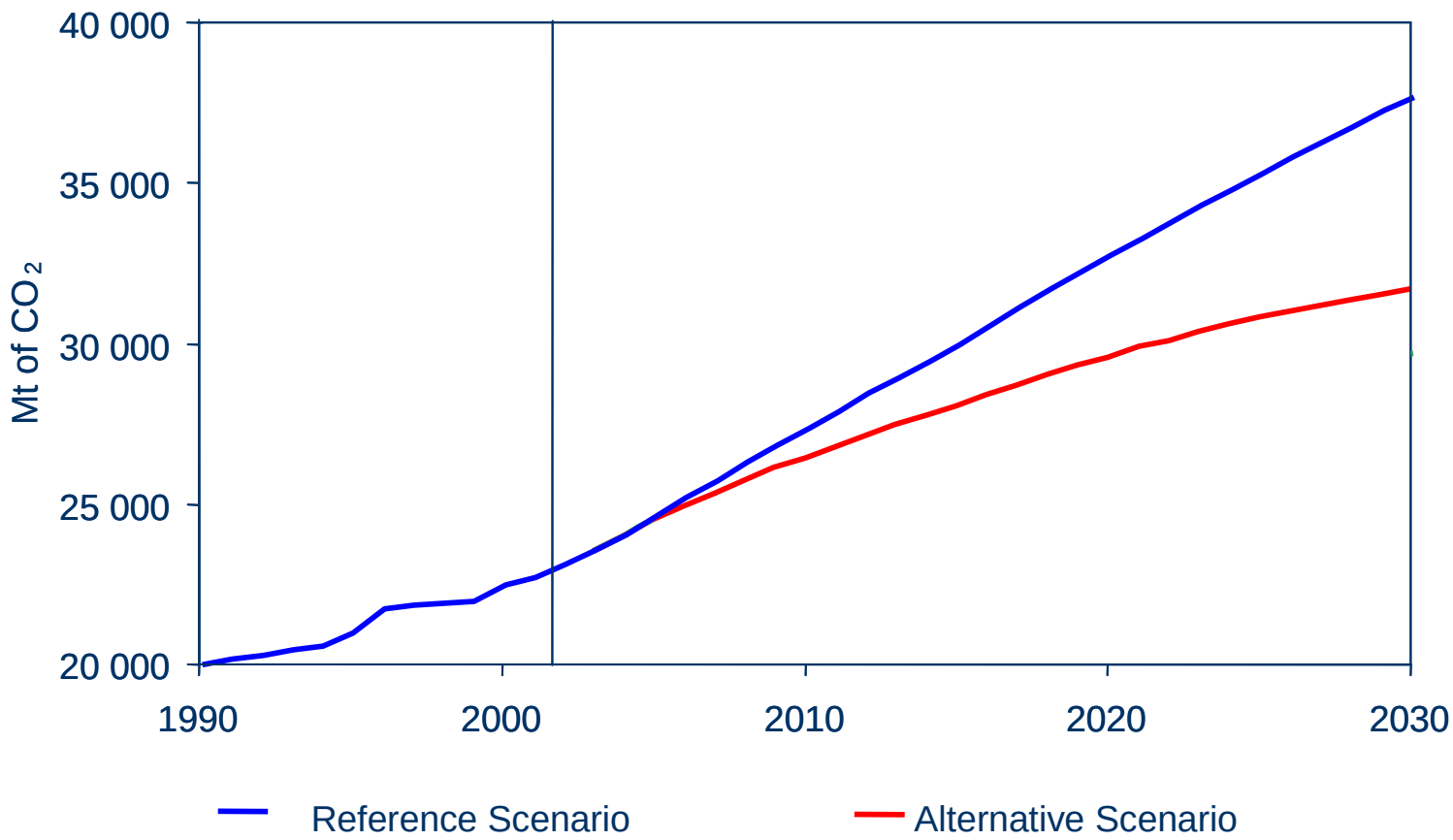
Global primary energy demand is about 10% lower in 2030 than in the Ref. Scenario. The reduction in demand for fossil fuels is even more pronounced.

OECD CO_2 Emissions in the Reference and Alternative Scenarios



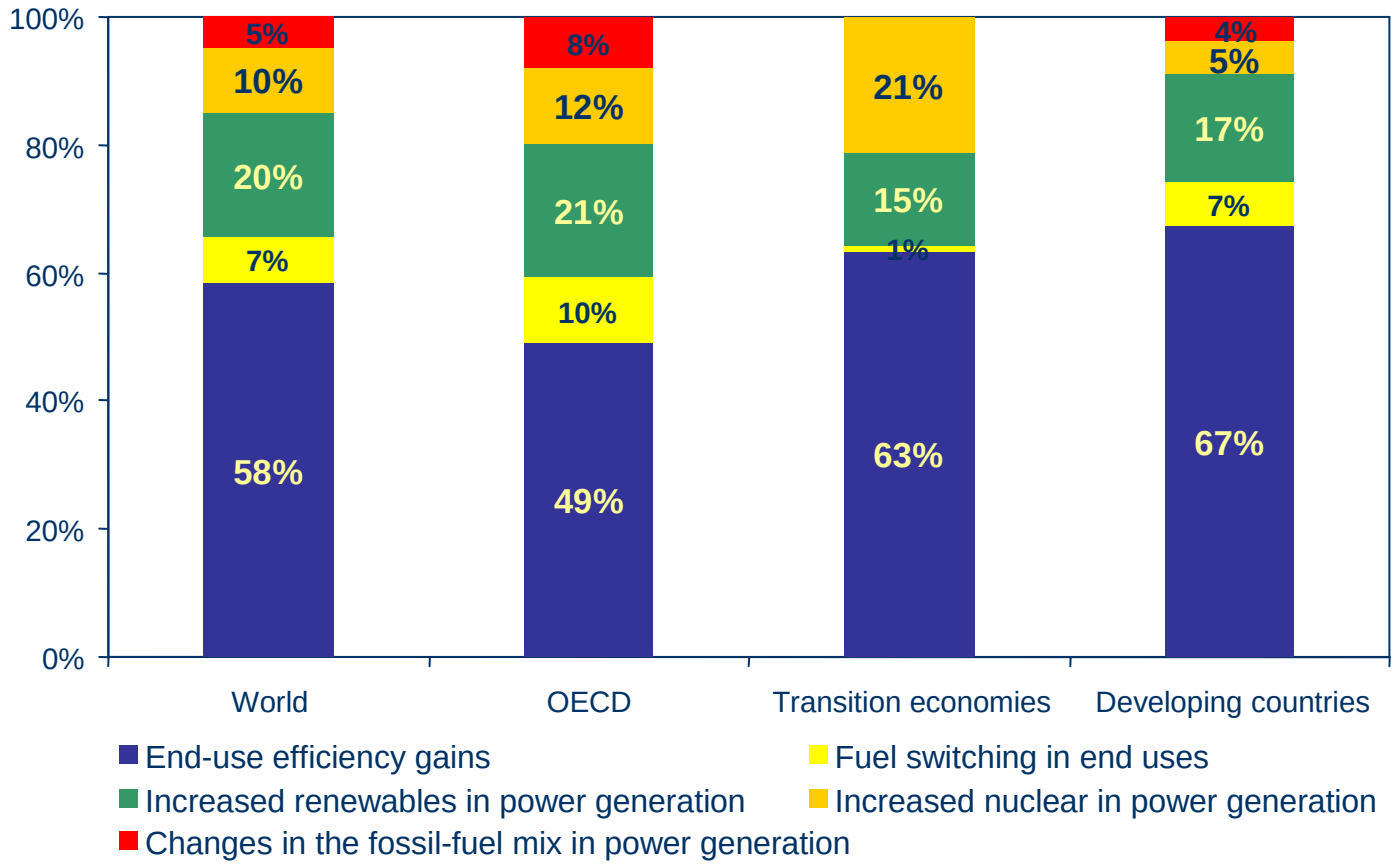
OECD CO_2 emissions peak around 2020, 25% higher than in 1990

Global CO_2 Emissions in the Reference & Alternative Scenarios



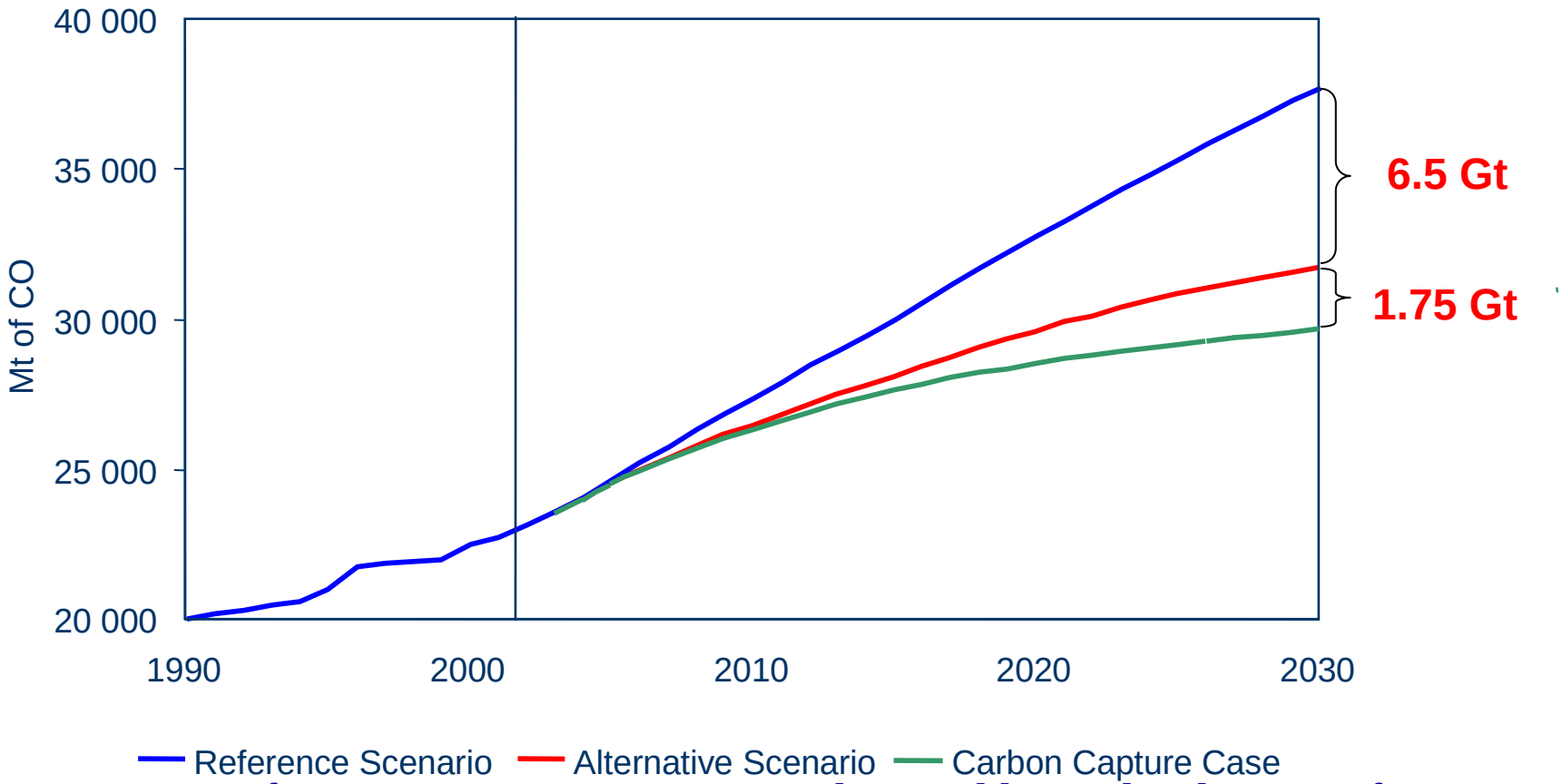
CO_2 emissions are 16% less in the Alternative Scenario in 2030

Contributory Factors in CO_2 Reduction Alternative vs. Reference Scenario, 2002-2030



Improvements in end-use efficiency contribute for more than half of decrease in emissions

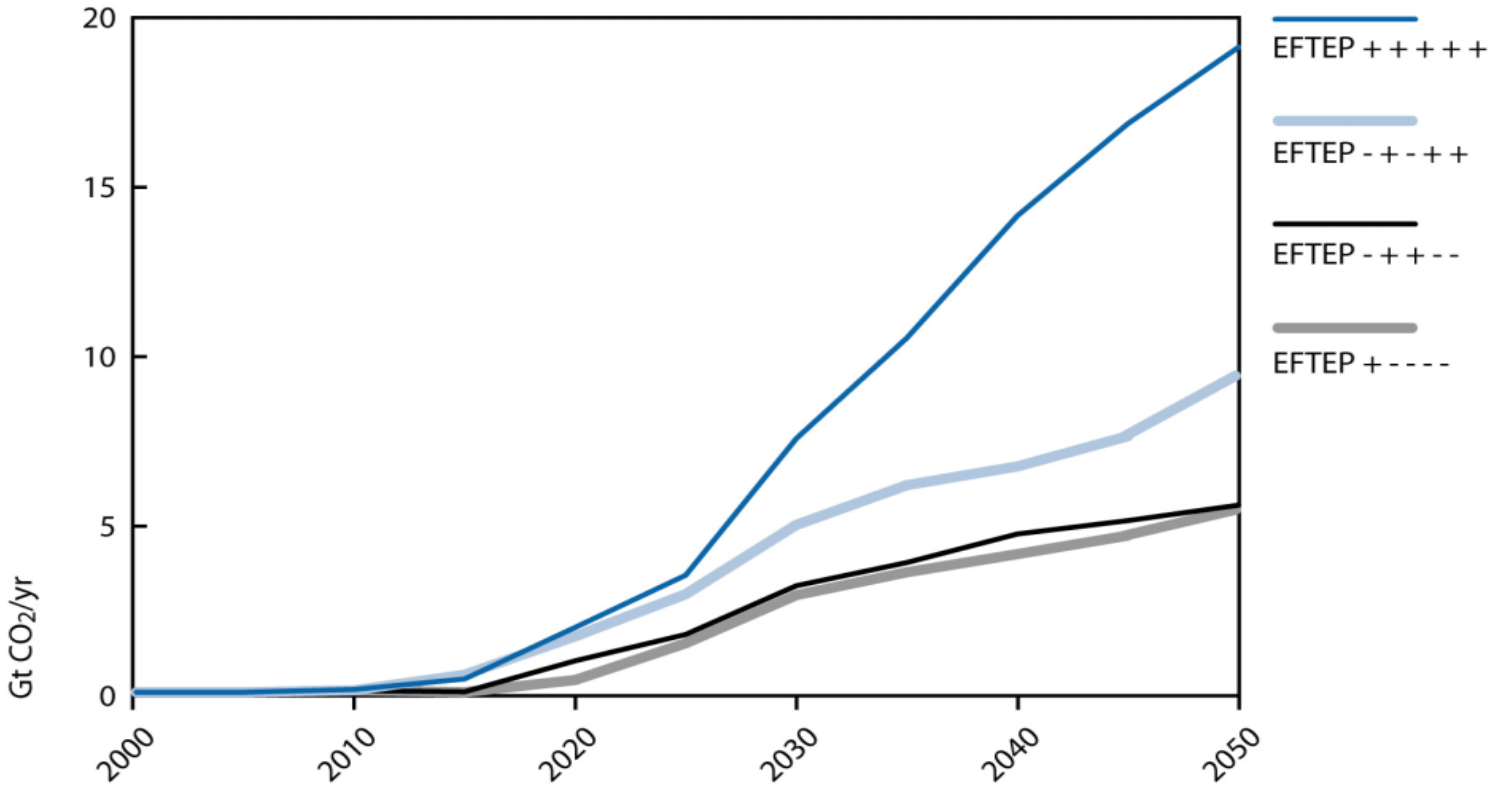
Beyond the IEA WEO Alternative Scenario
Global Energy-Related CO_2 Emissions



CCS in 5% of power capacity in 2030 results in additional reduction of emissions by 1.75 Gt of CO_2 .

Capture of CO_2

Scenarios from "*Prospects for CO_2 Capture and Storage", IEA 2004*



Scenarios favourable for CCS show between 5-19 Gt of CO_2 captured in 2050.

Concluding remarks

- Very advanced energy technologies under development today could radically curb CO_2 emissions;
- Among these technologies, carbon capture and storage and also advanced nuclear reactors appear most likely to change the long-term energy outlook;
- Carbon capture and storage deployment challenges:
  - Pilot and demonstration plants,
  - Public awareness and acceptance,
  - Legal and regulatory framework,
  - Long-term policy framework and incentives.