

# ***World Energy Outlook 2008***

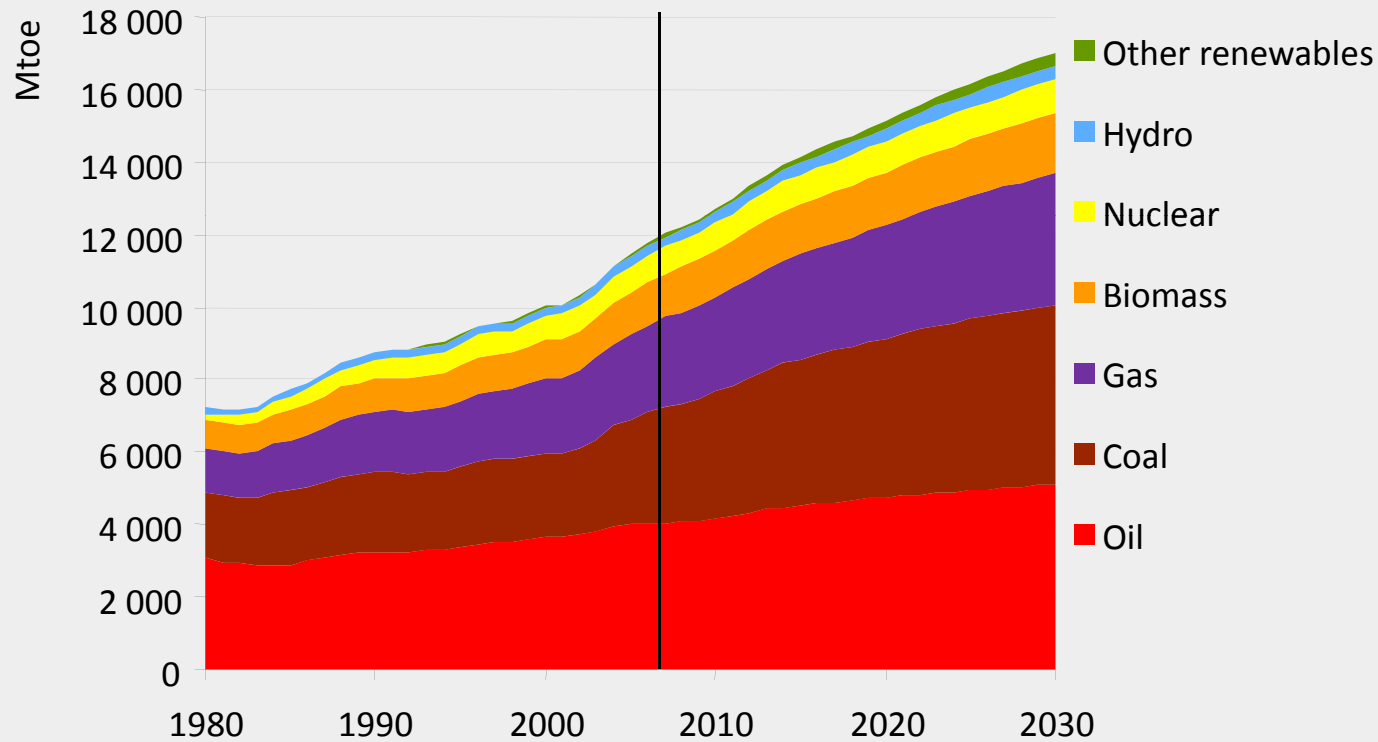
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COP-14, Poznań  
10 December 2008

Paweł Olejarnik  
International Energy Agency

# World primary energy demand in the Reference Scenario: this is unsustainable!

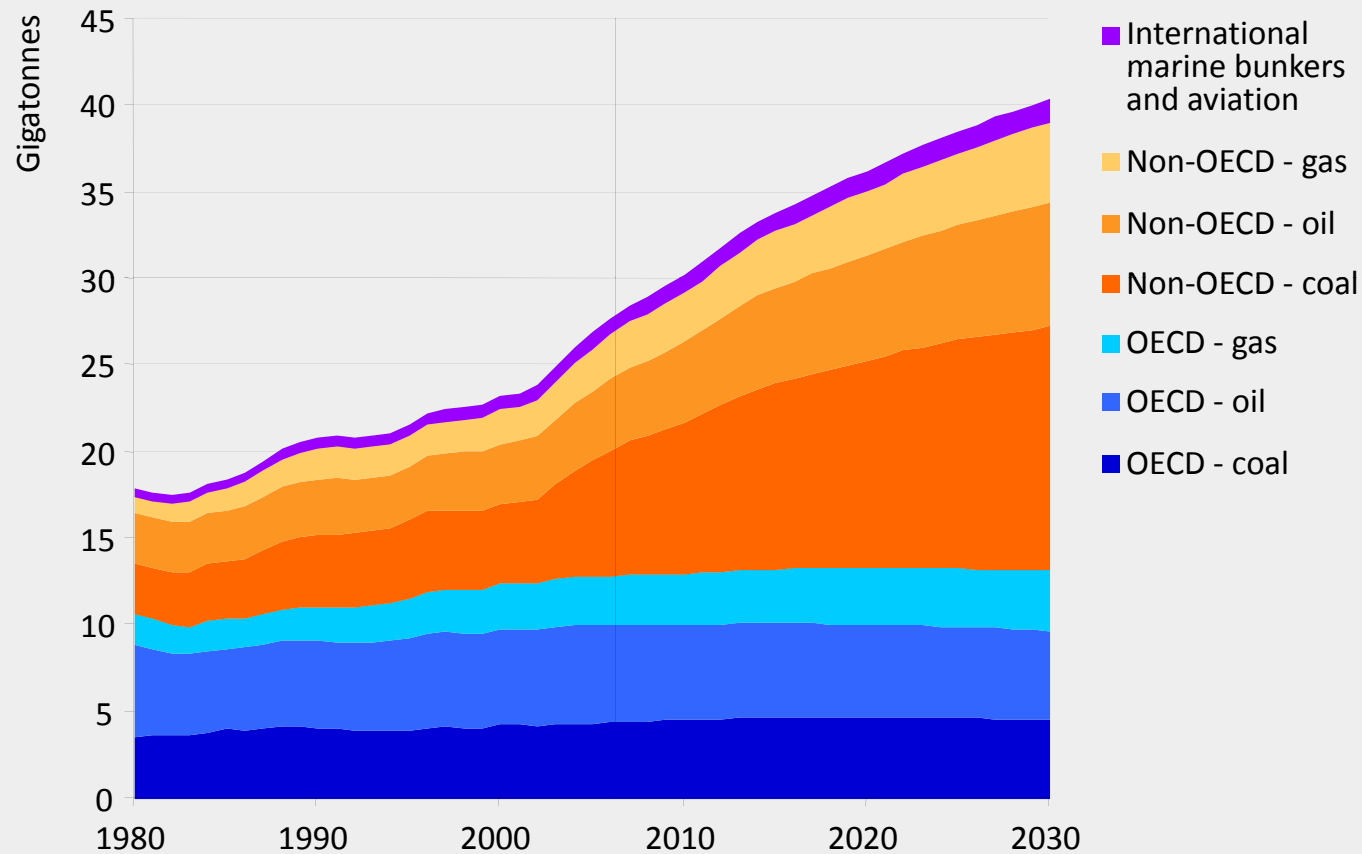
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**World energy demand expands by 45% between now and 2030 – an average rate of increase of 1.6% per year – with coal accounting for more than a third of the overall rise**

# Energy-related CO<sub>2</sub> emissions in the Reference Scenario

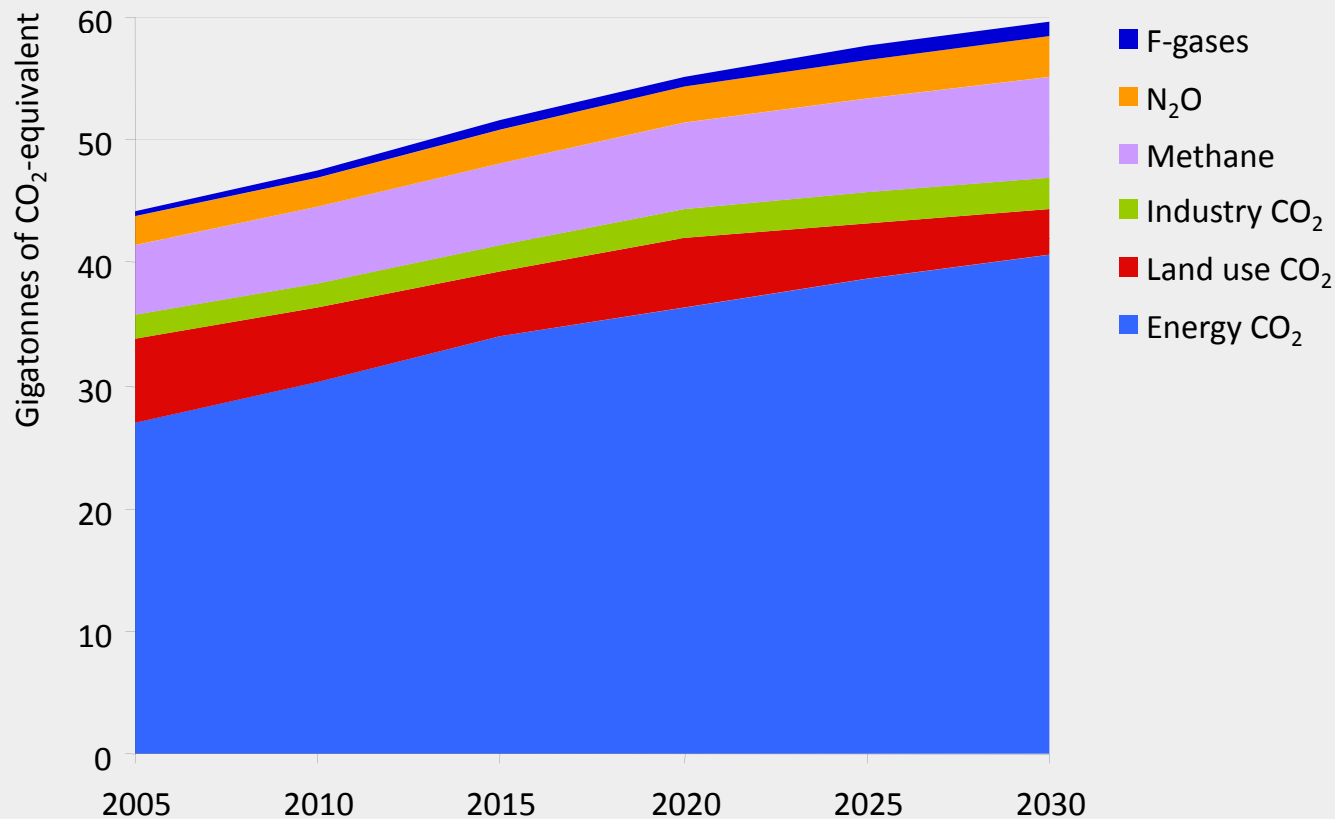
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***97% of the projected increase in emissions between now & 2030 comes from non-OECD countries – three-quarters from China, India & the Middle East alone***

# Anthropogenic greenhouse-gas emissions in the Reference Scenario

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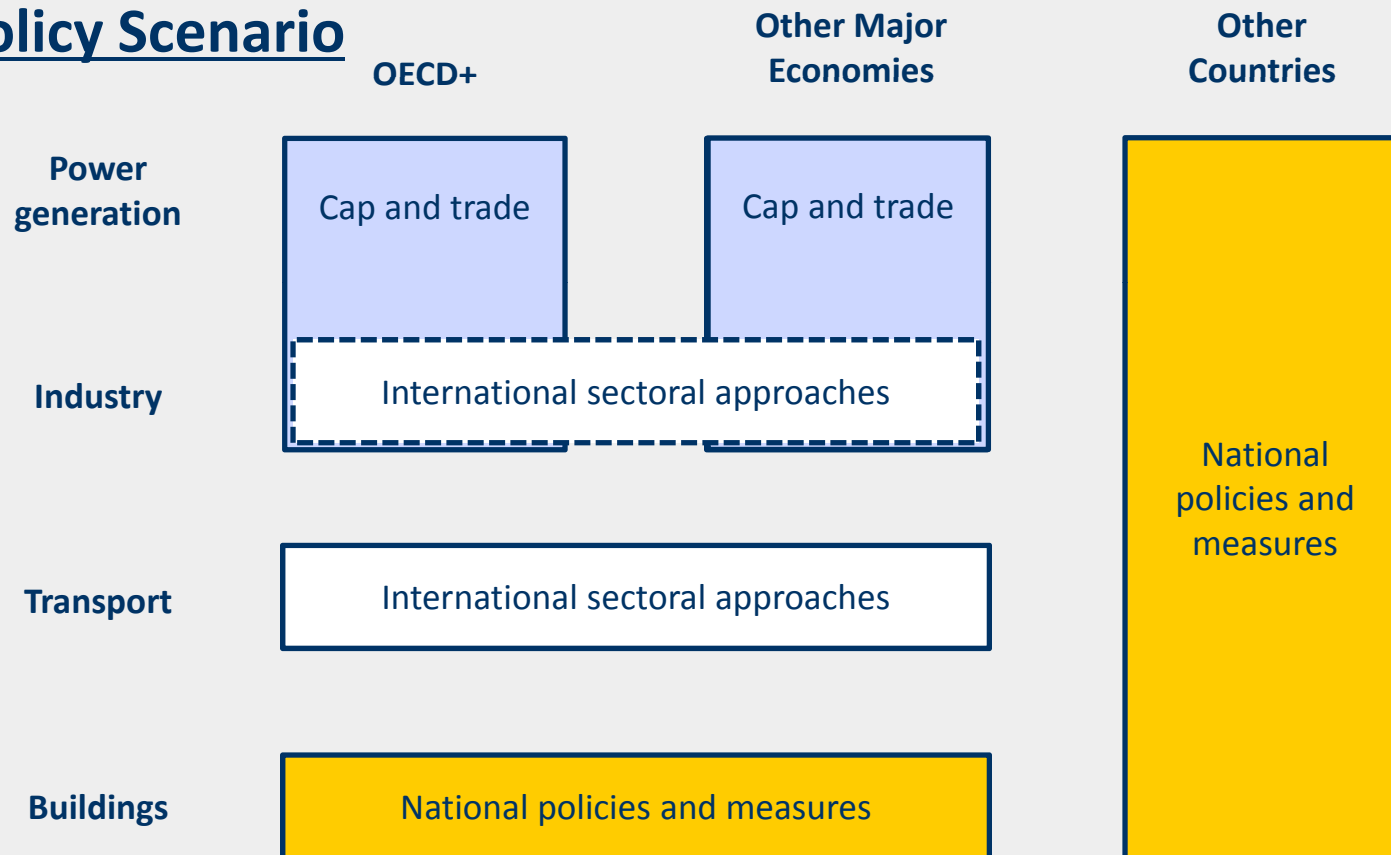


***Excluding energy-related CO<sub>2</sub>, emissions are projected to increase by 11% between 2005 and 2030 – methane emissions increase the most by volume***

# Copenhagen: a plausible post-2012 global climate-change policy regime

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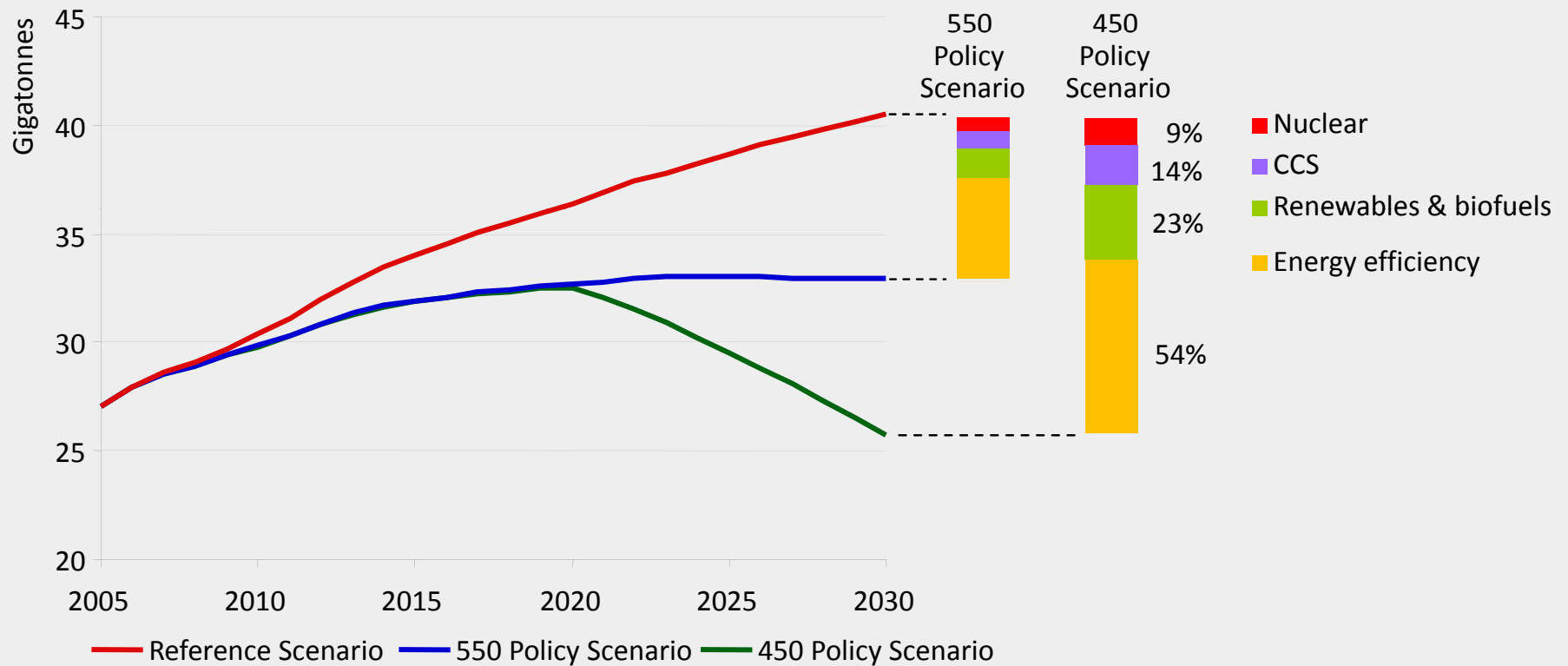
## The 450 Policy Scenario



*A combination of policy mechanisms – reflecting nations' varied circumstances & current negotiating positions – is a realistic outcome at the Copenhagen COP at end-2009*

# Reductions in energy-related CO<sub>2</sub> emissions in the climate-policy scenarios

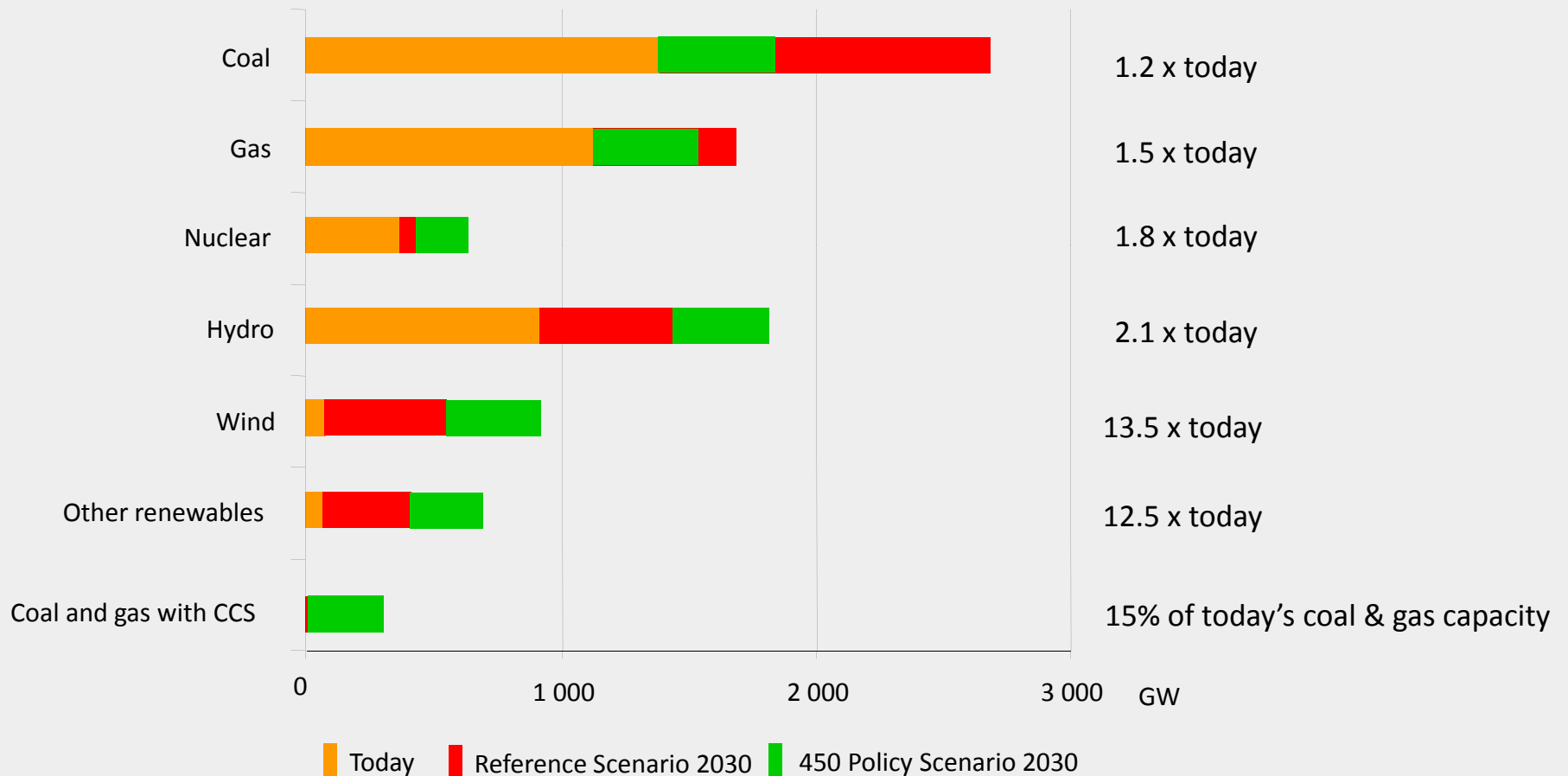
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***While technological progress is needed to achieve some emissions reductions, efficiency gains and deployment of existing low-carbon energy accounts for most of the savings***

# Total power generation capacity today and in 2030 by scenario

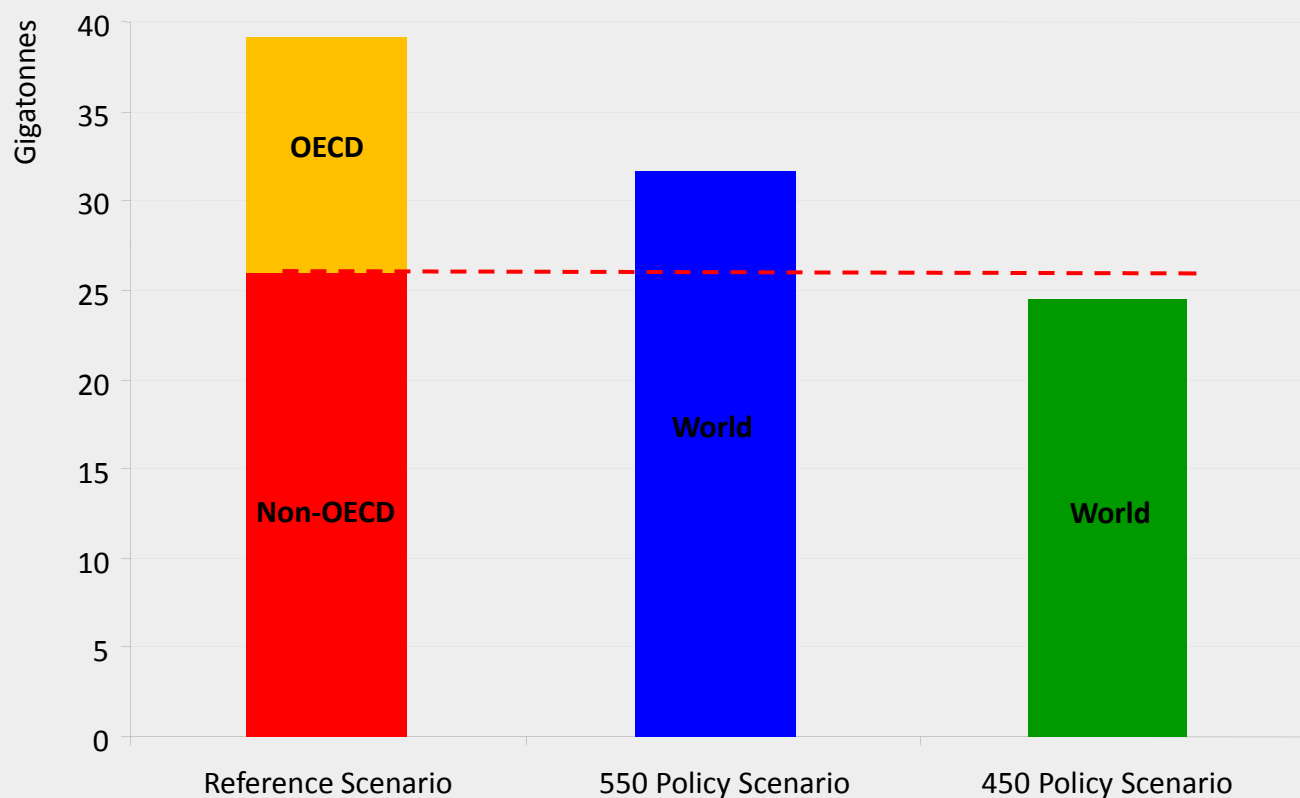
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***In the 450 Policy Scenario, the power sector undergoes a dramatic change – with CCS, renewables and nuclear each playing a crucial role***

# World energy-related CO<sub>2</sub> emissions in 2030 by scenario

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***OECD countries alone cannot put the world onto a 450-ppm trajectory, even if they were to reduce their emissions to zero***

# Summary & conclusions

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- **Current energy trends are patently unsustainable**
- **To avoid "abrupt and irreversible" climate change we need a major decarbonisation of the world's energy system**
  - > *Copenhagen must deliver a credible post-2012 climate regime*
  - > *Limiting temperature rise to 2 °C will require significant emission reductions in all regions & technological breakthroughs*
  - > *Mitigating climate change will substantially improve energy security*
- **The present economic worries do not excuse back-tracking or delays in taking action to address climate change challenges**