



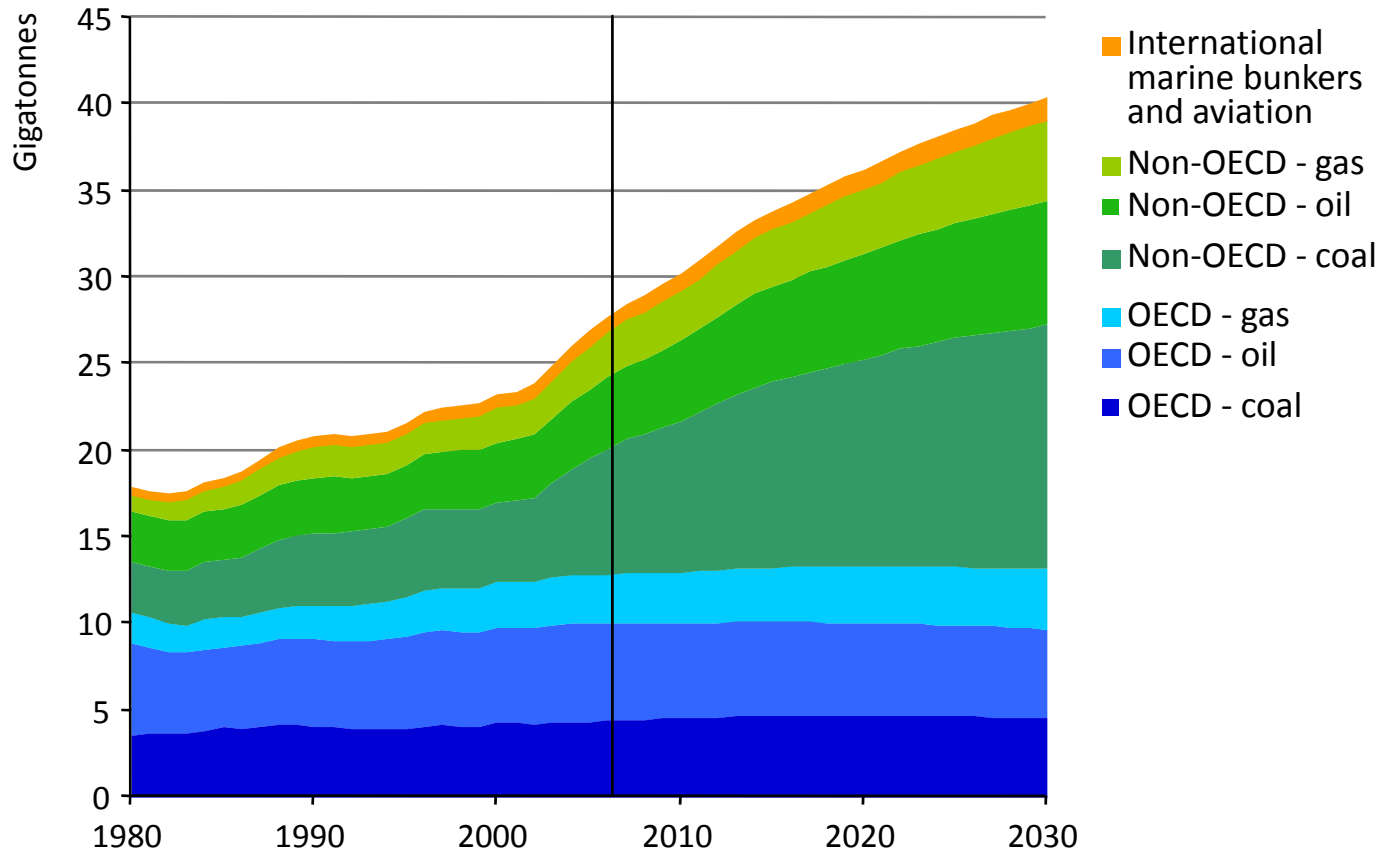
INTERNATIONAL ENERGY AGENCY

**G8 Energy Ministerial Meeting  
Rome, Italy  
24-25 May 2009**

**Energy and Climate Policy**

**Nobuo Tanaka  
Executive Director  
International Energy Agency**

# Energy-related CO<sub>2</sub> emissions in Business as Usual Scenario

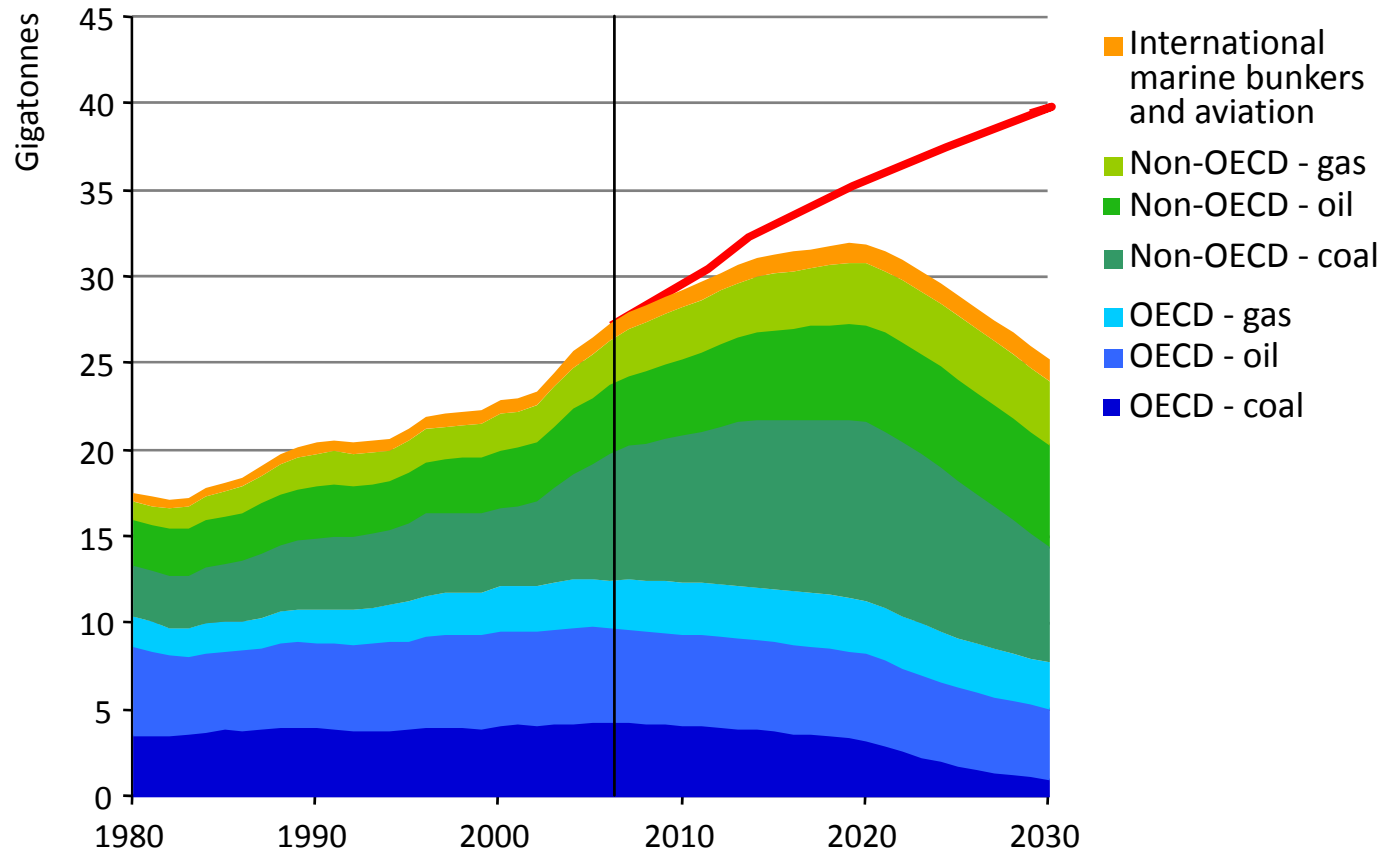


World Energy Outlook 2008, IEA

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



# Energy-related CO<sub>2</sub> emissions in the 450 Policy Scenario

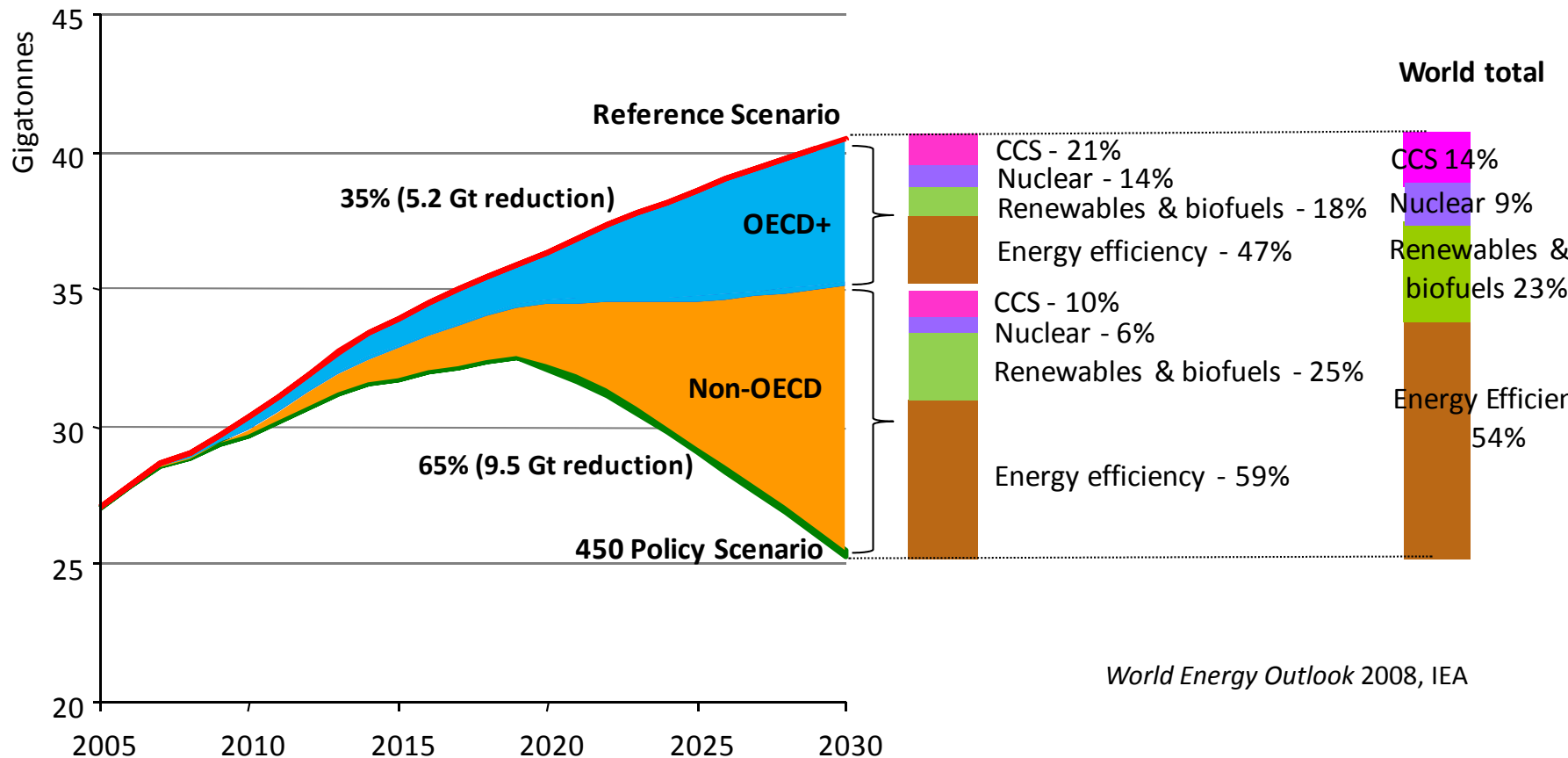


World Energy Outlook 2008, IEA

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



# Achieving the 450 ppm scenario

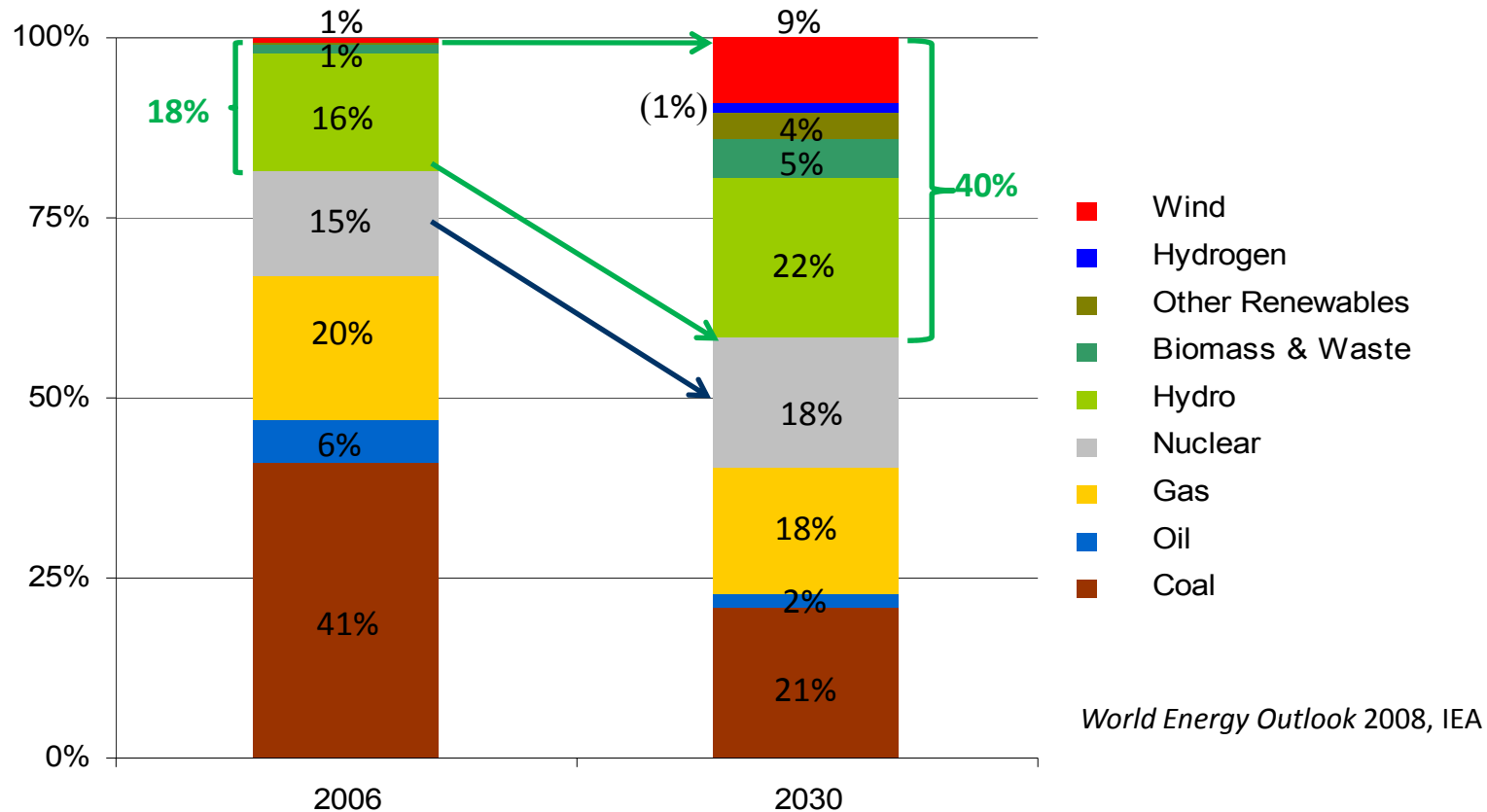


World Energy Outlook 2008, IEA

- **OECD and non-OECD countries must both work towards reducing CO<sub>2</sub> emissions**
- **Energy efficiency plays a key role for both OECD and non-OECD countries**
- **To inform the international climate negotiations, the IEA will release an early excerpt of the WEO 2009 climate change analysis, to coincide with post-Kyoto negotiations this September**

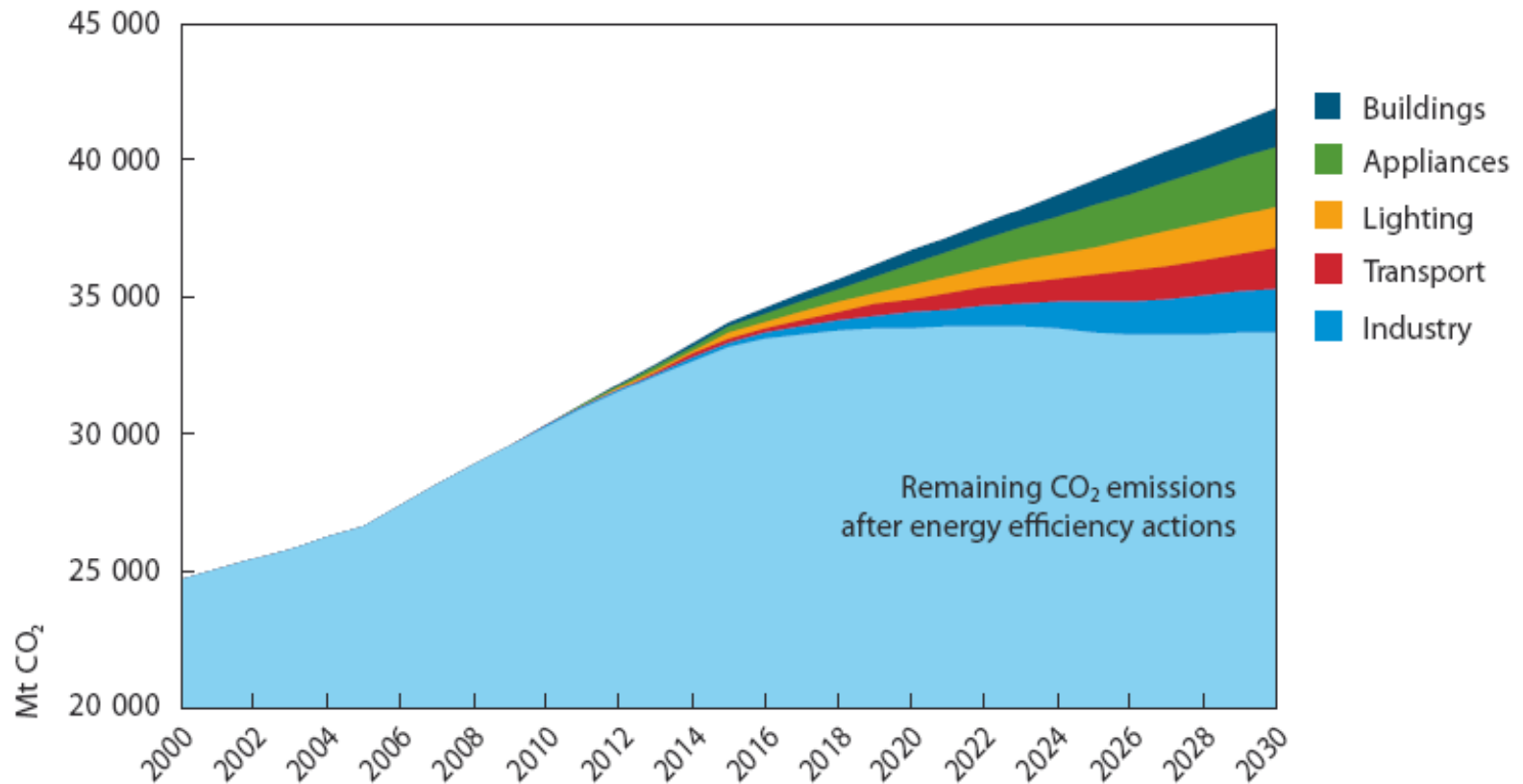


# Global electricity generation 450 ppm Scenario



**Renewables and nuclear account for a larger share of power generation in the 450 ppm scenario.**

# Reduction potential from the IEA's 25 recommendations



***The implementation of IEA recommendations globally could save 8.2 GtCO<sub>2</sub> per year by 2030 – a 20% reduction from the IEA Reference Scenario***

# Roadmaps can accelerate deployment of key clean energy technologies

- Supply side
  - ◆ CCS power generation
  - ◆ Coal – IGCC
  - ◆ Coal – USCSC
  - ◆ Nuclear III + IV
  - ◆ Solar – PV
  - ◆ Solar – CSP
  - ◆ Wind
  - ◆ Biomass – IGCC & co-combustion
  - ◆ Electricity networks
  - ◆ 2nd generation biofuels
- Demand side
  - ◆ Energy efficiency in buildings
  - ◆ Energy efficient motor systems
  - ◆ Efficient ICEs
  - ◆ Heat pumps
  - ◆ Plug-ins and electric vehicles
  - ◆ Fuel cell vehicles
  - ◆ Industrial CCS
  - ◆ Solar heating
  - ◆ Efficient industry processes (starting with Cement)

*Work has already begun on technologies shown in green, and these roadmaps will be launched later in 2009.*



# Conclusions

- Successfully mitigate climate change requires **global commitment**
- Reducing global CO<sub>2</sub> emissions in the energy sector requires:
  - ◆ Significant improvements in **energy efficiency**
  - ◆ Major decarbonisation of energy – **especially in electricity**
  - ◆ Embracing a **carbon price**
  - ➔ The agreement in **Copenhagen** should encourage these evolutions
- Measures to mitigate climate change also **enhance our energy security.**

