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Global Energy Markets: Reducing Volatility and Uncertainty

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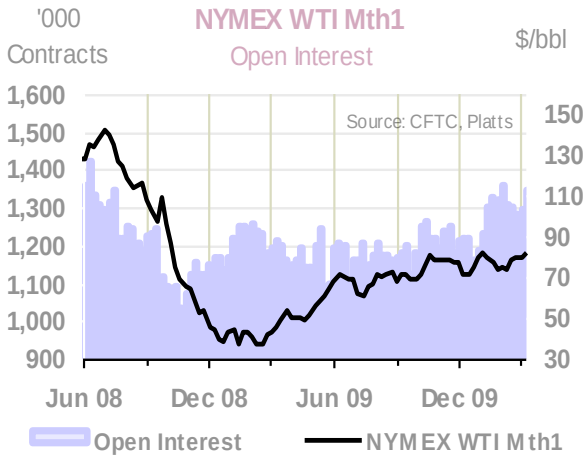
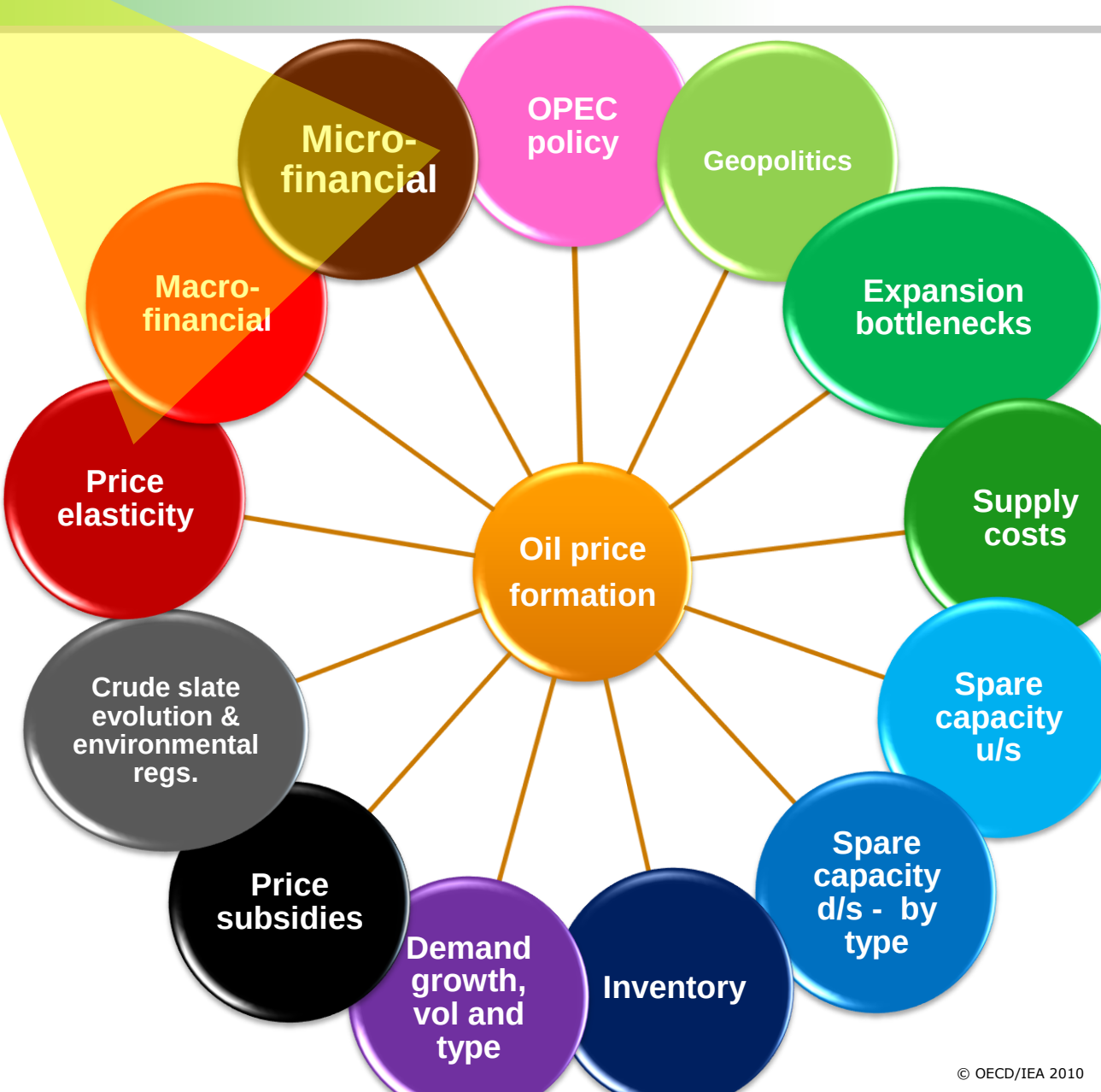
Current spotlight on financial markets
but price formation remains multi-faceted

International Energy Agency

- Macro/micro-financial trades can affect price short term
- But price inelasticity of demand/supply also amplifies price swings.



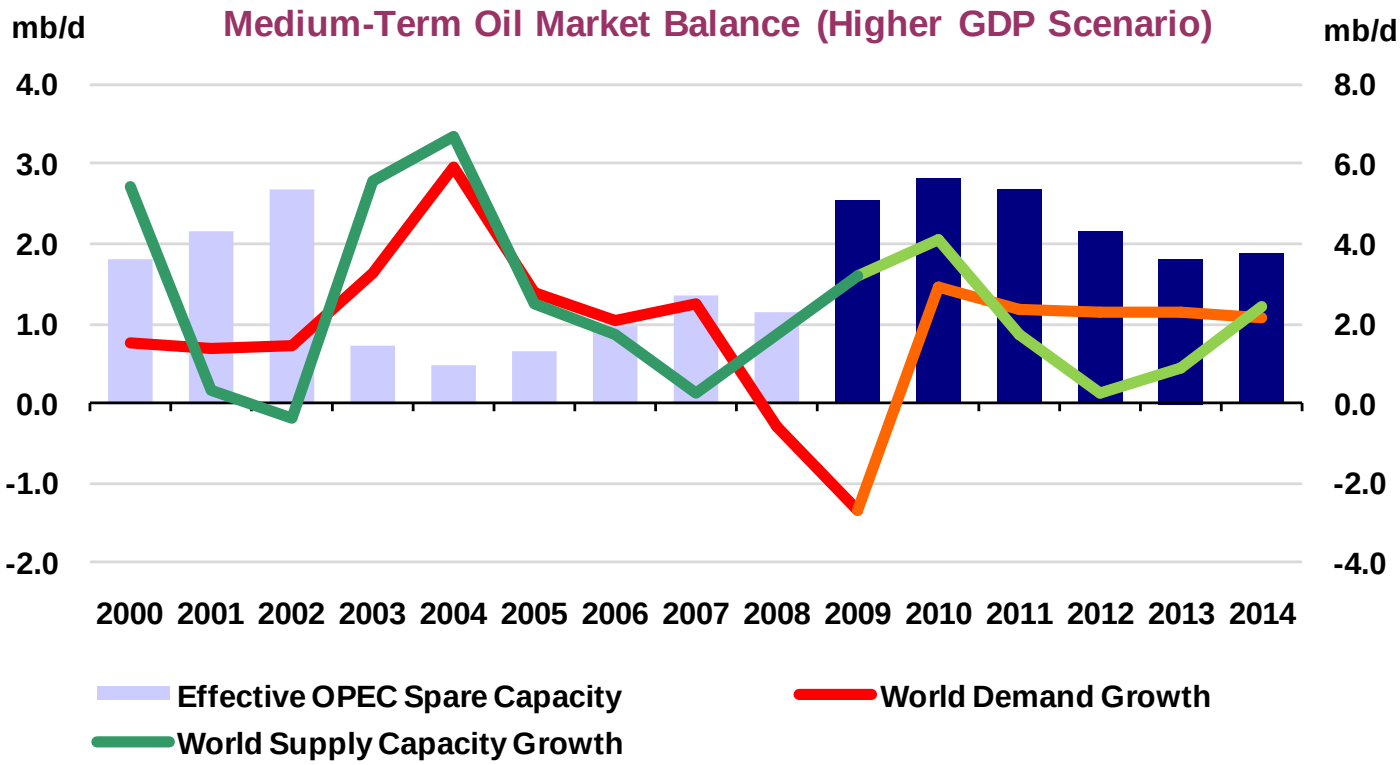


How to reduce volatility: Outcomes of the IEA/IEEJ Price Formation Workshop (Feb 2010)

- Reduce uncertainty about fundamentals
  - Clearer, internationally-agreed policies that ensure plentiful supplies of economic, sustainable and secure energy
  - Commitment to set clear environmental and efficiency goals
  - Open access to energy reserves and encouraging investment
  - Forecasts for the future – detailed assumptions and acknowledged uncertainties – supply crunch not inevitable

- Make oil markets function better
  - Require more & better data on financial and physical markets
  - Moves to limit market manipulation
  - More analysis and work towards global harmonisation of market function

Medium-term oil market balance



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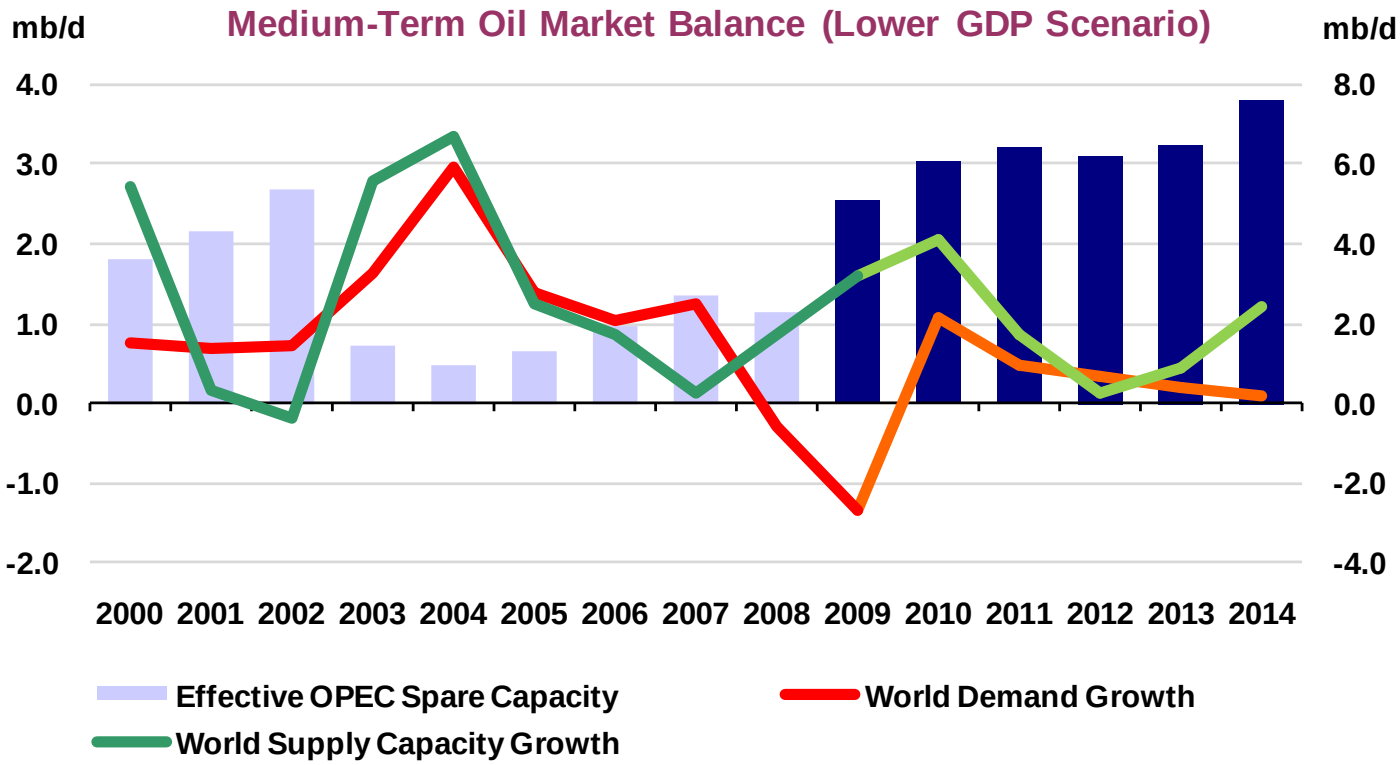
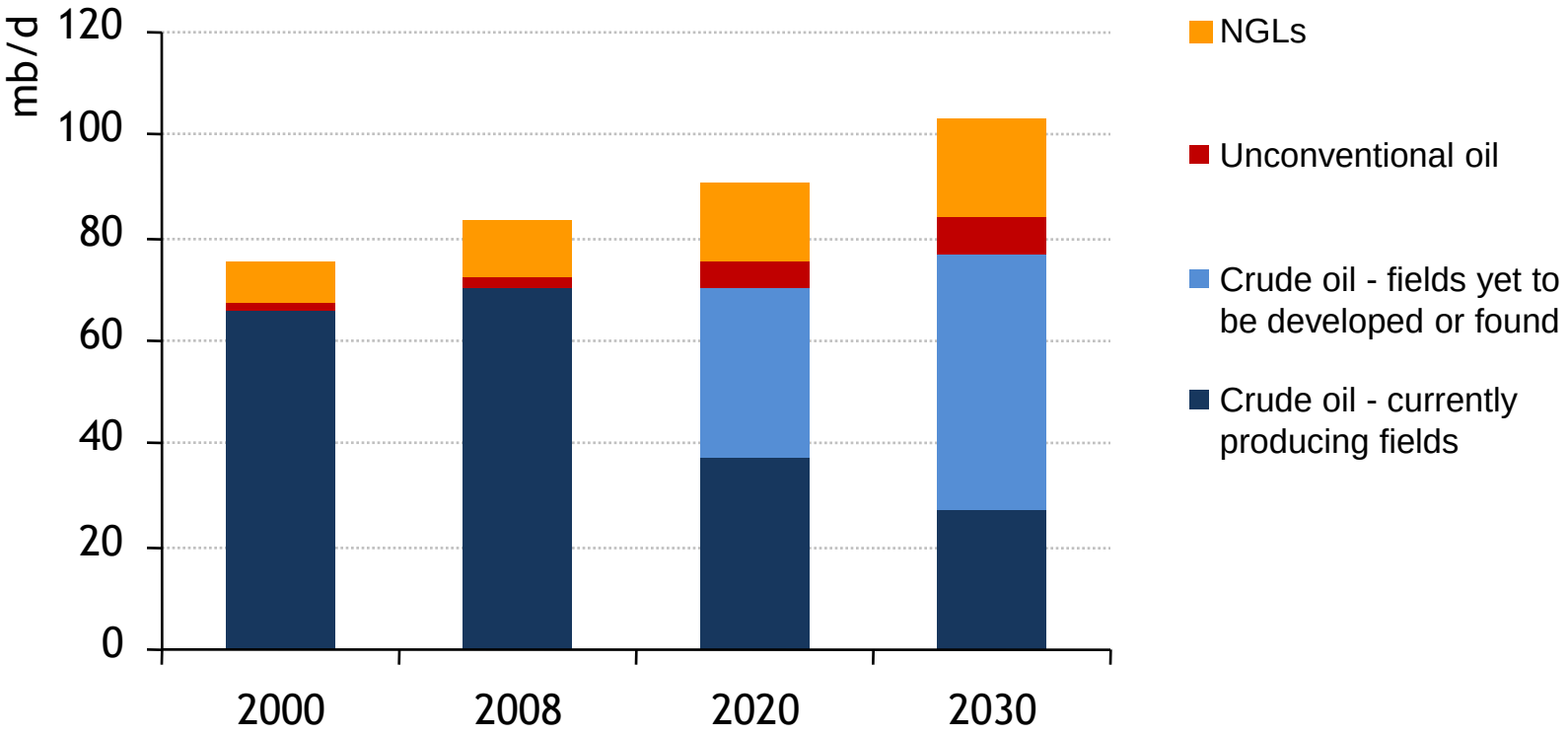
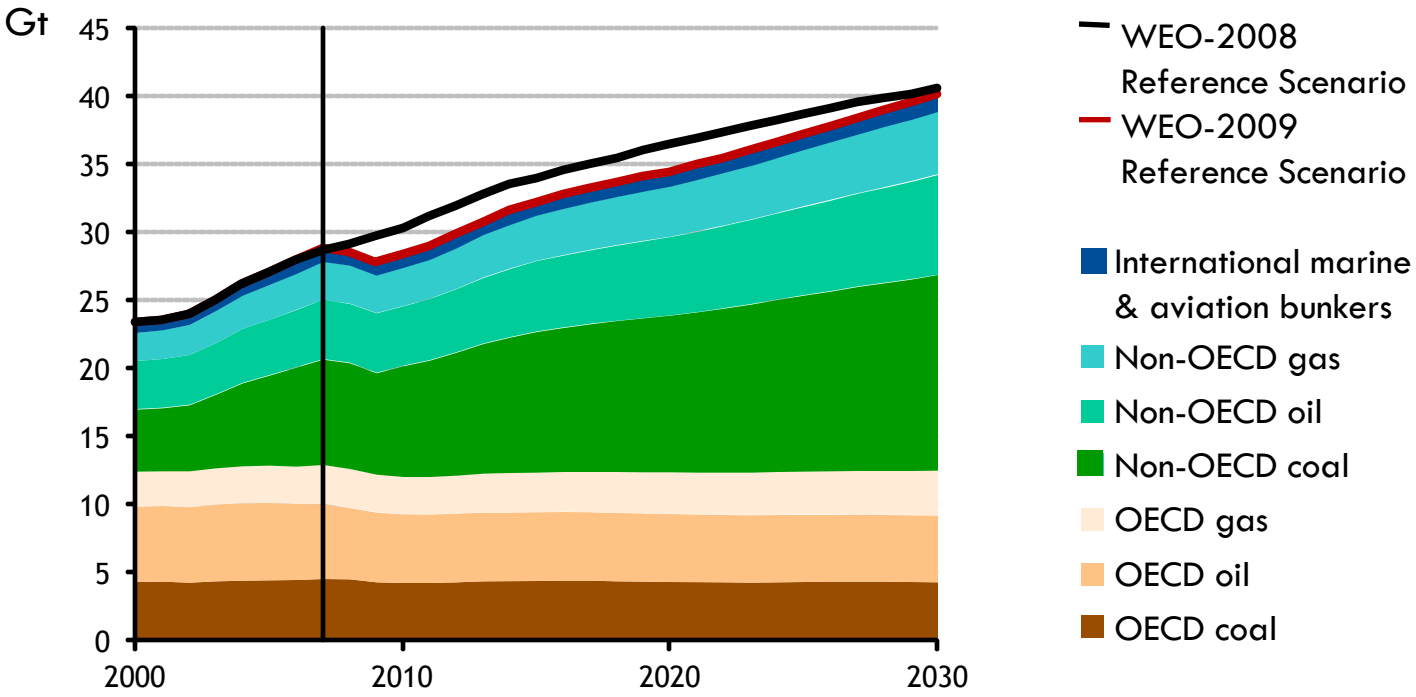


Oil production to 2030 in the Reference Scenario



Sustained investment is needed mainly to combat the decline in output at existing fields, which will drop by almost two-thirds by 2030

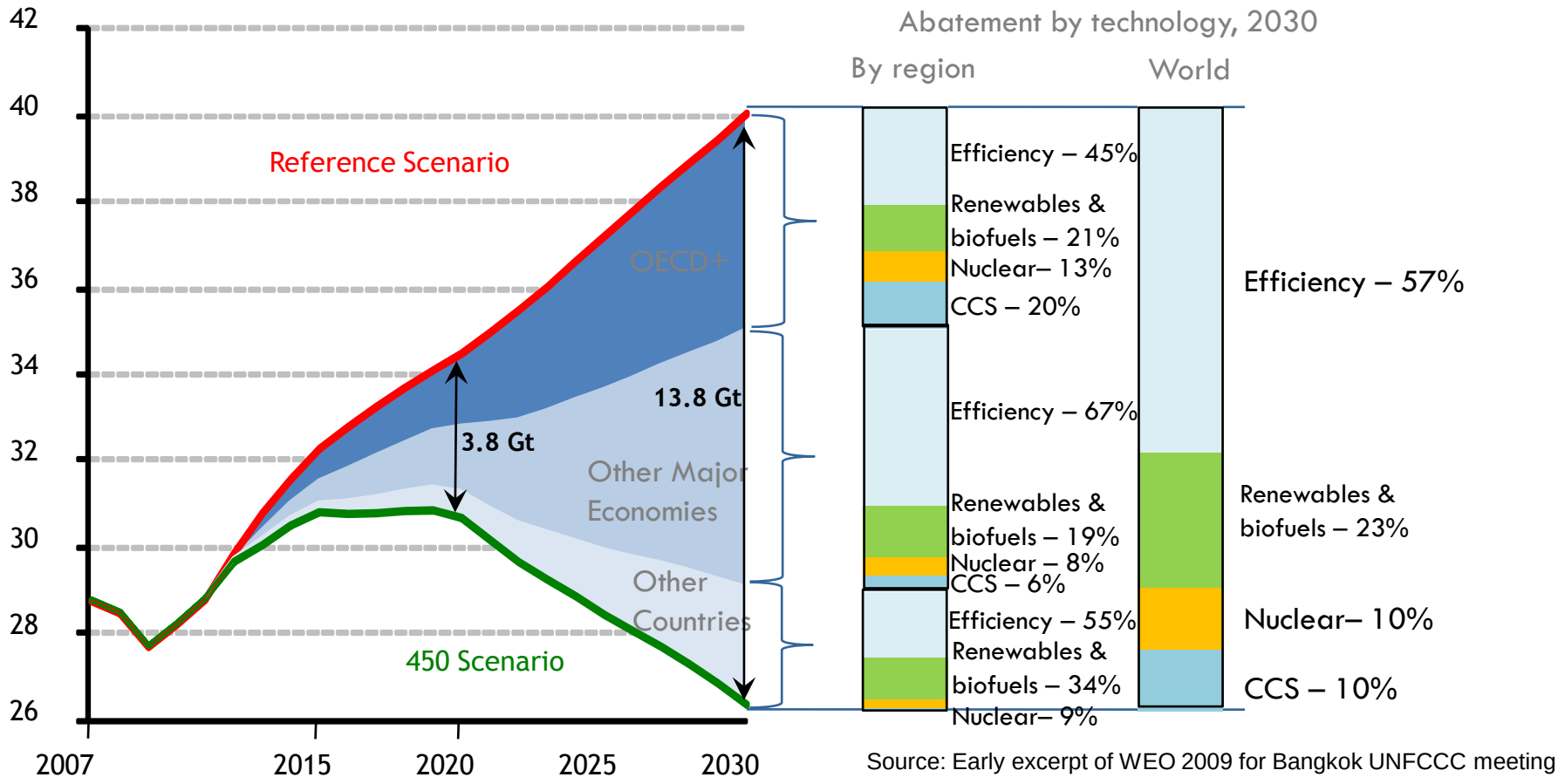
World energy-related CO_2 emissions in the Reference Scenario in *WEO-2009* and *WEO-2008*



The effect of the crisis on global trend would only be temporary. Existing policies can stabilise CO_2 in OECD countries. Without new policies, global CO_2 emissions are set to rise by 40% in 2030. Most of the increase is caused by new coal use outside OECD

Source: World Energy Outlook, IEA 2009

A sustainable energy future: the '450 Scenario'

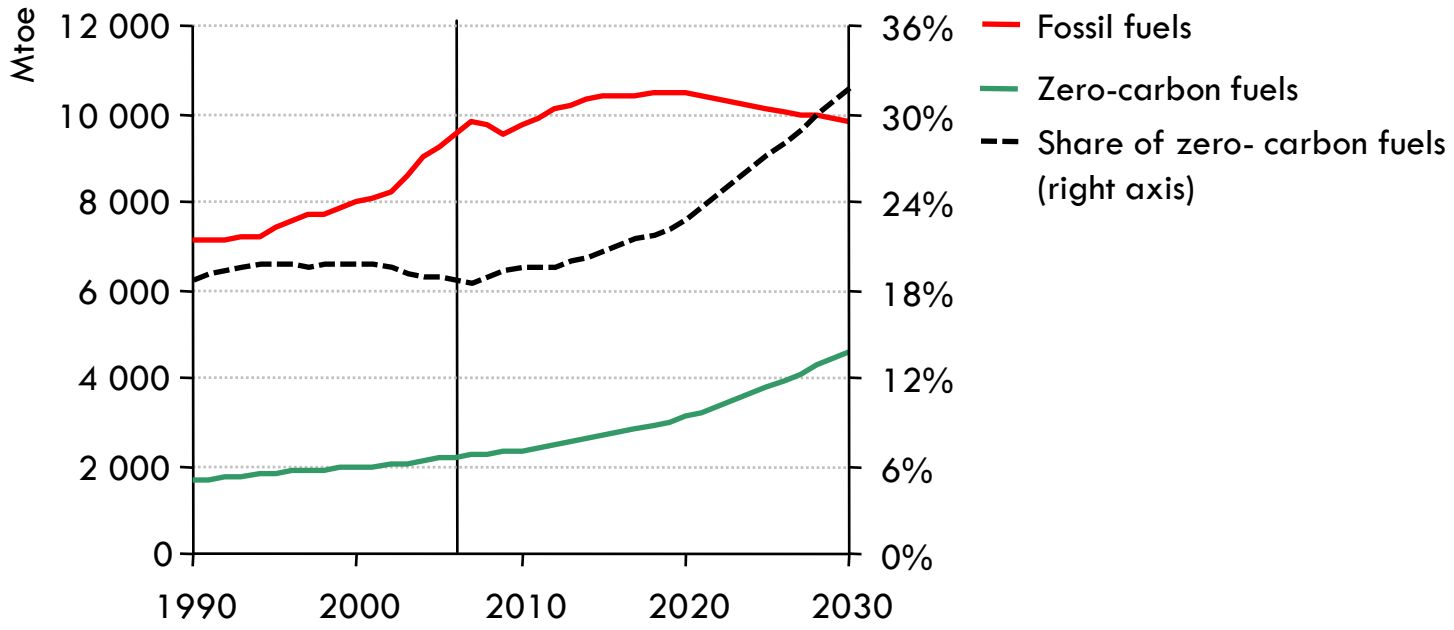


Source: Early excerpt of WEO 2009 for Bangkok UNFCCC meeting

Efficiency measures account for 2/3 of the 3.8Gt abatement in 2020. Renewables contribute 20%. With substantial abatement potential outside the OECD+ region, financing will hold a key to the energy sector meeting a 450 ppm trajectory

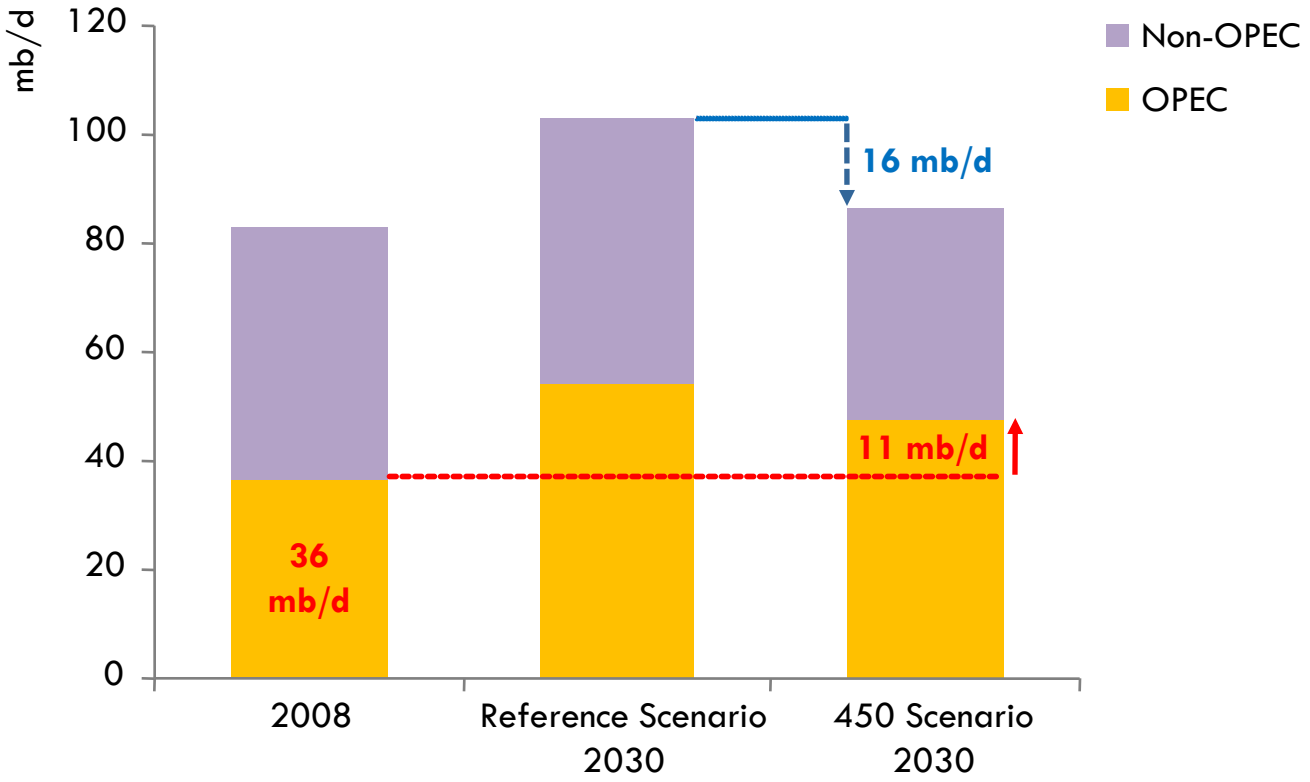
Source: World Energy Outlook, IEA 2009

World primary energy demand by fuel in the 450 Scenario



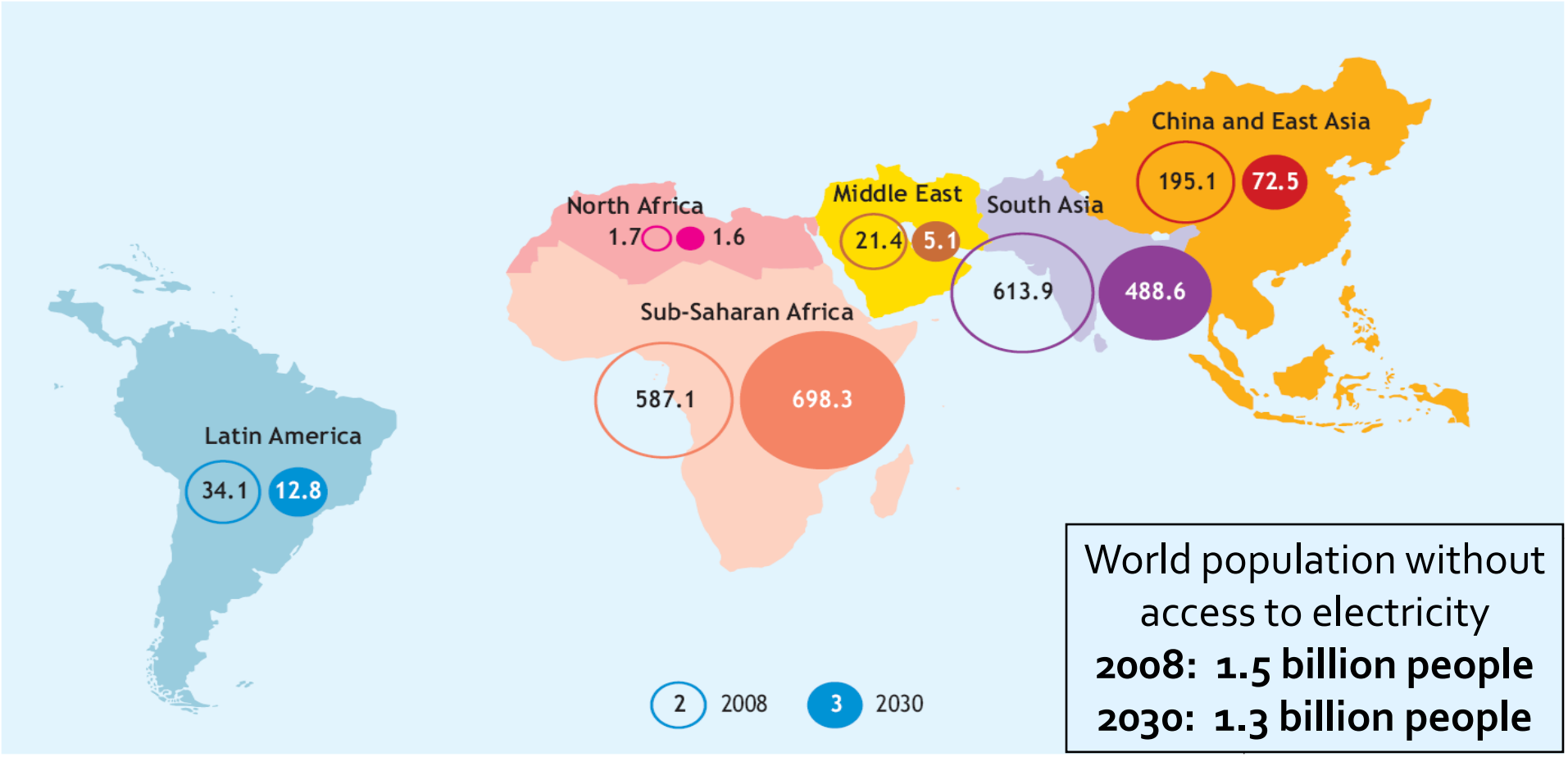
In the 450 Scenario, demand for fossil fuels peaks by 2020, and by 2030 zero-carbon fuels make up a third of the world's primary sources of energy demand

World oil production by scenario



Curbing CO_2 emissions would also improve energy security by cutting oil demand, but even in the 450 Scenario, OPEC production increases by 11 mb/d between now and 2030

Number of people without access to electricity in the Reference Scenario (millions)



World population without access to electricity

2008: 1.5 billion people

2030: 1.3 billion people

$35 billion per year more investment than in the Reference Scenario would be needed to 2030 – equivalent to just 5% of global power-sector investment – to ensure universal access

Concluding Remarks

- *Clear policies, better data, open markets and sustained investment* are essential to reduce volatility

- *We welcome more joint action* on price formation, data and market outlooks

- Energy security must be addressed alongside energy poverty and climate change; this requires an *energy transformation*:
  - energy efficiency, technology development and deployment, diversification of sources, clear policy frameworks, more investment

- *Renewed international cooperation is vital*:
  - a cleaner, more stable and secure energy future requires engagement on policy, technology and investment (while avoiding duplication)