

# Third OPEC International Seminar

Hofburg Palace, Vienna, 12-13 September 2006

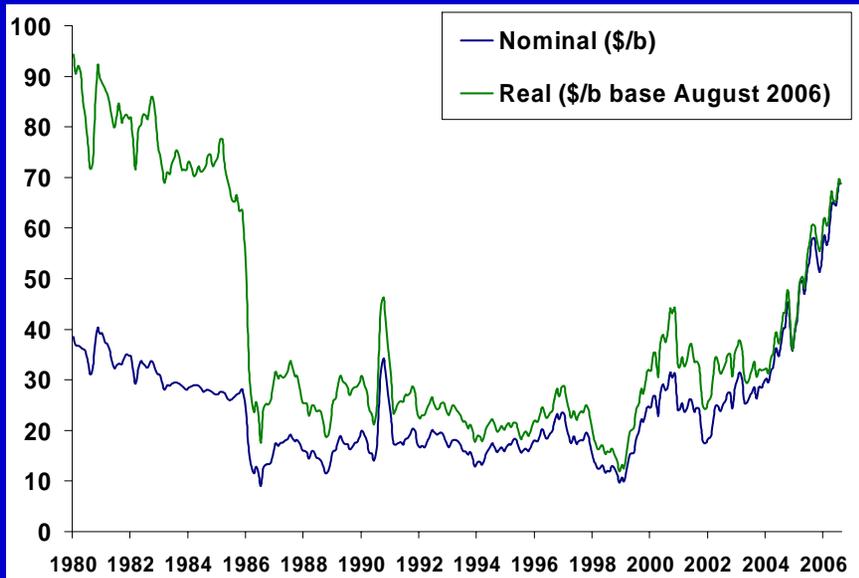
## Energy outlook: Challenges and opportunities for OPEC

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Acting for the Secretary General, OPEC

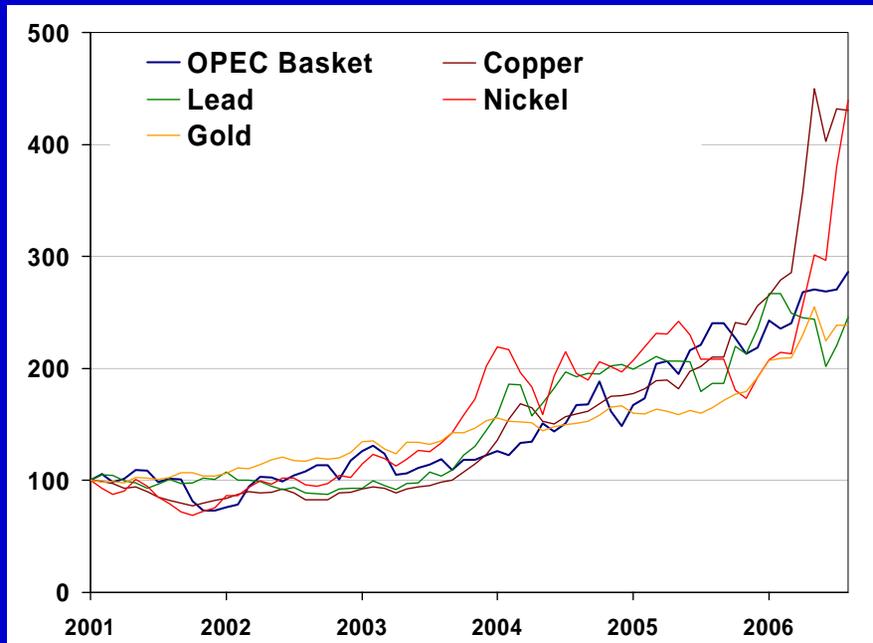


# Oil and non-energy price behaviour



← The real price is still well below historical highs

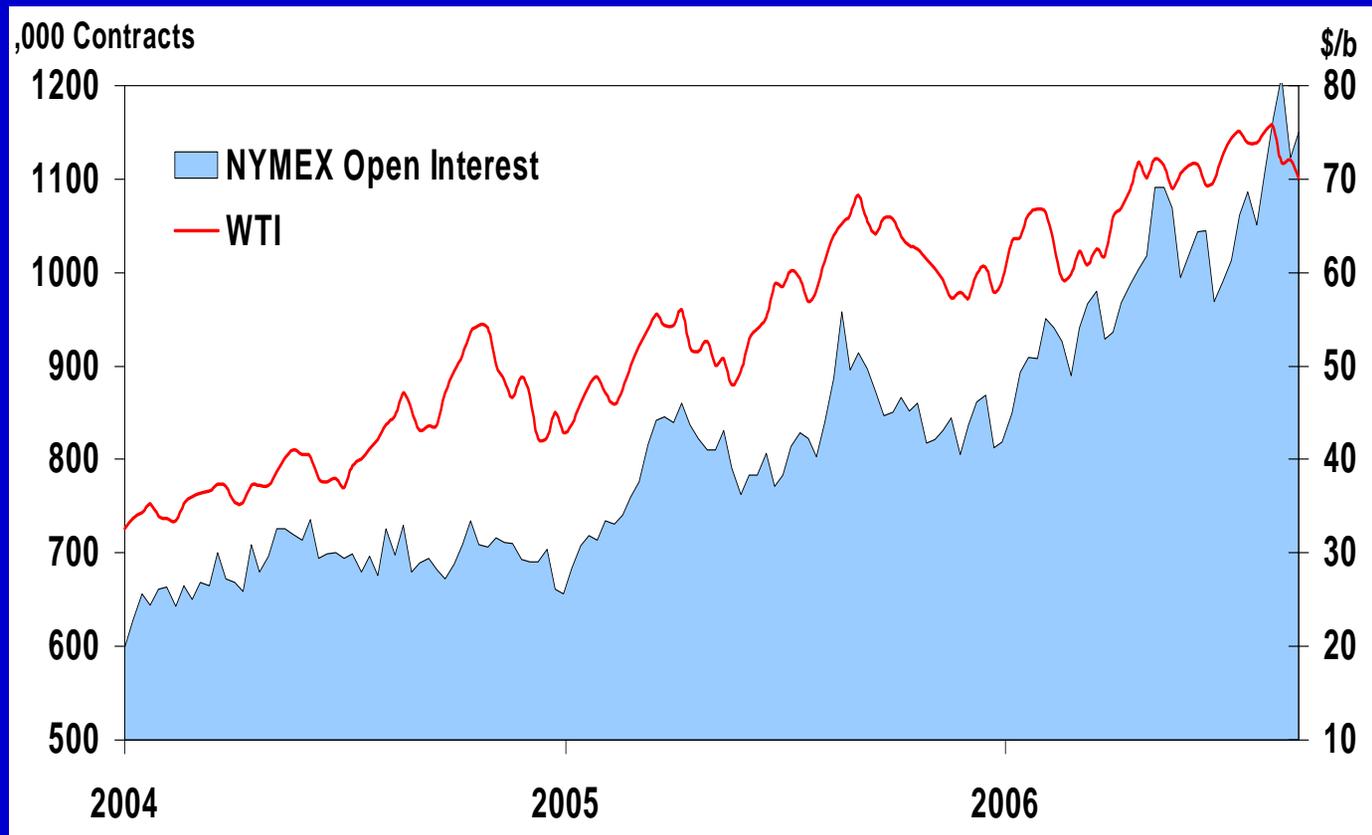
Non-energy commodity prices have also risen →



# What has been behind the recent oil price movements?

- Current high stock levels would normally point to falling prices
- Convergence of factors:
  - Strong economic growth
  - Slowdown in expansion of non-OPEC supply
  - Dwindling levels of spare capacity
  - Tightness in refining sector
  - Speculation
- Perceived and real impacts of:
  - Natural disasters
  - Geopolitical concerns

# Strong growth in "paper-oil" markets



Speculation is an additional source of price volatility

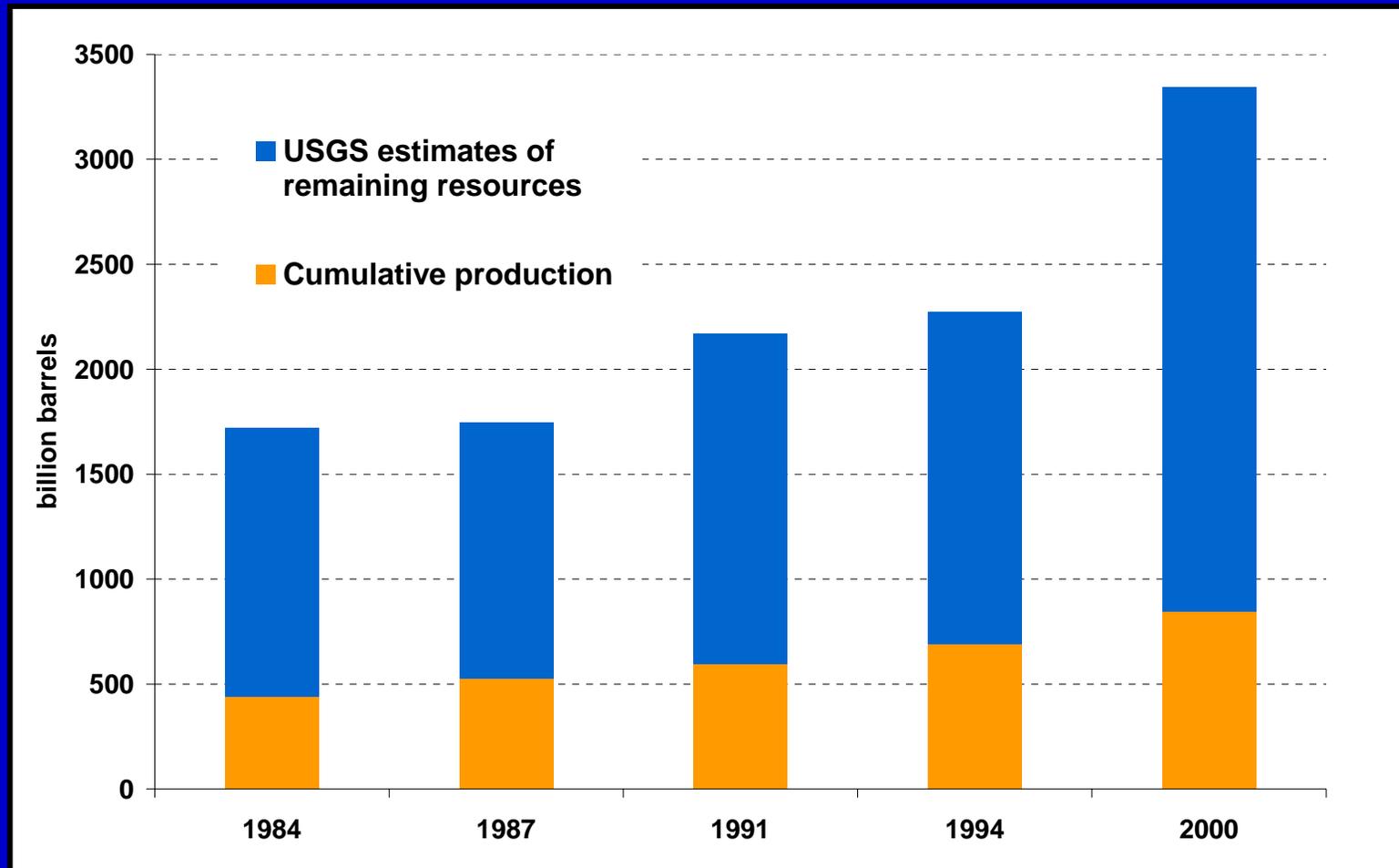
# Changing dynamics of demand

- Geographic shift in growth patterns
- Resilient economic and oil demand growth in the face of higher oil prices:
  - More efficient use of oil
  - Rising wealth
  - Switching away from oil has already largely taken place where viable
- Importance of trade to developing countries
  - Need to resume Doha Round negotiations

## Changing dynamics of supply

- The resource base debate
- Technological developments
- Future relative role of OPEC and non-OPEC supply
- Expanding role of National Oil Companies
- Protection of the environment
- Possible role of alternatives
- Tightness in the downstream sector
- Cost issues: infrastructure, skilled labour

# Conventional liquid resource base is sufficient



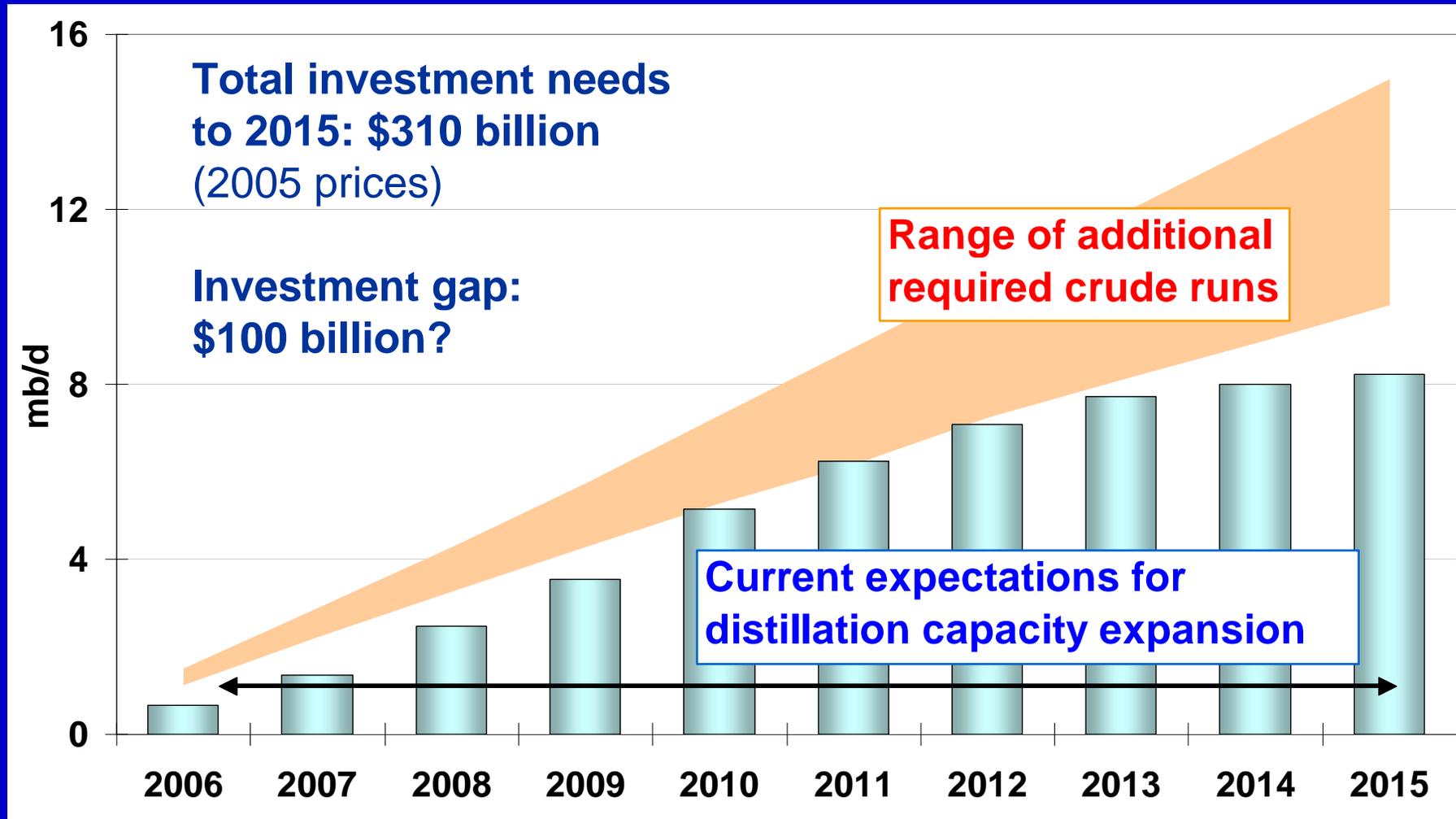
# Alternative fuels

- OPEC acknowledges that alternatives have a role to play
- But it will be decades before alternatives have a significant share of global energy mix
- Biofuels receiving attention, but there are many drawbacks:
  - Biofuels provide only one per cent of the world's liquid transport fuels
  - Expensive, unsustainable fiscal incentives and short-sighted policy initiatives
  - Energy balance debatable
  - Replacing food production with biofuels can mean a significant increase in food prices

# Cleaner oil and gas technology

- Key question:
  - How to make increased fossil fuel use consistent with the third pillar of sustainable development: protection of the environment
- Huge progress made in improving air quality
- Carbon capture and storage (CCS) is a promising technology to address climate change concerns
- Industrialised countries should take the lead in this area by promoting large-scale demonstration projects
- OPEC commitment demonstrated through:
  - IEA Greenhouse Gas R&D Programme
  - EU-OPEC Roundtable on CCS
  - CDM conference in Riyadh, Saudi Arabia

# The downstream is also important



# Infrastructure and human resource constraints

- Cost inflation along the entire oil and gas chain
- Upstream costs have increased by 50 per cent since 2003
- Rig rates and the costs of steel and other raw materials are shifting significantly upwards
- Petroleum industry worldwide is suffering from a serious shortage of skilled labour for engineering, procurement, construction and operations
  - During 2005 wages alone increased by about 15%
  - Significant fall in petroleum engineering enrollment
- Efforts required to facilitate education and training
- Easier enrollment in universities across national borders

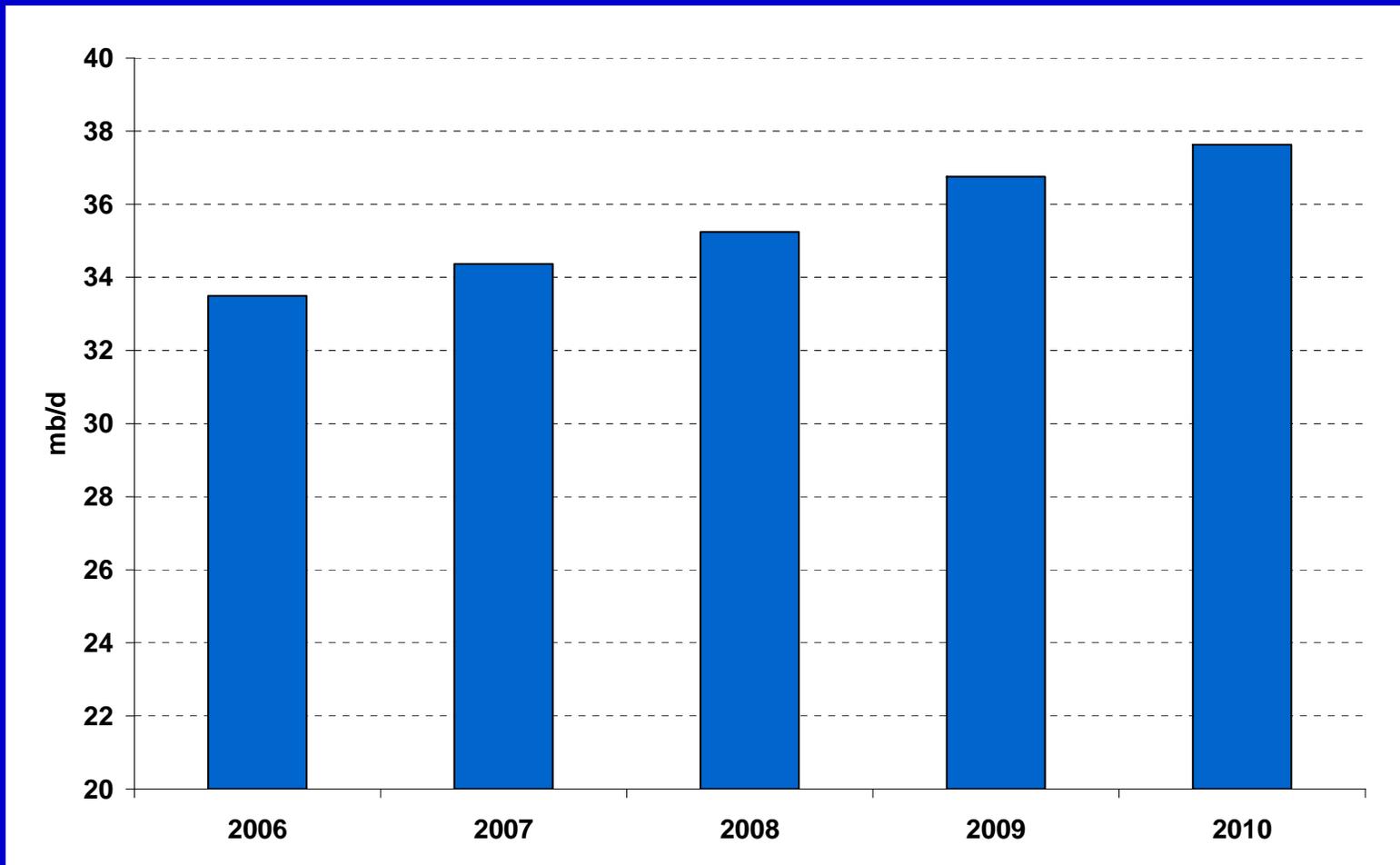
# Long-term oil demand and supply outlook

## Reference case (mb/d)

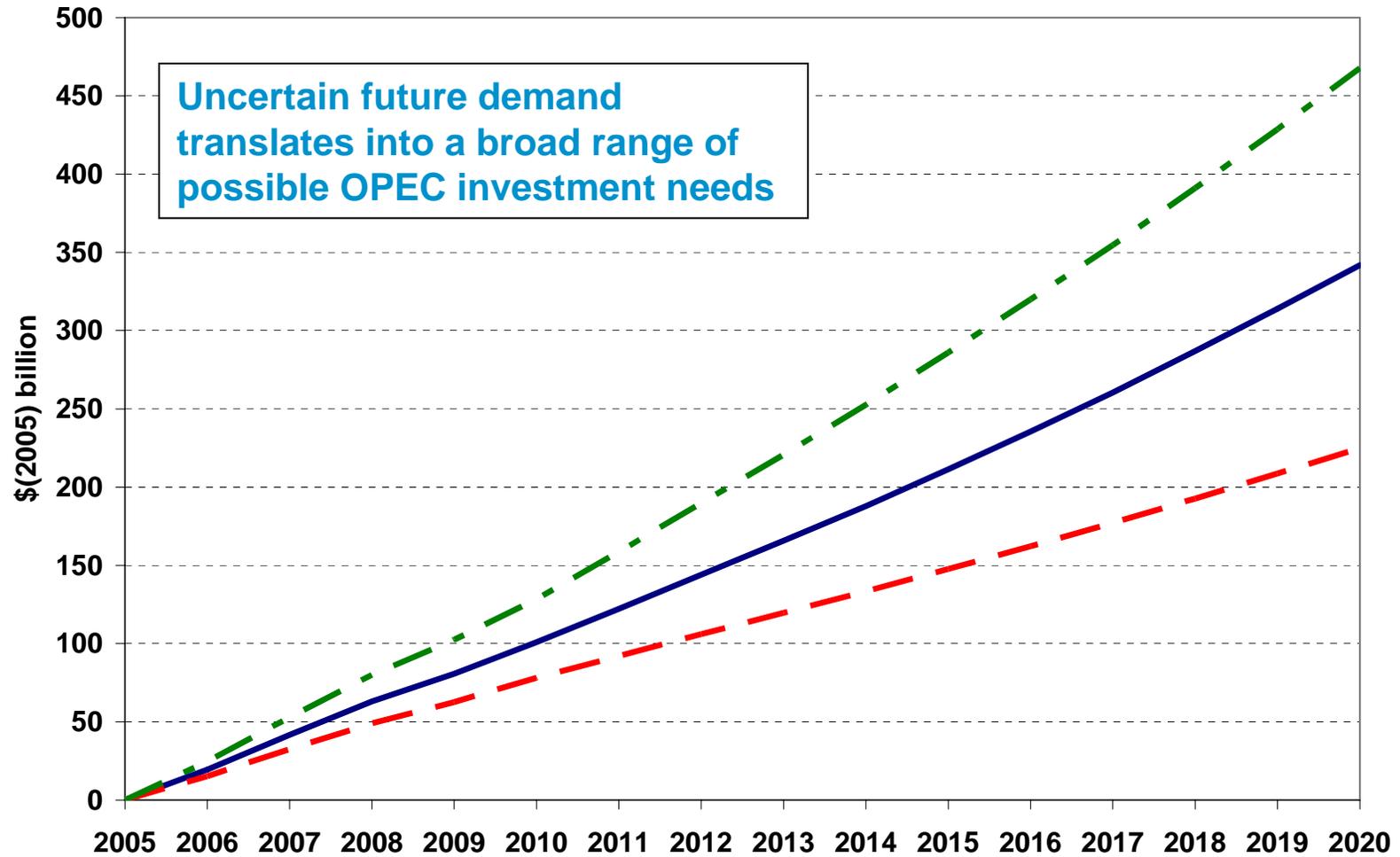
|                        | <b>2005</b> | <b>2010</b> | <b>2015</b> | <b>2020</b> | <b>2025</b> |
|------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>World demand</b>    | 83.2        | 90.7        | 98.0        | 105.6       | 113.1       |
| <b>Non-OPEC supply</b> | 50.1        | 55.8        | 58.3        | 59.4        | 58.9        |
| <b>OPEC supply*</b>    | 33.1        | 34.9        | 39.7        | 46.2        | 54.3        |

\* incl. NGLs

# OPEC crude capacity continues to expand

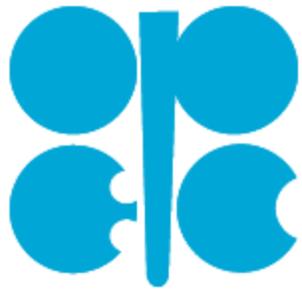


# Cumulative investment in OPEC: three scenarios



# The way forward

- OPEC better understood
- The challenges and opportunities need to be addressed collectively
- OPEC very much believes in enhanced dialogue and communication
- However, extreme poverty, still widely plaguing the world, needs to be urgently addressed
- 15<sup>th</sup> Session of UNCSD is of key significance



OPEC

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