

***Addressing global energy and climate
change challenges***

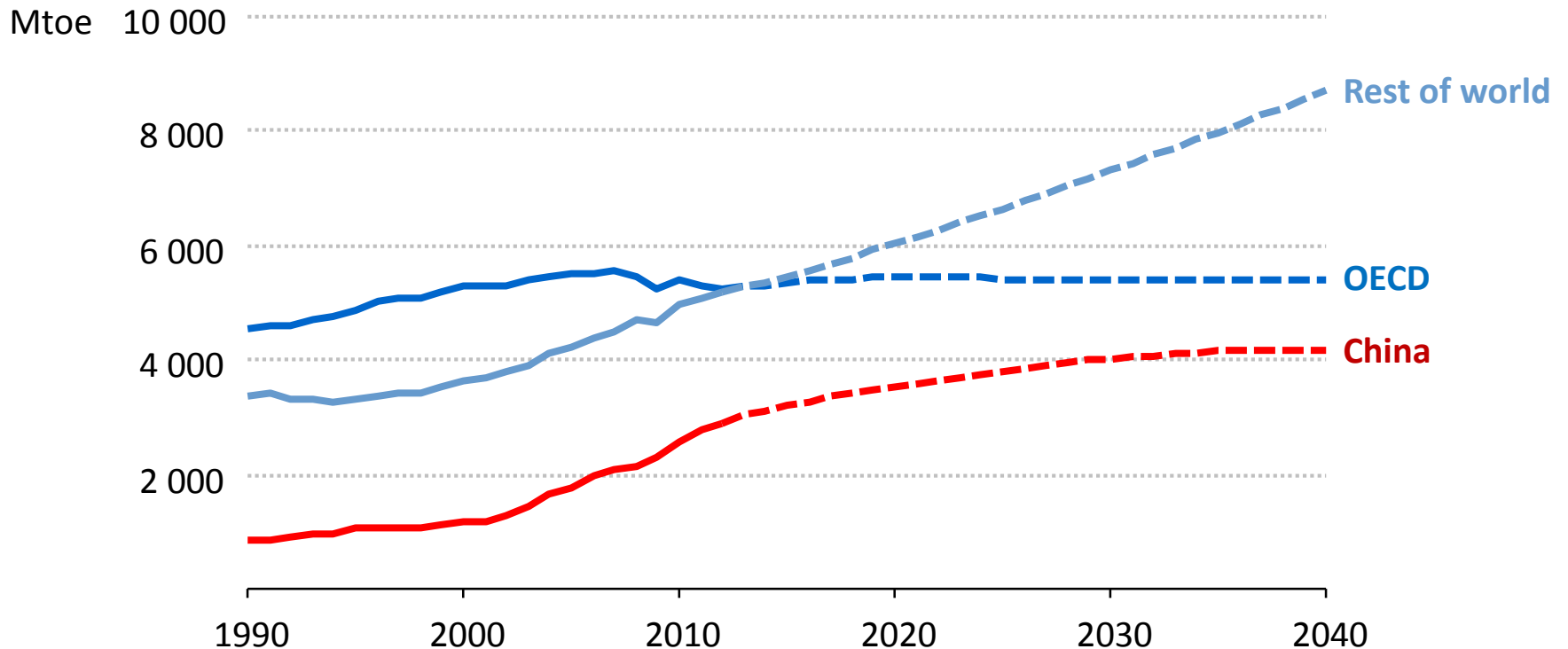
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IEA Executive Director
The University of Tokyo
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Signs of stress in the energy system

- **Today's market conditions a welcome boost to consumers, but should not disguise difficult road ahead**
 - *Cutbacks & cost-efficiency the new watchwords for the upstream*
 - *Turmoil in the Middle East raises doubts over future oil balance*
- **Mixed signals in run-up to crucial climate summit in Paris in 2015**
 - *Flattening in global CO₂ emissions a turning point, or a pause?*
 - *Increased emphasis on energy efficiency starting to bring results*
- **Will change in global energy be led by policies, or driven by events?**

Changing dynamics of global demand

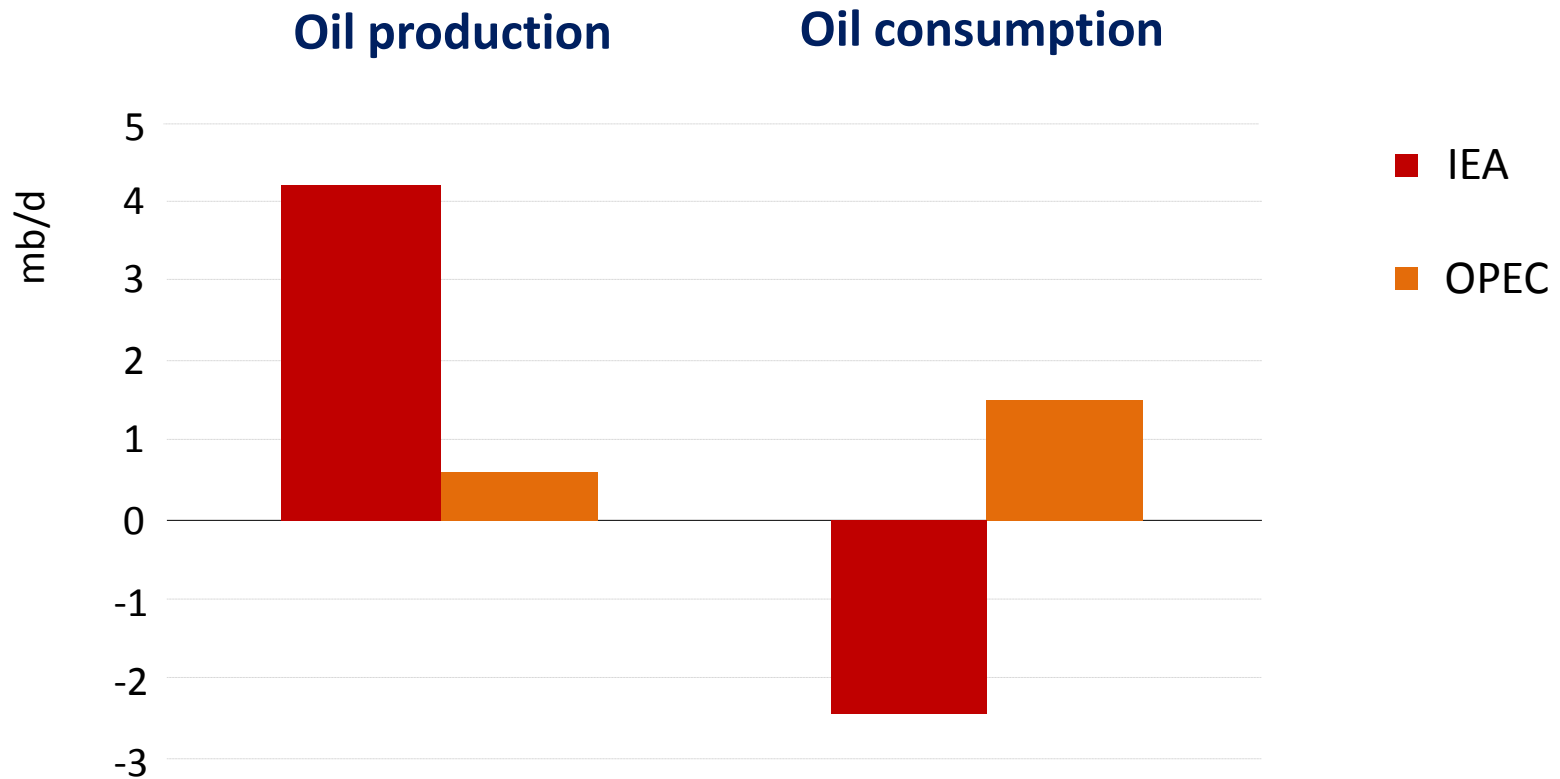
Energy demand by region



As China slows, then India, Southeast Asia, the Middle East and parts of Africa & Latin America take over as the engines of global energy demand growth.

Who is driving change in oil markets?

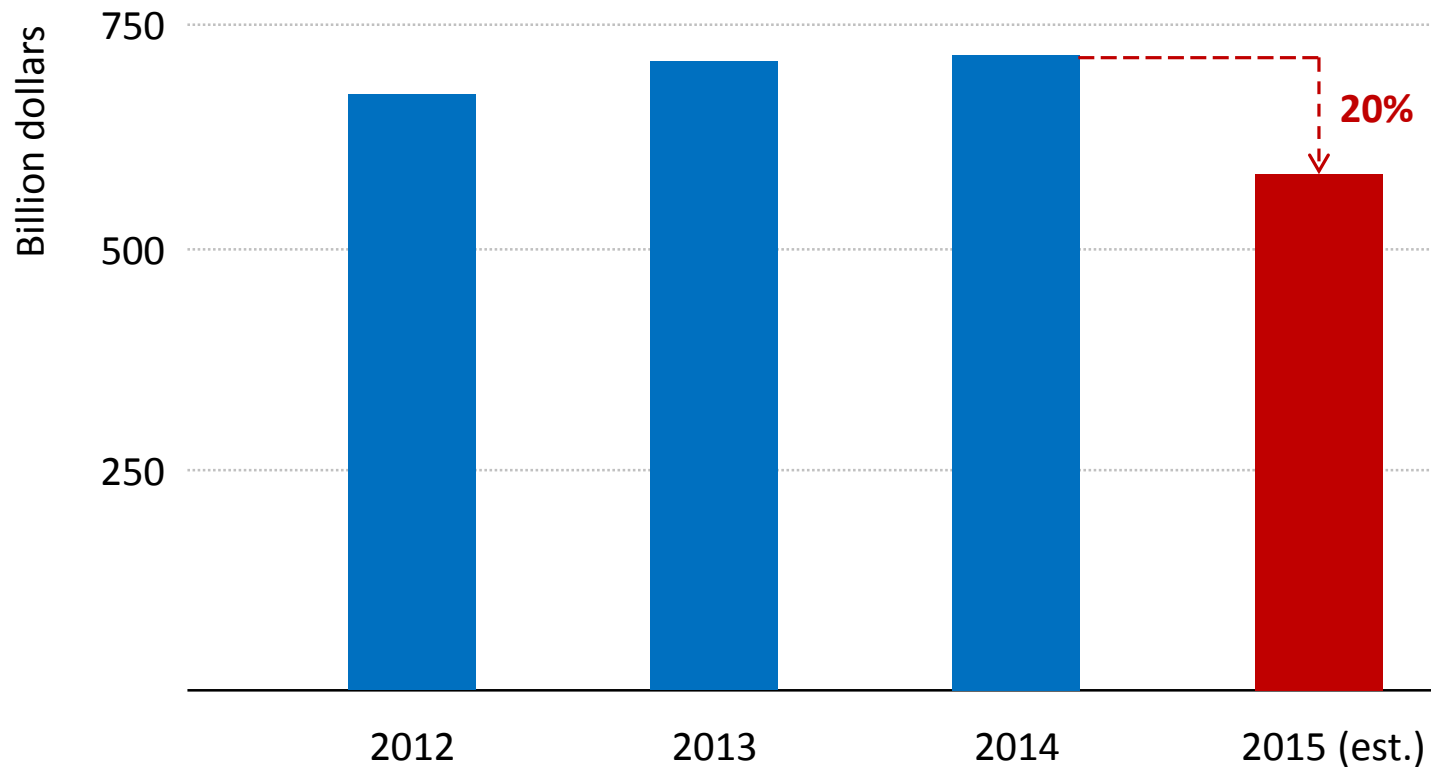
Net oil production and consumption changes, 2008-2014



OPEC remains central to the global oil outlook, but over the past 6 years it is the IEA that has freed up more than 6 mb/d to fuel rising consumption in other markets

The price is hitting upstream spending

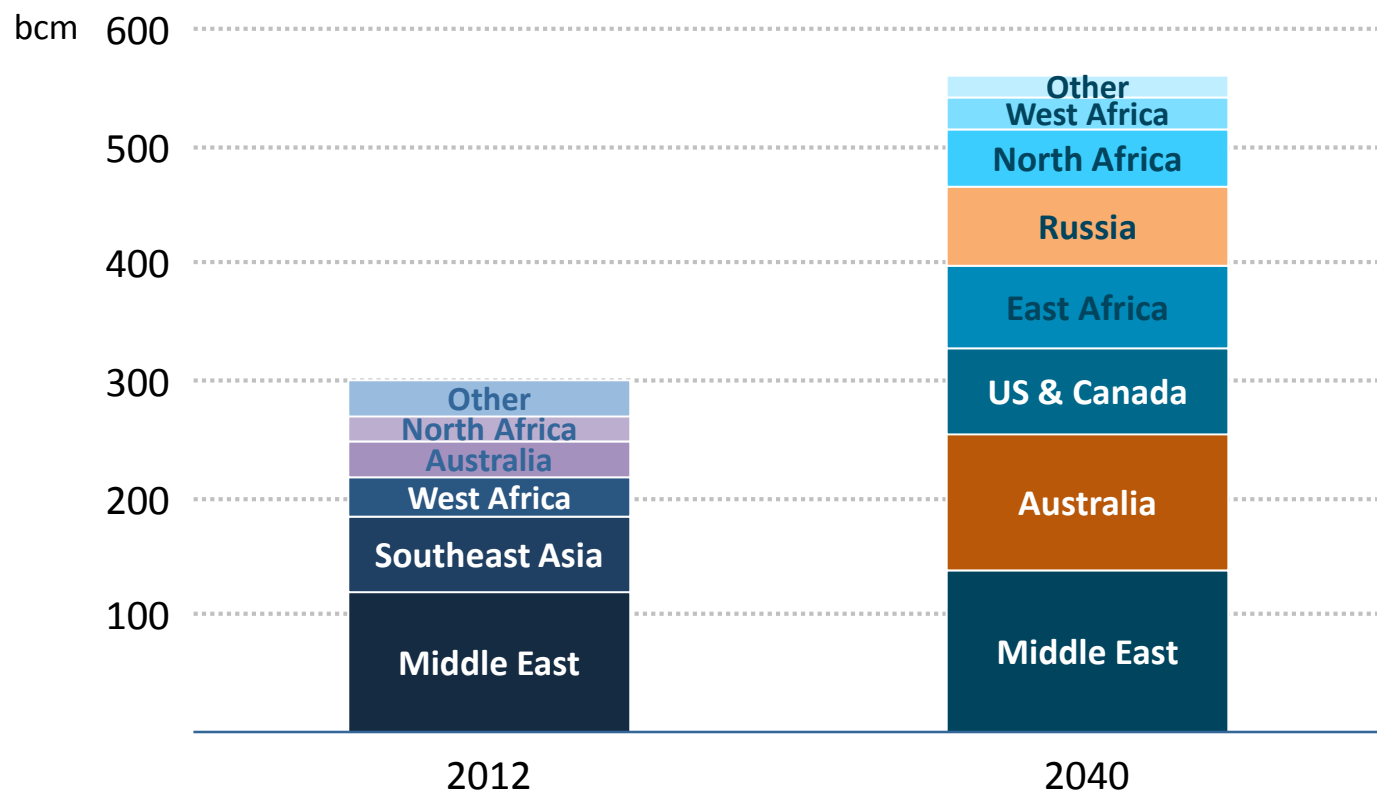
Global upstream oil and gas investment



Announced capex cuts for 2015 are highest (at up to 40%) in North America & Brazil; for tight oil, a decision to stop drilling feeds through more quickly to production levels

Gas on the way to become first fuel, with role of LNG on the rise

Main sources of regional LNG supply

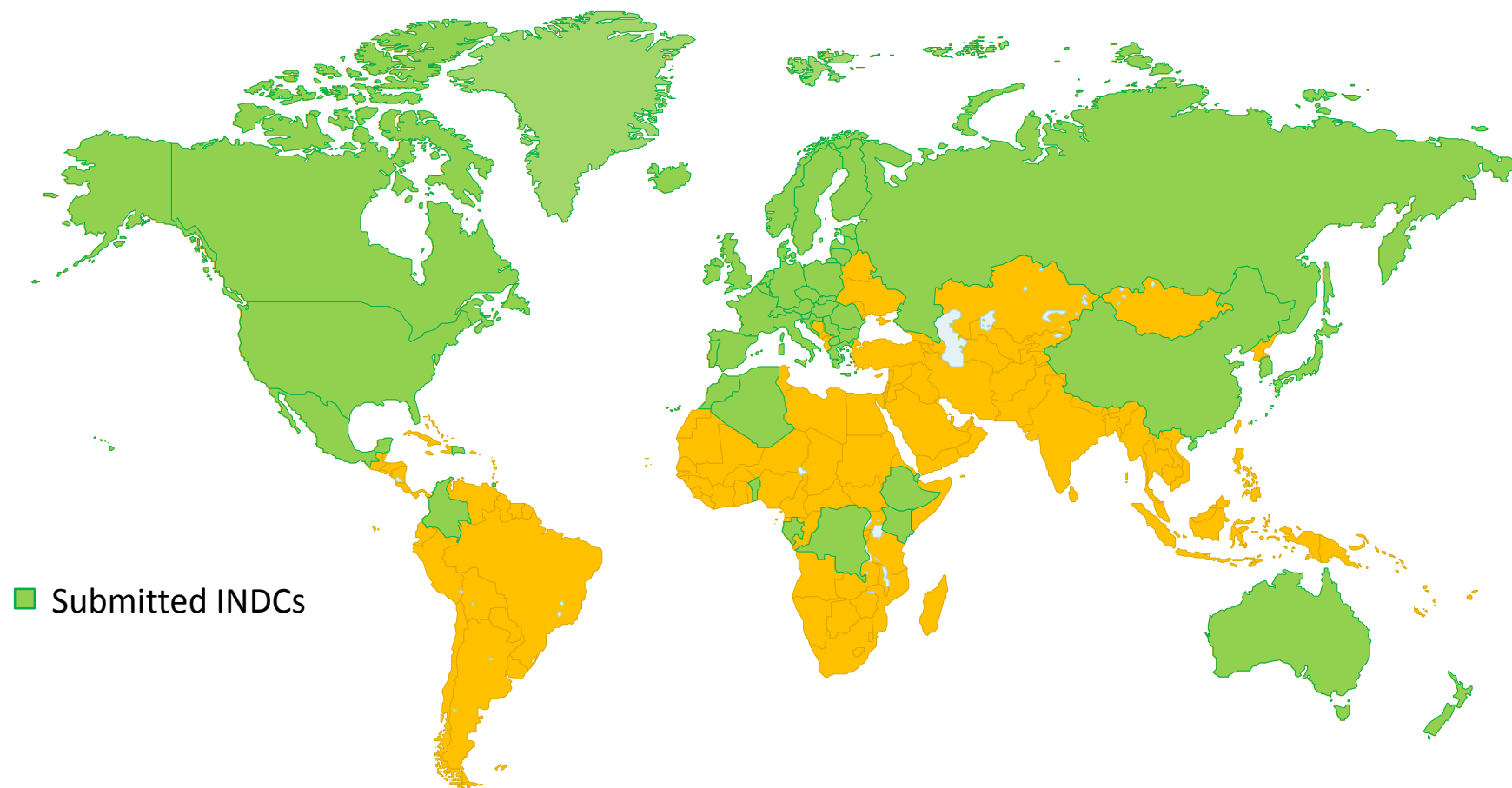


Share of LNG rises in global gas trade, pushed by a near-tripling in liquefaction sites: LNG brings more integrated & secure gas markets, but only limited relief on prices

Energy & climate change today

- **A major milestone in efforts to combat climate change is fast approaching – COP21 in Paris in December 2015**
- **Momentum is building:**
 - *Historic US-China joint announcement; EU 2030 targets agreed*
 - *Developed & developing countries are putting forward new pledges*
 - *Many energy companies & investors are starting to engage*
- **Energy production & use accounts for two-thirds of global greenhouse-gas emissions**
- **Energy sector must cut emissions, while powering economic growth, boosting energy security & increasing energy access**

National pledges build towards a global agreement



Submitted INDCs cover 70% of energy-related GHG emissions, with implications for future energy & emissions trends

Conclusions

- Geopolitical & market uncertainties are set to propel energy security high up the global energy agenda
- The rise in LNG – notably from the US – is set to have a positive impact on international gas market efficiency & security
- For COP21, the IEA proposes four key energy sector outcomes:
 1. Target a near-term peak in emissions
 2. Five-year revision, to test the scope for raising ambition
 3. Lock in the vision by setting a long-term emissions goal
 4. Track the transition in the energy sector
- Key priority as the new IEA Executive Director is to modernise the Agency