

Global energy markets after Paris COP-21

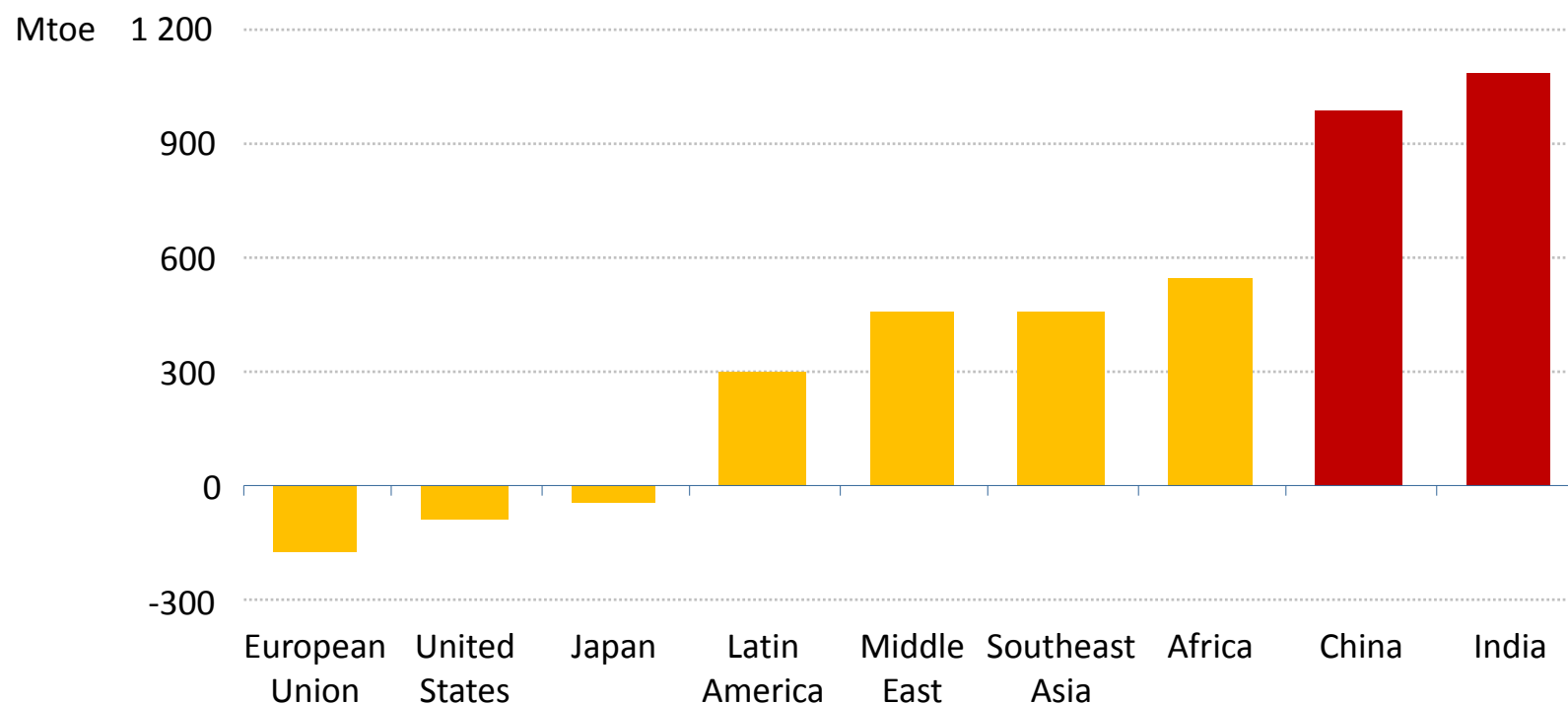


Dr. Fatih Birol
Executive Director
International Energy Agency
Istanbul, 10 June 2016

- Downturn in prices for all fossil fuels
 - *Oil & gas facing second year of falling upstream investment in 2016*
 - *Coal prices remain at rock-bottom as demand slows in China*
- An ongoing shift towards clean energy technologies is being driven by policy action & cost reductions
 - *Renewables accounted for over 90% of new electricity generation in 2015*
- COP-21 was an historic milestone that can stimulate energy sector innovation
 - *Pledges of 180+ countries account for 95% of emissions*
- Multiple signs of change, but are they moving the energy system in the right direction?

Global energy demand growth concentrates in Asia

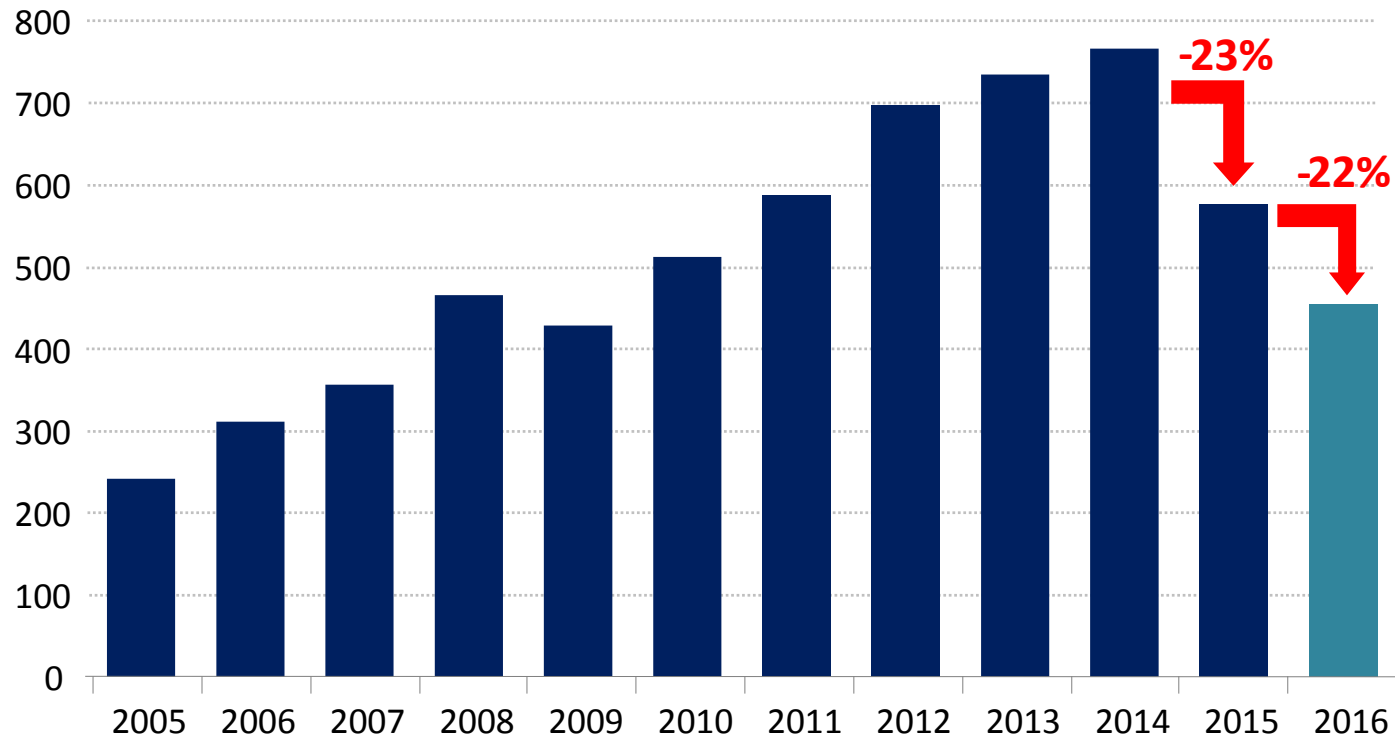
Change in energy demand in selected regions, 2014-2040



Energy use worldwide grows by one third to 2040, driven by Asia; EU energy demand declines by 15% over the period

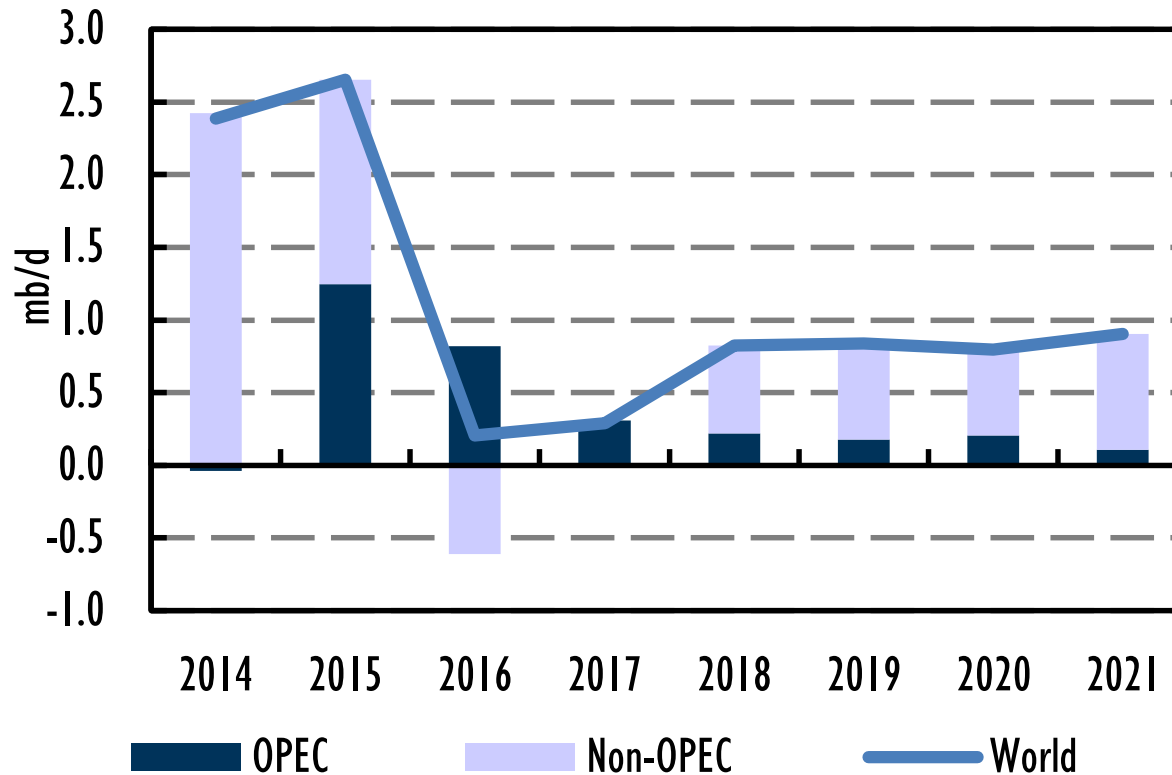
Upstream oil and gas investment continues to fall

Upstream oil and gas investment



Upstream oil and gas investment continues to fall, particularly in high-cost regions; this raises the prospect of price volatility in the future

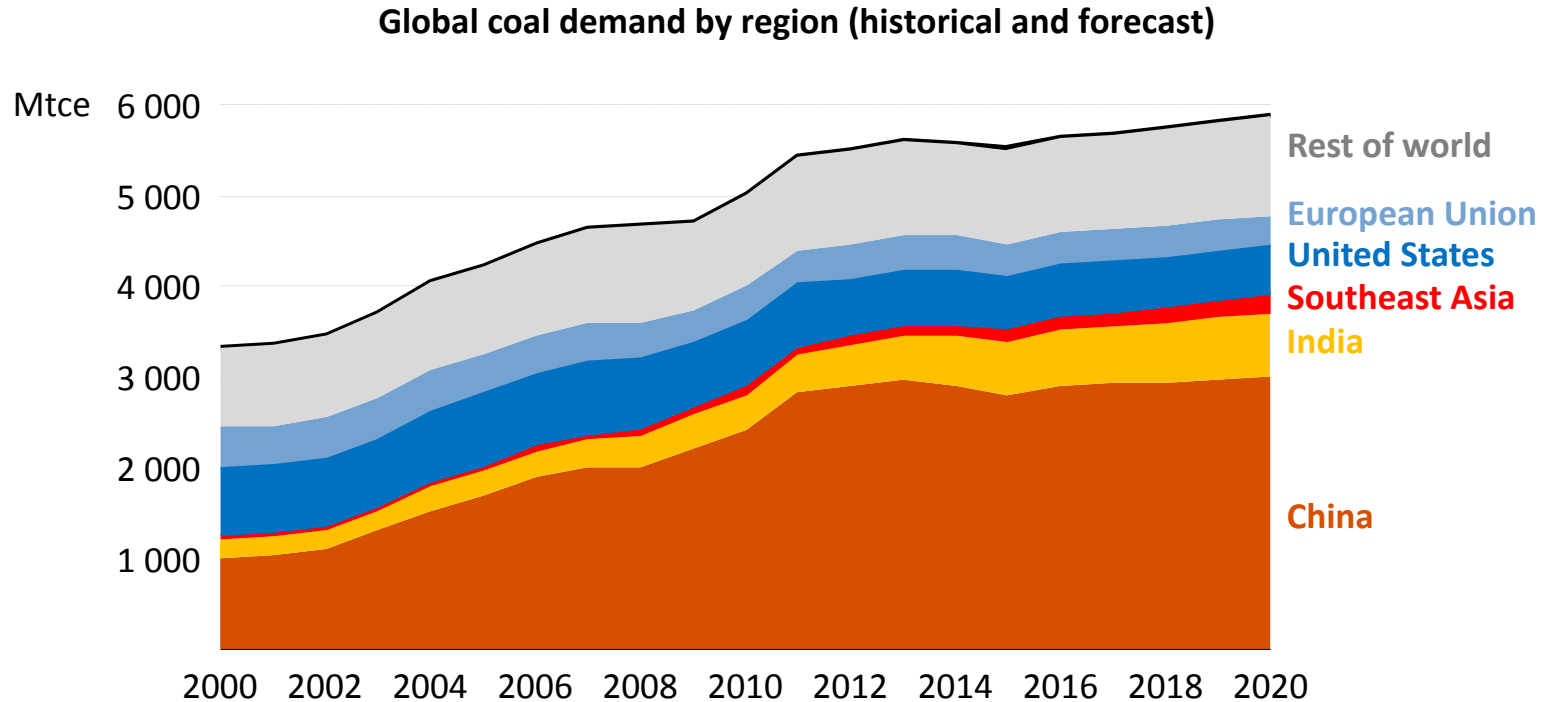
World oil supply growth set to plunge



*2014 -15 shows actual output growth. 2016 assumes Iran ramp-up. OPEC capacity increases thereafter.

In 2015-21, oil supply growth slows to 4.1 mb/d vs 11 mb/d in 2009-15; Iran, US, Brazil & Canada see the biggest increases in production

There is no “second” China waiting to drive global coal use



Strong growth in coal use in India & Southeast Asia offset declines in the EU & the US, but does not match the rise seen over last decade in China

Coal prices to remain under pressure

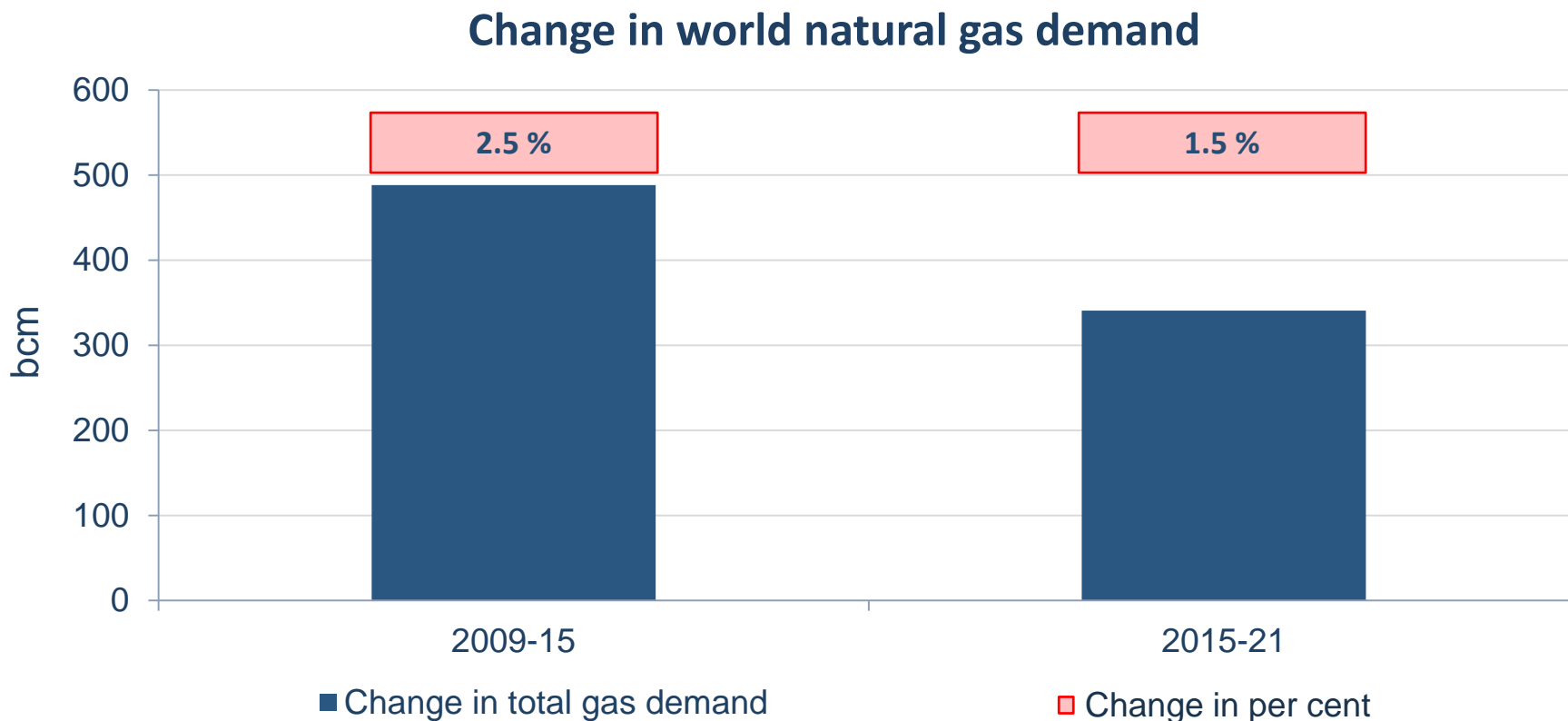
Development of thermal coal prices



CIF Prices in North West Europe (ARA)

Global overcapacity & weaker than expected demand look set to put further downward pressure on coal prices through to 2020

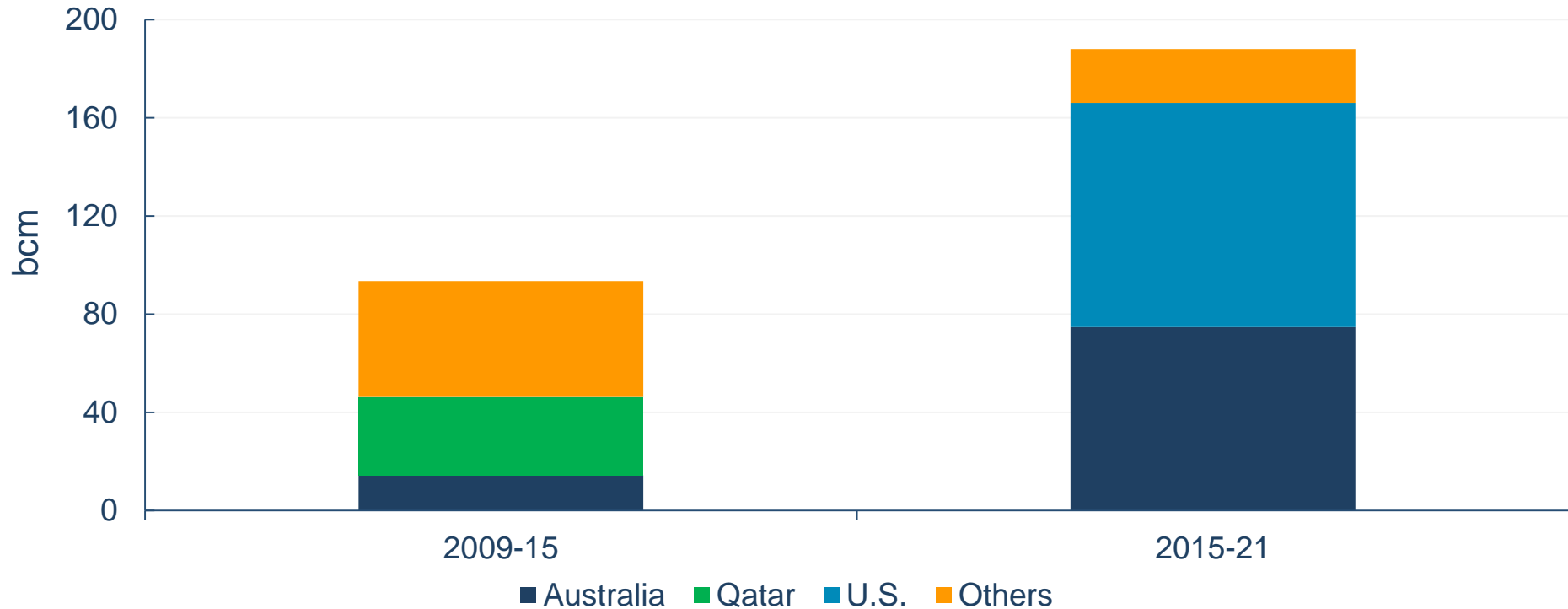
Growth in global gas demand slows



Growth in gas demand slows as it faces greater competition in the power sector; yet it is the only fossil fuel that does not suffer a decline in its share of the energy mix

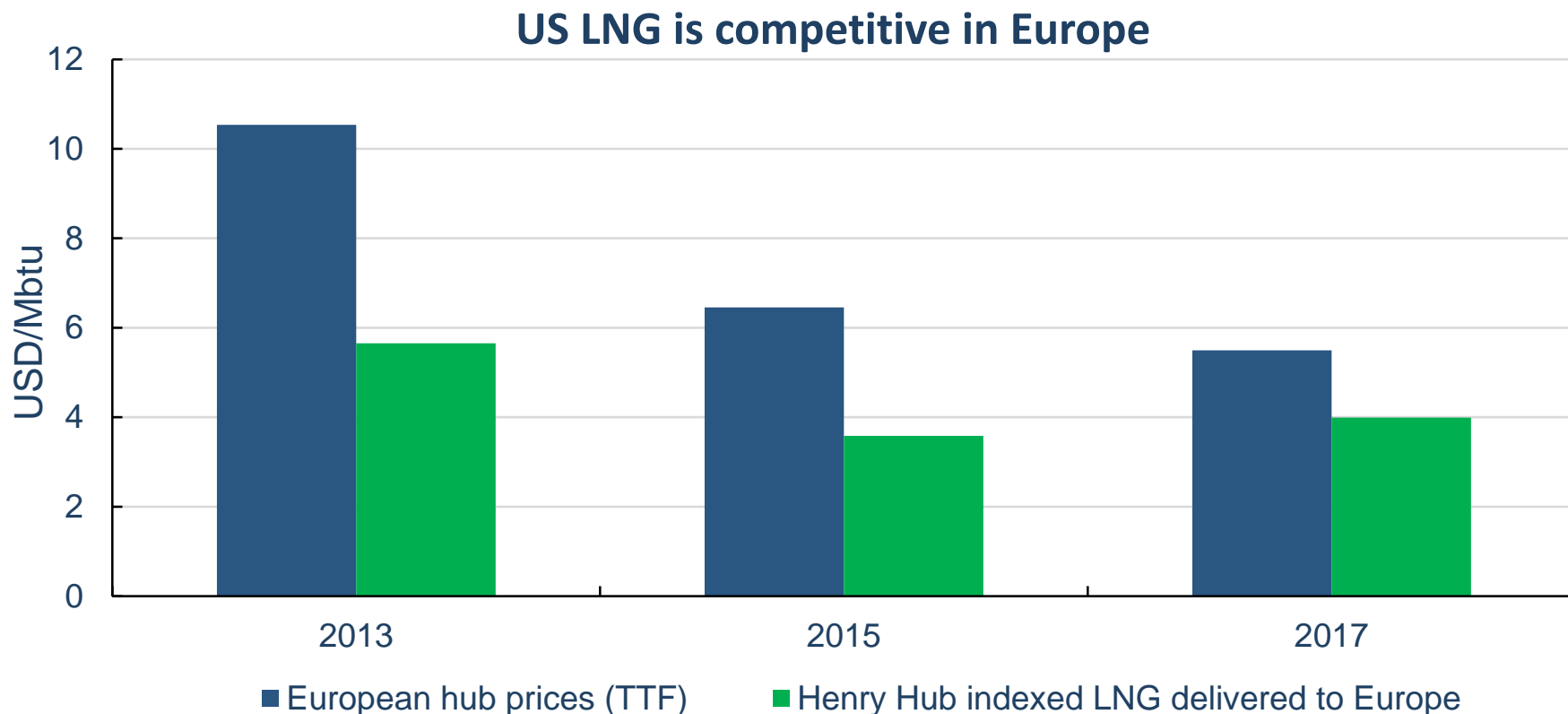
Global LNG export capacity increases sharply

Liquefaction capacity additions



LNG capacity additions will be led by the US & Australia over the next five years; projects in Canada & East Africa could also move ahead if demand & prices recover

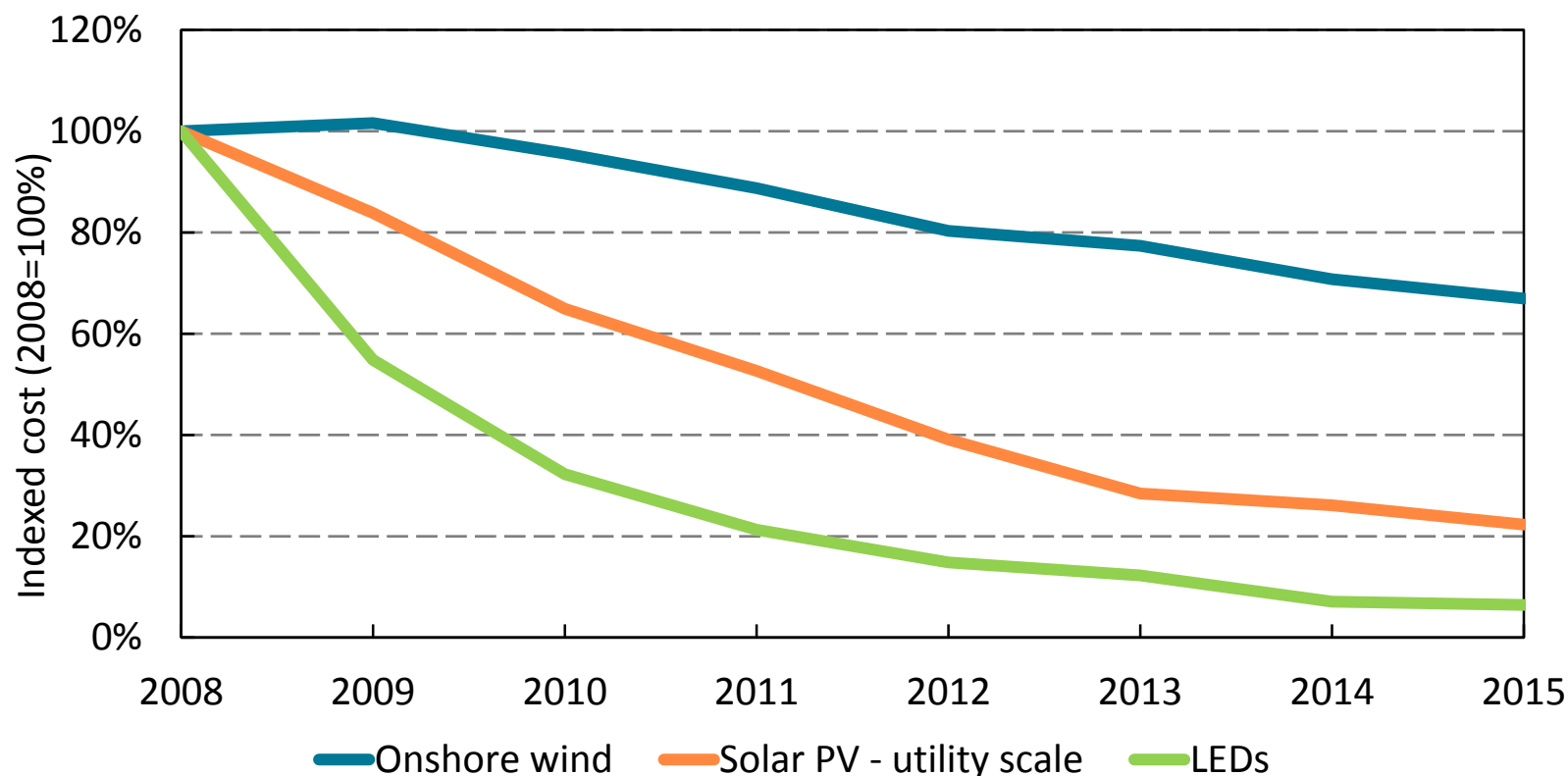
Greater competition is coming to the European gas market



Oversupply in global LNG markets will intensify competition; flexible US LNG volumes are well-placed to compete in Europe

The cost of clean energy continues to fall

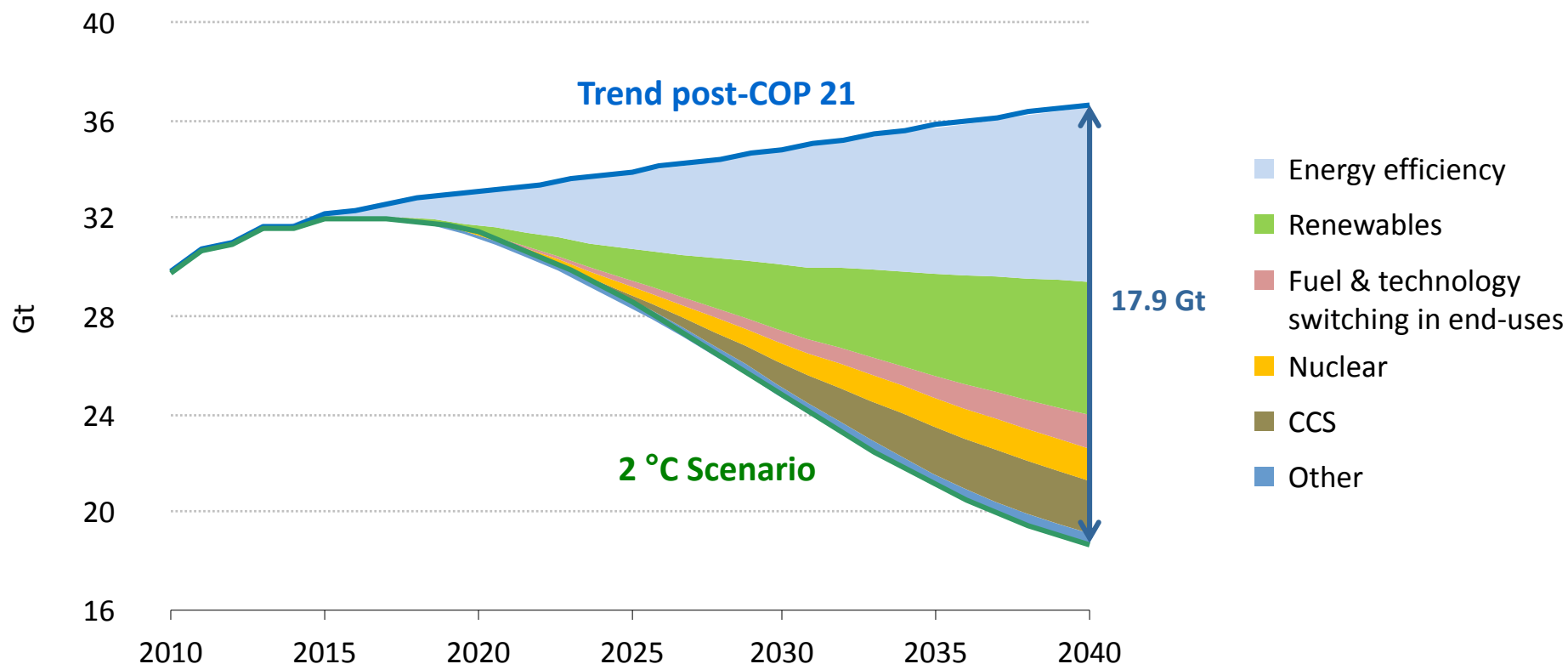
Indexed cost of onshore wind, utility scale PV and LED lighting



The falling cost of clean energies opens new opportunities, but support mechanisms need to be reviewed as costs decline

A 2 °C pathway requires more technological innovation, investment & policy ambition

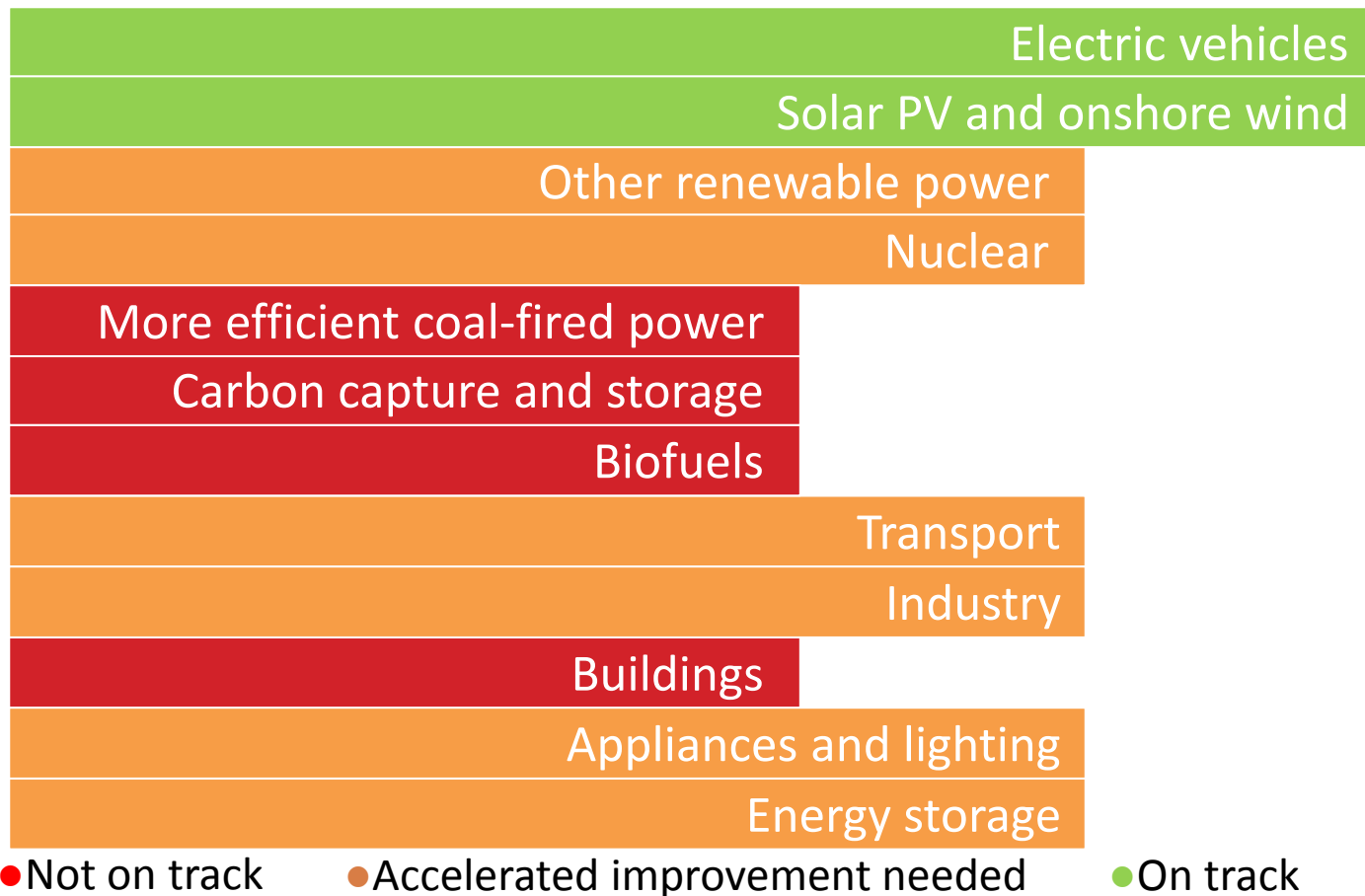
CO₂ emissions in a post COP 21 world



Massive additional investments in efficiency, renewables, nuclear power and other low carbon technologies are required to reach a 2 °C pathway

Global progress in clean energy needs to accelerate

Technology Status today against 2DS targets



Global clean energy deployment is still overall behind what is required to meet the 2°C goal, but recent progress on electric vehicles, solar PV and wind is promising

Priorities in moving to a sustainable energy future

- Be wary of cuts in upstream oil and gas investment - they pose threats to energy security and could lead to greater price volatility
- COP21 was historic and a catalyst for more innovation, research and investment in clean energy technologies
- 2015 saw progress in solar PV, wind and electric vehicles, but other areas such as CCS and biofuels are lagging behind
- International collaboration is crucial to respond to energy security & environmental challenges; IEA is pursuing modernization efforts:
 - I. "Opening its doors" to the emerging economies*
 - II. Taking on a new role to safeguard natural gas security*
 - III. Becoming a global Clean Energy Hub*