



Global Energy Markets: Today and Tomorrow

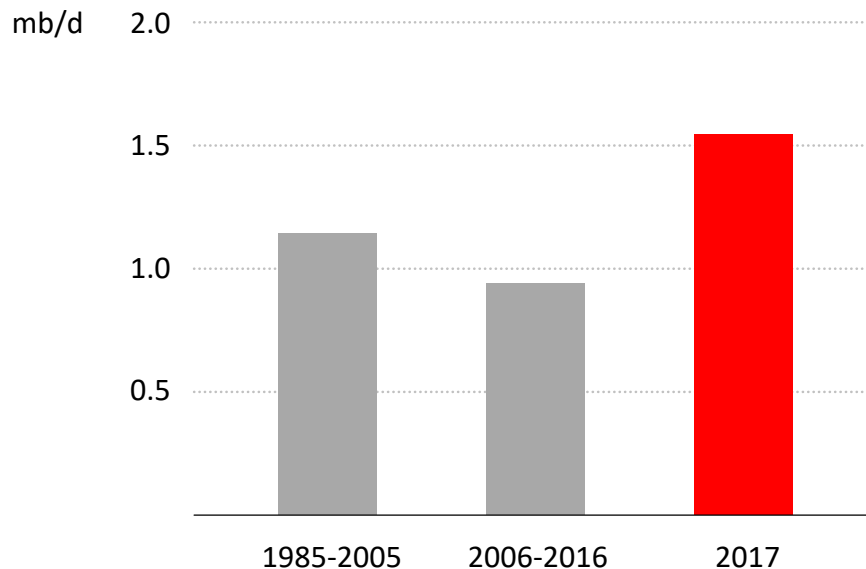
Dr. Fatih Birol

Executive Director, International Energy Agency

IEF, Riyadh, 2 May 2018



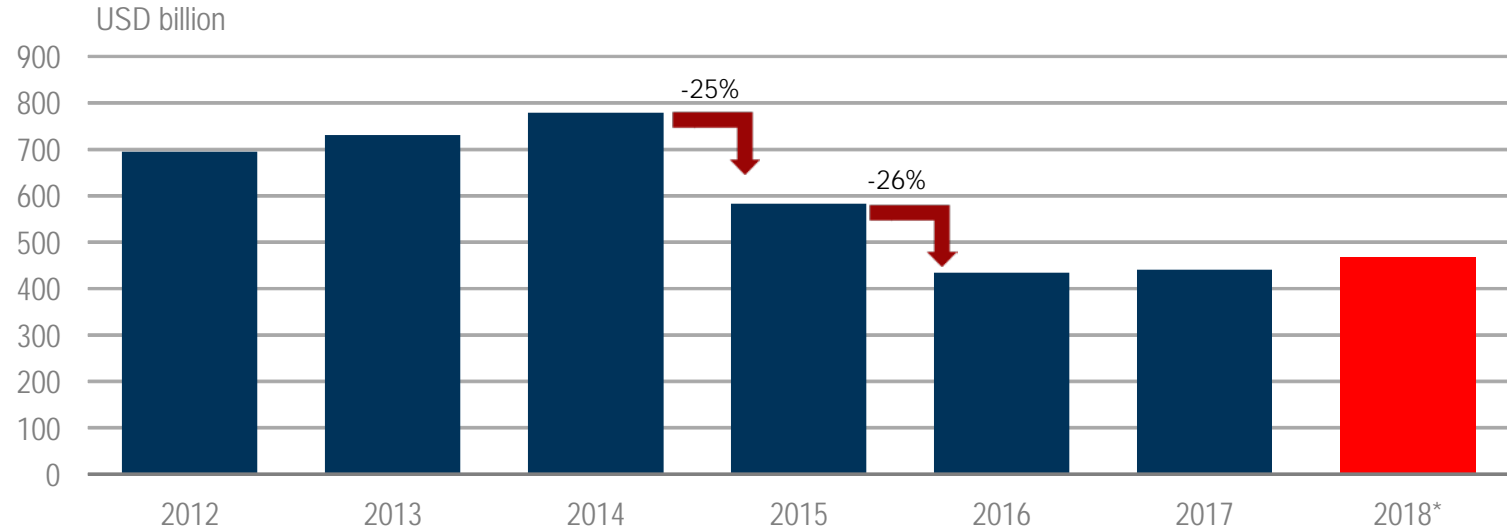
Growth in global oil demand



Global oil demand rose by 1.6% in 2017, twice the rate seen over the last decade, underpinned by more SUVs, trucks and growth in petrochemicals

Lower upstream spending could lead to tighter markets

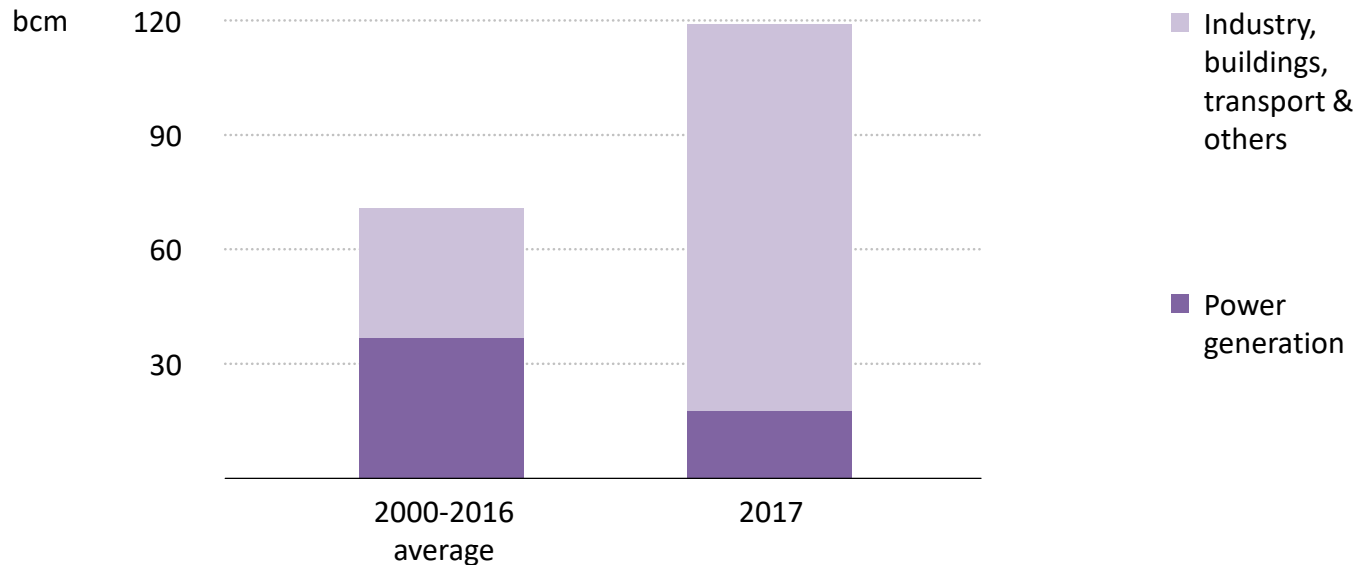
Global oil and gas upstream capital spending 2012-2018



*Preliminary based on selection of investment updates

Investment in US shale has been remarkably resilient, but lower spending elsewhere could spell trouble for oil markets in the 2020s given field declines and robust demand

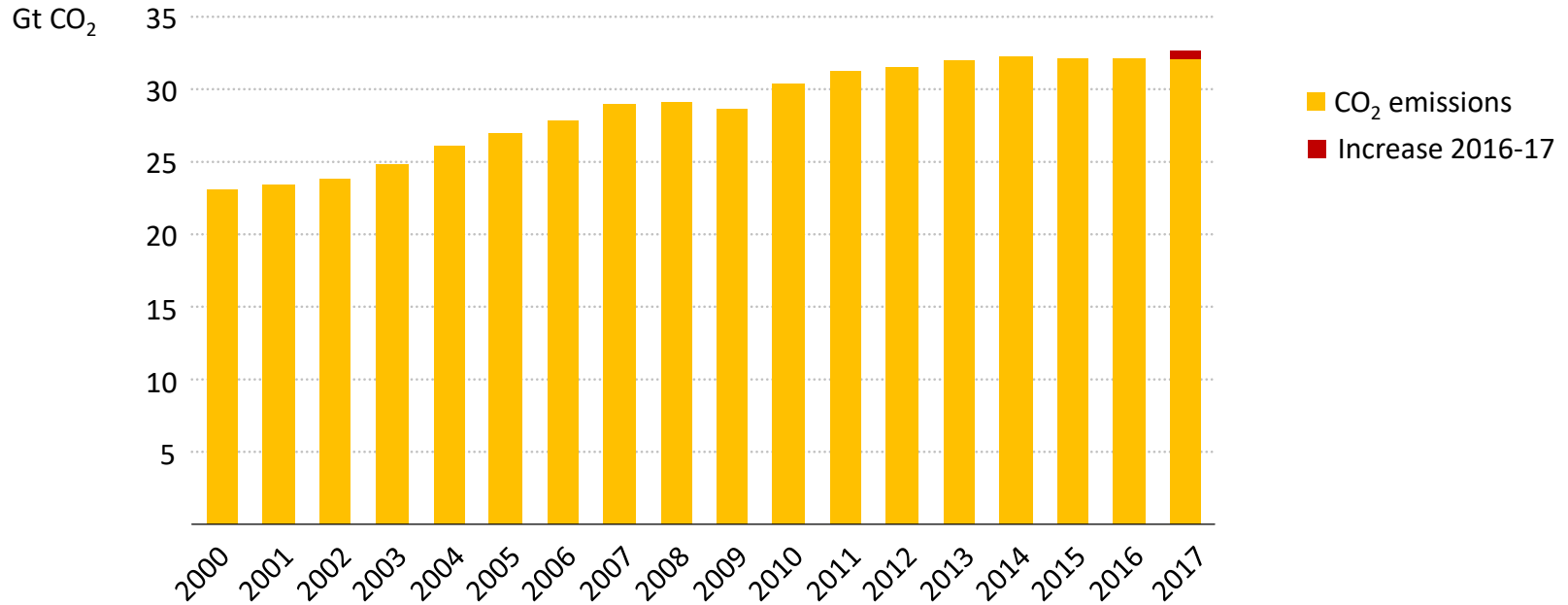
Growth in global gas demand



The strong growth in gas demand in 2017 was not driven by the power sector, but by greater use in industry & buildings; China accounted for 30% of the increase in global gas demand

After three years of plateau, global emissions increase again

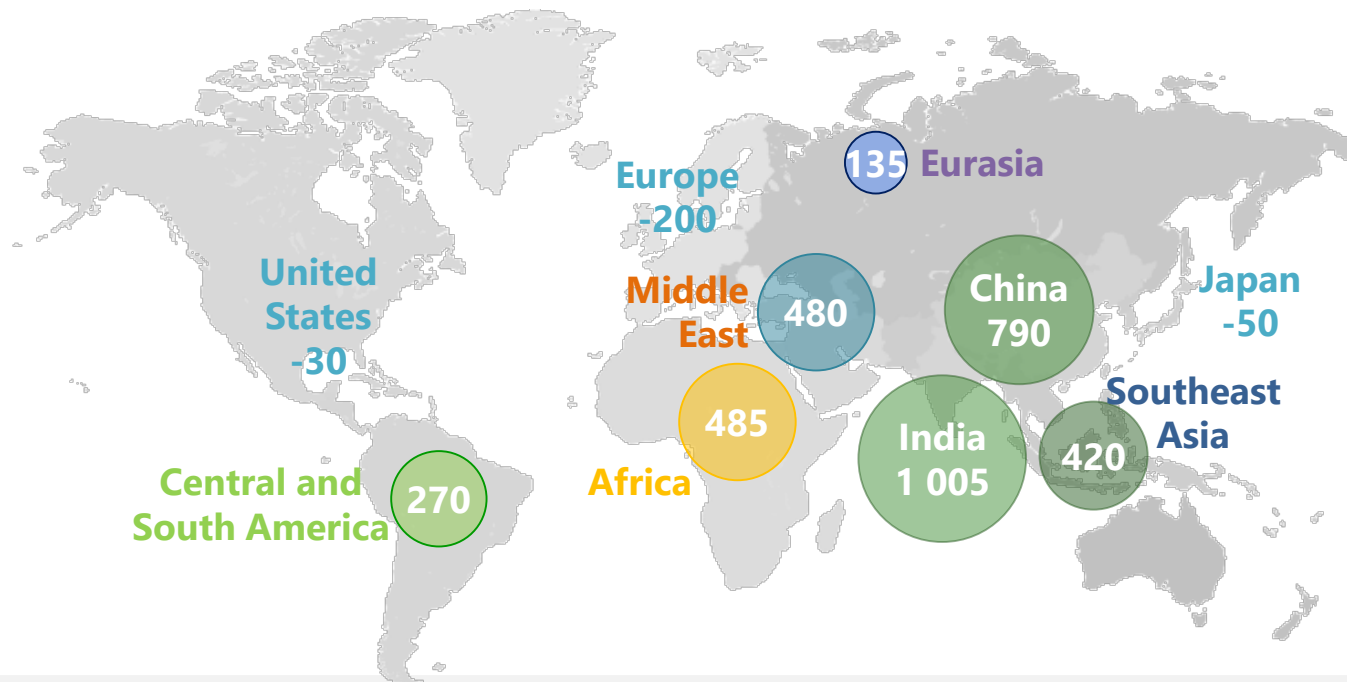
Global energy-related CO₂ emissions



IEA estimates show that global energy-related CO₂ emissions reached a historic high in 2017, telling us that current efforts to combat climate change are far from sufficient

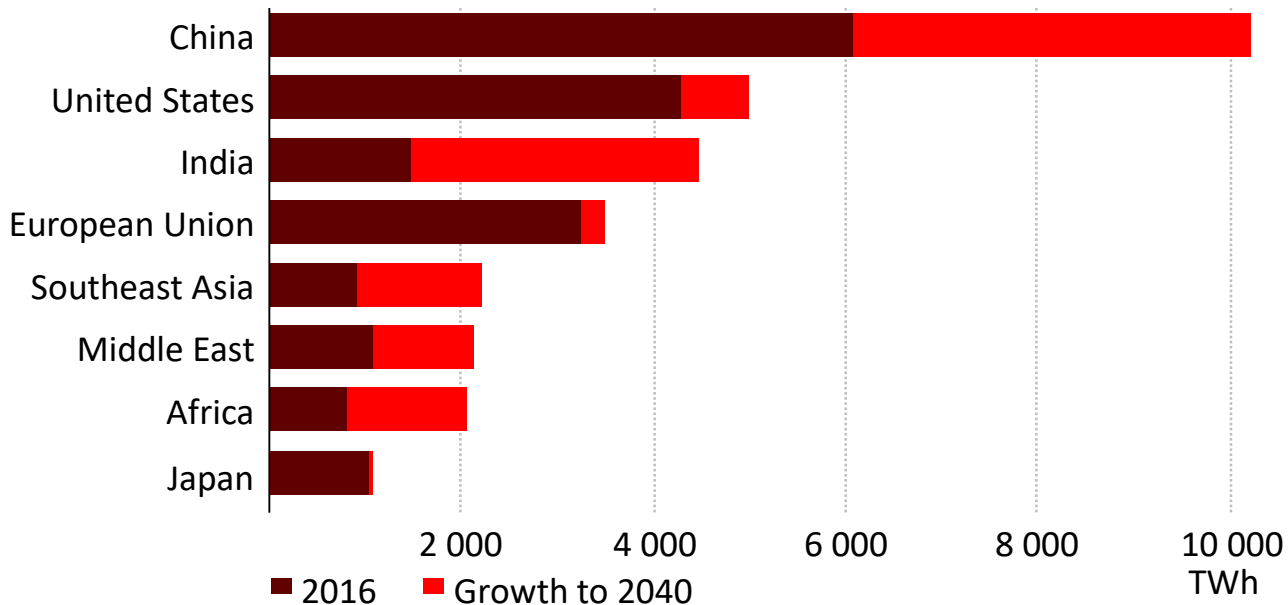
India takes the lead, as China energy growth slows

Change in energy demand, 2016-40 (Mtoe)



Old ways of understanding the world of energy are losing value as countries change roles: the Middle East is fast becoming a major energy consumer & the United States a major exporter

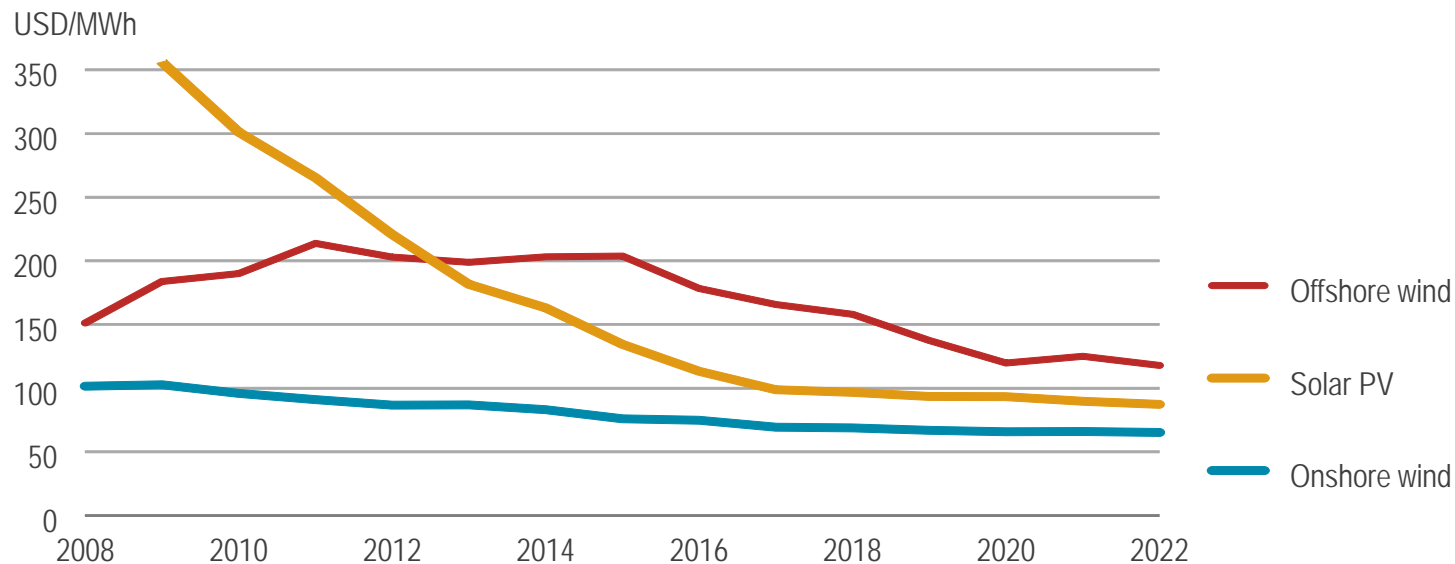
Electricity generation by selected region



India adds the equivalent of today's European Union to its electricity generation by 2040, while China adds the equivalent of today's United States

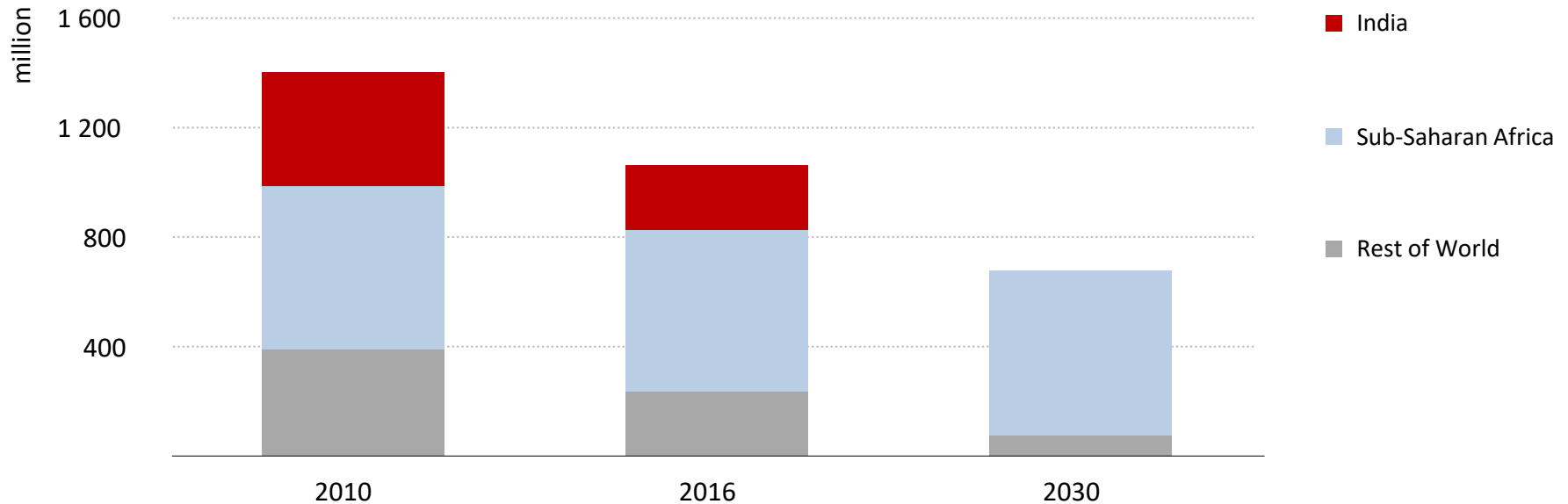
Wind and solar PV costs continue to fall

Wind and solar PV average costs



Large-scale deployment of wind and solar PV – led by China, Europe, the United States and India – is pushing technology costs lower; more investments & new policy approaches are needed for effective grid integration

Number of people without electricity access



Strong policy support in India in recent years has brought the goal of universal access within reach, although more effort will be required to reach the worldwide target of 'energy for all' by 2030

- The need for **investment in oil** has not diminished, given continued growth in demand & 3 mb/d of declines from mature fields each year
- The versatility of natural gas means that it is well placed to grow, but **competitive prices** and **continued attention to gas security** are vital
- **Electrification & digitalisation** creates new opportunities in the global energy system, but also risks that policy makers have to address
- After 3 years of remaining flat, **global energy-related CO₂ emissions grew** in 2017 – in part due to less emphasis being placed on energy efficiency
- The IEA is committed to **close cooperation & dialogue** to ensure a future of reliable, affordable and clean energy



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