

Energy for Global Growth and Sustainability

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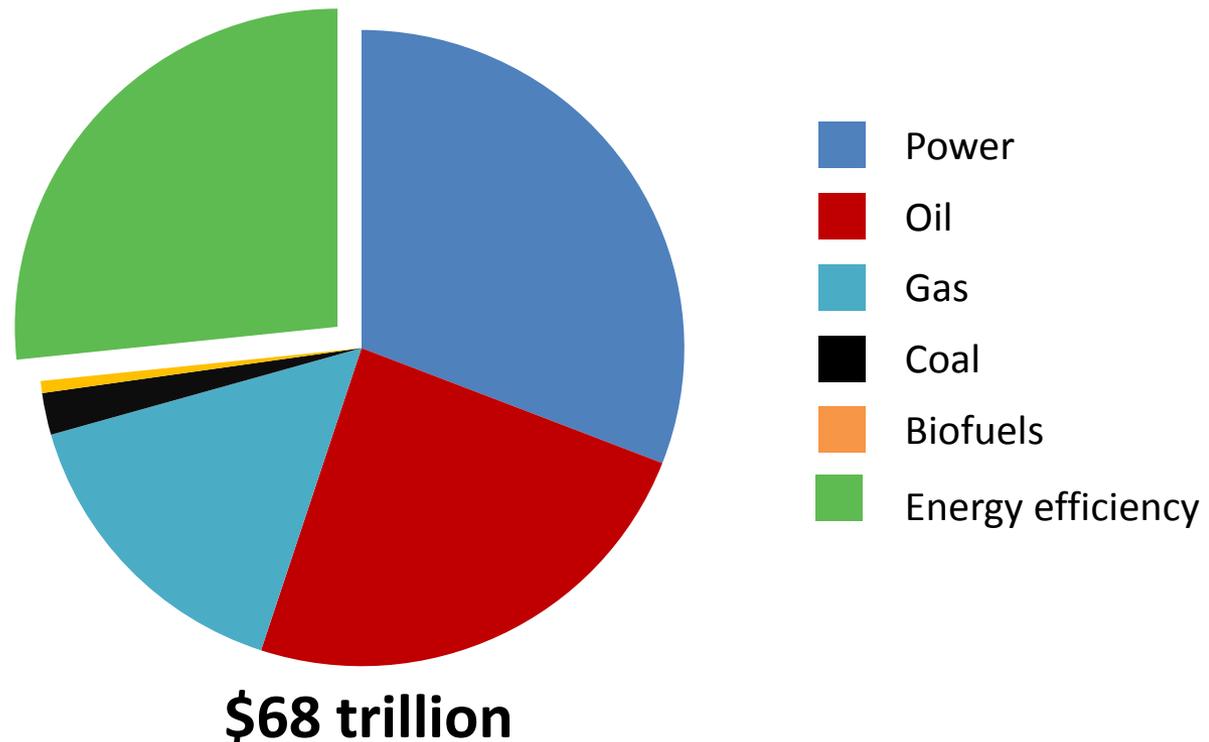
G20 Energy Ministerial

Beijing, China

30 June 2016

G20 and global energy investment challenge

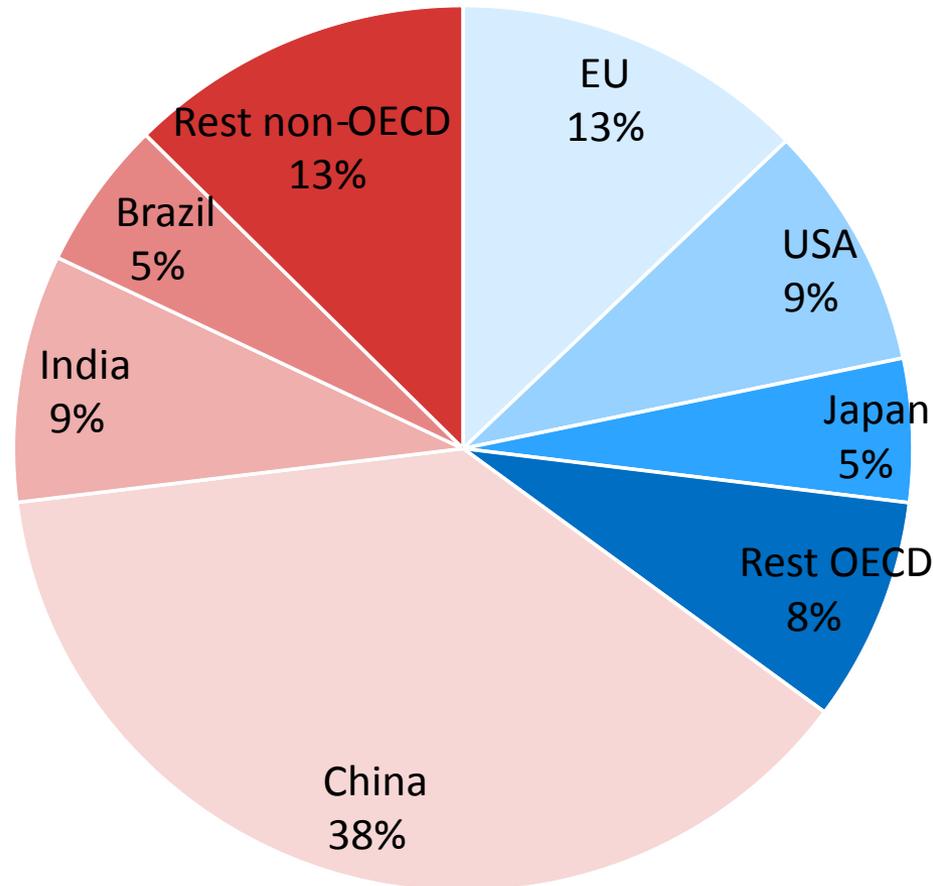
Cumulative investment in the energy sector to 2040



G20 accounts for two thirds of the \$2.6 trillion in global energy investment needed annually; investment choices have long-term implications

Renewables to lead world power market growth to 2020

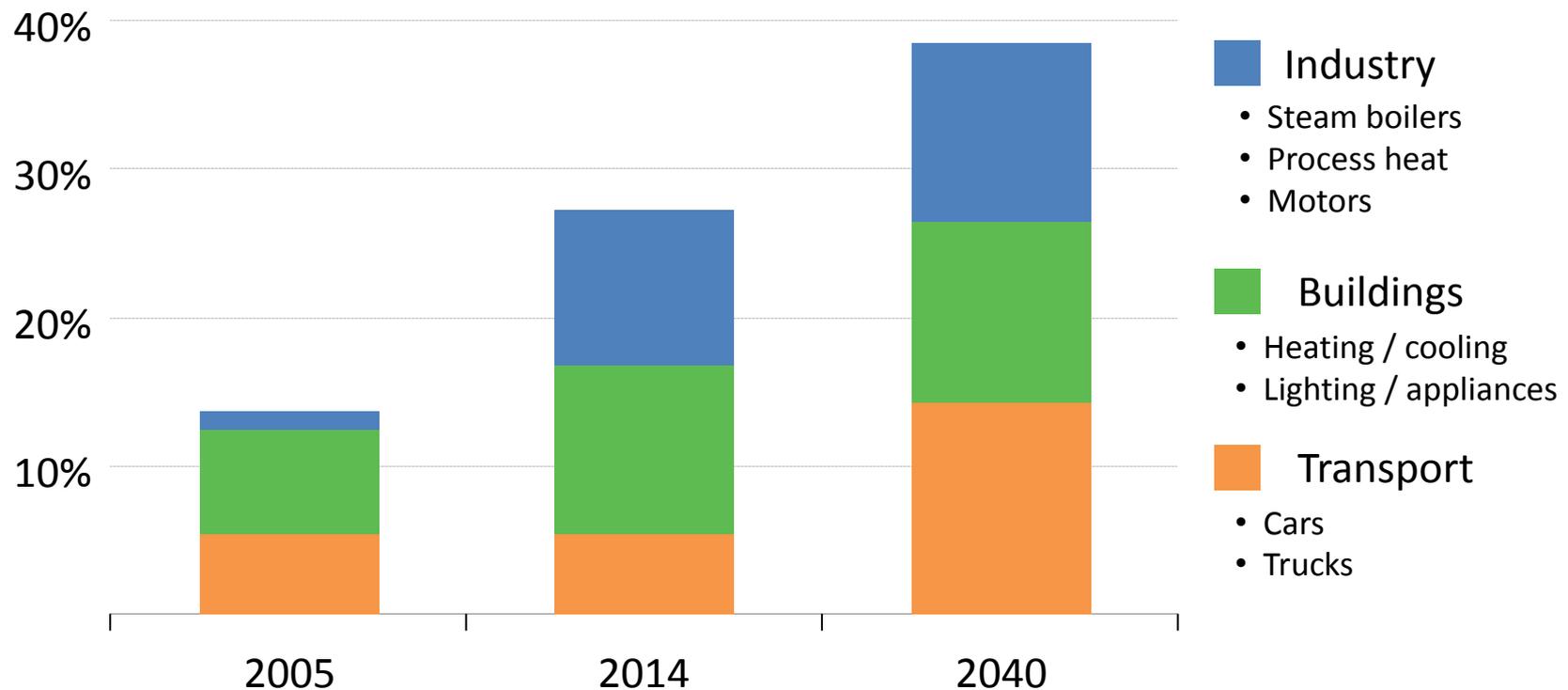
Shares of net additional renewable capacity, 2014-20



Renewable electricity additions to 2020 will top 700 GW or almost two-thirds of net additions; Emerging economies make up two-thirds of the expansion

Action on energy efficiency must begin to match its potential

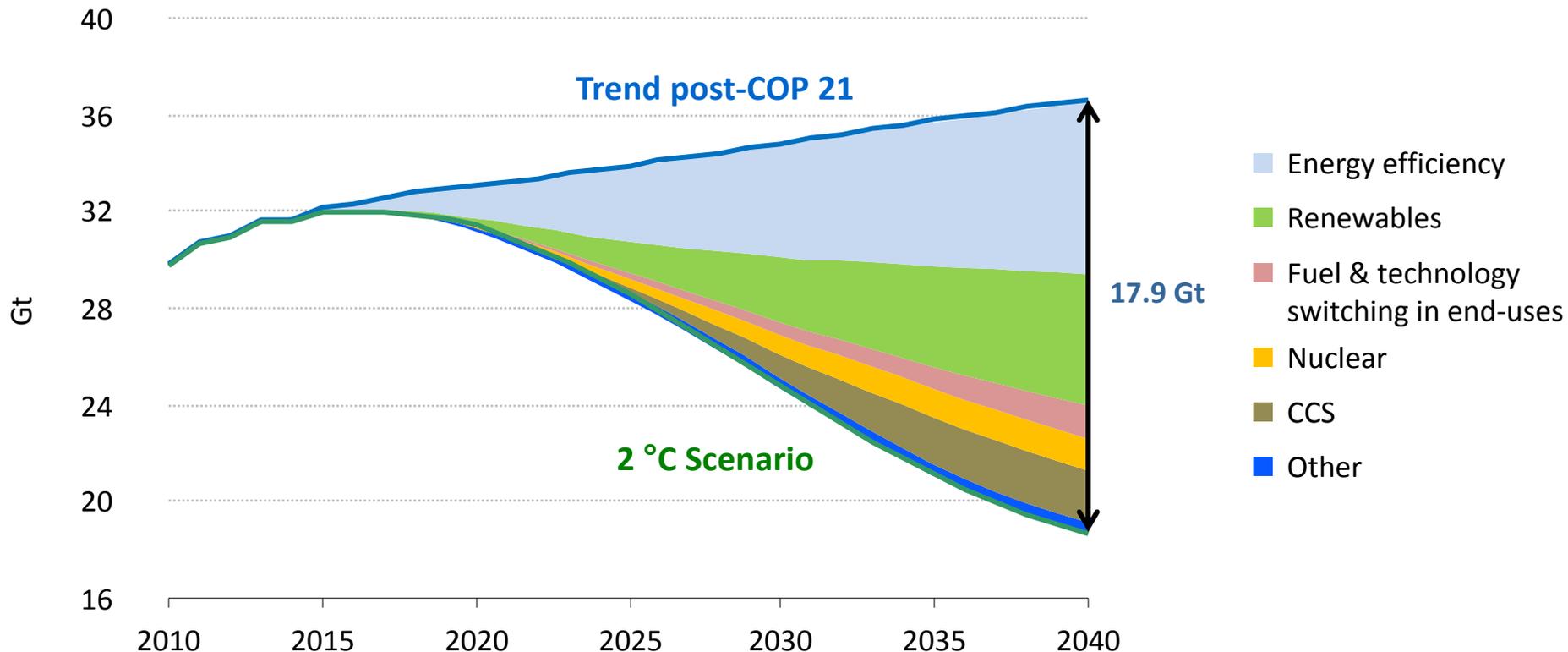
Share of energy consumption covered by mandatory efficiency regulations



Energy efficiency policies are being introduced in more countries and sectors; they continue to slow demand growth, but more can be done

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

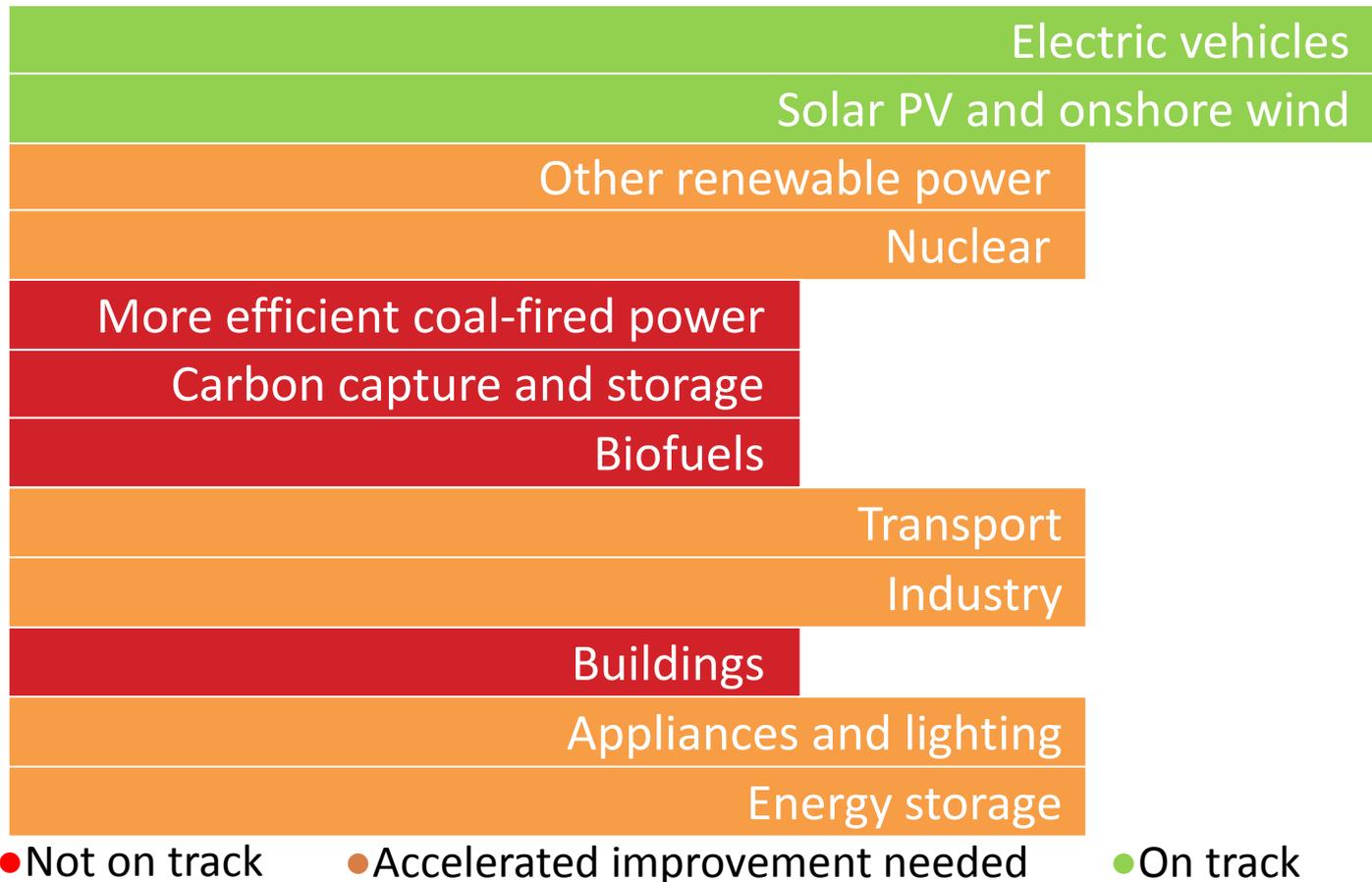
CO₂ emissions in a post COP 21 world



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

Costs continue to fall, but global progress in clean energy still needs to accelerate

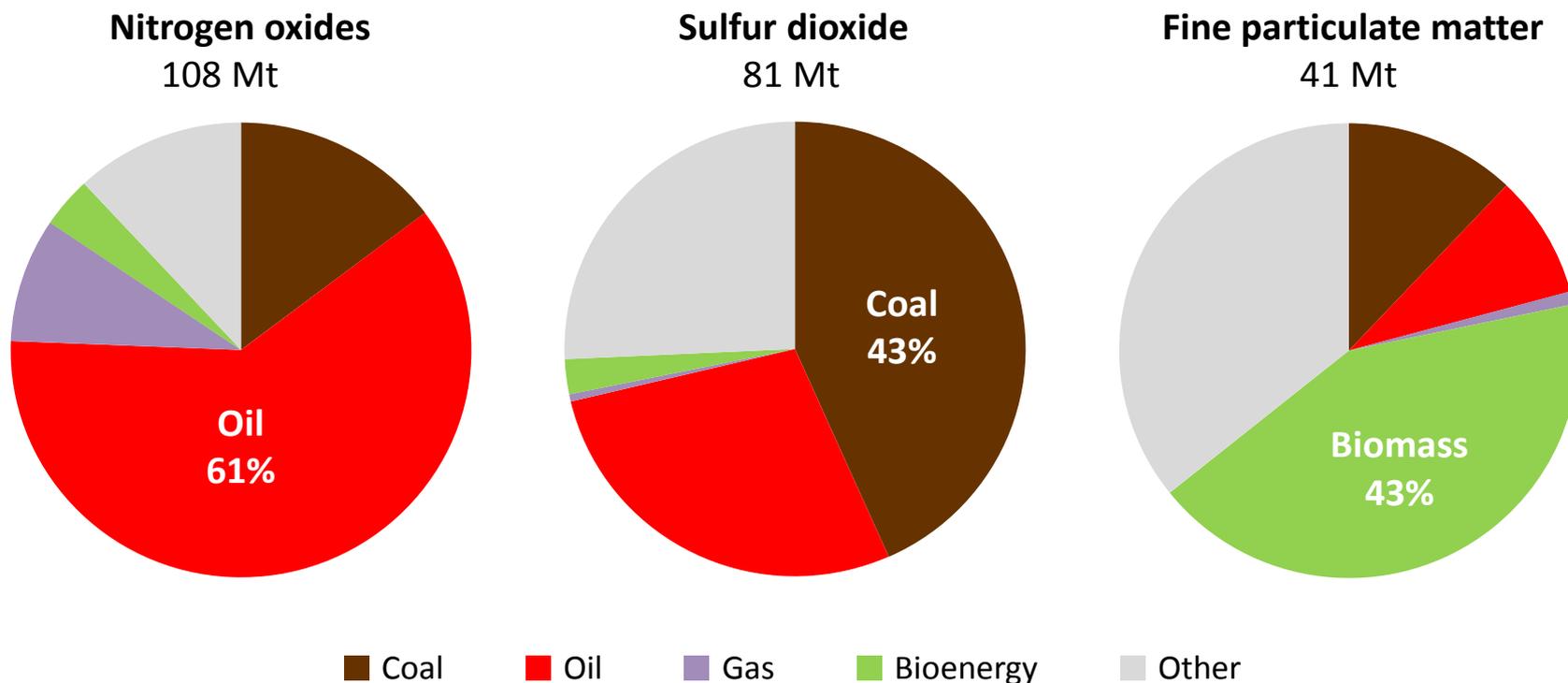
Technology Status today against 2DS targets



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

Air pollution is an energy problem

Pollutant emissions, 2015



Air pollution is the 4th largest human health risk globally, causing 6.5 million premature deaths annually

G20 countries must take a long-term view on their energy systems

- Be wary of the long-term implications of investments for energy security, climate change and air pollution
- Make sure electricity systems are prepared for the future in terms of policy, regulation & infrastructure
- Mandate & incentivise energy efficiency improvements to harness its vast potential across all sectors of the economy
- International cooperation – including through G20, CEM & Mission innovation – is vital for a secure & sustainable energy economy
- The IEA is committed to becoming a truly global hub for clean energy and is “opening its doors” to the emerging economies