World Energy Outlook 2018

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Katowice

Today's energy context

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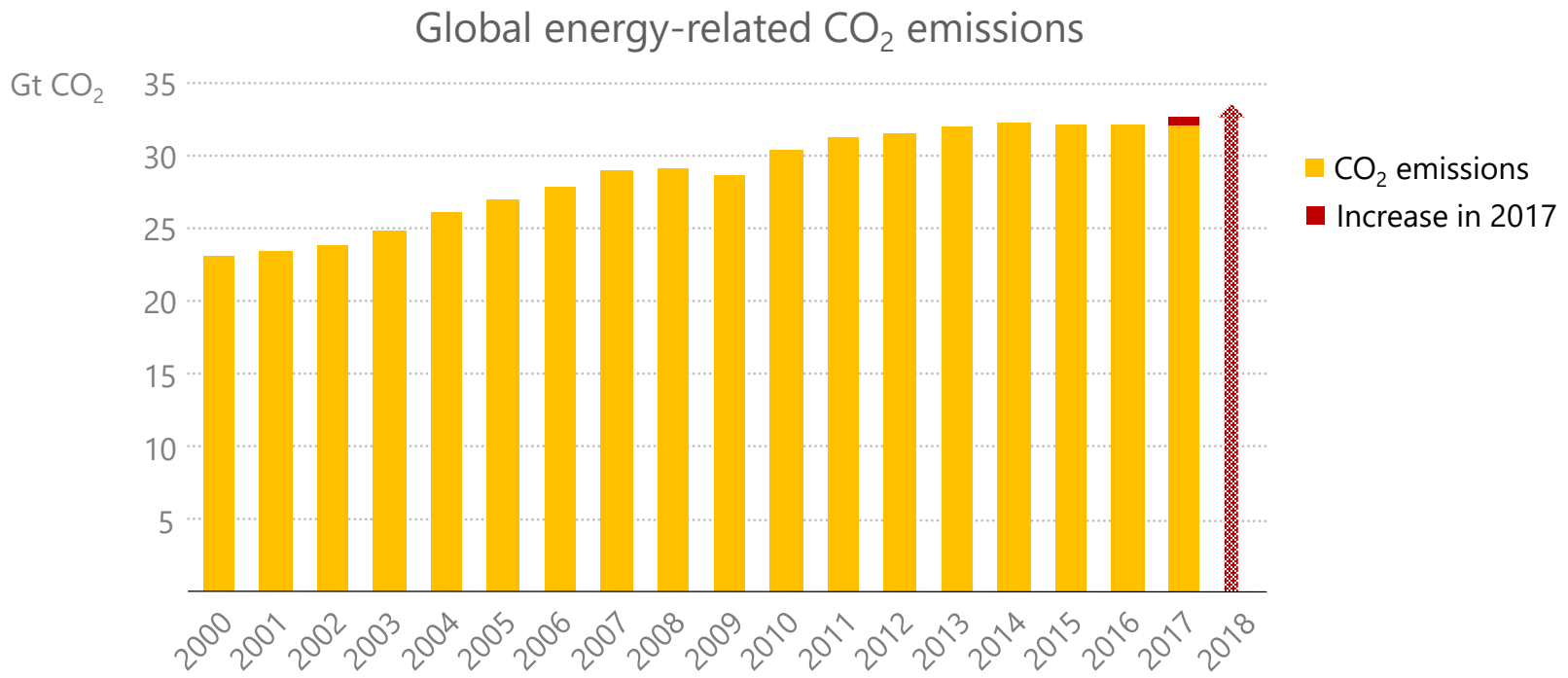
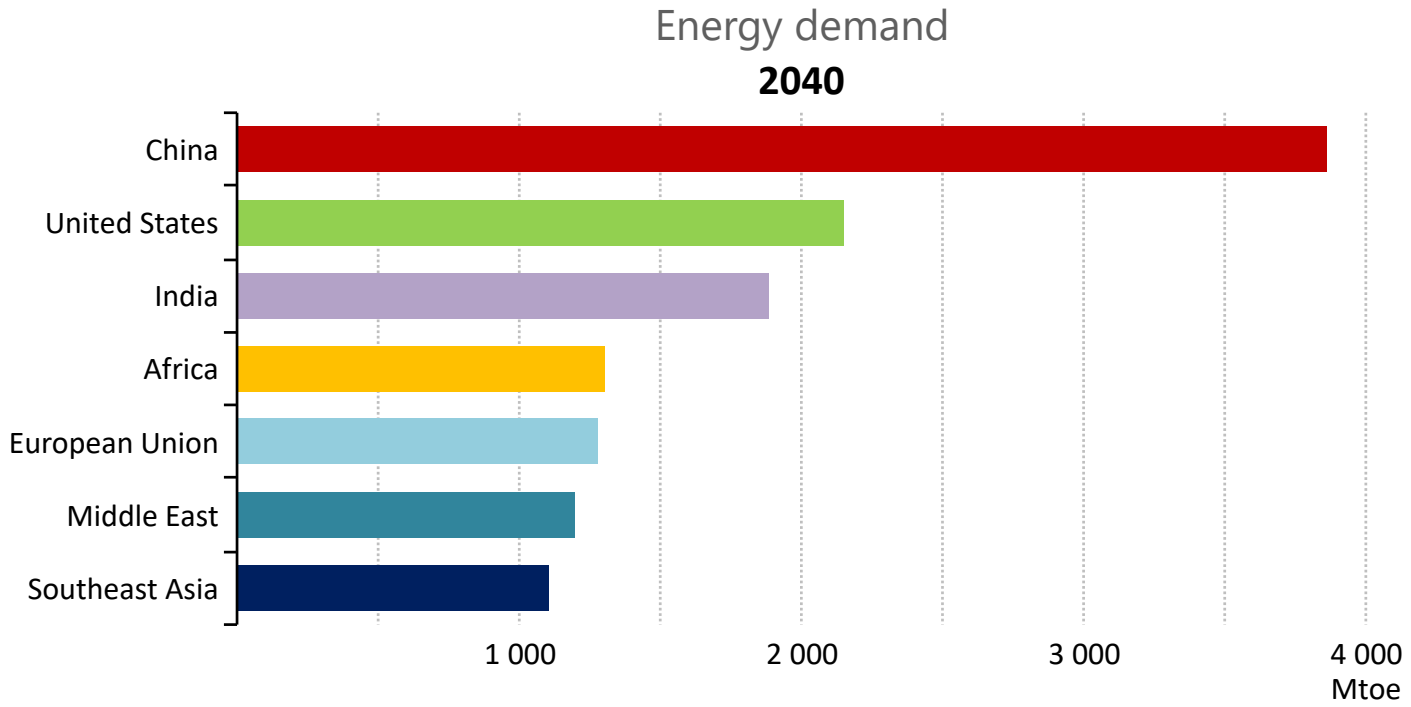
- Mixed signals about the pace & direction of change in global energy:
  - Oil markets are entering a period of renewed uncertainty & volatility
  - Natural gas is on the rise: China's rapid demand growth is erasing talk of a 'gas glut'
  - Solar PV has the momentum while other key technologies & efficiency policies need a push
  - Growing disconnect between climate goals and energy-market trends
  - For the first time, the global population without access to electricity fell below 1 billion
- Electricity is carrying great expectations, but questions remain over the extent of its reach in meeting demand & how the power systems of the future will operate
- Policy makers need well-grounded insights about different possible futures & how they come about. The *WEO* provides two key scenarios:
  - New Policies Scenario
  - Sustainable Development Scenario

Global emissions are on the rise again



Global CO_2 emissions are on the rise in 2018; Even in advanced economies – where they had been flat for 5 years – emissions are set to increase in 2018

The *new* geography of energy



In 2000, more than 40% of global demand was in Europe & North America and some 20% in developing economies in Asia. By 2040, this situation is completely reversed.

Our energy destiny rests with governments

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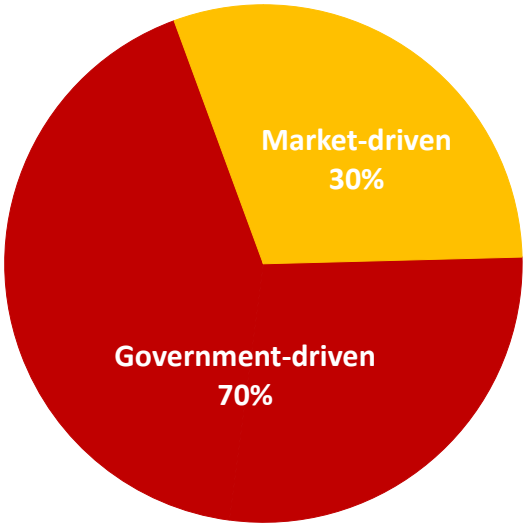
Total investment in energy supply to 2040:
$42.3 trillion



More than 70% of the $2 trillion required each year in energy supply investment either comes from state-directed entities or receives a full or partial revenue guarantee

Flexibility: the cornerstone of tomorrow's power systems

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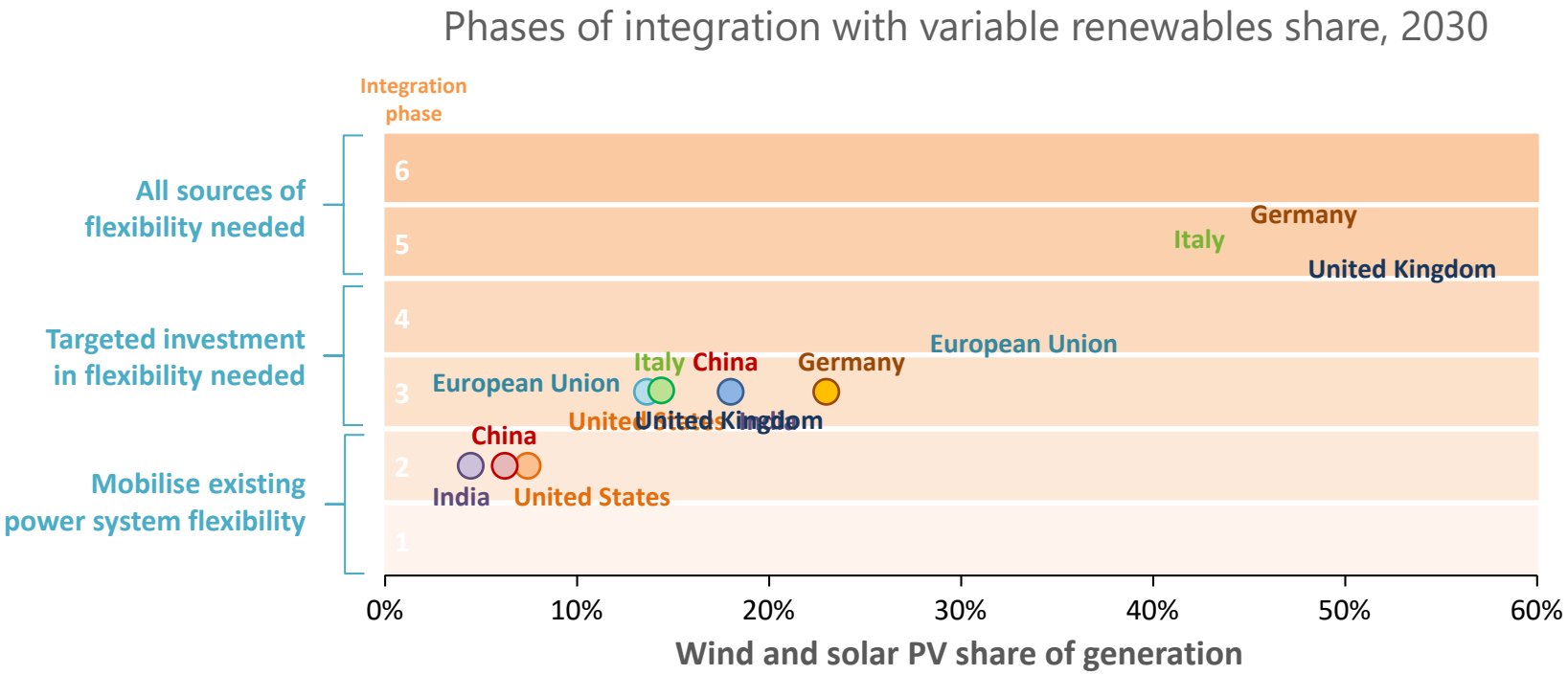

Higher shares of variable renewables raise flexibility needs and call for reforms to deliver investment in power plants, grids & energy storage, and unlock demand-side response

Can we unlock a different energy future?

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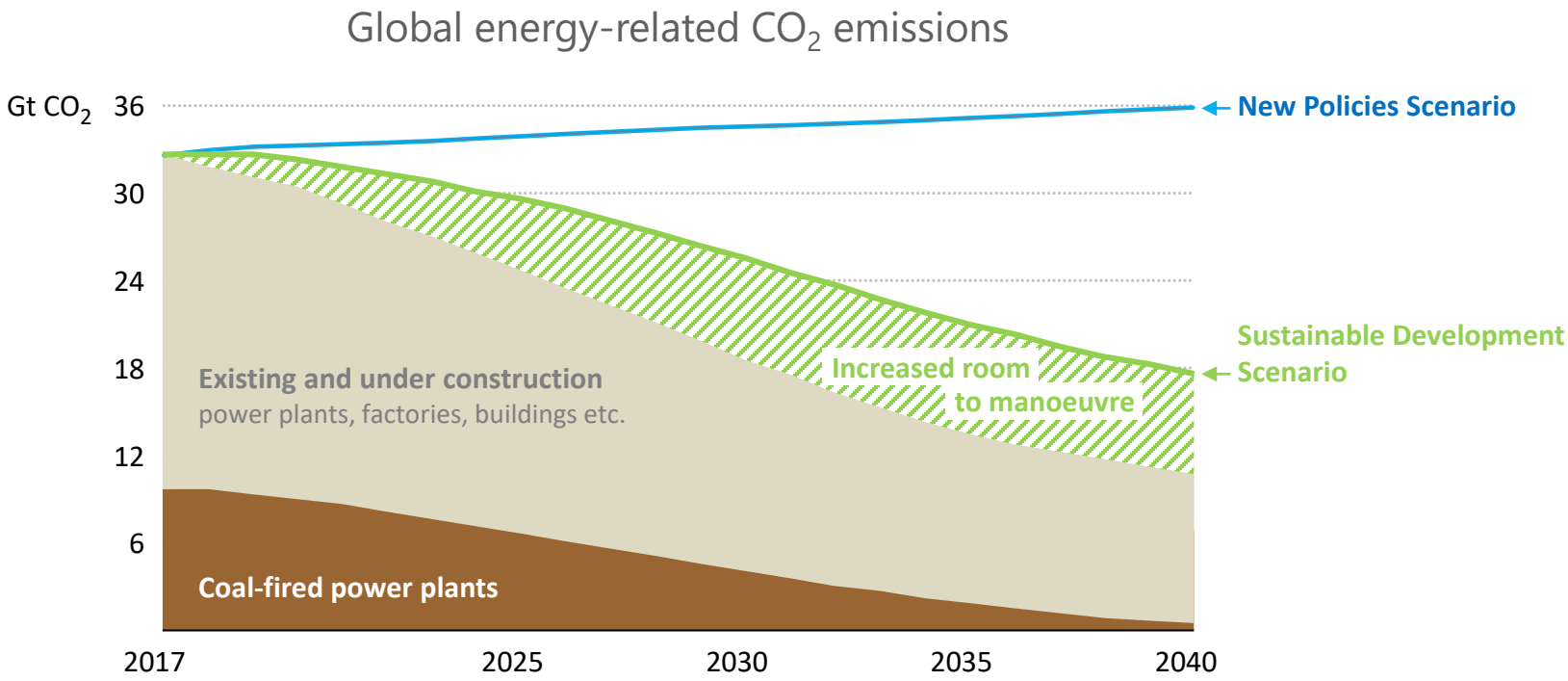

Coal plants make up one-third of CO_2 emissions today and half are less than 15 years old; policies are needed to support CCUS, efficient operations and technology innovation

Conclusions

- The links between energy & geopolitics are strengthening & becoming more complex, a major factor in the outlook for energy security
- The rapid growth of electricity brings huge opportunities; but market designs need to deliver both electricity *and* flexibility to keep the lights on
- There is no single solution to turn emissions around: renewables, efficiency & a host of innovative technologies, including storage, CCUS & hydrogen, are all required
- The future pathway for energy is open: governments will determine where our energy destiny lies
- The IEA supports energy transitions around the world with data, analysis and real world solutions

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