Today’s energy context

- 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 CO₂ 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.
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

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
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?

Coal plants make up one-third of CO₂ 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 \textit{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 \& real world solutions.