Huge uncertainties over oil and gas demand trajectories

The variations in demand trajectories come with dramatically different implications for investment; a strong policy push to reduce oil and gas demand is key to minimising the risk of market tightening.
Looming risk of more turbulence ahead for energy markets

The world is not investing enough to meet its future energy needs; oil and gas investment is geared to a world of stagnant or falling demand, while transition-related spending is not rising nearly fast enough.

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**Oil and natural gas production investment**

- 2018: 500 USD billion
- 2019: 1,000 USD billion
- 2020: 1,500 USD billion
- 2021e: 2,000 USD billion
- Net Zero Scenario 2022-30: 2,300 USD billion

**Clean energy and infrastructure investment**

- 2018: 1,000 USD billion
- 2019: 2,000 USD billion
- 2020: 3,000 USD billion
- 2021e: 4,000 USD billion
- Net Zero Scenario 2022-30: 6,000 USD billion
Well-managed transitions offer shelter from price volatility

Clean energy transitions can cushion consumers from the shock of price spikes for oil and gas, if households can get help to manage the upfront costs of energy efficiency improvements & electrification.
Market design and infrastructure in integrated systems

Key indicators of energy system change by scenario

2020

2050

- Stated Policies Scenario
- Announced Pledges Scenario
- Net Zero Scenario

New energy security challenges arise in systems increasingly reliant on electricity, low-carbon technologies, higher levels of supply variability and more complex conversions
Traditional risks and new vulnerabilities

Under announced pledges, a growing share of oil and gas trade flows towards developing economies in Asia. In all scenarios, but especially in the net zero pathway, critical minerals and hydrogen-based fuels are on the rise.
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Growing stress from extreme weather events

Share of energy infrastructure exposed to high levels of physical climate risks, 2020

The increase in the frequency and intensity of natural disasters and extreme weather events highlights the urgent need for action to enhance the resilience of energy systems to climate change.