World Energy Investment 2019

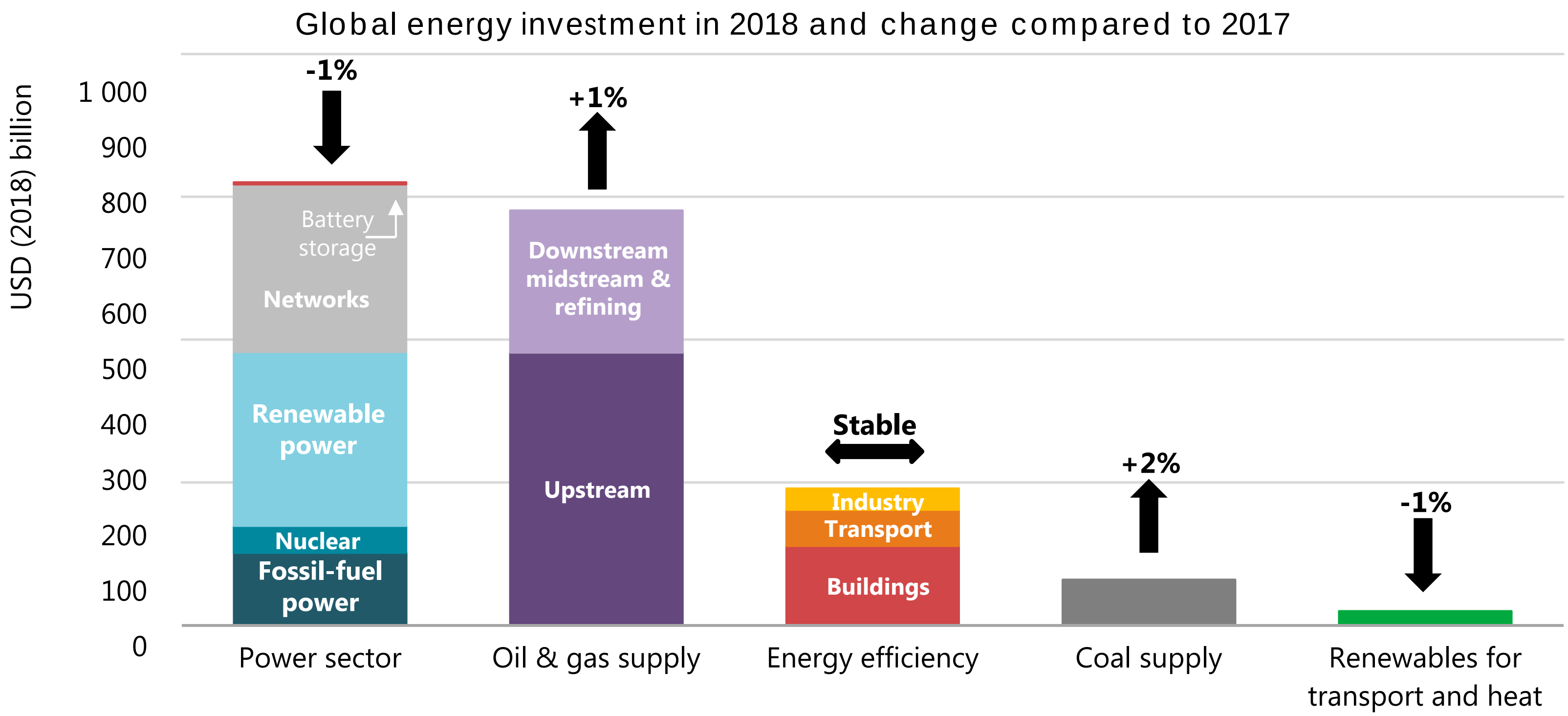
Energy Supply and Investment Outlooks Division

Club Español de la Energía, Madrid

IEA

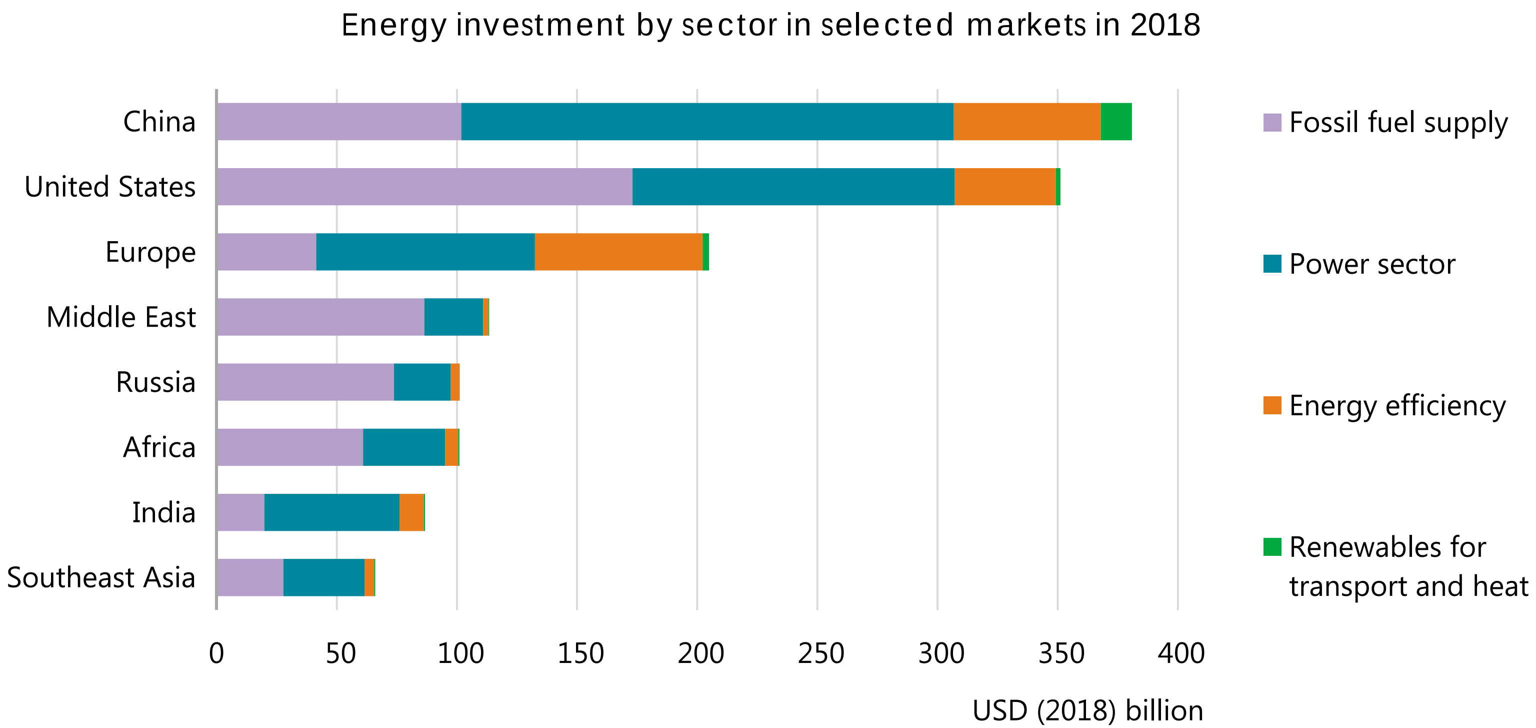
24 May 2019

Global energy investment stabilised in 2018 after 3 years of decline



Energy investment remained at USD 1.85 trillion in 2018. A rise in fossil fuel supply investment offset lower power and stable efficiency spend. Despite the shift, power was the largest sector for the third year in a row.

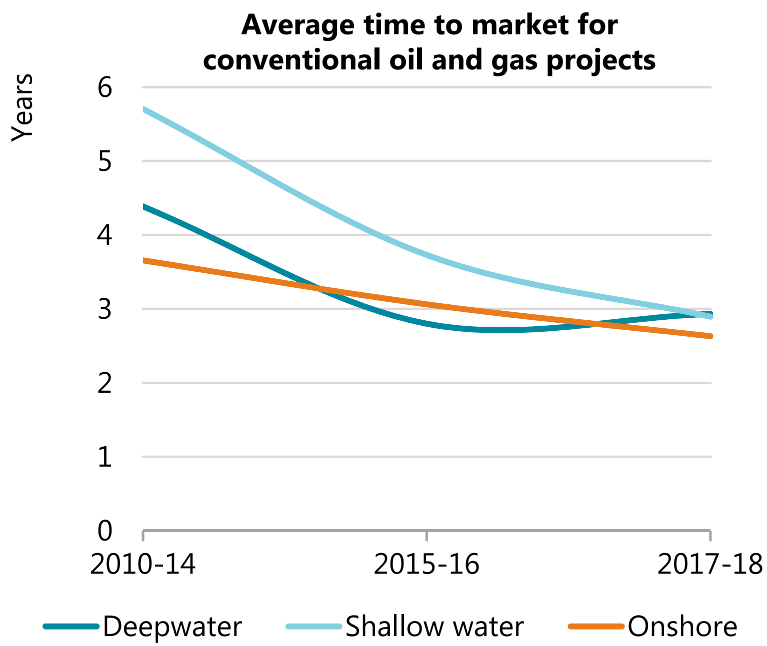
China remained the largest market for total energy investment in 2018

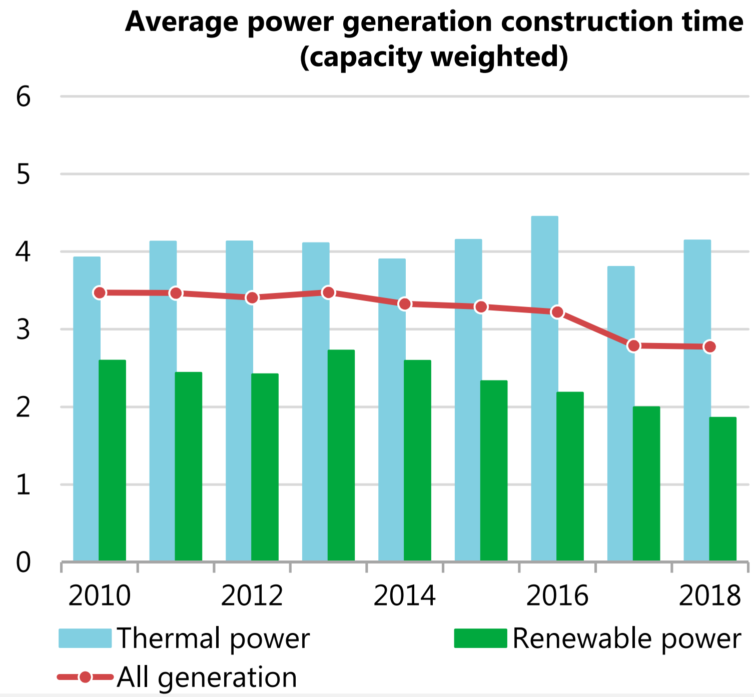


China, US & India are driving key energy investment trends, while spending in other regions such as Africa and S.E. Asia remain well short of what needed.

A preference for projects that deliver more quickly

Trends in project timelines for oil and gas supply and power generation

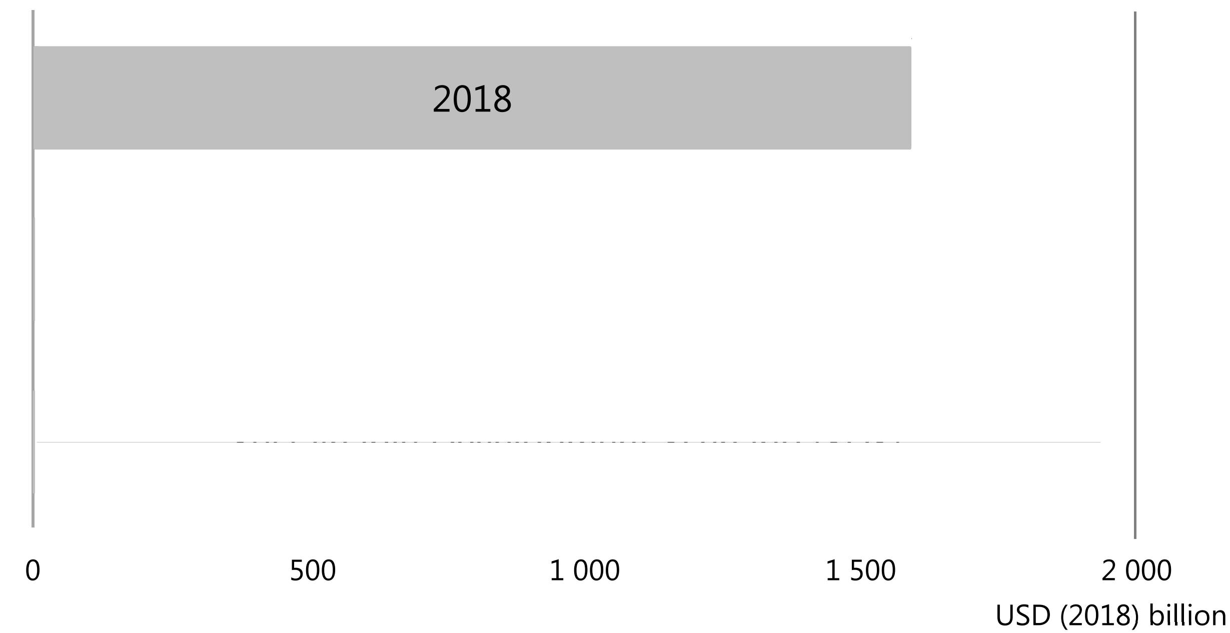




In upstream oil & gas and power generation, industry is bringing capacity to market 20% faster than at the start of the decade. In a changing energy system, industry seeks to better manage capital at risk.

Energy supply investment needs to rise, whatever the scenario

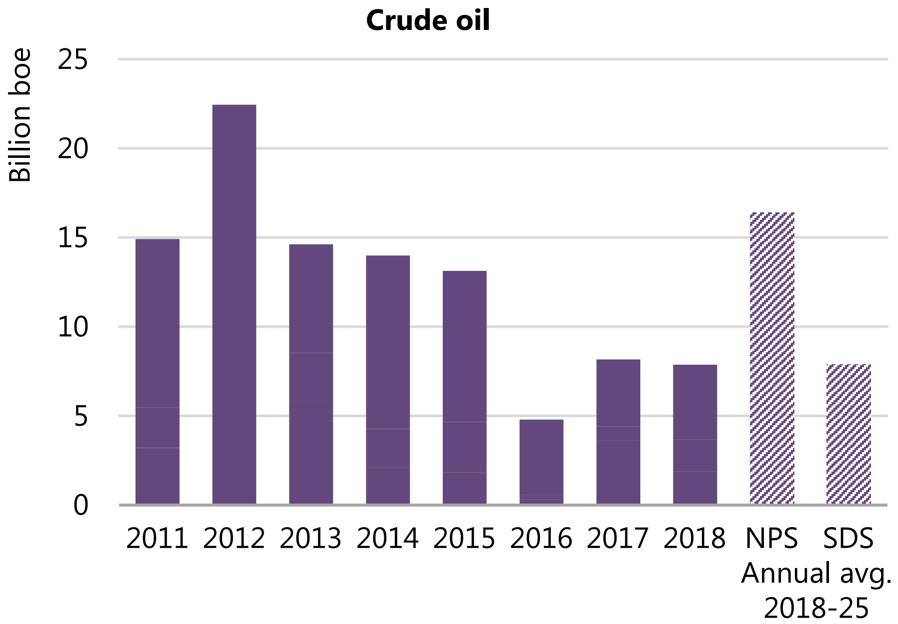
Global energy supply investment compared with annual average investment needs 2025-30 by IEA scenario



Today's capital allocation would need to shift rapidly towards cleaner sources and electricity networks in order to align with the Sustainable Development Scenario and the Paris Agreement.

Decision time for new oil and gas projects

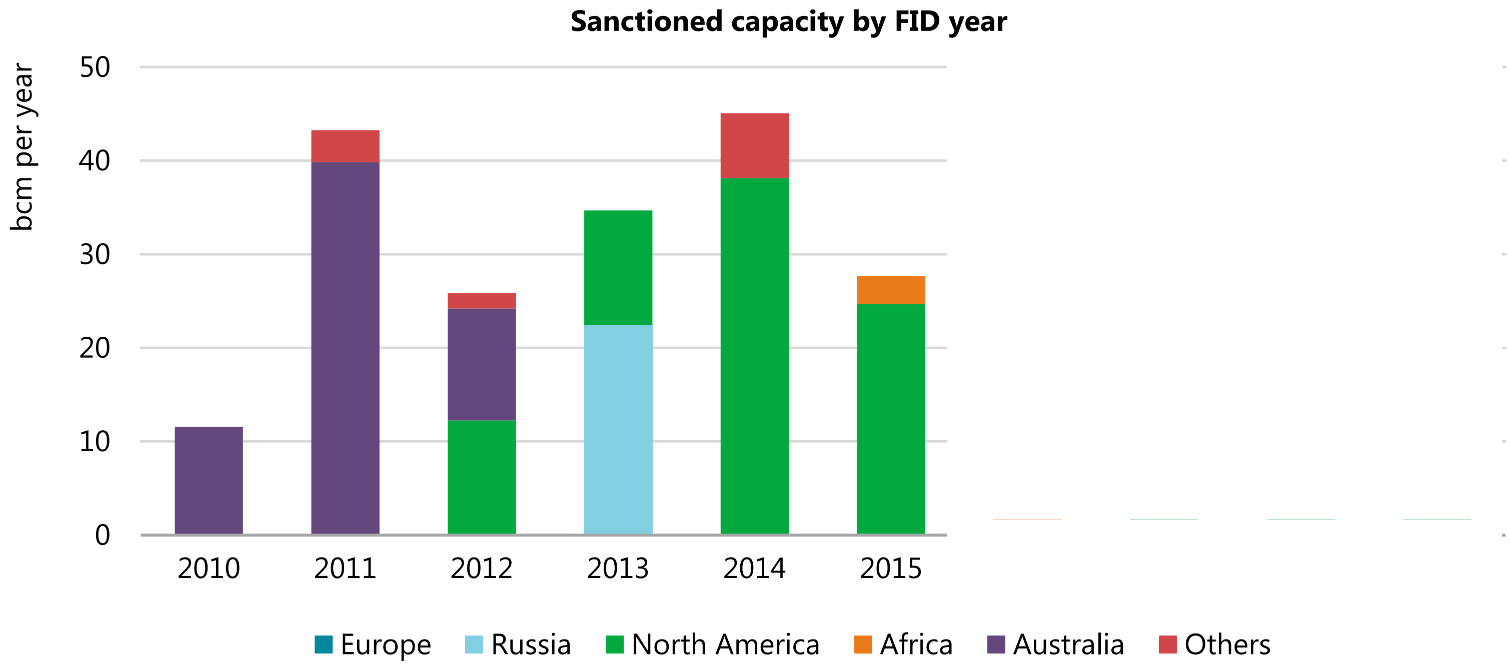
Crude oil and gas conventional resources sanctioned



Decisions to sanction new oil & gas projects have picked up slightly, and could rise further in 2019, but remain short of what would be required if demand continues to grow strongly.

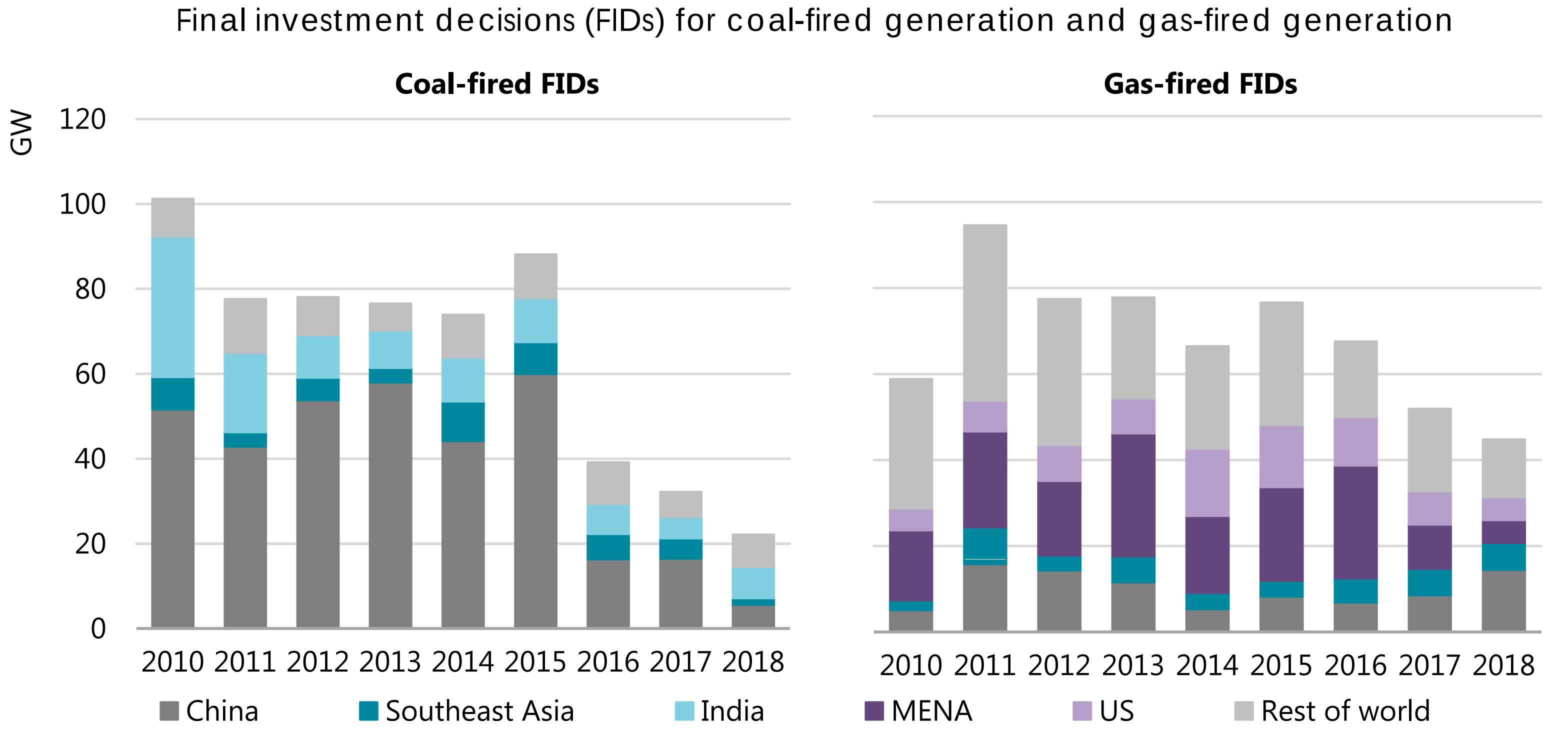
The logjam of new LNG project approvals has been broken

World LNG liquefaction capacity by country/region



After two years of subdued project approvals, a bullish outlook for gas demand is encouraging companies to consider the sanctioning of additional LNG plants.

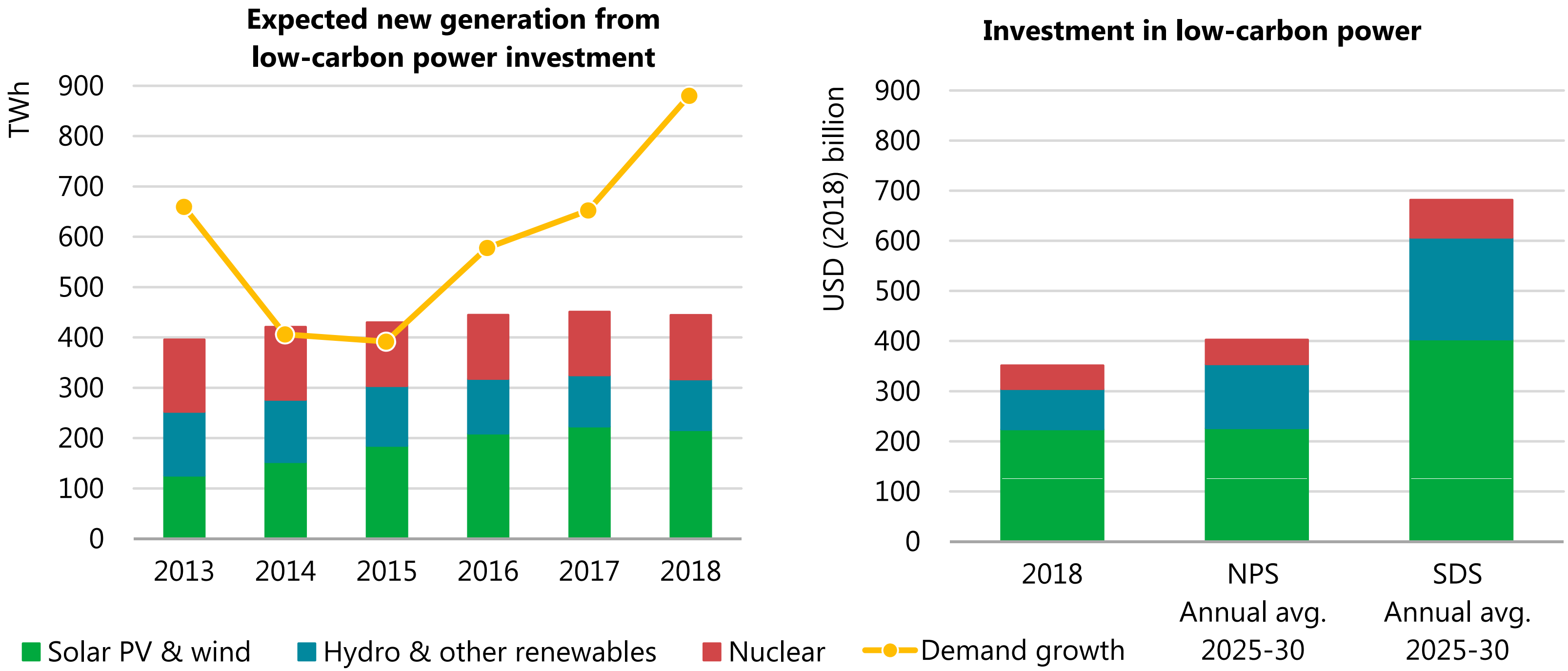
Fossil fuel generation investments are down, but the global fleet is still growing



Investment decisions for new fossil fuel generation are down for the fourth consecutive year, with coal power in China, and gas power in the United States and MENA region.

Low-carbon investment is not keeping pace with power demand

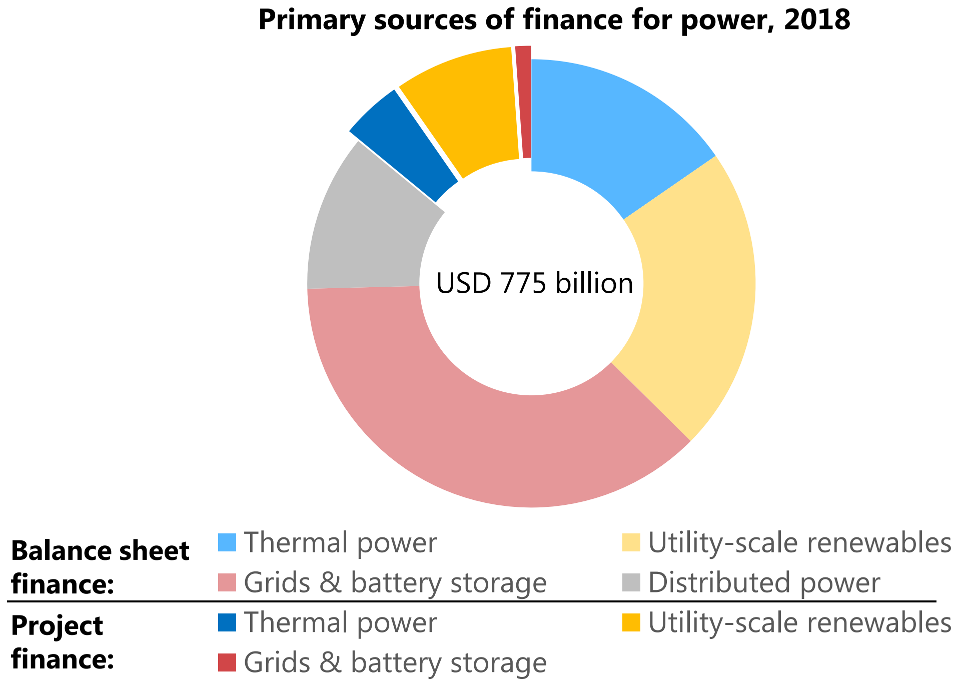
Expected generation from low-carbon power investments and annual investment needs by scenario



The output expected from investment in renewable & nuclear power levelled off in 2018 while demand growth soared. To meet sustainability goals, spending on renewable power would need to double.

Project finance has grown in importance for renewables investment

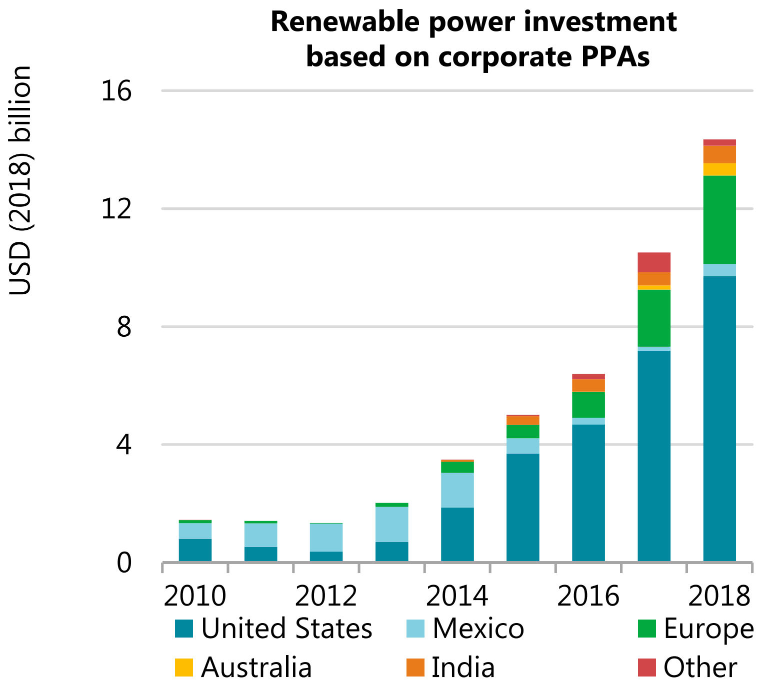
Global power sector investment by primary source of finance and project finance for renewable power



Project finance for renewable power increased by one-quarter in the past five years, as government policies enable access to financing and help manage risks in many places of the world.

A growing role for corporate PPAs in renewables investment

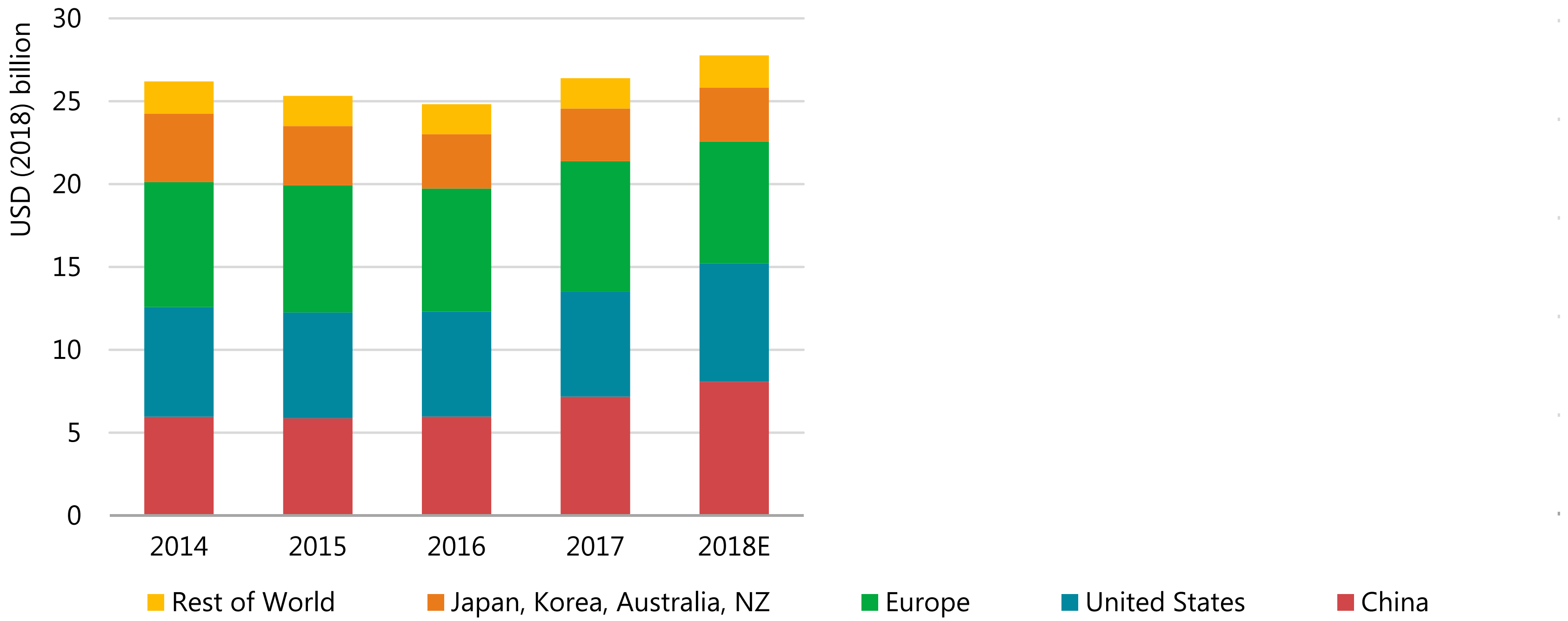
Renewable power investment based on corporate power purchase agreements (PPAs)



Renewables investment based on corporate PPAs jumped by one-third in 2018; scaling spending to cover a greater share of commercial & industrial demand suggests tapping into a larger pool of buyers.

Public energy RD&D spending is not expanding enough

Spending on energy RD&D (research development & demonstration) by national governments, and as share of GDP



While public energy RD&D spending rose modestly in 2018, led by the United States and China, most countries are not spending more of their economic output on energy research.

Conclusions

- Energy investment stabilised in 2018 due to a bounce back in spending on oil, gas & coal supply while low-carbon (supply & demand) investment stalled
- Company strategies are reacting to technological change & unprecedented uncertainties by focusing on projects that deliver returns more quickly
- Approvals of new conventional oil & gas projects are falling short of what would be needed to meet continued robust demand growth
- There are few signs of the major shift of capital towards efficiency, renewables & innovative technologies that is needed to turn emissions around
- Investment & financing decisions are shaped by policies: today’s frameworks are not yet fit to avoid multiple risks for the future

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