International Energy Agency

Energy transition and strategic asset allocation

Insights from IEA World Energy Investment and World Energy Outlook reports

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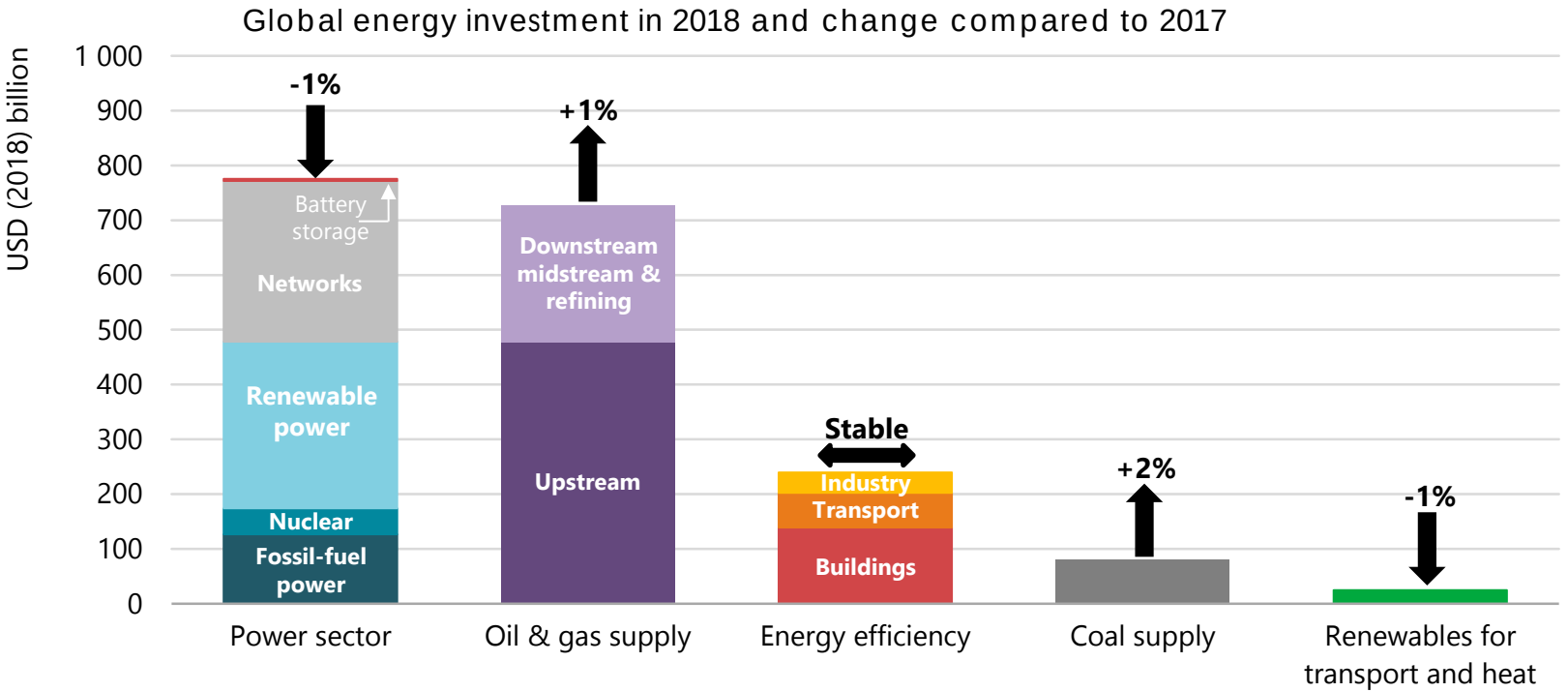
PRI in Person, Paris 12 September

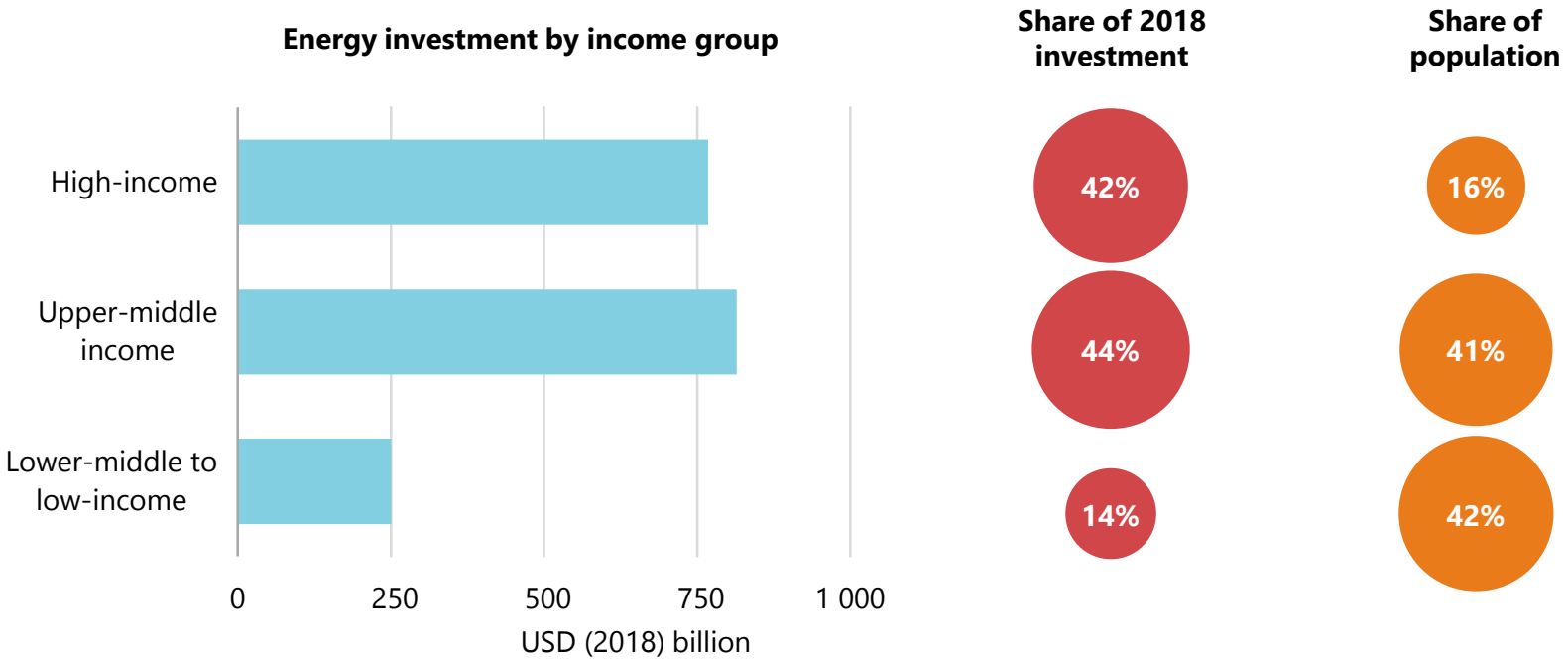
Global energy investment today



Energy investment was over USD 1.8 trillion in 2018. A rise in fossil fuel supply investment offset lower power and stable efficiency spend. Power was the largest sector for the third year in a row.

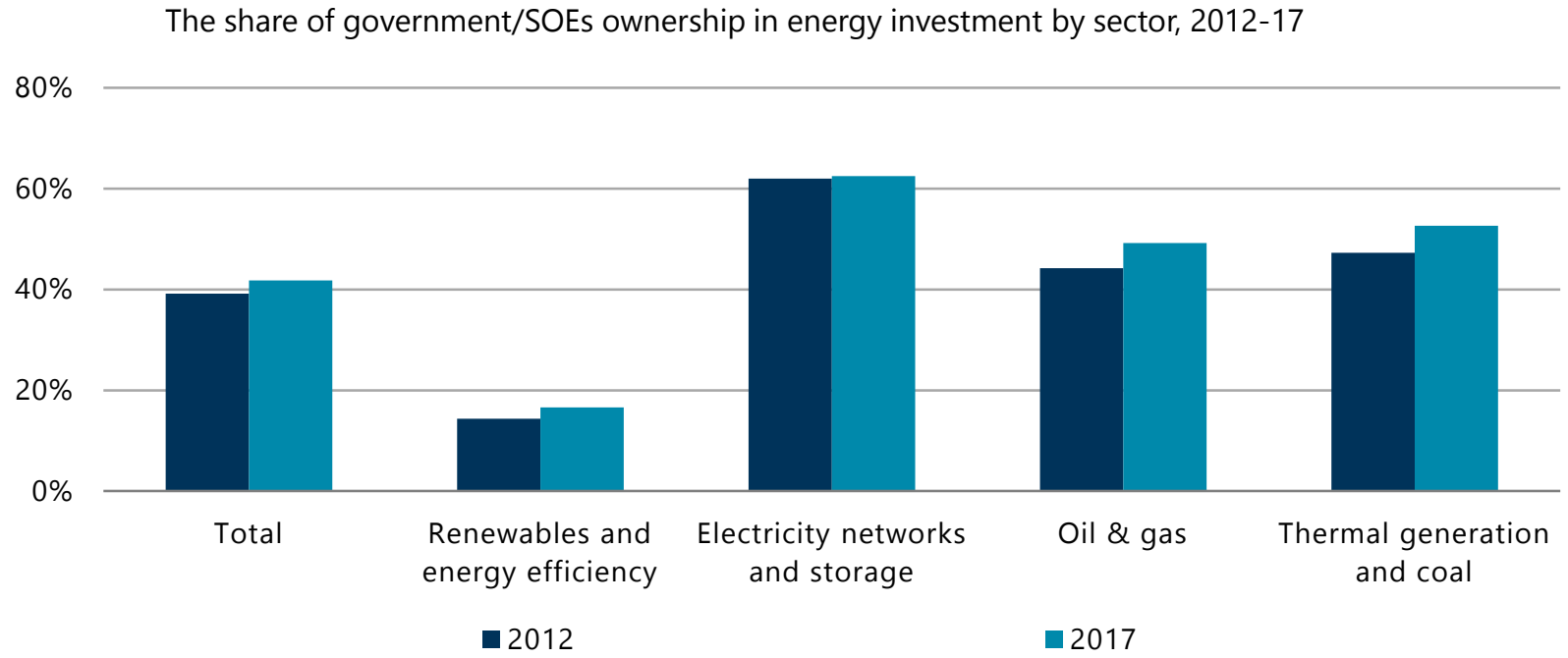
Today’s investment is concentrated in more developed regions

Energy investment and population by region, classified by income level



Lower income areas (e.g. sub-Saharan Africa) receive around 15% of investment, but are over 40% of the world’s population. A rebalancing of spending is essential to meet sustainable development goals.

State-backed capital has played a larger role in fossil fuels

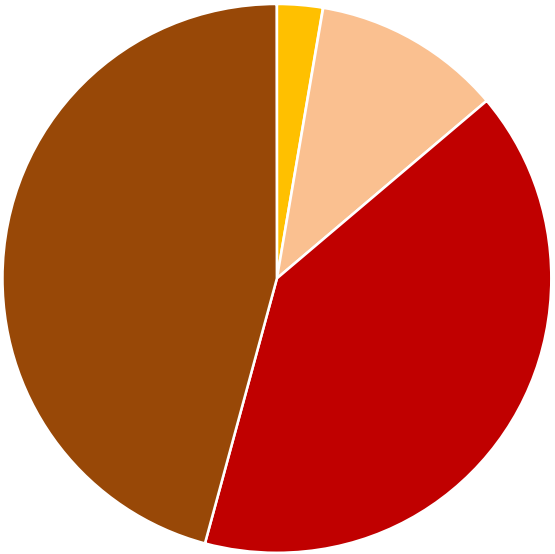


In the SDGs, a growing role for clean energy & efficiency points to a needed mobilisation of more private capital. There is also an opportunity for engagement with SOEs on energy investment strategy.

Government policies underpin nearly all power sector investments

Global power sector investment by main remuneration model

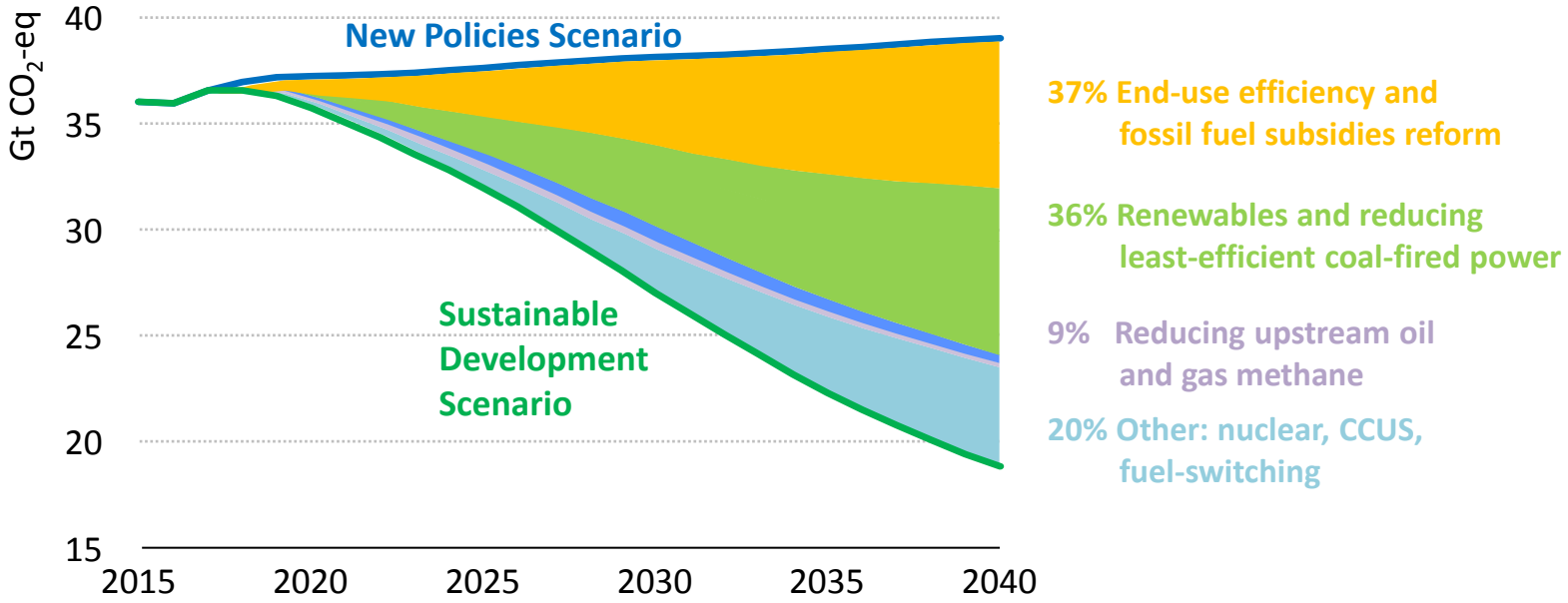
Total power sector investment in 2017: USD 750 billion



Over 95% of power sector investments rely on regulation or contracts beyond short-term wholesale markets for their main remuneration, as regulators pursue adequacy and environmental aims.

How can we change the emissions trajectory?

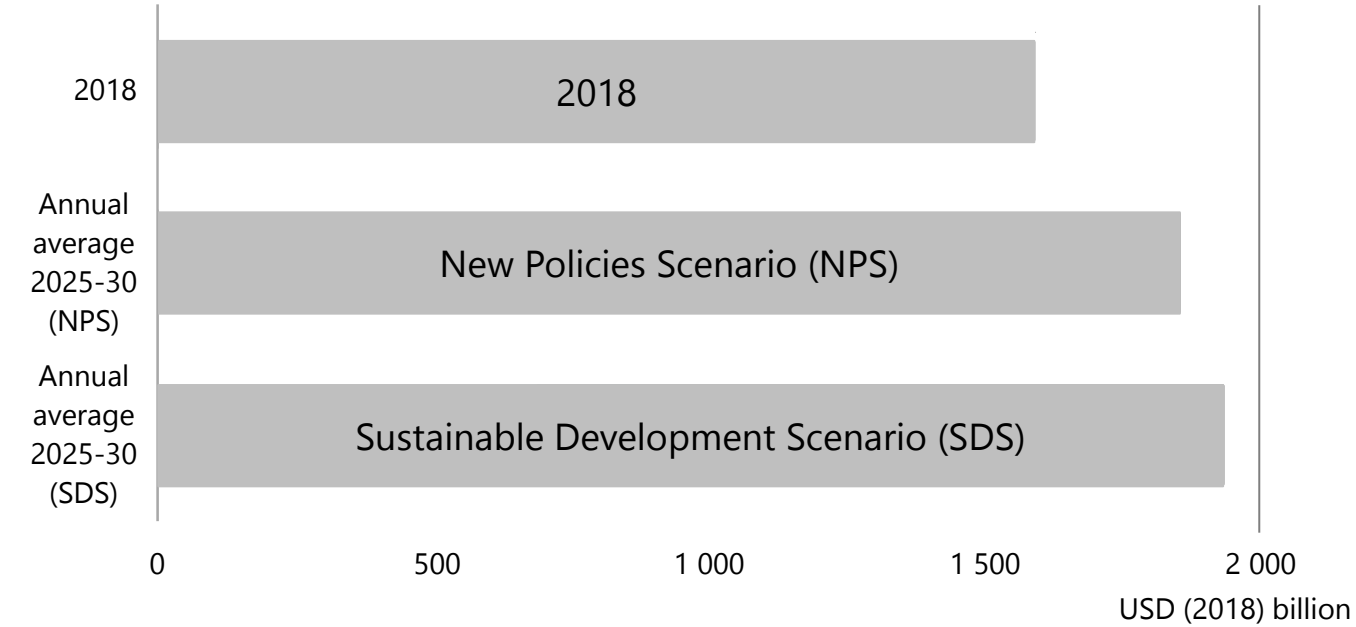
Global CO_2 and CH_4 emissions in the New Policies and Sustainable Development scenarios



Energy efficiency and renewables account for over 70% of the cumulative CO2 and CH4 emissions savings in the SDS as the share of low-carbon investment rises to nearly two-thirds.

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 supply sources and grids to align with the goals of the Sustainable Development Scenario and the Paris Agreement.

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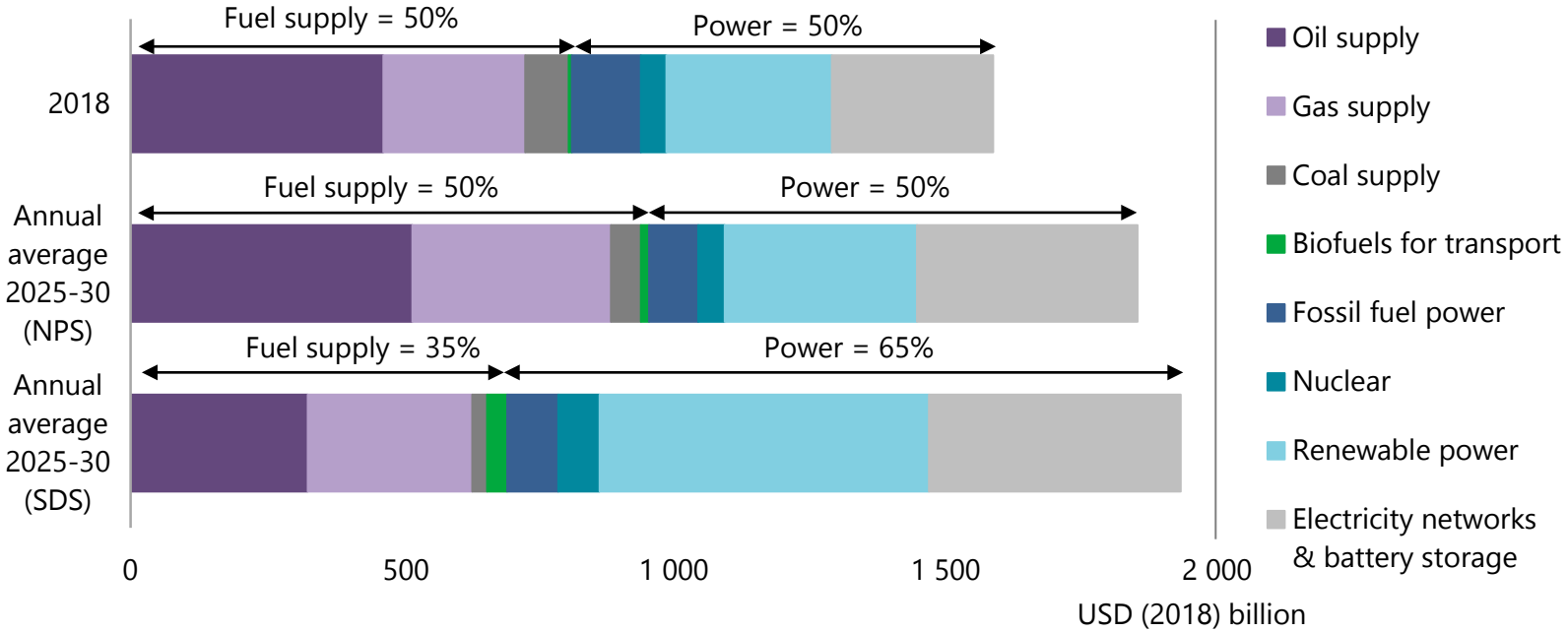

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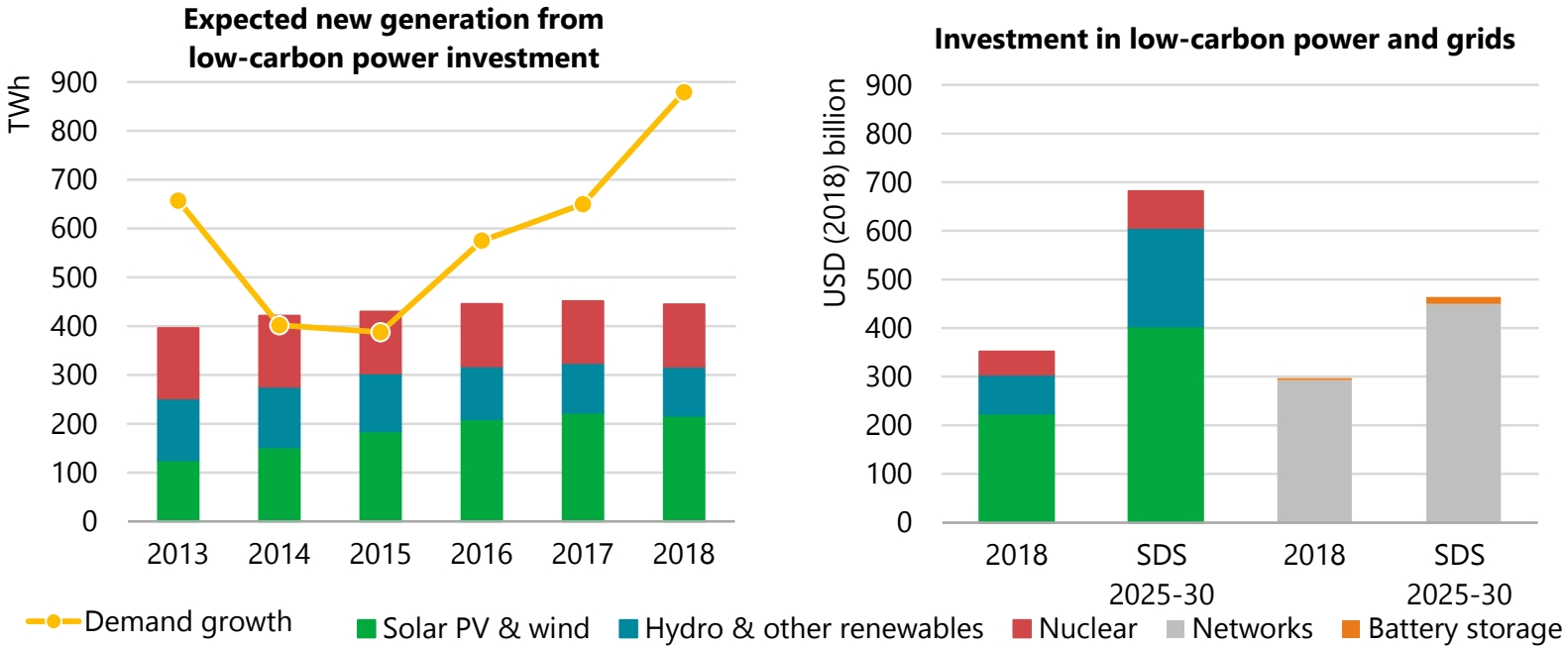
Power investment is not yet aligned with long-term goals

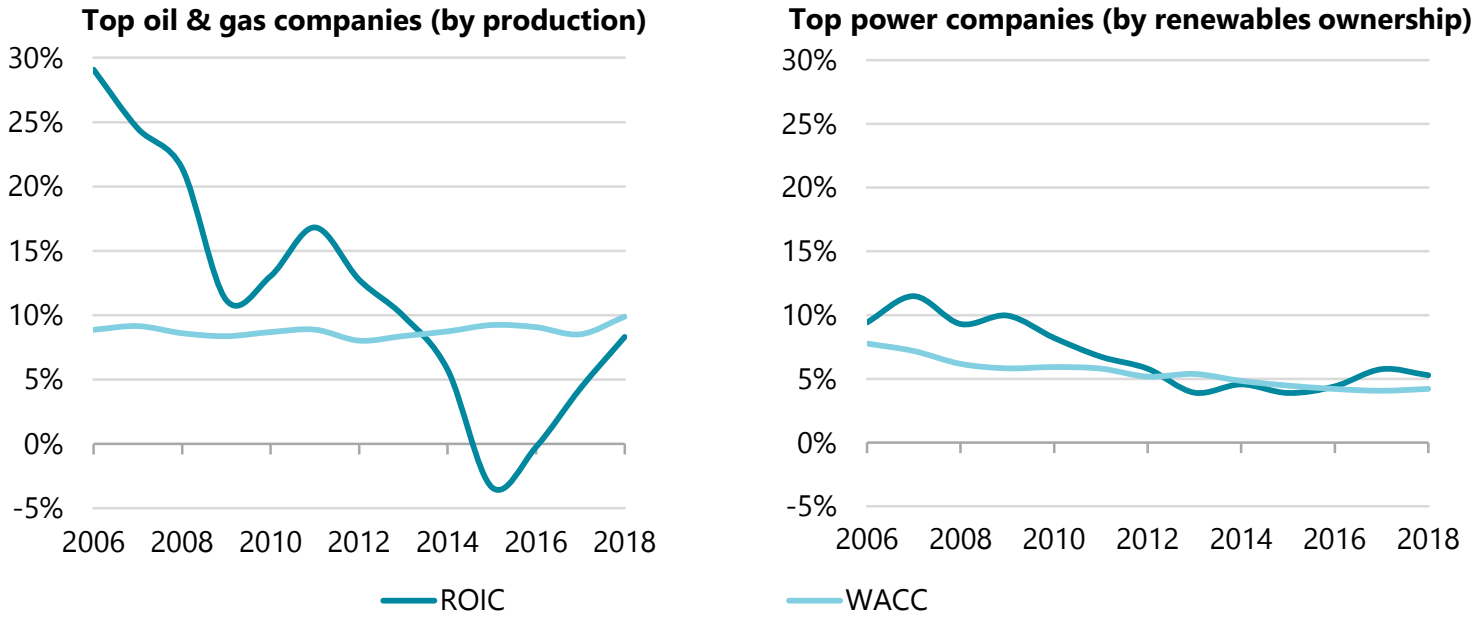
Expected generation from low-carbon power investments and annual investment needs



The output expected from investment in low-carbon power levelled off in 2018 while demand growth soared. To meet sustainability goals, spending on renewable power and grids needs a boost.

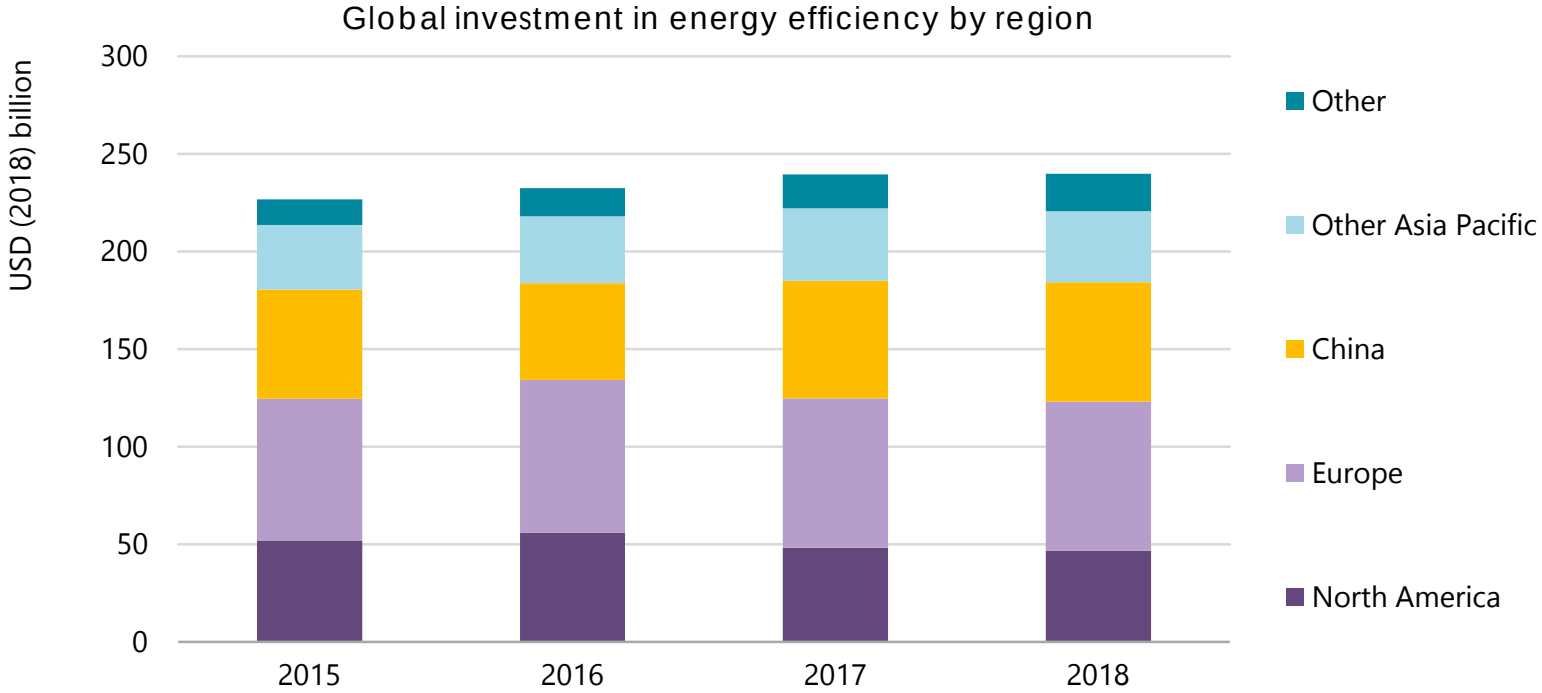
Different risk-return profiles between fuel supply and power sectors

Return on invested capital (ROIC) and after-tax weighted average cost of capital (WACC) for listed energy companies



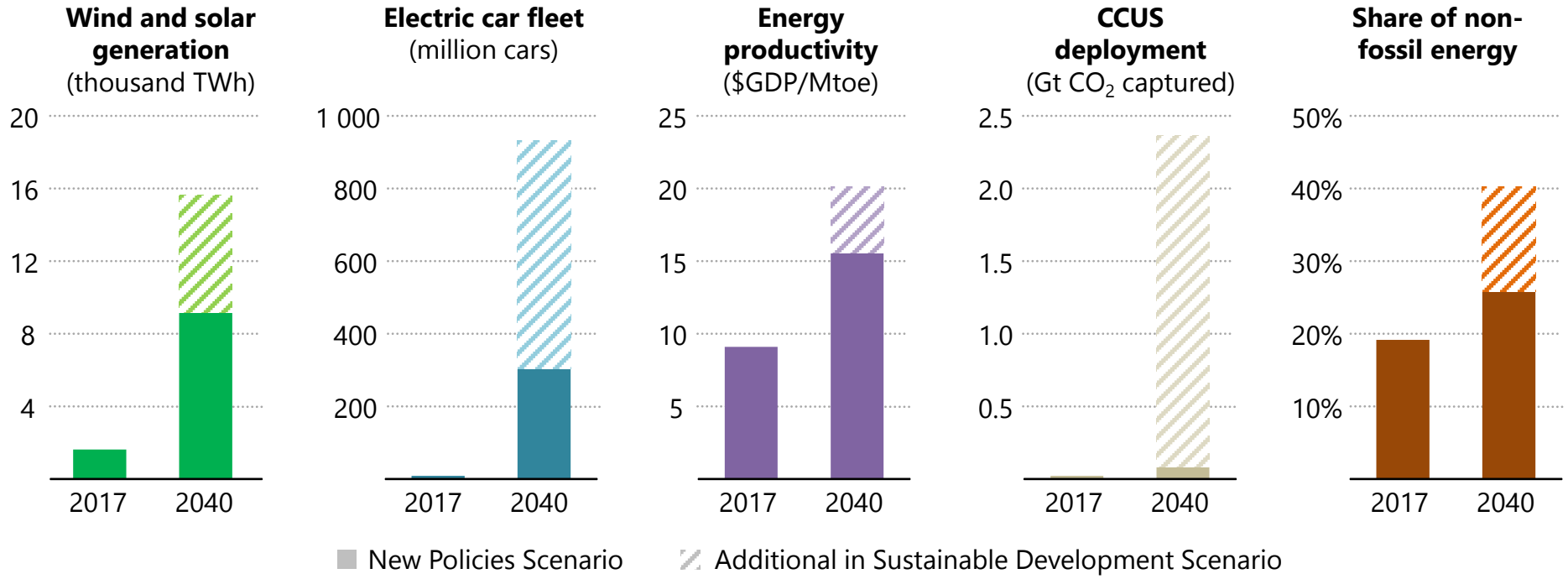
While recent financial metrics appear more favourable for power companies investing in energy transition, signals are not adequate for the major reallocation of capital that would align with the SDS.

Investment growth in energy efficiency has stalled



Energy efficiency spending was stable a second year in a row, with limited progress in expanding policy coverage. Despite soaring EV sales transport efficiency has stagnated, while spending in buildings fell.

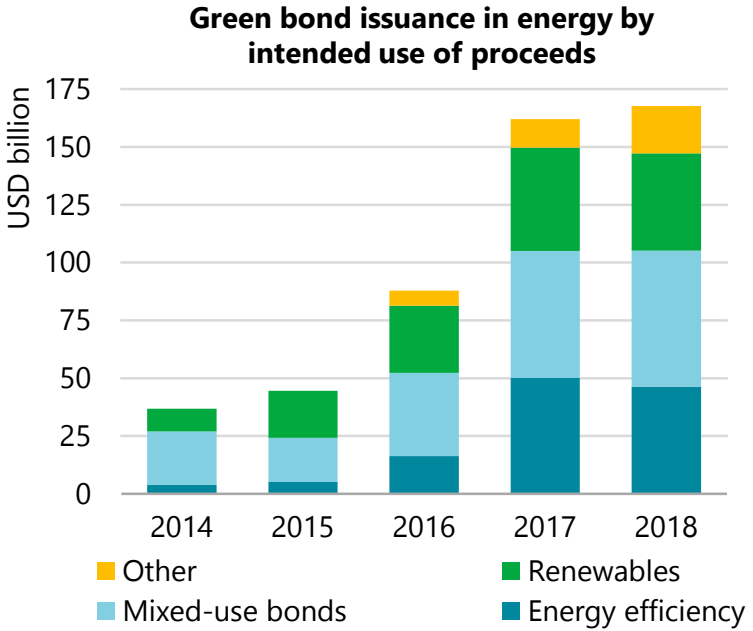
SDS goals see more investment in supply, demand & technologies

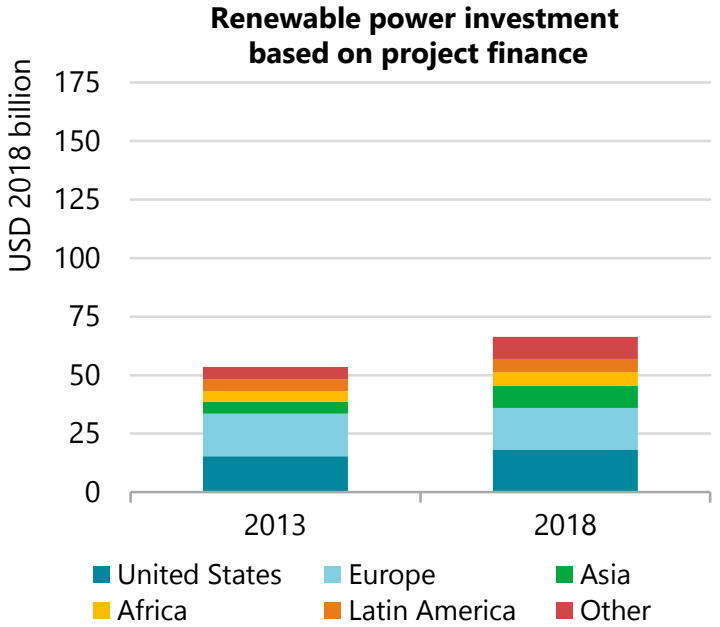


A rapid acceleration in energy transitions is required to simultaneously tackle climate change, achieve universal energy access and reduce the impacts of air pollution.

Are today's sustainable finance opportunities enough?

Debt-financing mechanisms used in renewables and energy efficiency investment





Scaling low-carbon investment would require a step-change in policy focus and new financial solutions and mechanisms to support development at both consumer and bulk power levels

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
- Governments are playing a growing role in shaping energy investments; around 70% of future investments are underpinned by policy decisions
- There are few signs of the major shift of capital towards efficiency, renewables & innovative technologies that is needed to turn emissions around
- To meet SDGs, investment needs to rise and rebalance towards the fast-growing needs of emerging economies, where the cost of capital is higher and financial systems are less developed
- There is an opportunity for investors and companies to engage with governments in order to encourage financial decisions and policy making that are better aligned with sustainability goals