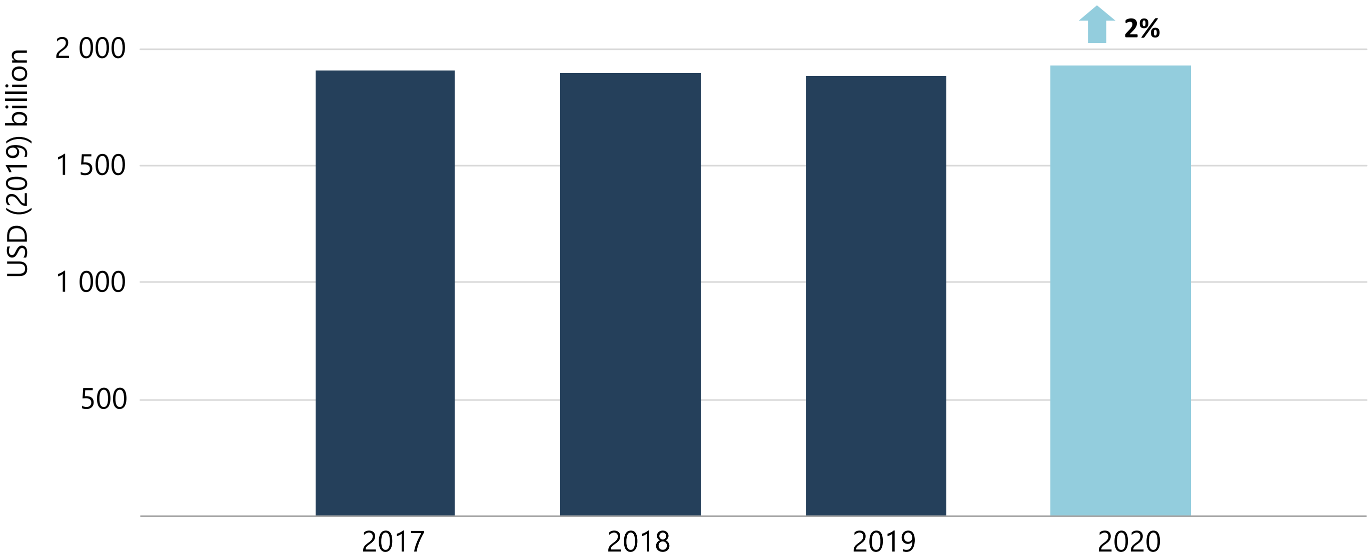
International Energy Agency

World Energy Investment 2020

Paris, 27 May, 2020

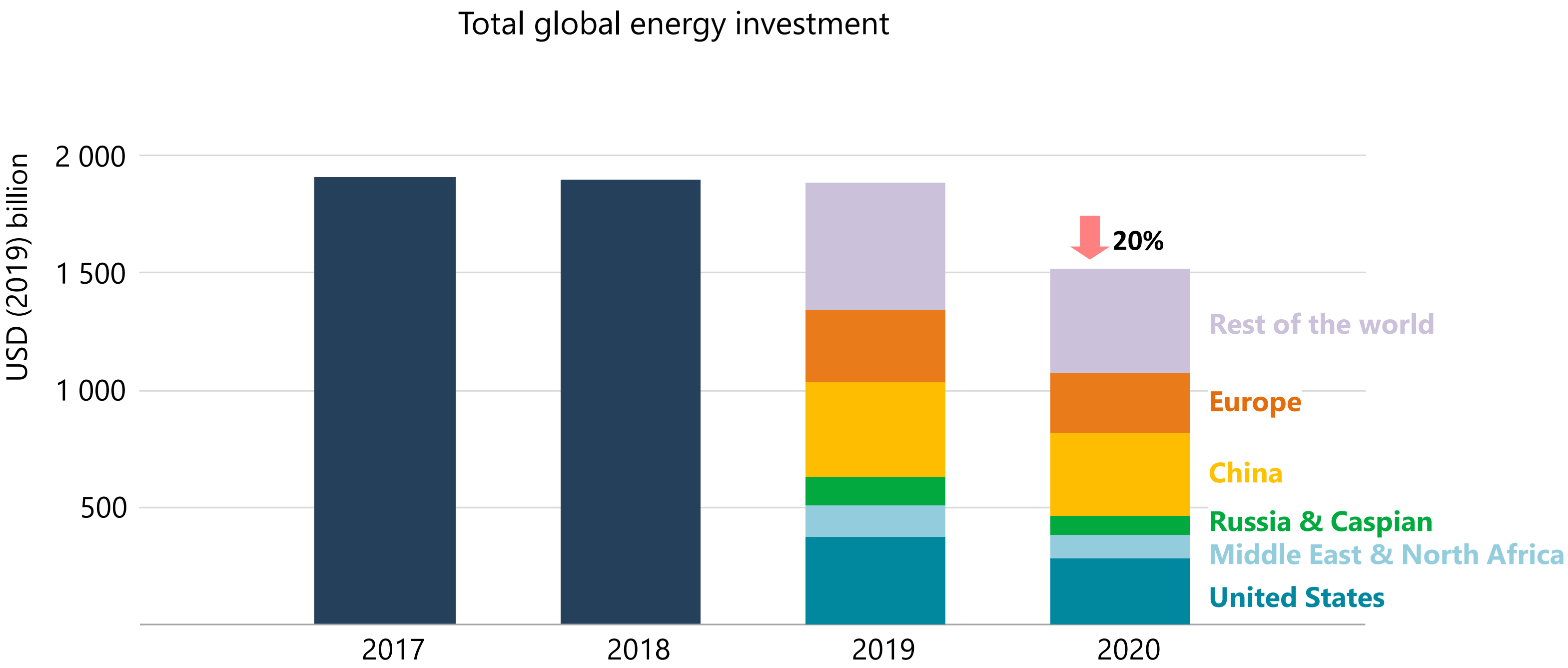
Pre-crisis expectations of a return to growth…

Total global energy investment based on pre-Covid-19 expectations



At the start of the year, expectations for 2020 pointed towards modest growth in renewables, upstream oil & gas and efficiency, pushing global energy investment up for the first time in recent years

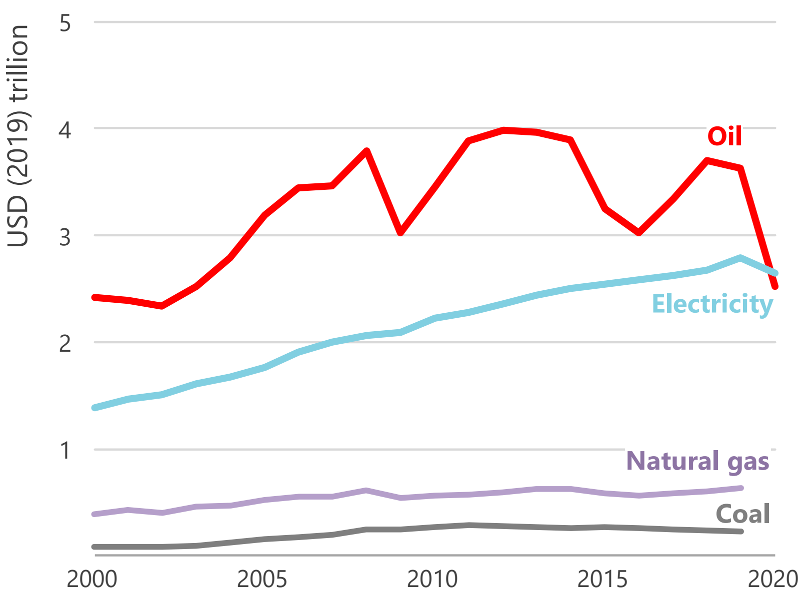
…have turned into an unparalleled decline in energy investment



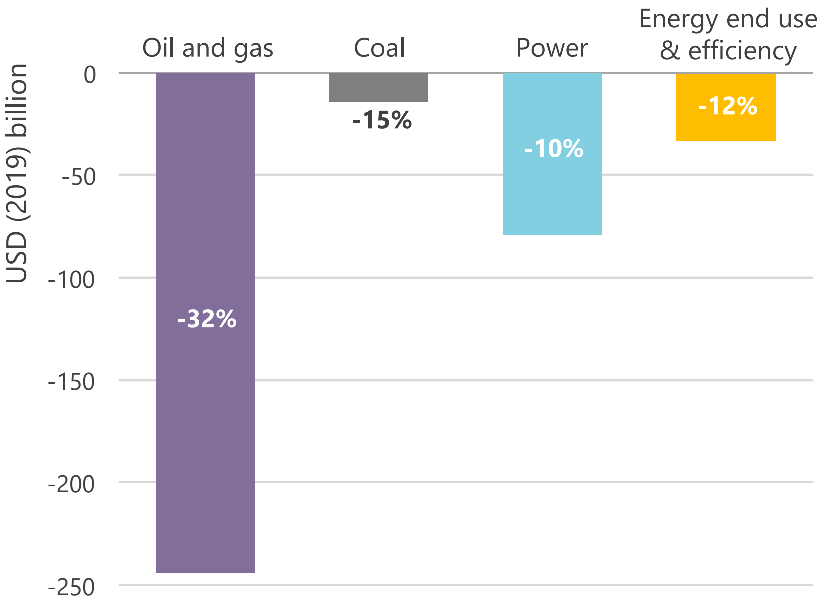
Disruption from Covid-19 is expected to push 2020 energy investment down by almost $400 billion. All parts of the world are affected, but major producers of oil & gas have seen the largest falls

Investment is hit by lockdowns & by demand & revenue uncertainties

Global end-use spending on energy

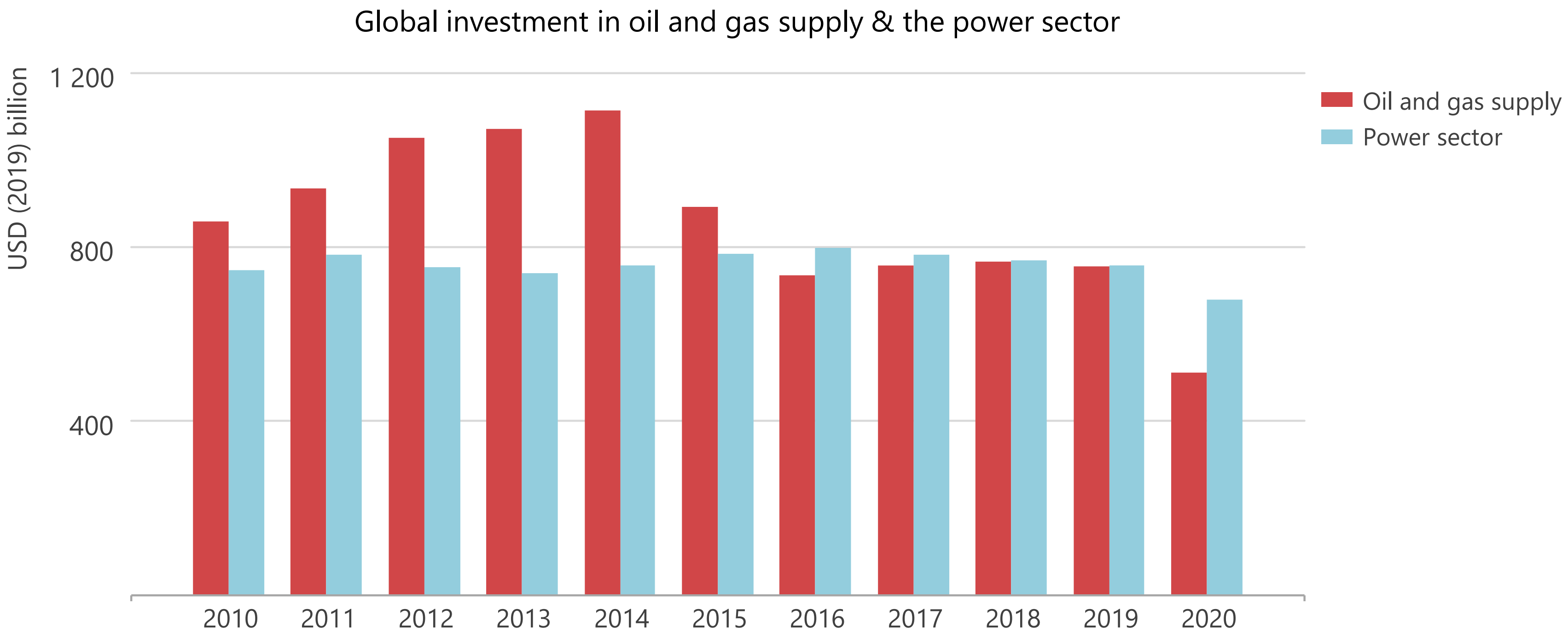


Change in estimated 2020 investment versus 2019, by sector



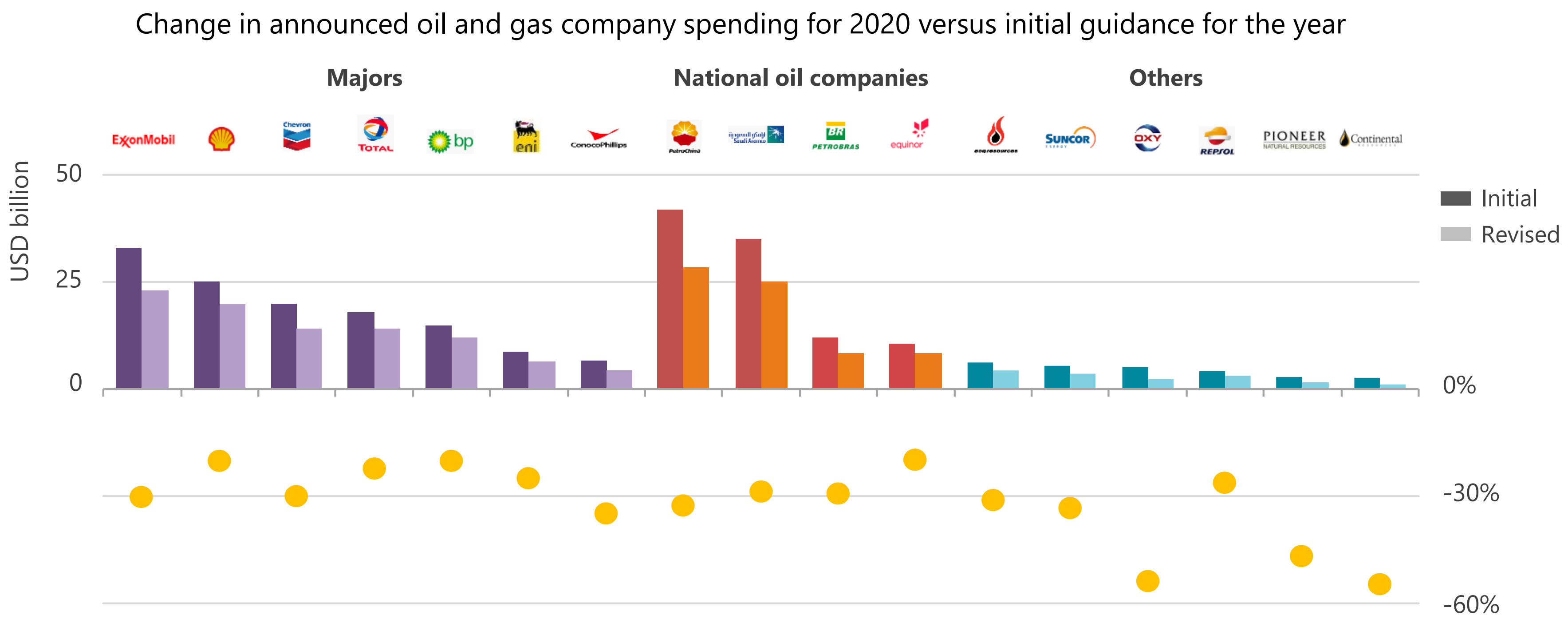
Global consumer spending on electricity is set to be higher than oil for the first time in 2020. Lower demand & prices are squeezing the funds available for investment in new projects, especially in fuel supply

The rollercoaster continues for oil and gas spending



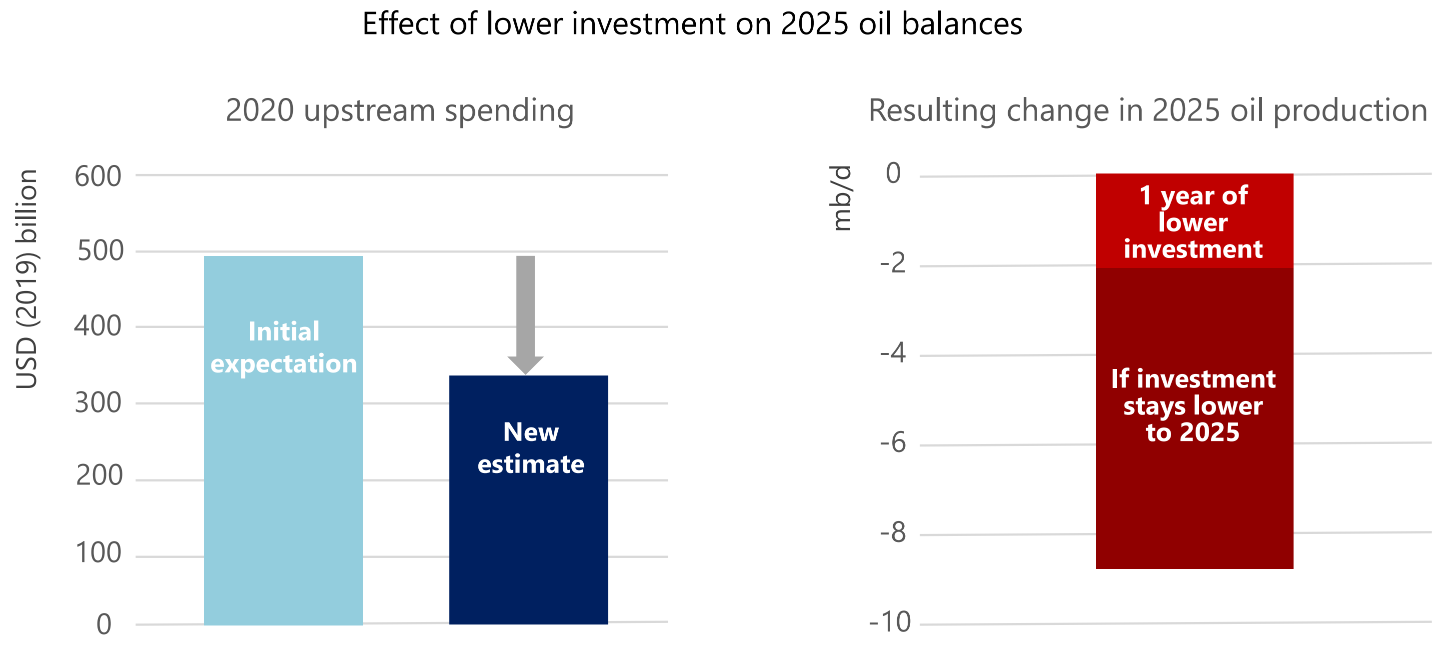
Investment in oil and gas supply has fallen by more than half since the high point of 2014. Power sector spending has been more robust - although well short of what a more electrified future would require

Upstream oil and gas spending has been slashed across the board



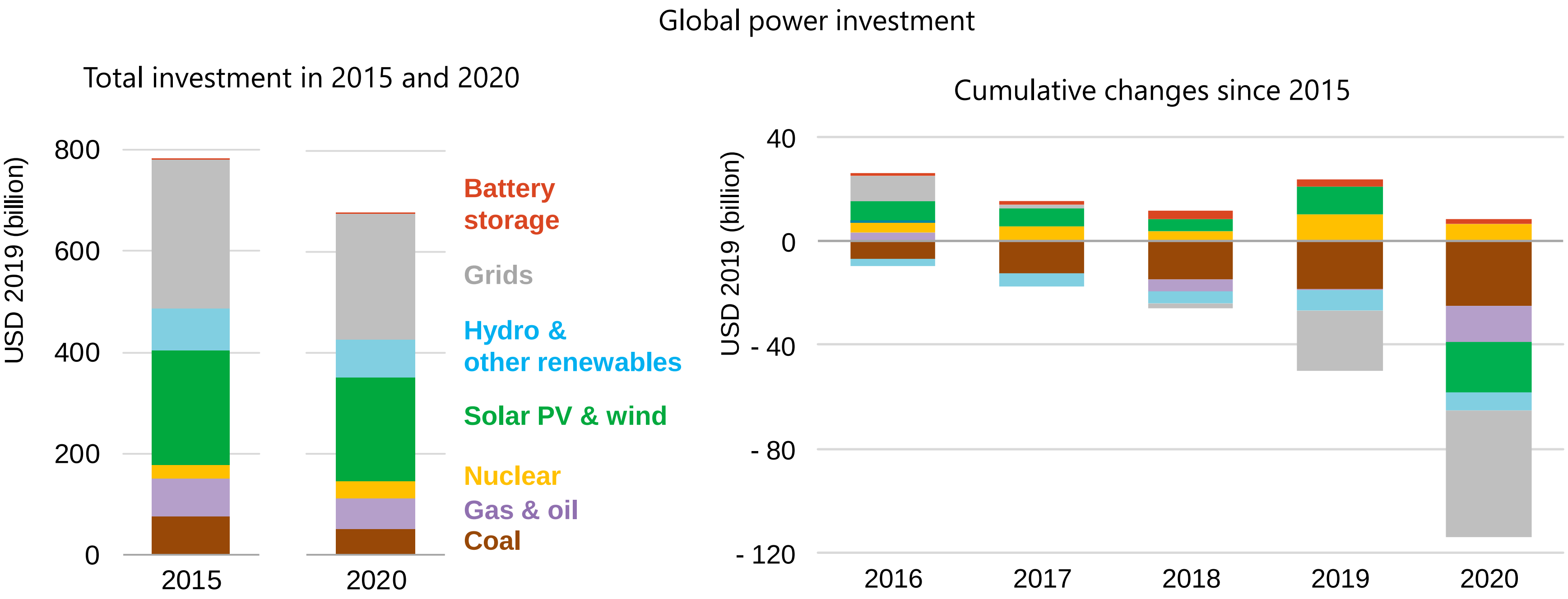
No company or resource type has been immune, although shale has been hit hardest. The scope for additional cost reductions today is limited, so cuts in spending feed through directly into reduced activity

A new boom-and-bust cycle for oil markets?



Reduced investment in 2020 already brings down 2025 oil output by more than 2 mb/d, if investment stays at 2020 levels, this would reduce the previously-expected level of supply in 2025 by almost 9 mb/d

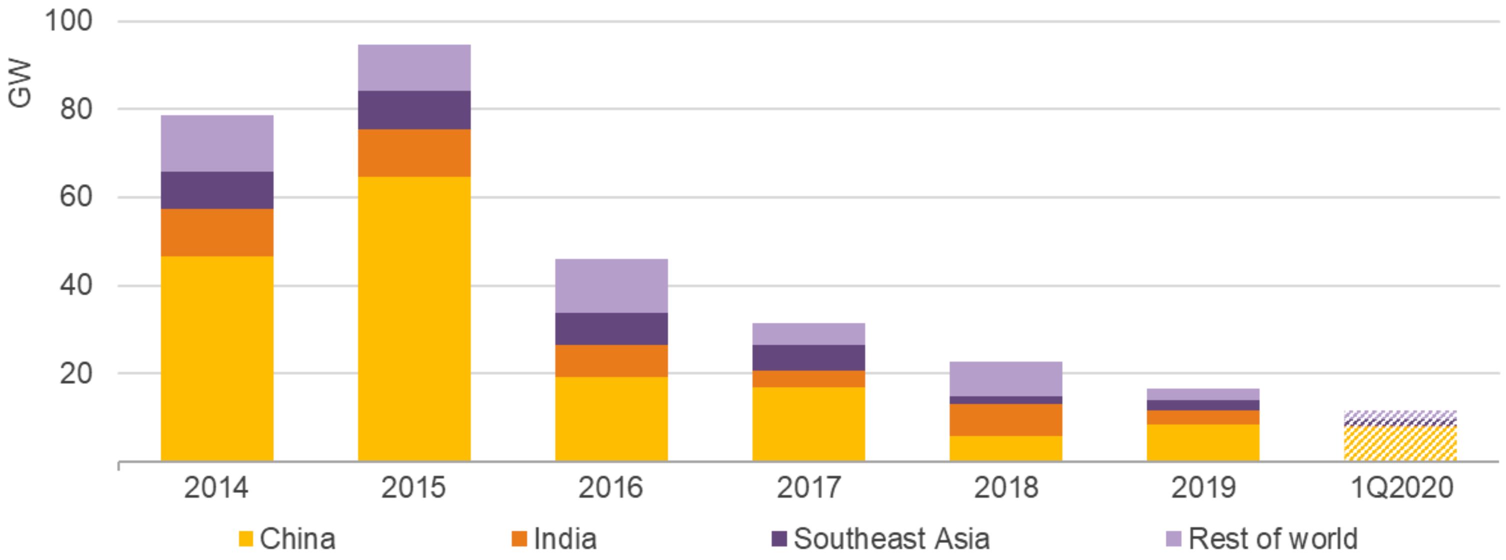
Investment in power is faltering when it needs to pick up



Investment in solar PV and wind has held up, even as costs have come down, but spending on other aspects of a secure & sustainable system – grids, storage, flexibility – are lagging behind

Approvals of new coal-fired power plants are down, but not out

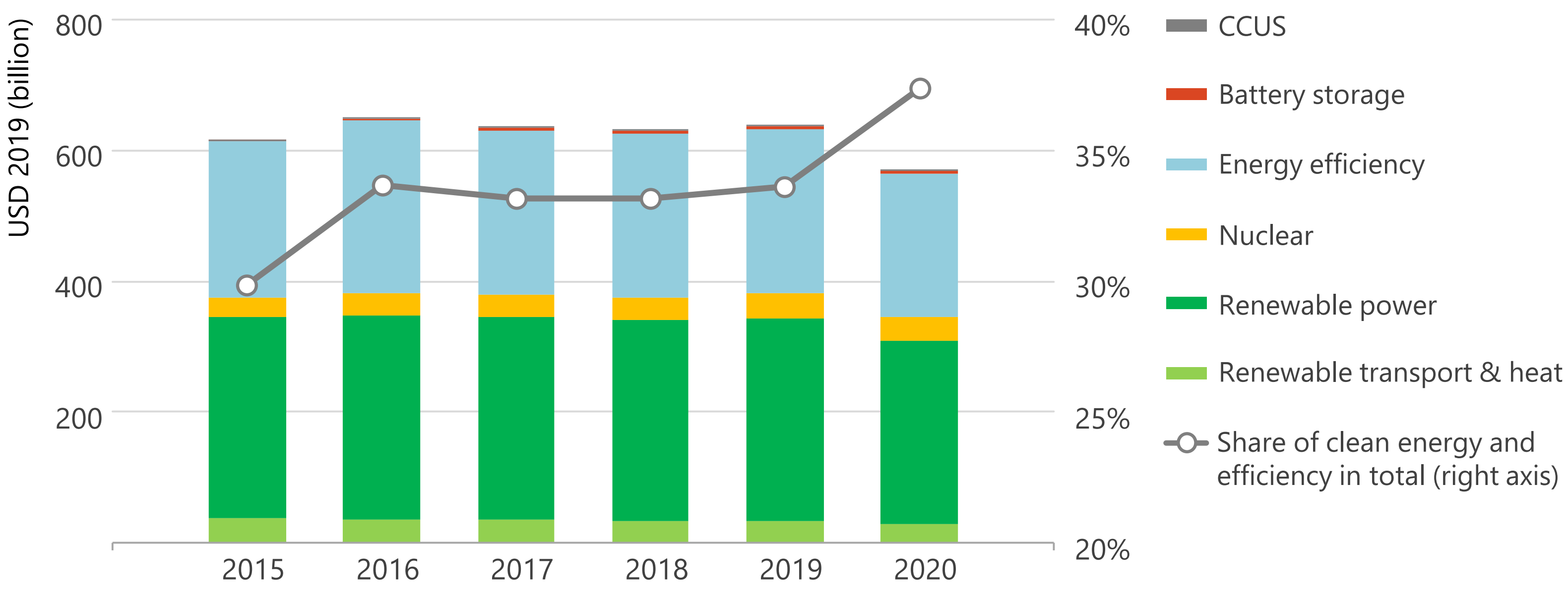
Coal power final investment decisions



Decisions to move ahead with new coal plants have fallen by 80% since 2015, but approvals in Q1 2020 – mostly in Asia – were at twice the rate seen in 2019: overall, the global coal fleet continues to grow

Clean energy investment has been resilient, and insufficient

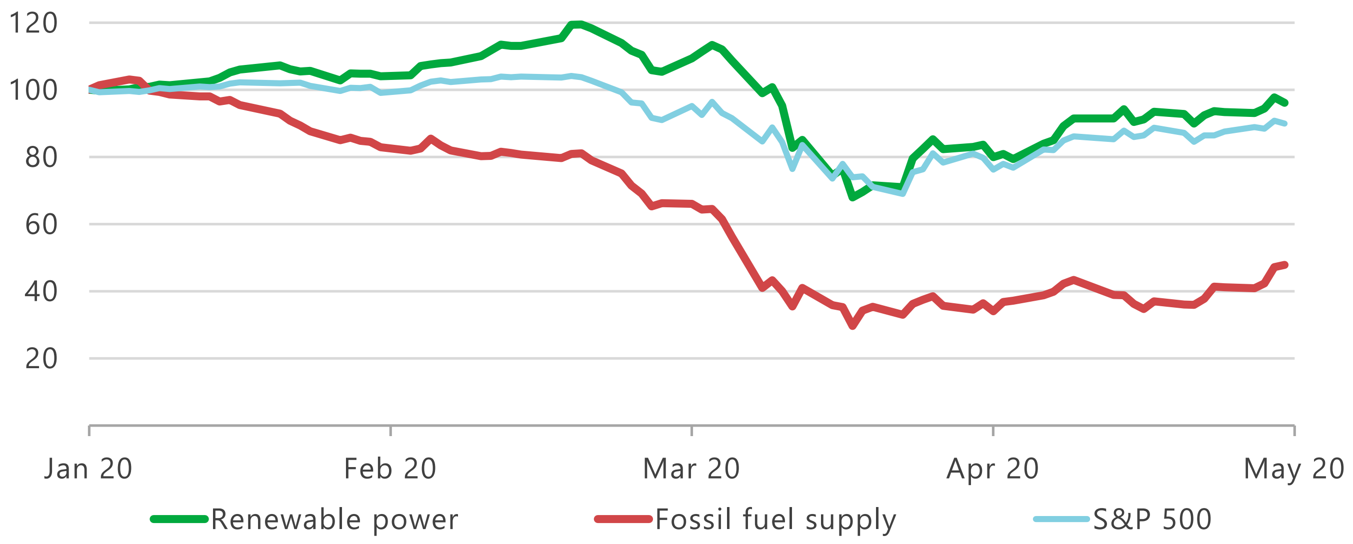
Global investment in clean energy and efficiency, and share in total investment



The uptick in the 'clean' share of total investment is not a breakthrough: absolute investment in energy transitions remain far short of what would be required for a more sustainable pathway

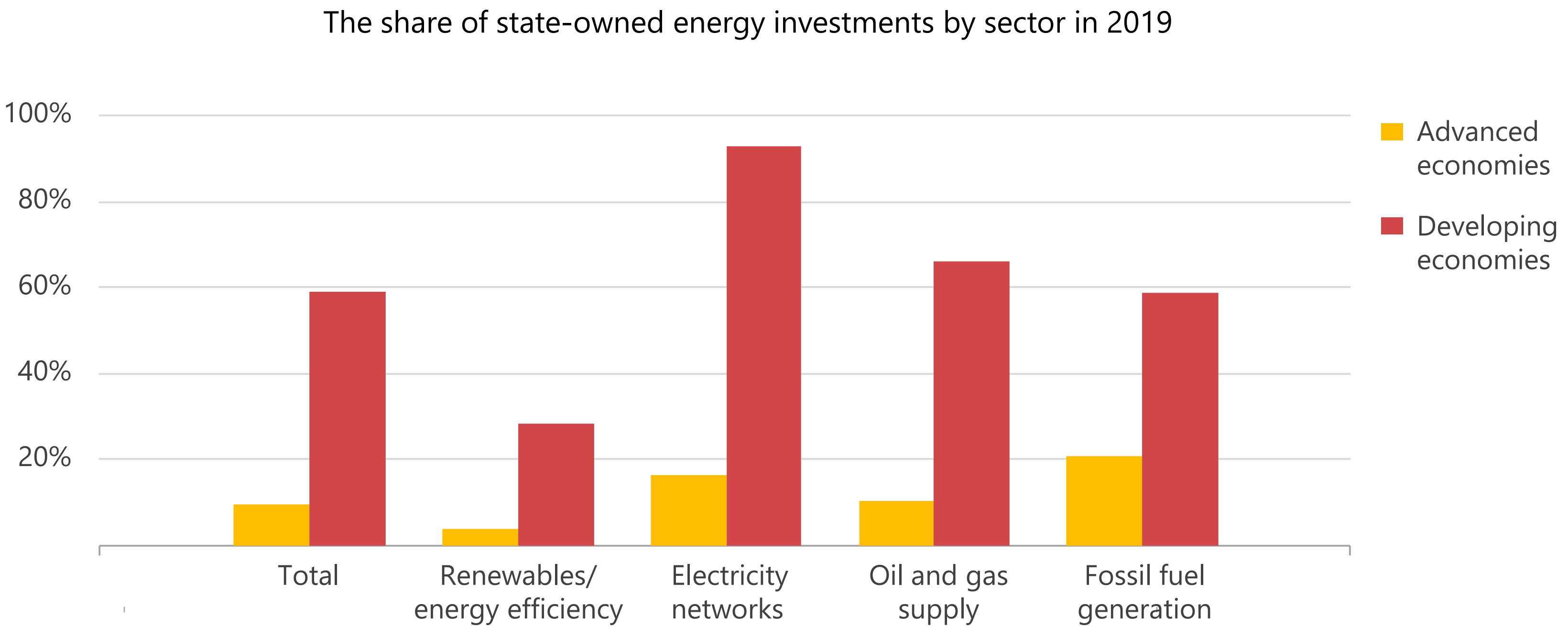
Renewables have outperformed fossil fuels during the crisis

Total equity return comparison of fossil fuel supply vs renewable power companies in Europe and the United States



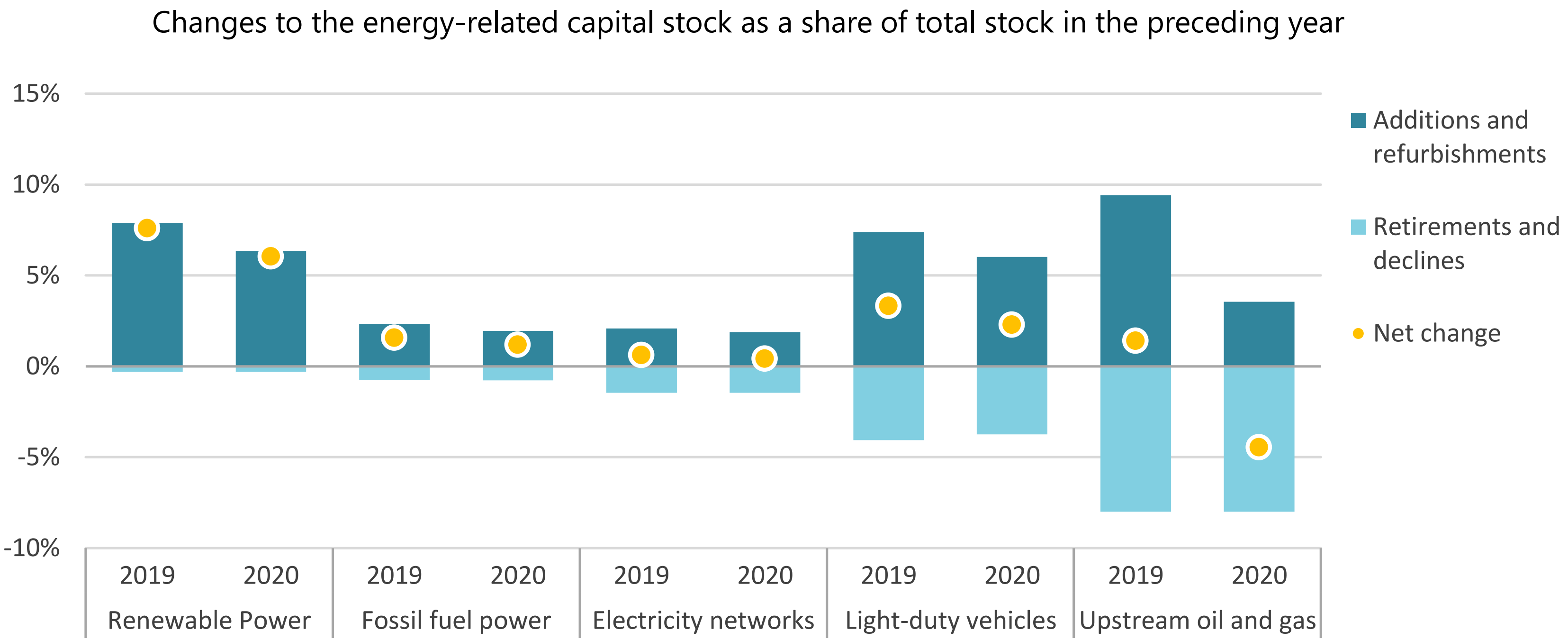
An indicative fossil fuel portfolio has fallen sharply since the start of 2020, while a renewables-focused one has tracked the market more closely, but financial investments in renewables still lack scale & liquidity

Pathways out of the investment slump vary widely by country



Developing economies rely much more heavily on state-backed spending, while advanced economies have a broader range of financing options, including from capital markets & institutional investors

The crisis & recovery will affect turnover of the energy capital stock



In many sector, the crisis is likely to slow the rate at which new technologies and equipment are introduced; this is a warning sign for a system in need of rapid transformation

Conclusions

- The Covid-19 pandemic has set in motion the largest drop in global energy investment in history, with spending expected to fall in every major sector this year
- The crisis has shaken the oil and gas industry, especially shale: a one-third drop in global oil & gas investment could set the stage for a new boom-bust cycle if demand returns to its pre-crisis path
- Electricity grids have been the backbone of energy systems during lockdown, but a downturn in spending on networks and flexible resources is a warning sign for the security of future power systems
- Clean energy investment, especially for utility-scale renewables projects, has been relatively resilient in 2020 but remains far below the levels required to achieve a lasting reduction in global emissions
- There is no single pathway out of the investment slump, but the response of policy makers – and whether energy and sustainability concerns are integrated into recovery strategies – will be critical