World Energy Investment 2018

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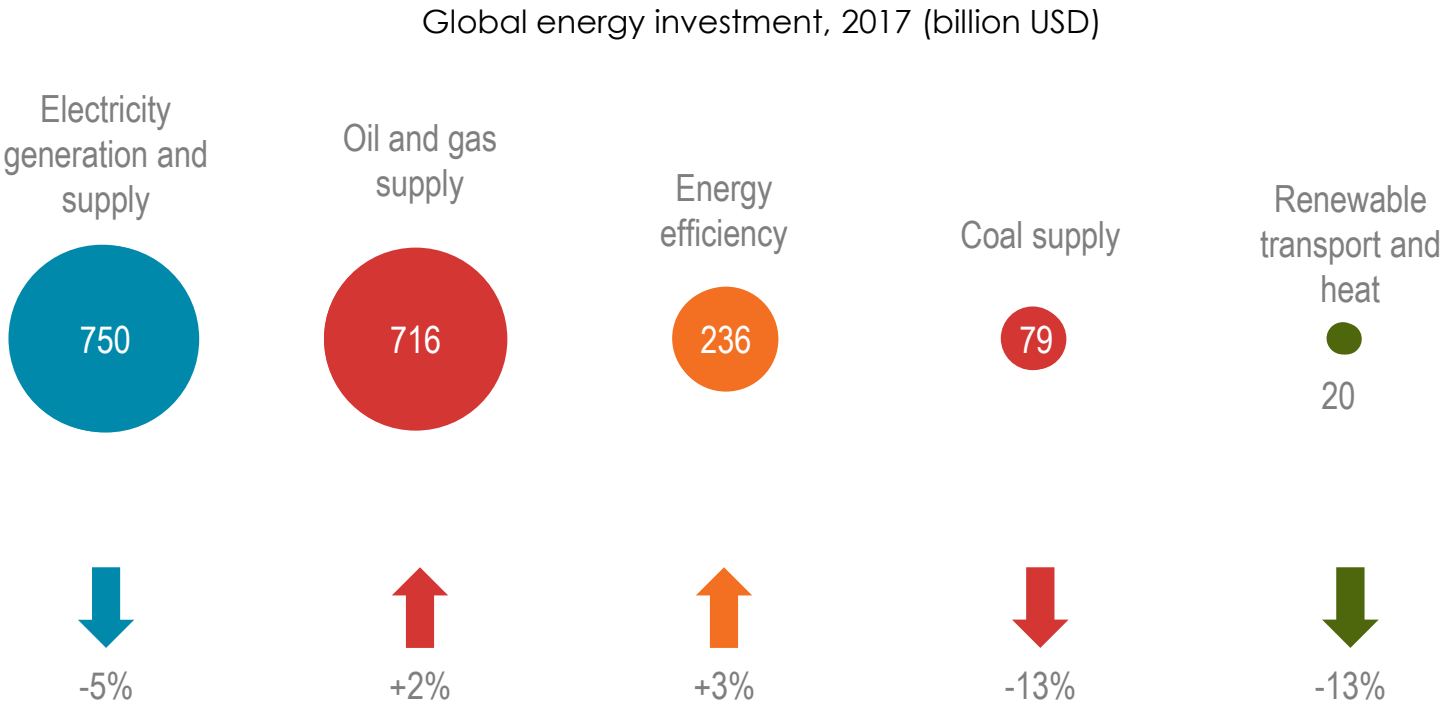
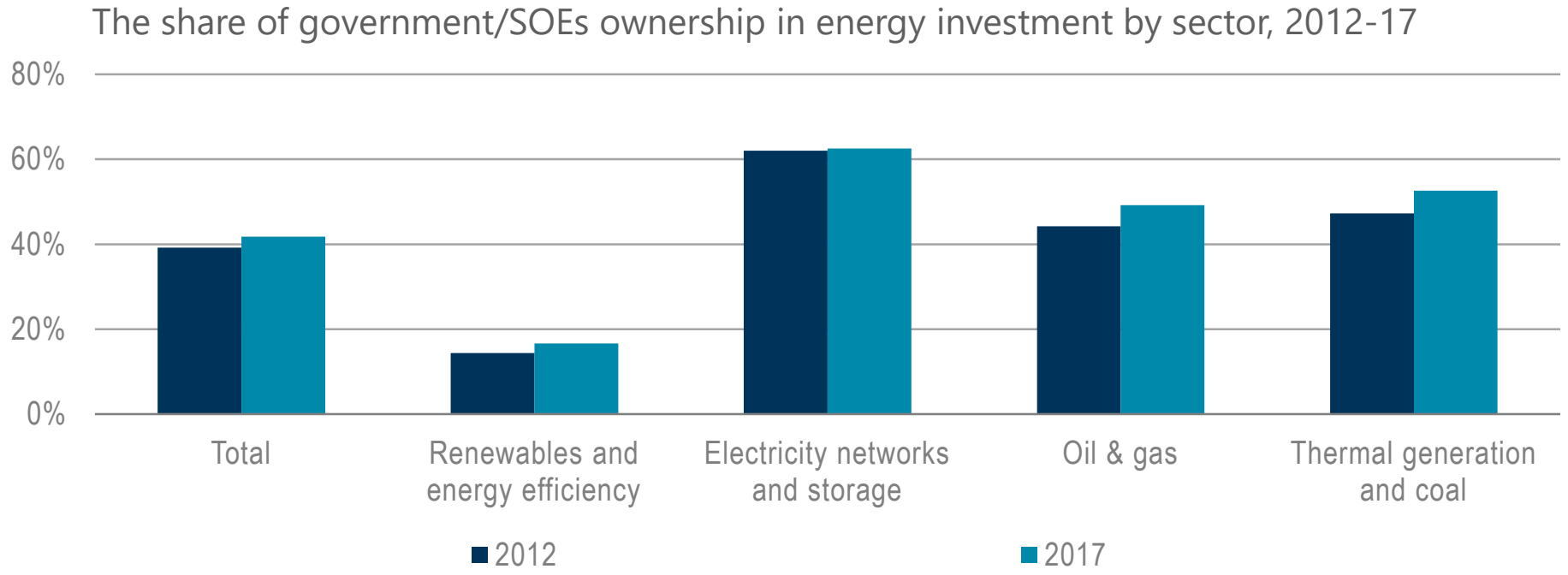
IEA

Global energy investment was USD 1.8 trillion in 2017, led by electricity



For the 3rd consecutive year energy investment declined in 2017 , by 2%, due to less power generation investment, lower costs and continued prudence in the oil and gas sector. Energy efficiency was a lone growth area.

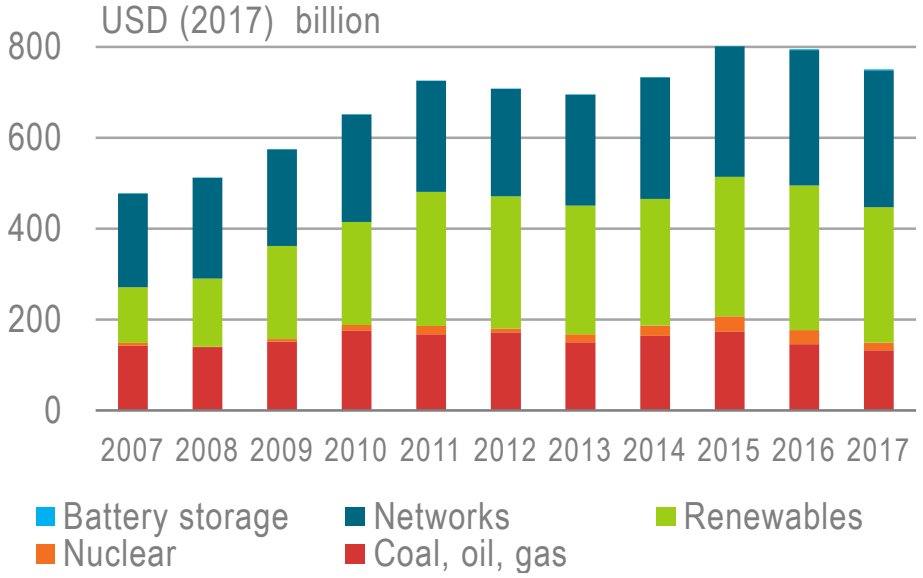
The share of state-backed energy investment has edged up



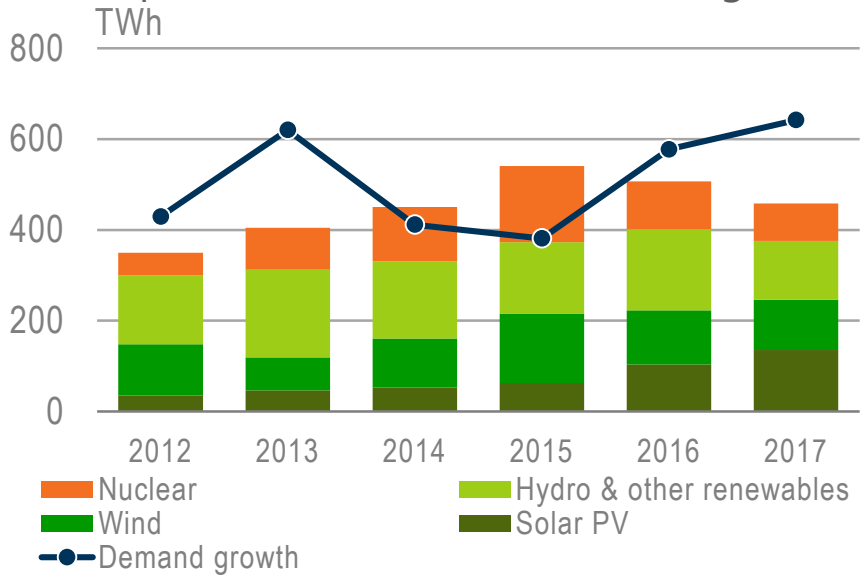
Despite a growing role for clean energy investment, which is led by private investment, the share of energy investment from NOCs and state-owned thermal power rose by more over the past five years.

The power sector is becoming more capital intensive

Global power sector investment

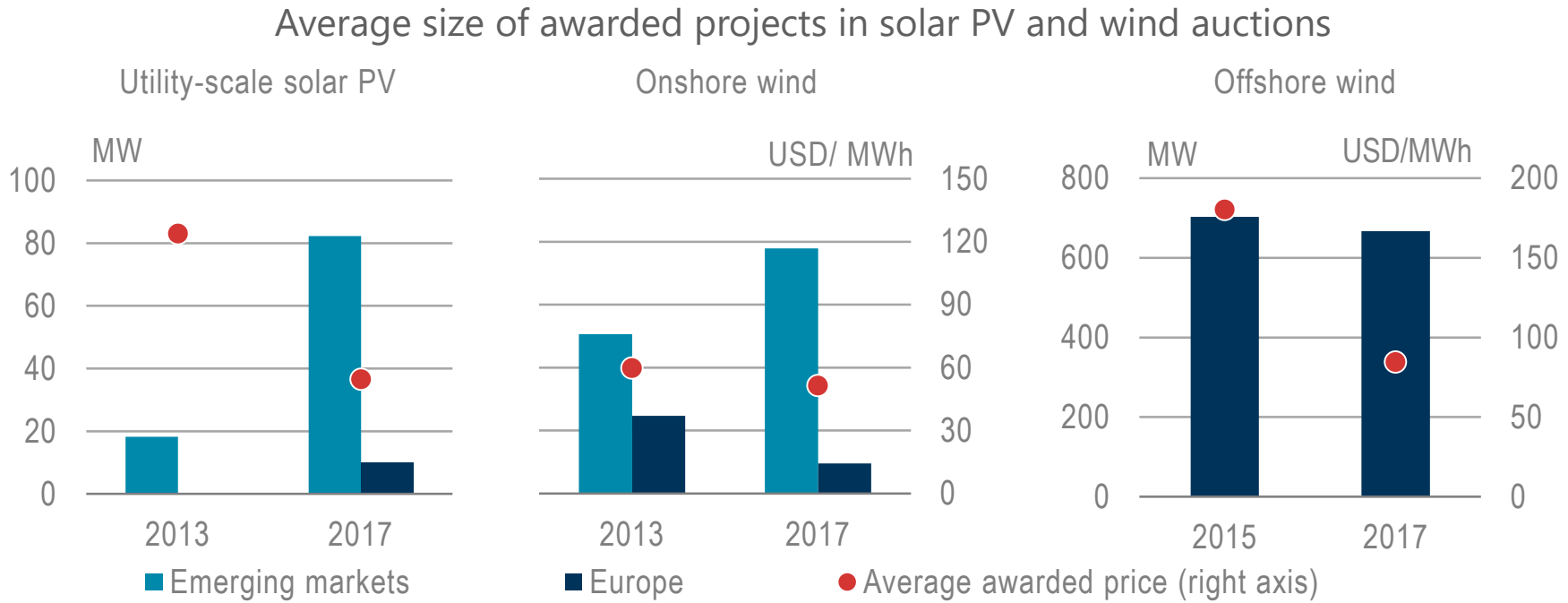


Expected generation from low-carbon power investments vs demand growth



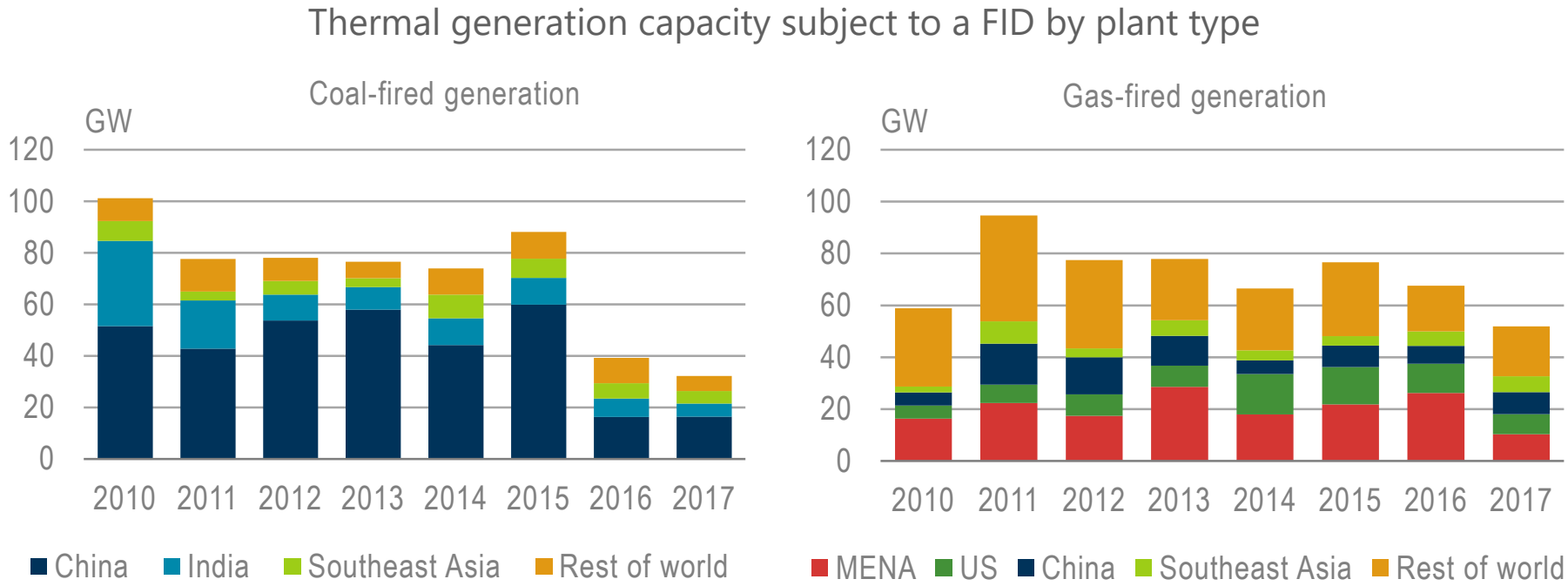
Electricity investment has shifted towards renewables, networks and flexibility. Yet expected output from low-carbon power investments fell 10% in 2017 and did not keep pace with demand growth.

Tenders have facilitated economies of scale for renewables



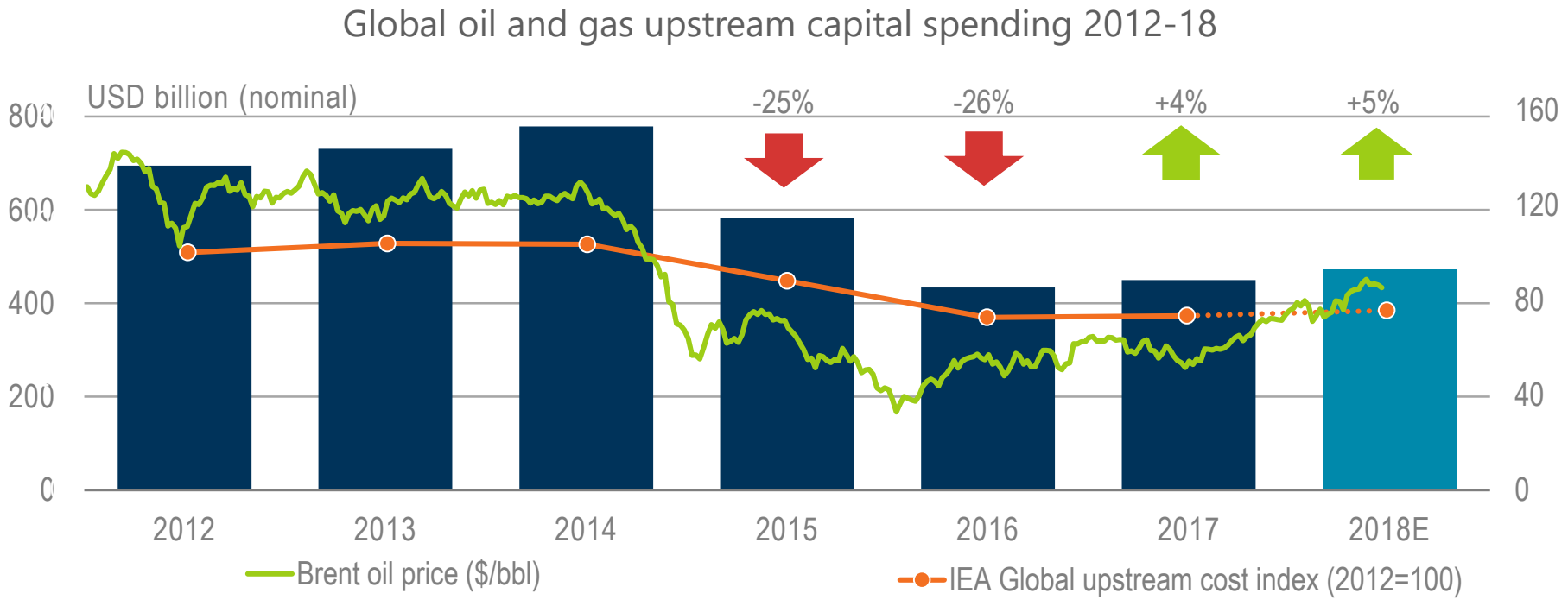
In emerging economies the average size of awarded solar PV projects rose by 4.5 times while that of onshore wind rose by half over 2013-17. In Europe, tendered large projects are mainly in offshore wind.

Thermal power FIDs continued to decline



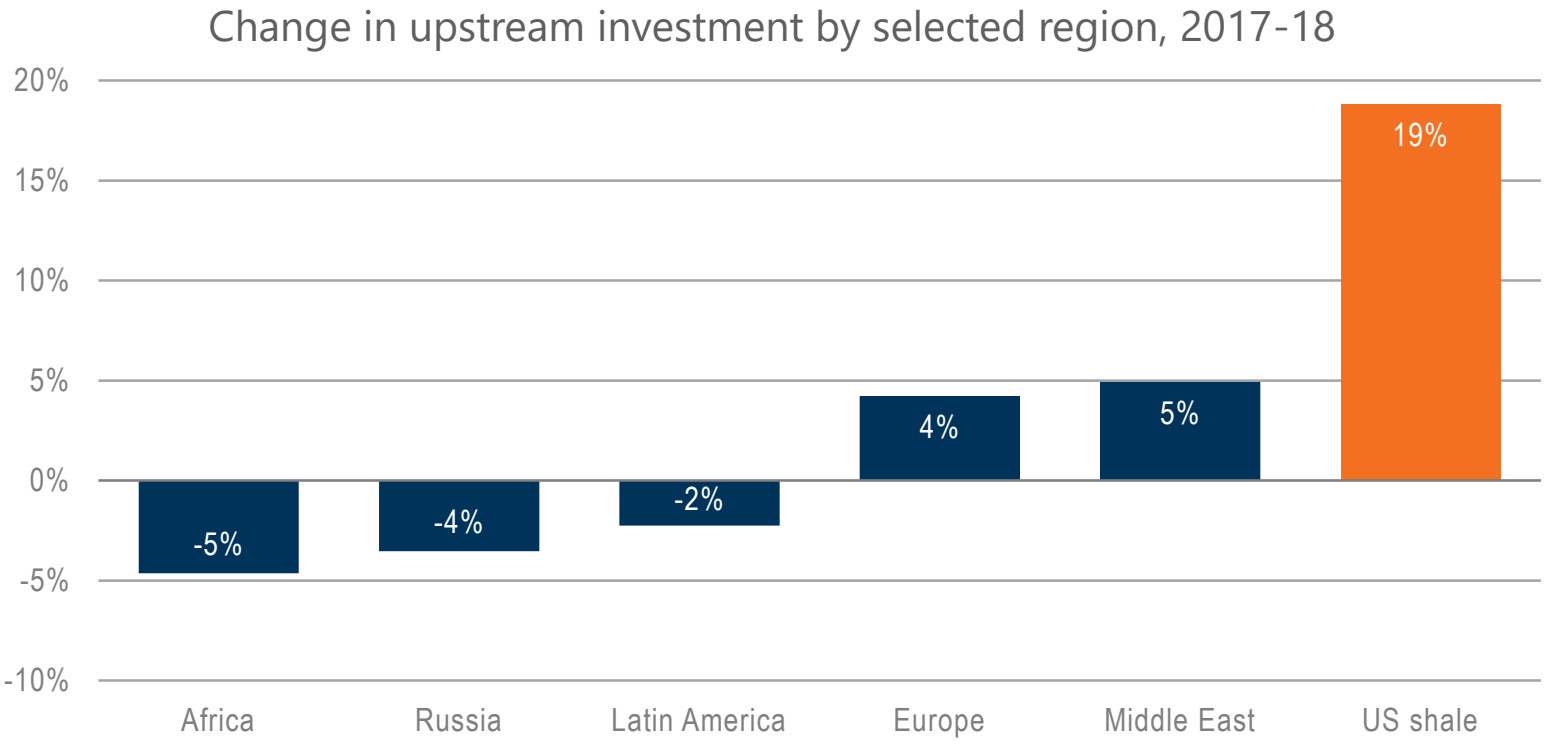
In 2017 newly sanctioned coal power fell 18% to a level one-third that of 2010, driven by a slowdown in China, India & SE Asia. Sanctioned gas power fell nearly 23%, due to the MENA region & the US.

Lower upstream spending could lead to tighter markets



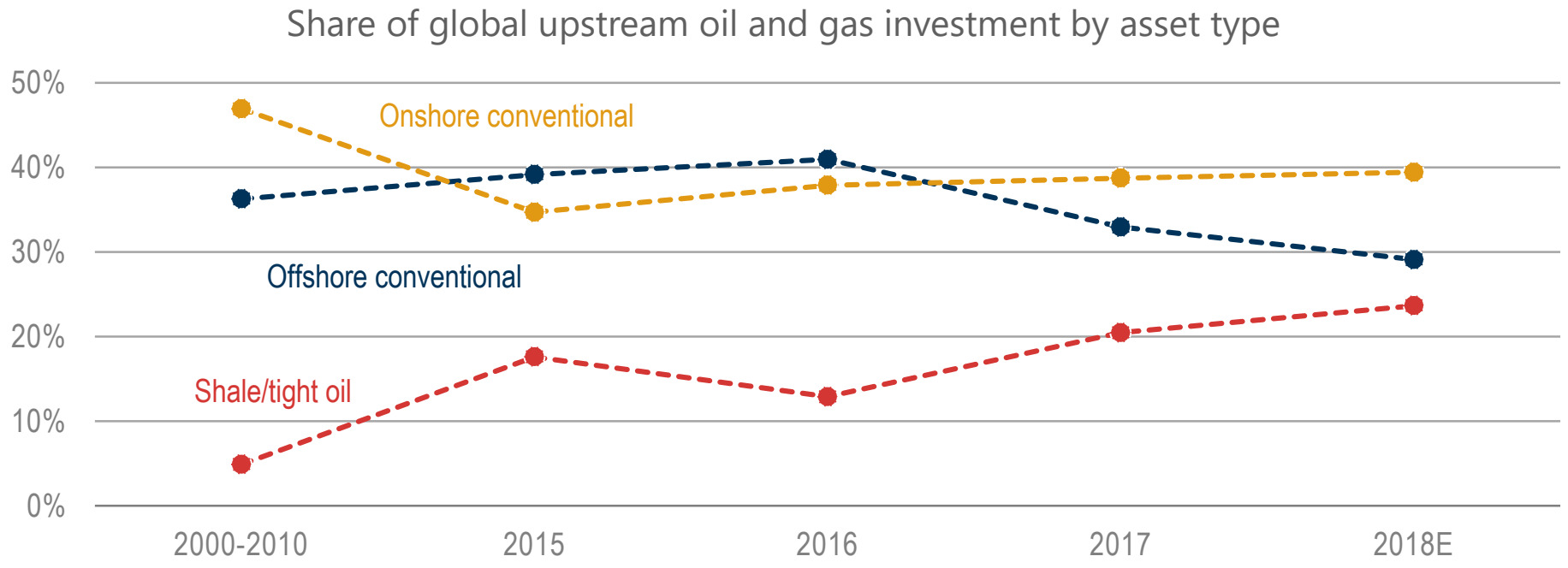
Outside US shale, upstream investment continue to recovery very modestly with companies able to keep costs under control.

A two-speed oil market



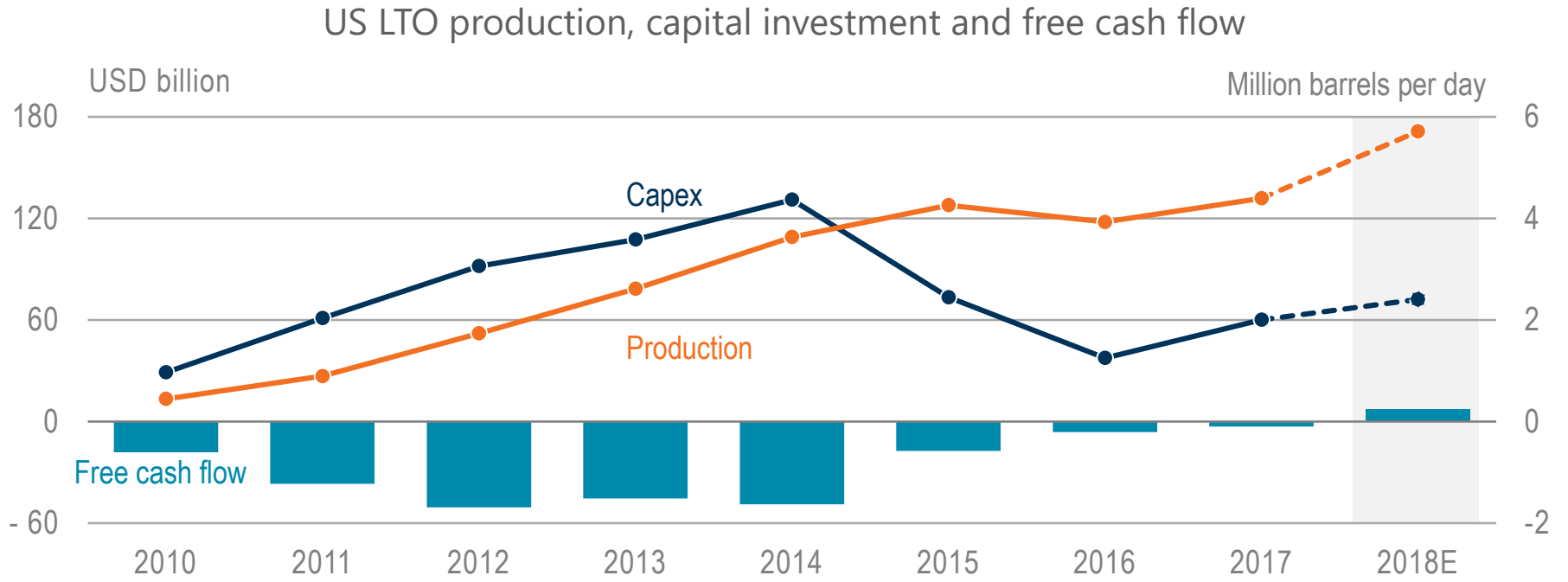
As in 2017, the growth in US shale investment is set to outpace all other key producing regions in 2018

Changing dynamics in the oil and gas industry



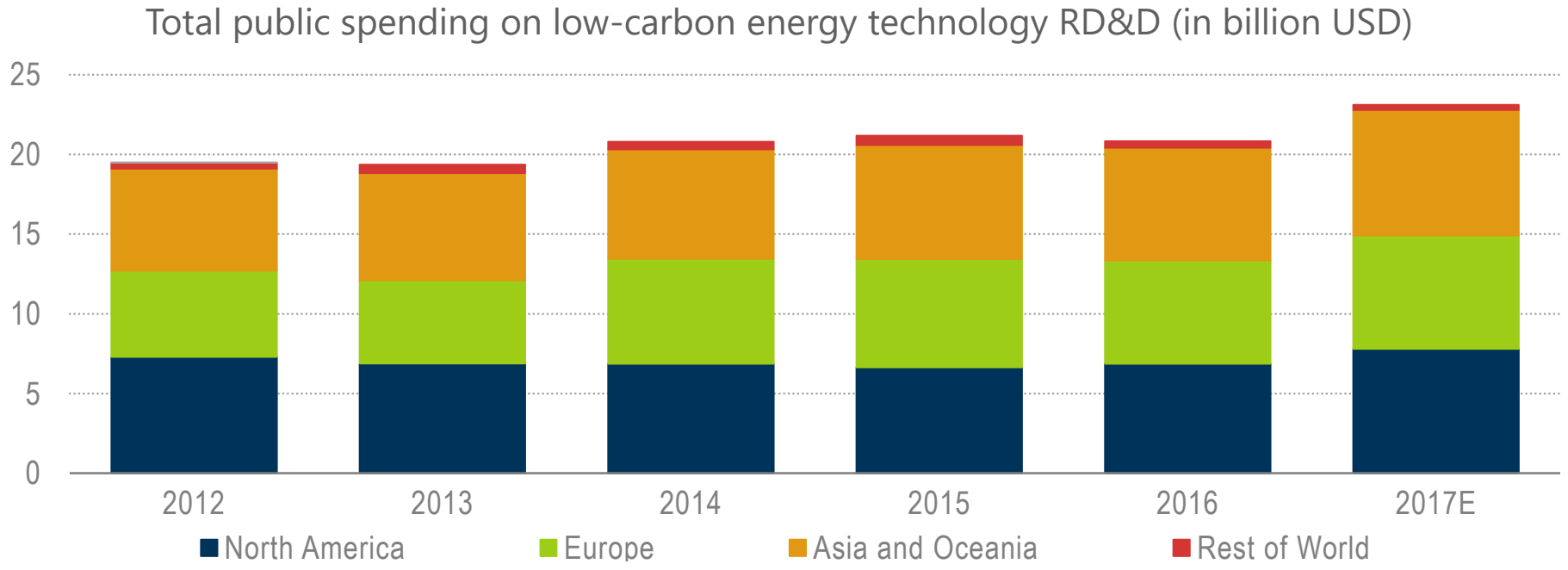
The shift of investment towards short cycle projects and assets with high production decline rates suggests more volatility ahead in the markets.

The US LTO journey towards a financially sustainable business



IEA estimates that US LTO sector is on track in 2018 to generate positive free cash flow for the first time ever, but downside risks remain.

Clean energy R&D investment is finally on the rise…



Public spending on R&D for low-carbon technologies rose 13% to USD 22 billion in 2017 after several years of stagnation; however, this is just 0.1% of public spending in major countries.

Conclusions

- The share of state-backed energy investment has risen, with more dependence on SOEs across the energy system; policies play a growing role in driving private investment
- Electricity was the largest sector for the second year running, sustained by networks and renewables; but recent trends raise a risk of slowing low-carbon supply investment
- The oil and gas industry is shifting towards short-cycle projects and assets with rapidly declining production, potentially signaling market volatility ahead
- Government R&D funding has risen, but more public & private efforts are needed; scaling up private capital will be key for renewables, energy efficiency and CCUS
- Overall energy investments risk being insufficient for meeting energy security goals and are not spurring an acceleration in technologies needed for the clean energy transition