World Energy Investment / Financing Clean Energy Transitions in Emerging and Developing Economies

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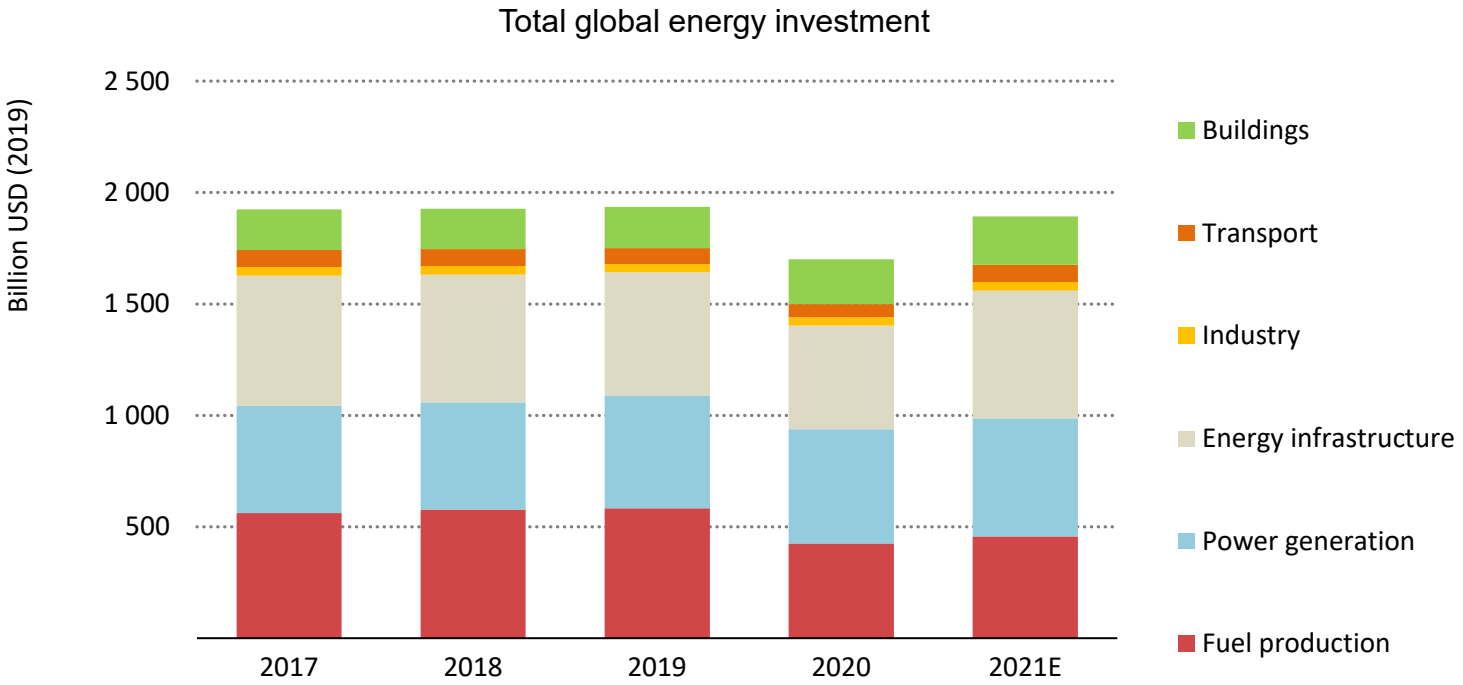
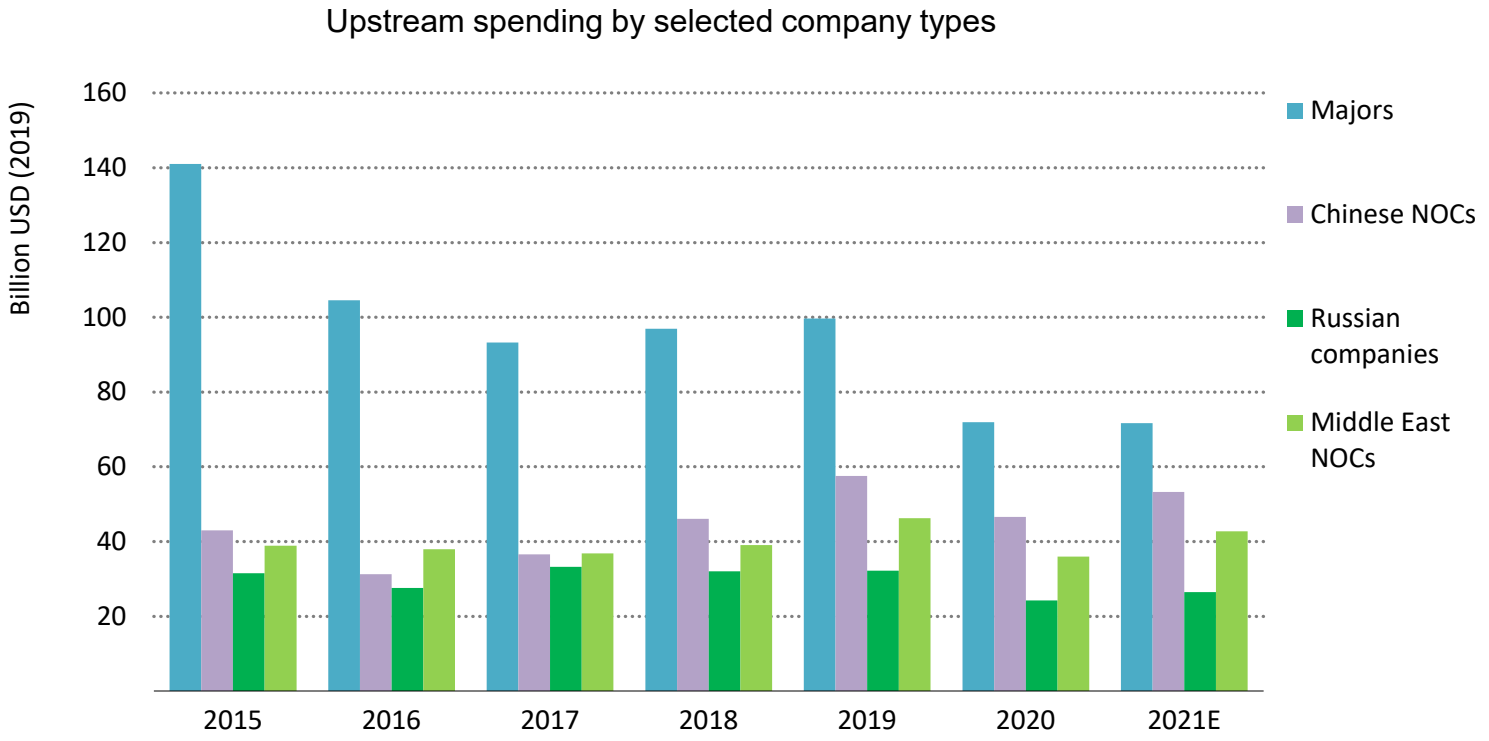
International Energy Agency

Global energy investment is set to rebound in 2021



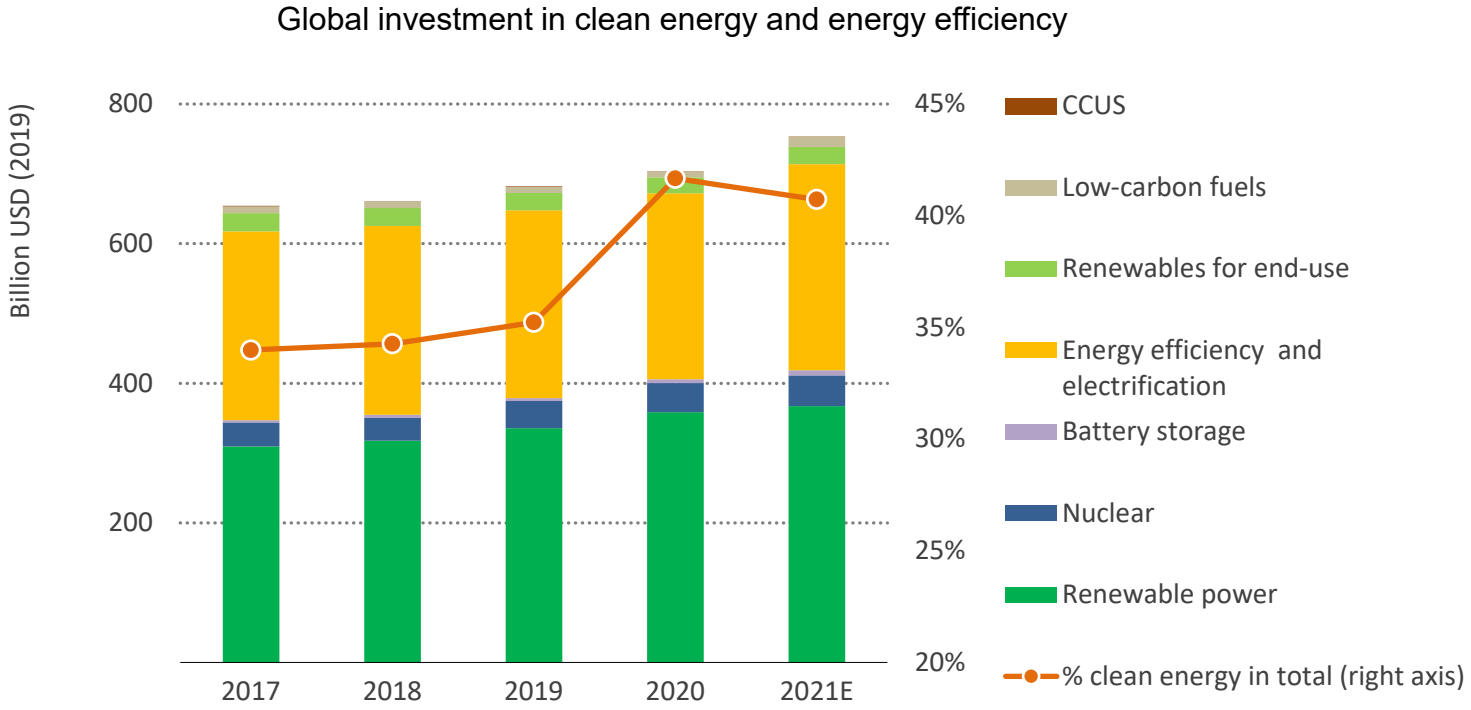
While investment is set to return to near the pre-crisis level, the composition has shifted towards the power and end-use sectors, and away from fuel production; investment gaps remain largest in emerging and developing economies

Upstream investment is shifting towards state-owned companies



Upstream oil and gas investment is set to rise about 10% in 2021, but spending remains well below pre-crisis levels; while cost control is pervasive, some NOCs are looking to invest counter-cyclically and gain oil and gas market share

Clean energy investment is on a moderate upswing



The impact of stimulus plans is increasingly visible in buildings efficiency, low-carbon hydrogen and CCUS, while electrification, especially EVs, remains a major driver; but, clean energy spend is well short of a sustainable recovery

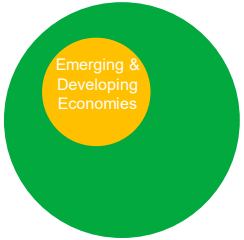
Our global future hinges on emerging and developing economies

The role of emerging and developing economies in key demographic and investment indicators

Global population (7 billion)

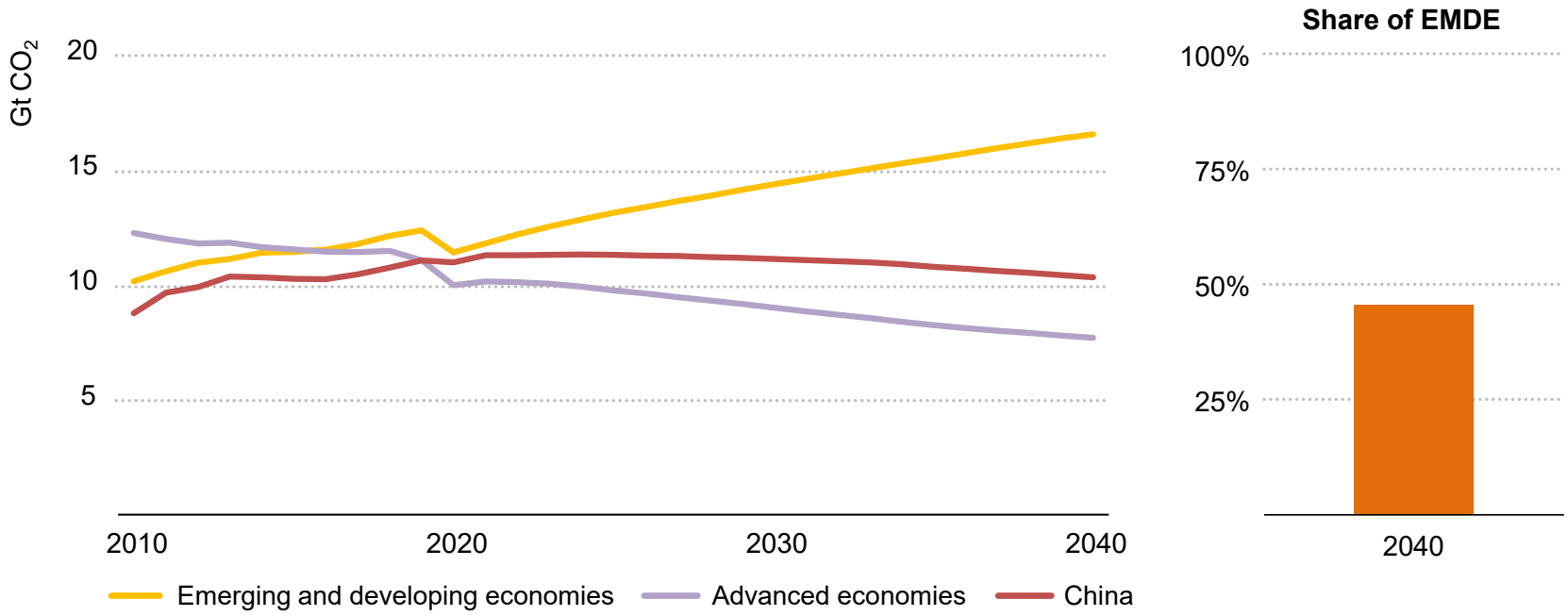
Total energy investment (USD 1.9 trillion)

Clean energy investment (USD 750 billion)



With two-thirds of the global population, emerging and developing economies have vast potential for economic and energy demand growth, but there is a major gap between future needs and todays energy investment flows

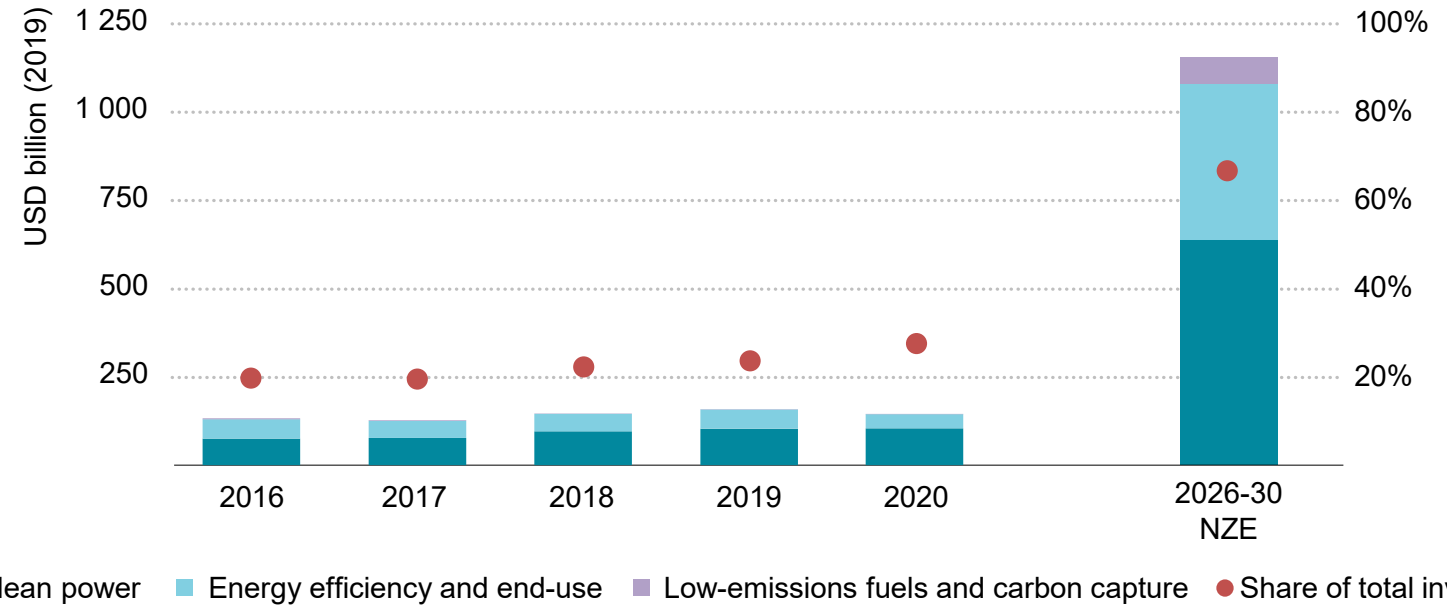
Today's development pathway points to higher emissions



Per capita emissions in emerging and developing economies are among the world's lowest, but these countries are set to account for the bulk of emissions growth unless sufficient action is taken to transform their energy systems

A surge in clean energy investment is needed to change course

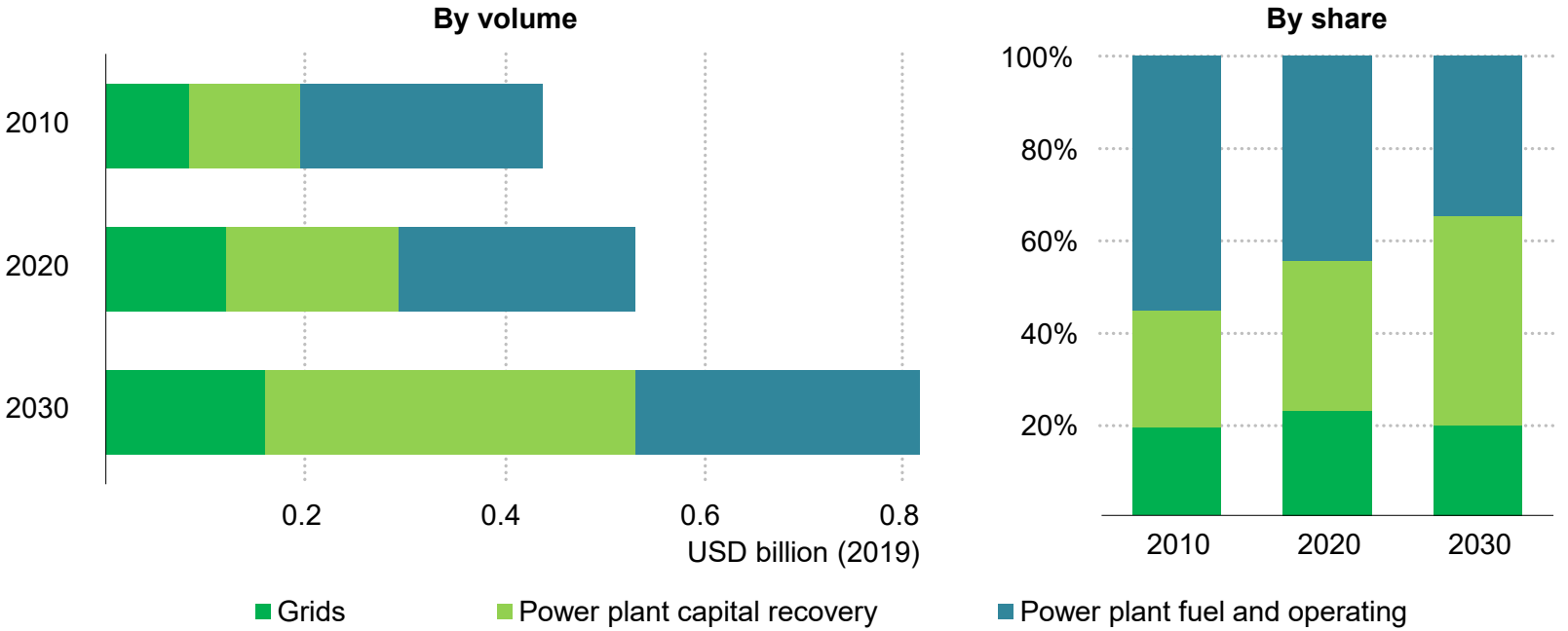
Annual clean energy investment in emerging and developing economies compared with projections in the Net Zero Emissions (NZE) by 2050 Scenario



Clean energy investment has been stuck at less than $150 billion in recent years, but needs to expand by more than seven times, to above $1 trillion, in order to put the world on track to reach net-zero emissions by 2050

In transitions, a shift to more capital-intensive energy systems

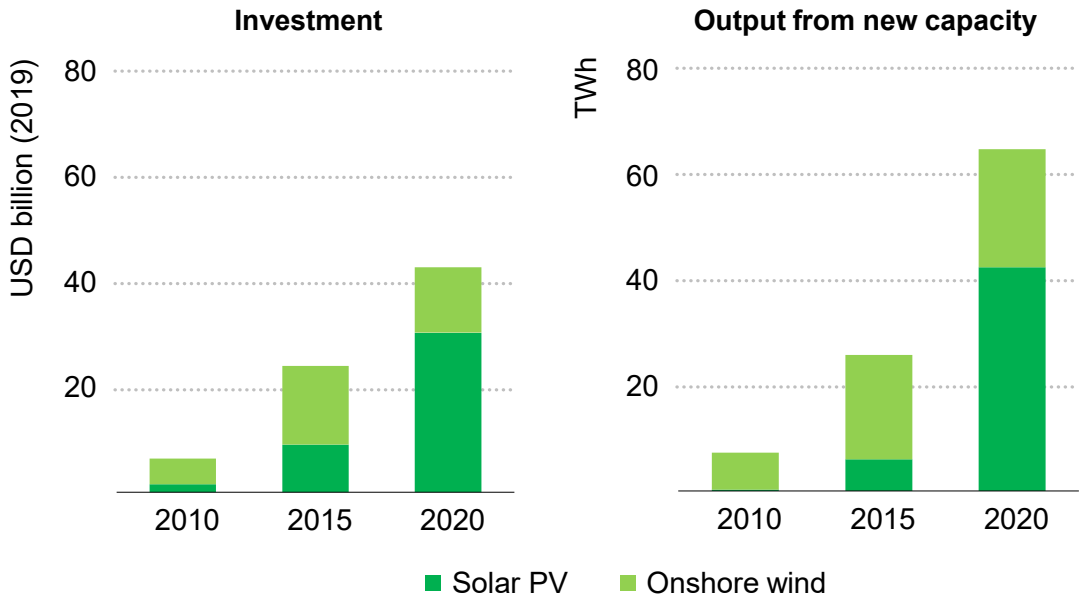
Electricity supply costs in emerging and developing economies, historical and in IEA climate-driven scenario



In clean energy transitions, energy systems become more reliant on power and end-use technologies with higher upfront capital requirements but lower operating expenditures. Keeping financing costs low is critical to affordability

With falling renewables costs, investments are more affordable

Investment in solar PV and wind in emerging and developing economies and expected generation output



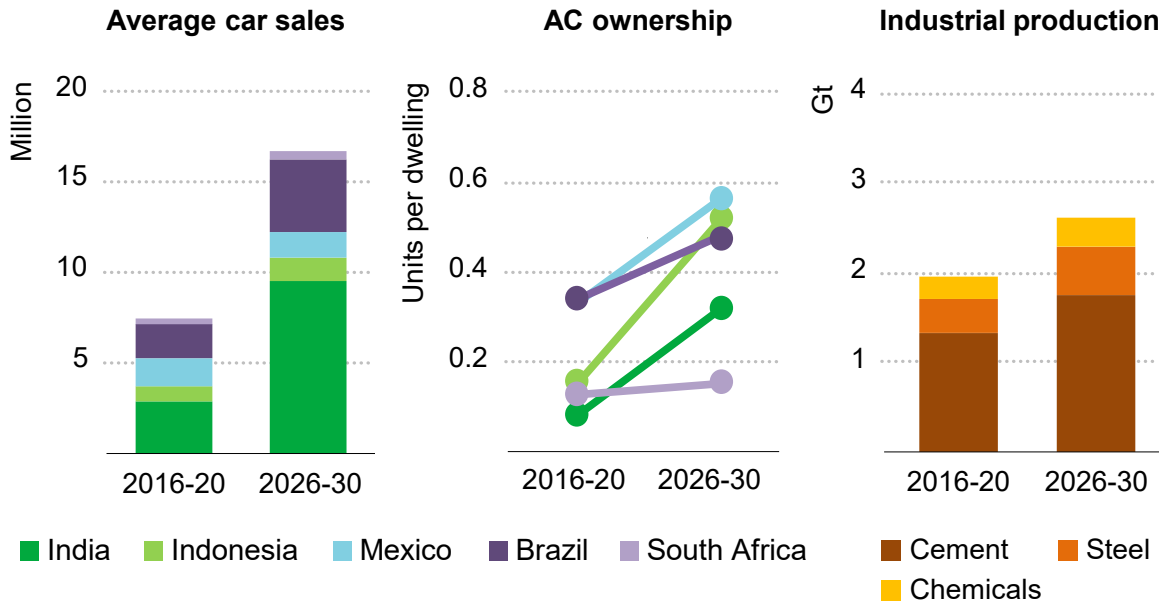
Key issues for investment

- Presence of long-term strategies and competitive procurement plans
- Availability of bankable contracts and management of payment risks that facilitate low-cost debt finance
- Access to land and enabling infrastructure

Due to technology improvements and better financing, a dollar spent on solar PV and wind produces one third more power than a decade ago. Expanding infrastructure and regulatory frameworks are essential to accelerate investment

The developing world is poised to urbanise and industrialise

Trends in energy end-use in emerging and developing economies in IEA climate-driven scenario



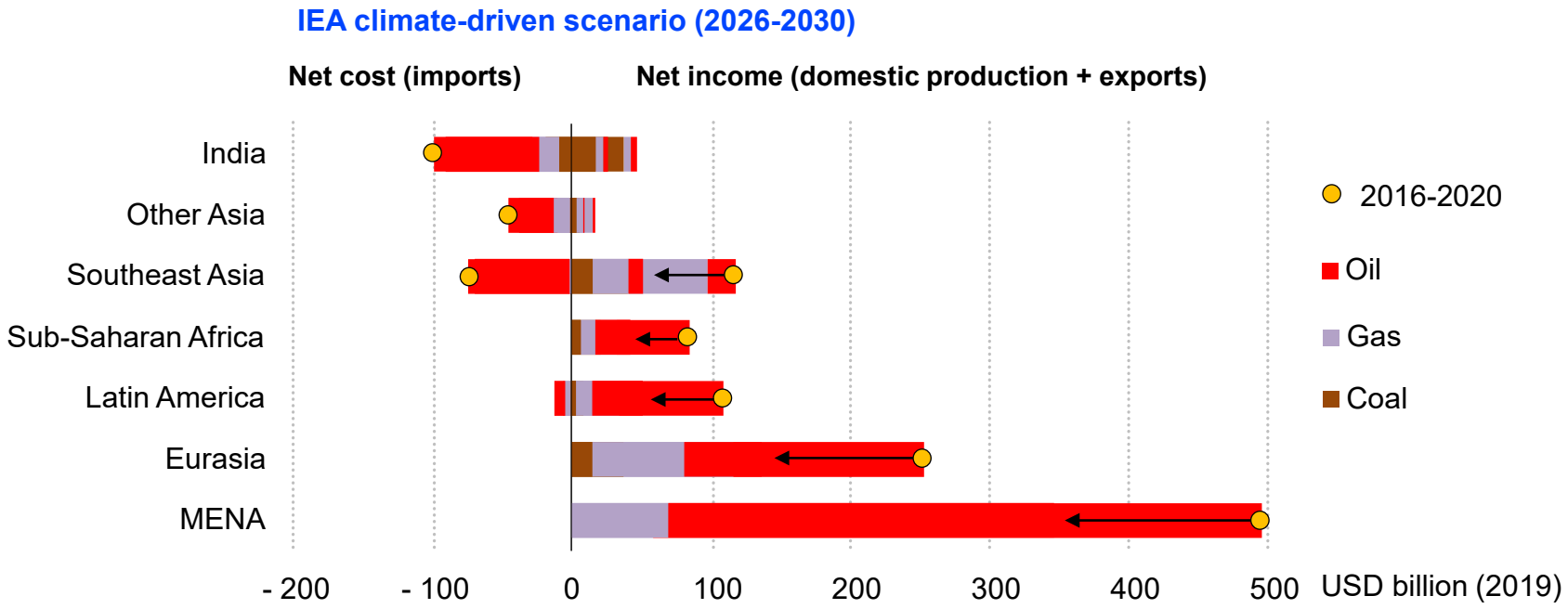
Key issues for investment

- Availability of low-cost financing options for consumers and SMEs
- Presence of clear efficiency performance standards and buildings codes
- Measures that help monetise energy savings and encourage the uptake of new fuels

Emerging and developing economies are industrialising and urbanising at a rapid pace, with growing demand for mobility, cooling and construction. Annual energy intensity improvements of 4% are essential to develop sustainably

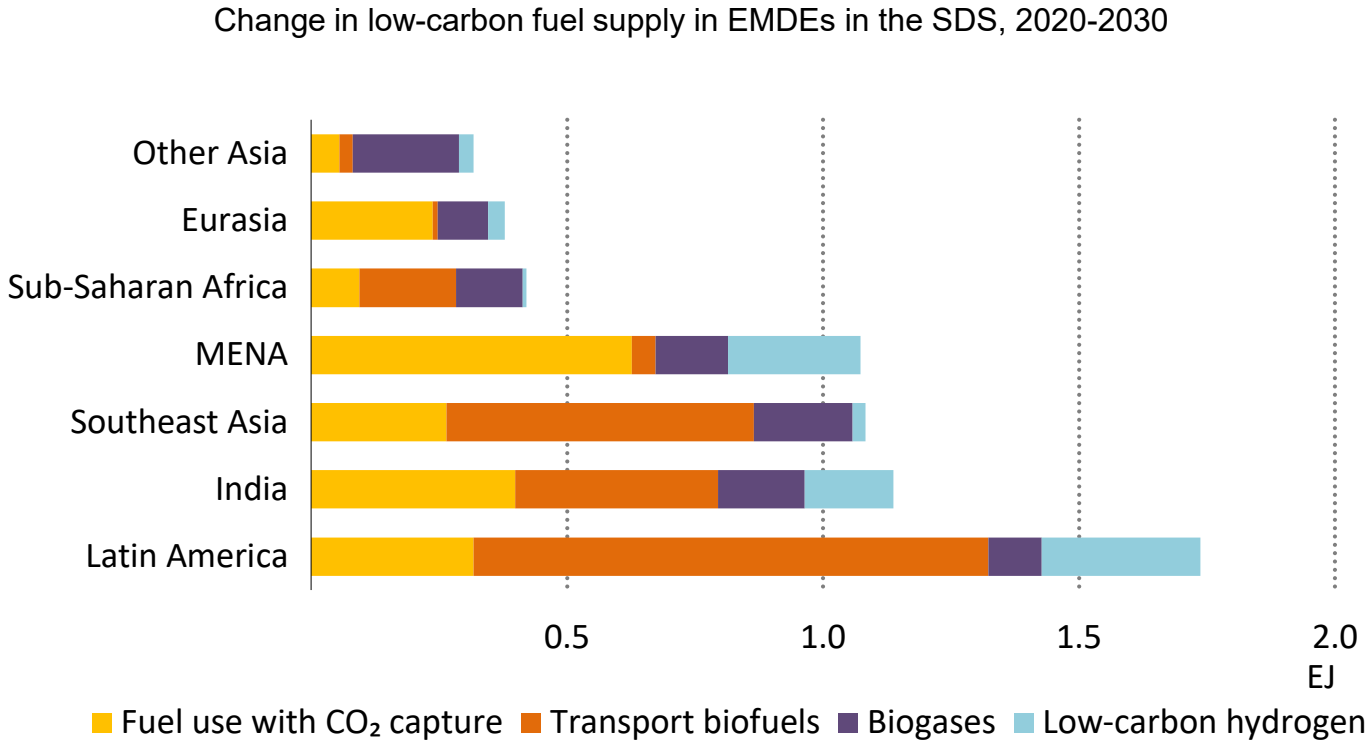
Producer economies face tough choices in the decade ahead

Average annual net income and import costs of fossil fuels in emerging and developing economies



While major fuel-importing countries stand to benefit from transitions, oil and gas producers face huge pressures on development models that rely on hydrocarbon revenues. Diversifying the energy and economic base is crucial.

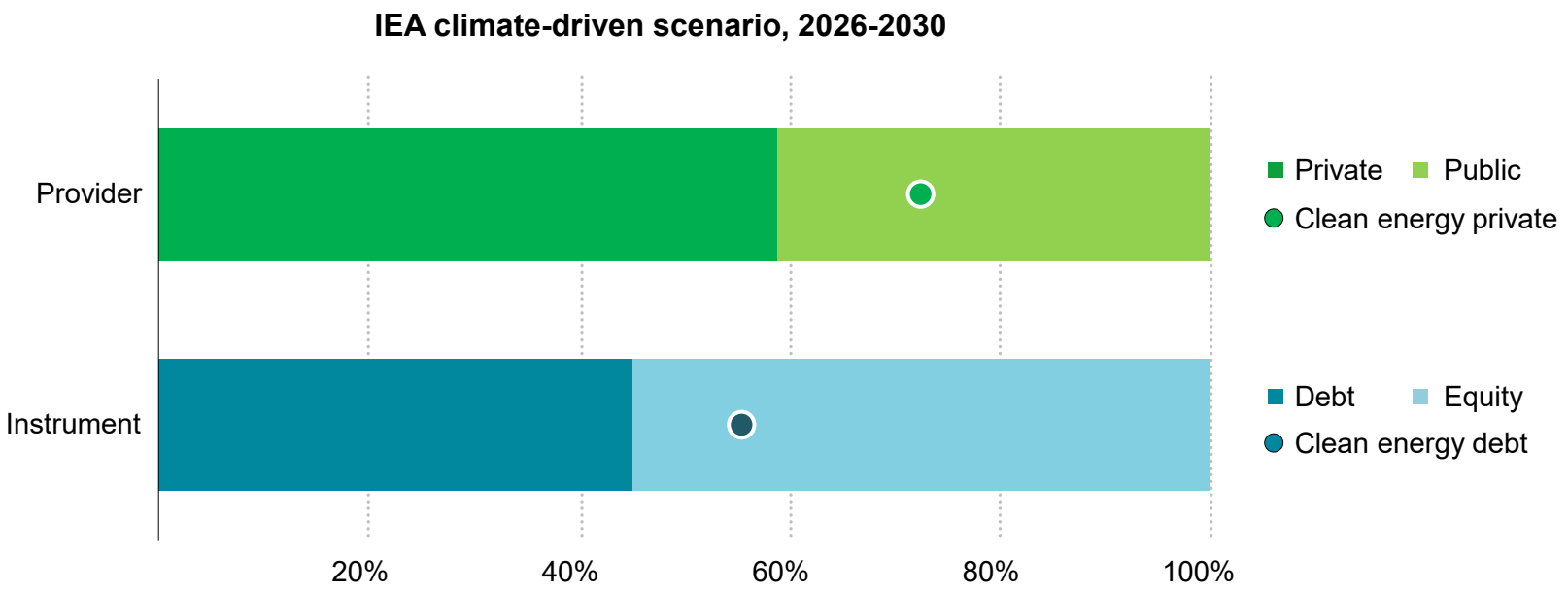
Laying the groundwork for scaling low-emissions fuels



There are a variety of pathways to develop low-carbon fuels in EMDEs, each capitalising on the unique set of policy ambitions, resources and opportunities in each region

A dramatic mobilisation of private capital is needed for transitions

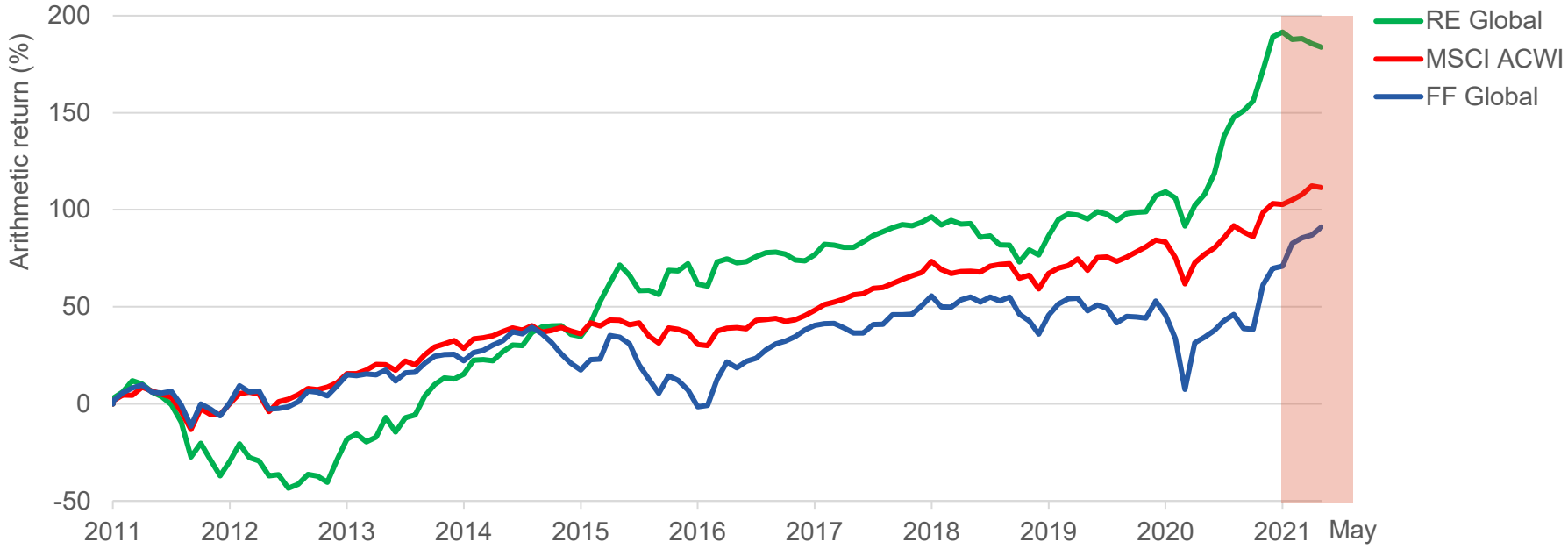
Primary sources of finance for energy investments in emerging and developing economies



While public sources are critical to catalyse investment, over 70% of clean energy investments are financed by private capital in climate-driven scenarios, as clean energy projects increasingly rely on availability of higher shares of debt

Strong performance of clean energy in global financial markets

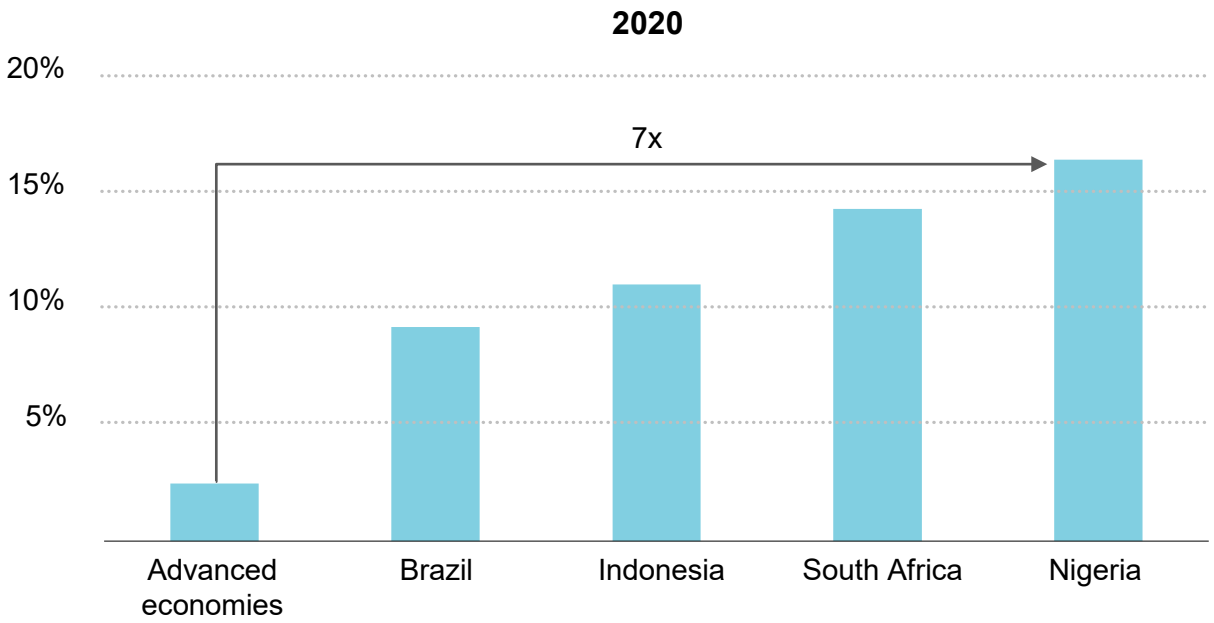
Global equity markets portfolio 10-year monthly returns: listed renewable power companies and fossil fuel companies



Renewable power companies have outperformed fossil companies and the wider market, and sustainable finance has boomed; but such trends have not spurred a corresponding acceleration of spending on clean energy projects

Capital is significantly more expensive for those areas most in need

Indicative cost of capital by economy (nominal base rates plus market risk premium)



Although financing costs have come down in many countries, the cost of capital is up to seven times higher in emerging and developing economies, raising the bar for projects to access debt finance and clear equity hurdle rates

Priority actions to make the 2020s a decade of clean energy

Redouble international support

Strong strategic mandate for public finance institutions

Better use of blended finance

Boost delivery of international climate finance

Get international capital markets engaged in clean energy in emerging and developing markets

Tackle cross-cutting investment issues

Better disclosure of climate risks

Empower local entrepreneurs

Put state-owned utilities on a firmer financial footing

More robust banking and capital markets

Get price signals right

Make it easier to prepare clean energy projects

Push on clean power & efficiency

Sustainable energy access for all

More electrified and efficient mobility

Harness investor readiness to back renewable power

Embed efficiency in all new buildings and appliances

Expand and modernise grids

Get to grips with the toughest tasks

Prepare the ground for low-carbon fuels and industries

Innovative strategies for cement, steel, chemicals

Leave no one behind as countries leave coal

A new development model for producer economies