



equinor

Energy Perspectives 2018

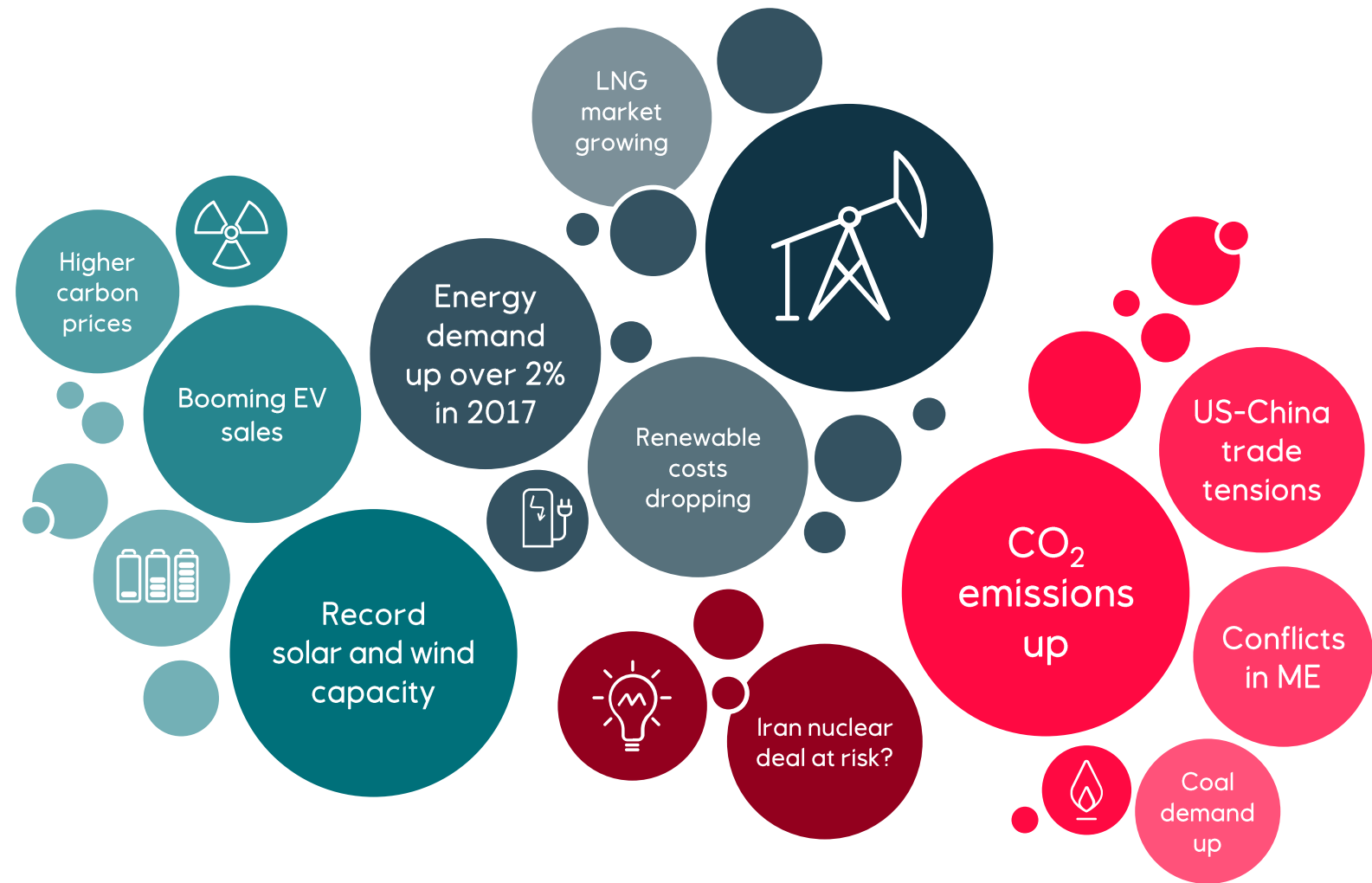
Long-term macro and market outlook

Eirik Wærness, SVP and Chief Economist
USA, October 2018

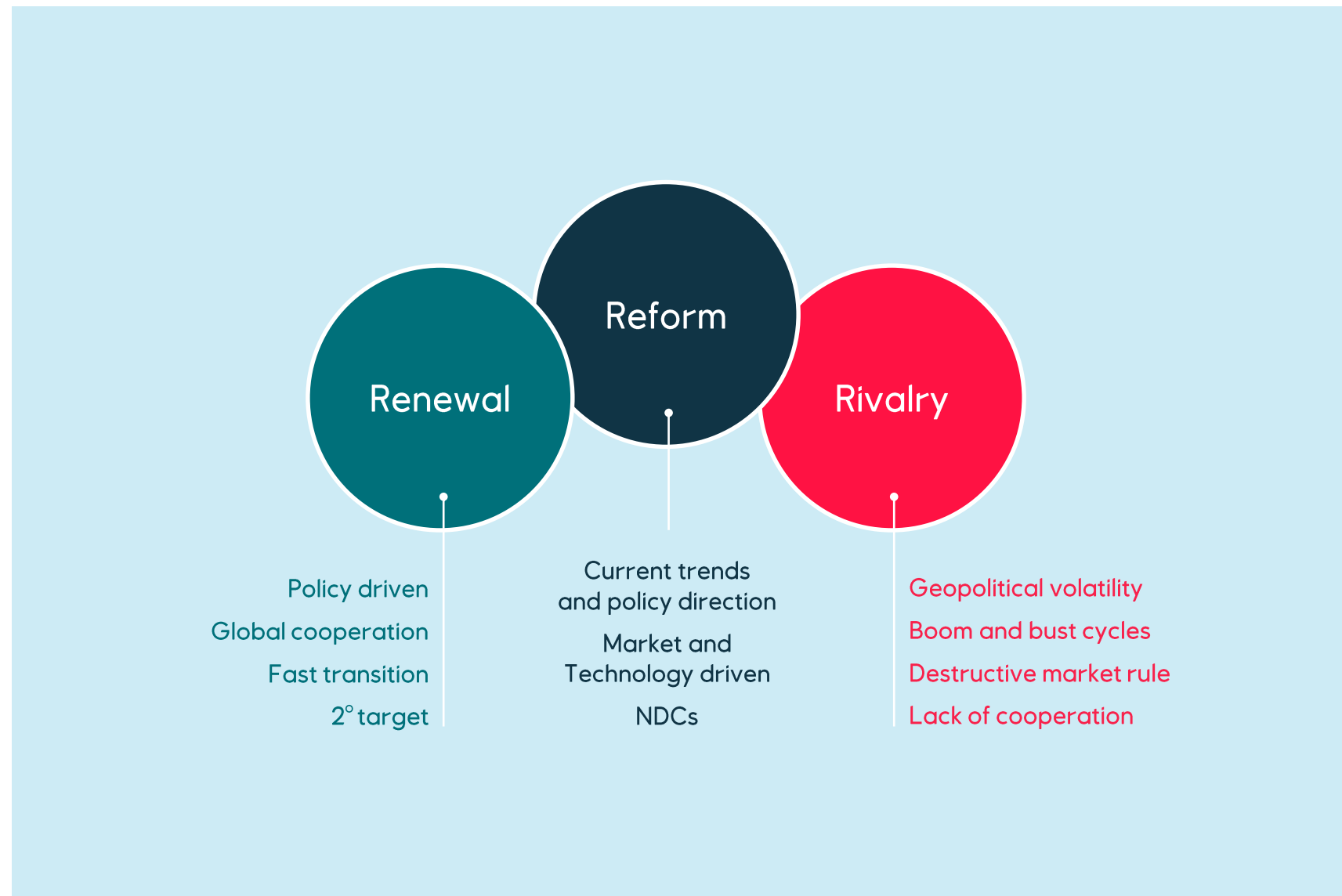
In which direction is the energy world moving?

Recent signposts show diverging paths, in terms of:

- Growth
- Efficiency
- Cooperation
- Technology
- Geopolitics



Scenarios capture different development paths



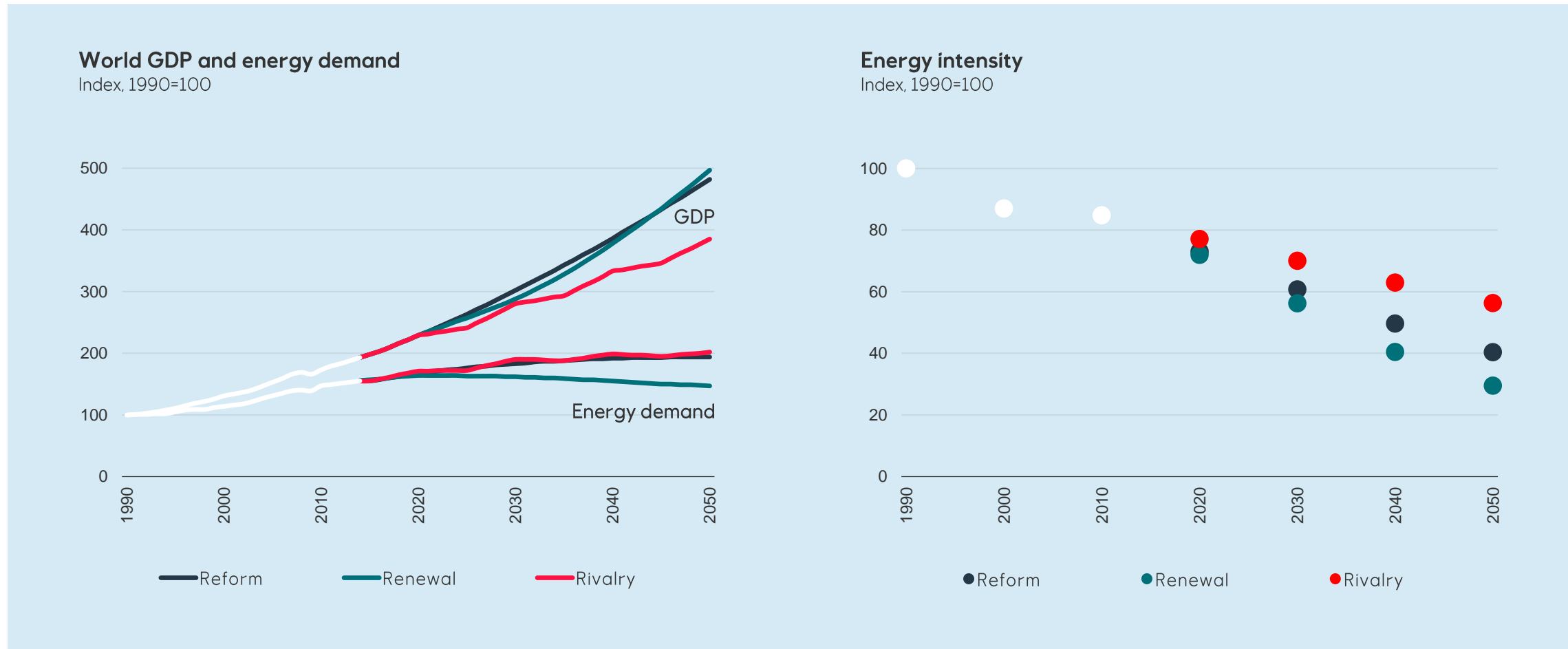
What are common beliefs about the future?

- Global demand for energy dependent goods, services, and activities is growing
- The world is undergoing an energy transition
- Large investments needed in the energy system



How will economic growth and energy demand develop?

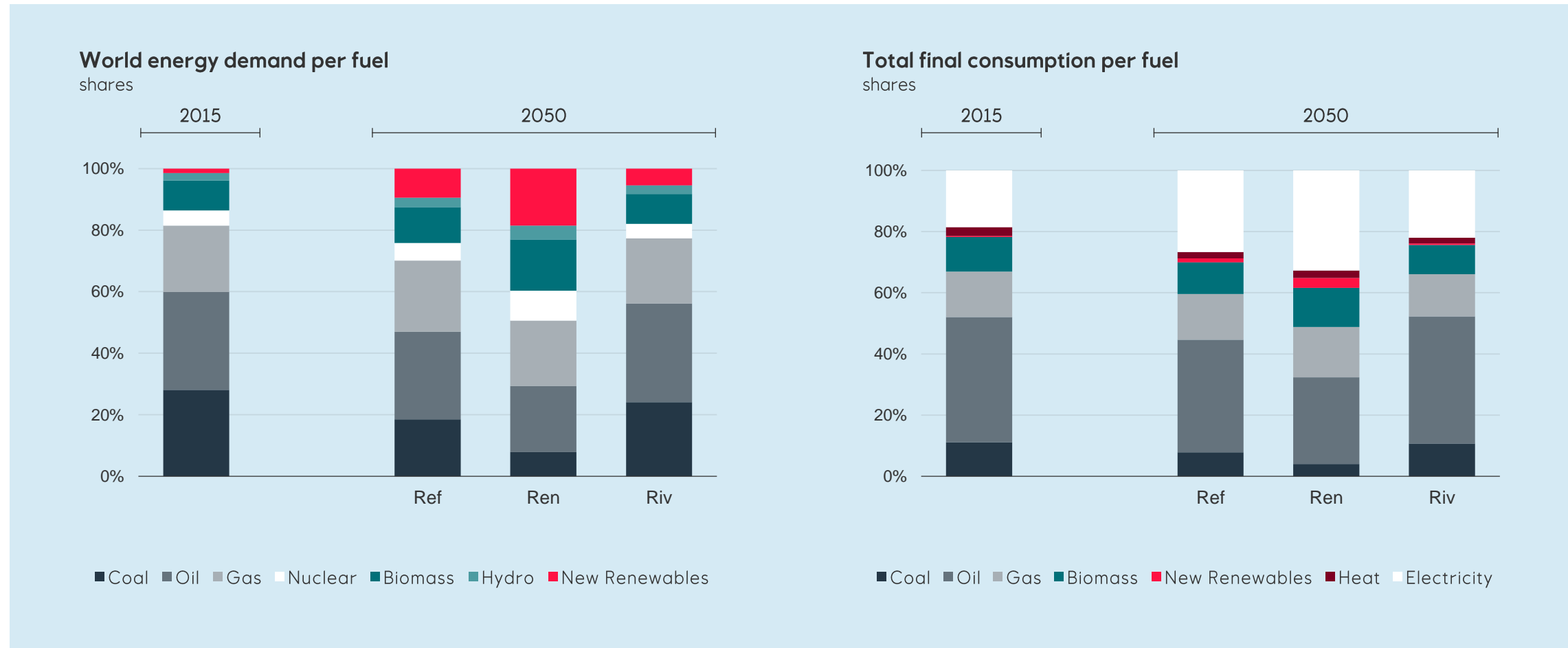
Energy efficiency drives a wedge between economic development and energy demand



Source: IEA (history), Equinor (projections)

Growth in position of new renewables and electricity across all scenarios

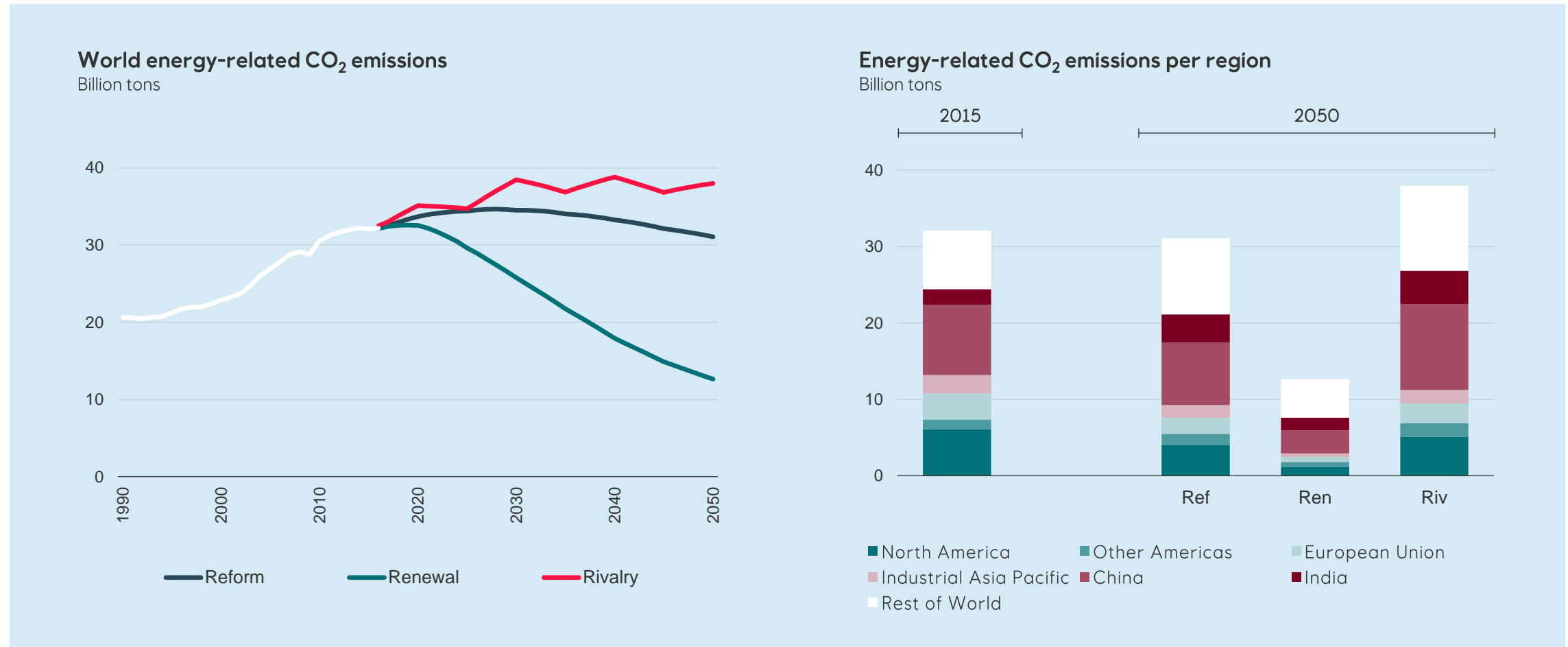
Sufficient speed and scope only in Renewal – fossil fuels keep their share in Rivalry



Source: IEA (history), Equinor (projections)

Will the energy transition affect CO₂ emissions?

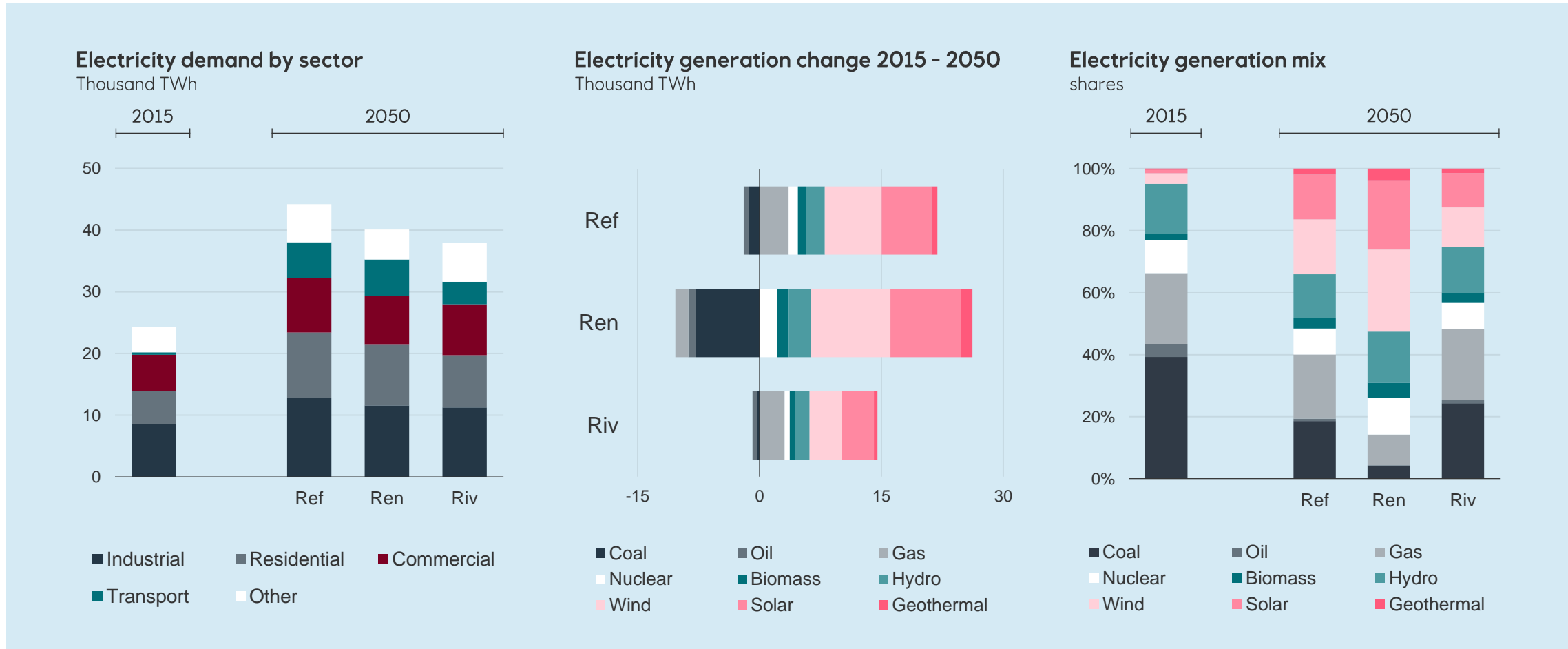
Yes, but only Renewal shows a sustainable development – and there is an urgent need for action



Source: IEA (history), Equinor (projections)

Strong electricity demand growth in all scenarios

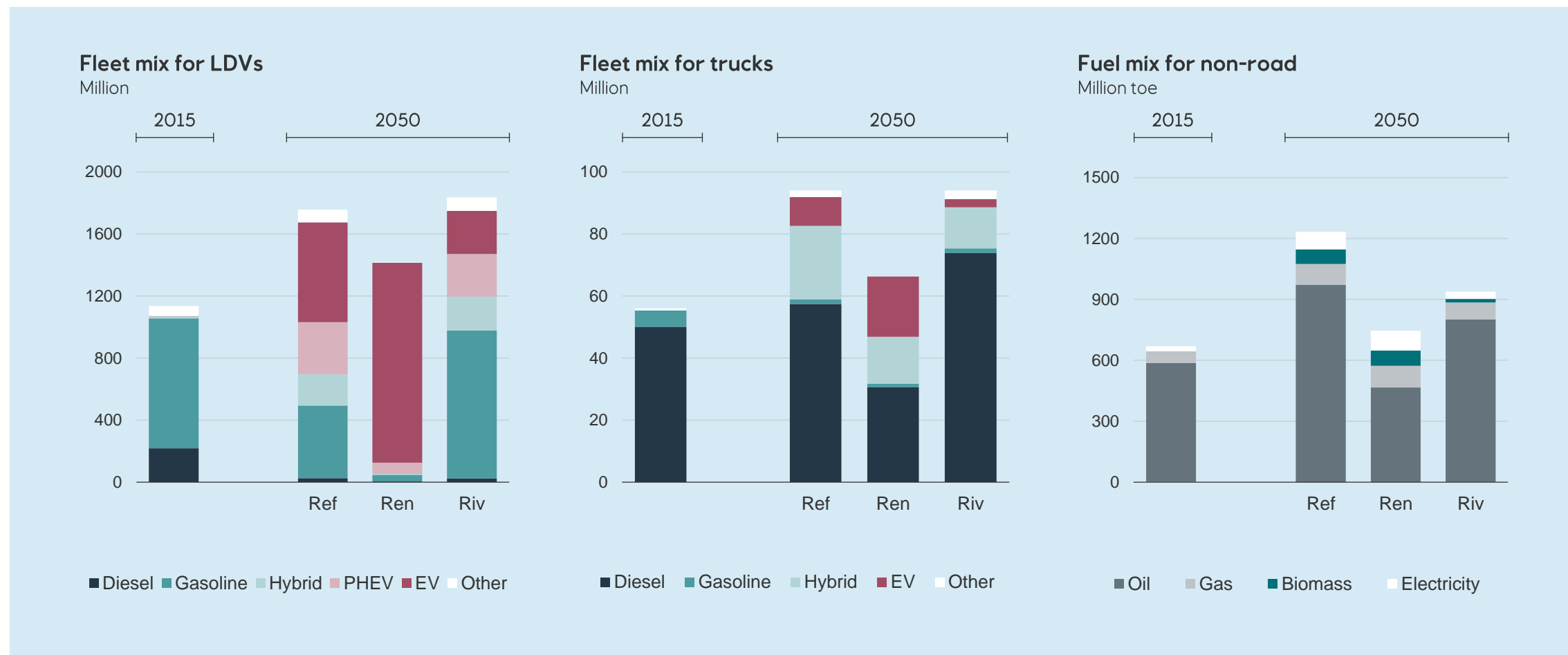
Generation mix develops very differently; solar and wind growing strongly



Source: IEA (history), Equinor (projections)

Massive changes in road transport – efficiency and fuel mix

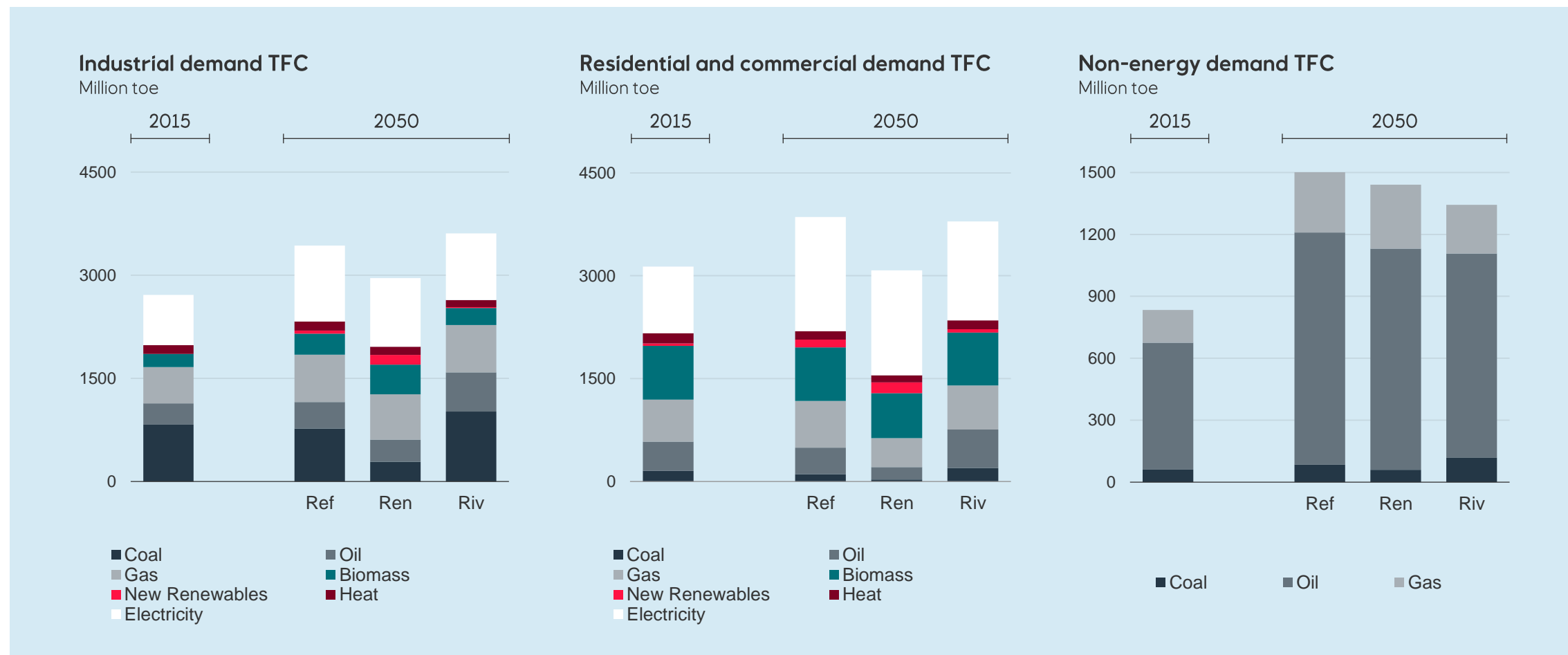
But less certain what is the alternative to oil in shipping and aviation



Source: IEA (history), Equinor (projections)

Transition moving slower in other sectors

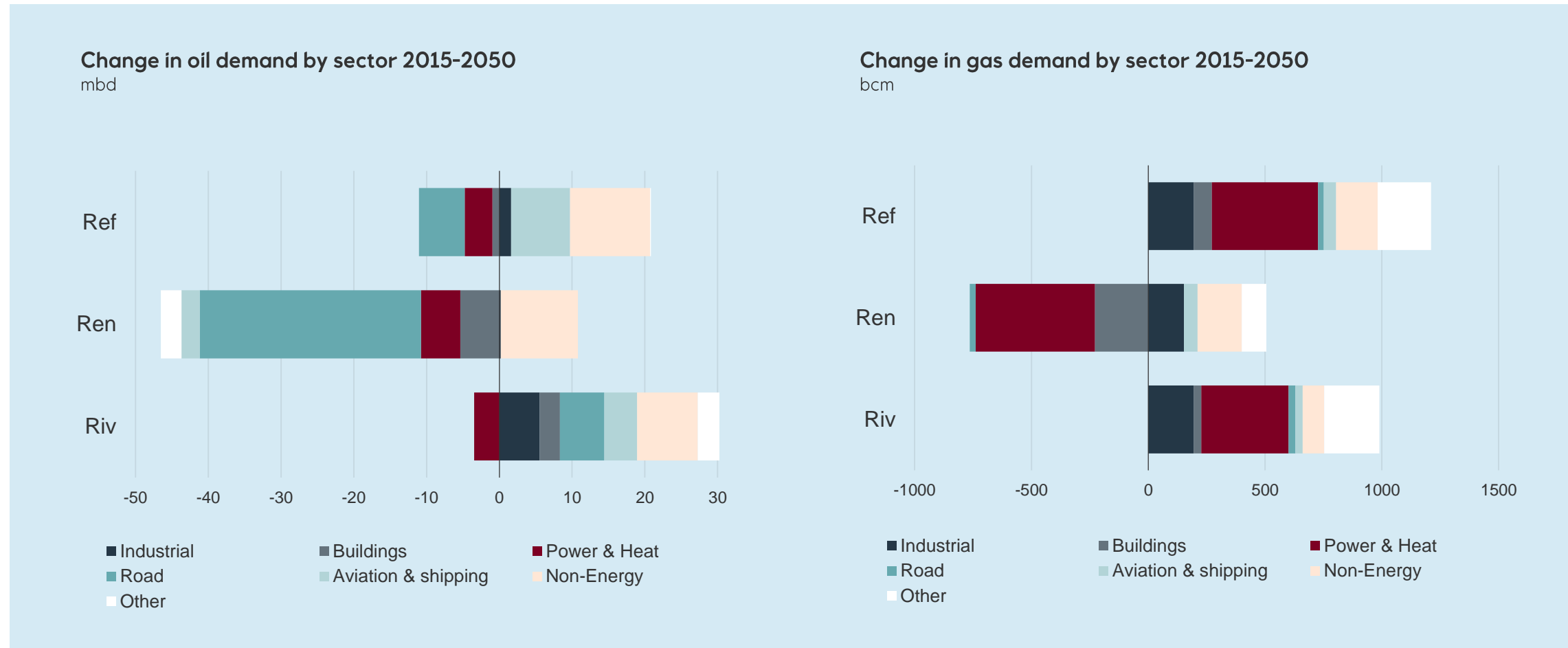
No silver bullet, efficiency and electrification the primary measures



Source: IEA (history), Equinor (projections)

Growth or decline in oil and gas demand growth determined by scenario

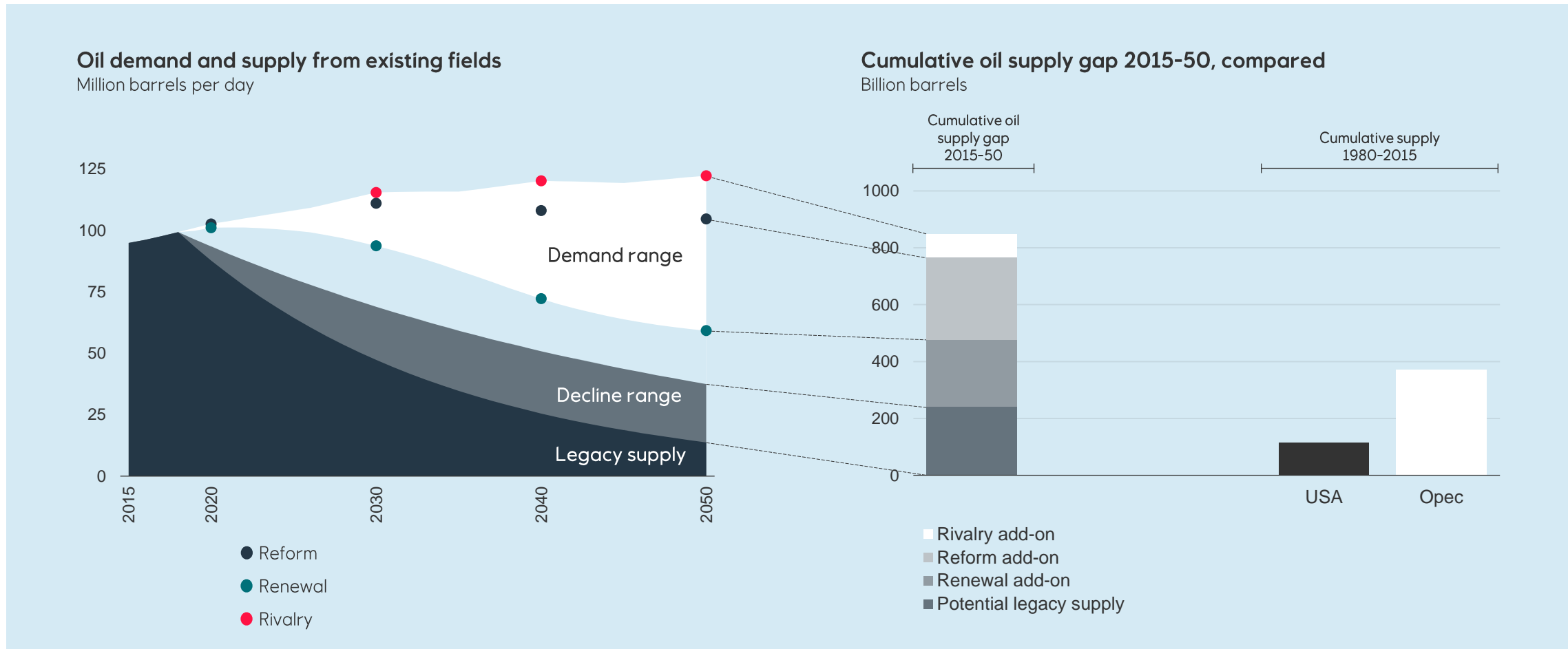
Transport key sector for oil, and power for gas; non-energy demand important for both – growth irrespective of scenario



Source: IEA (history), Equinor (projections)

What is the need for new oil investments?

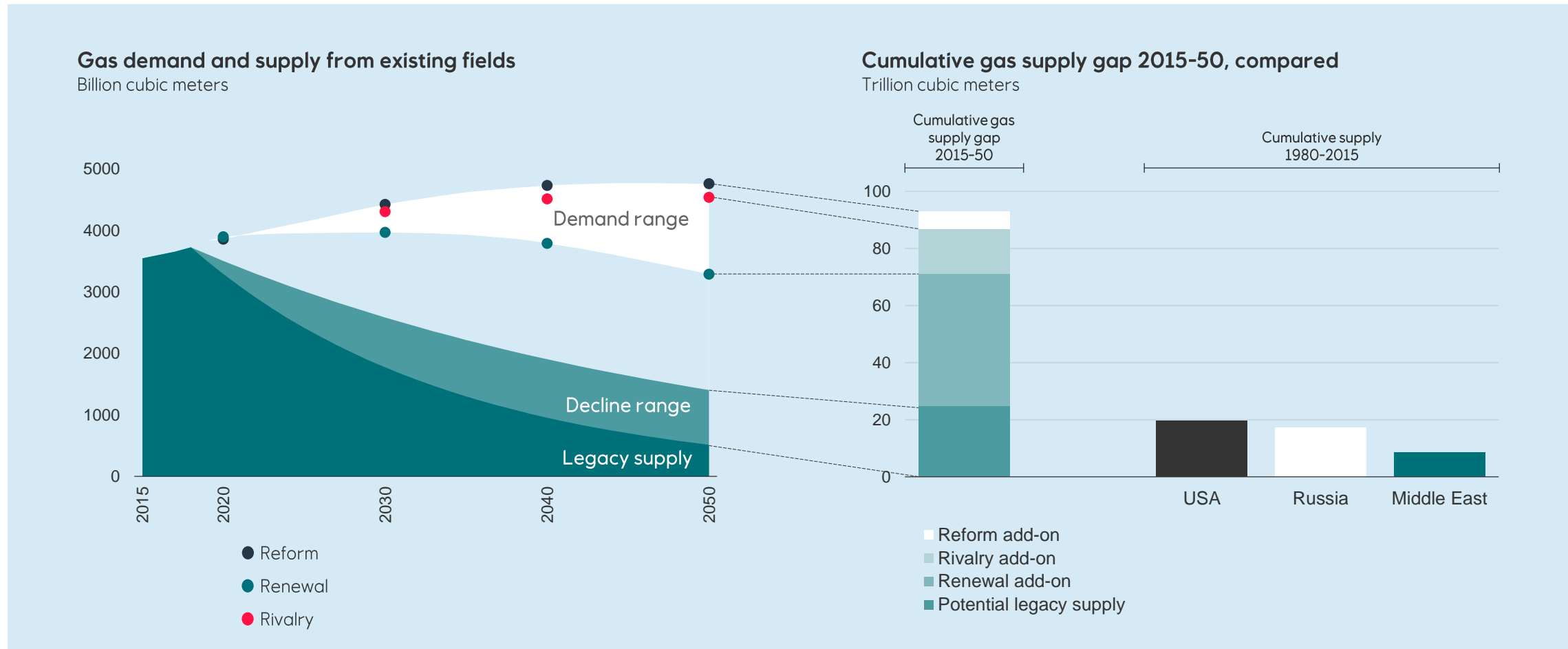
Large investments in all scenarios, although significantly less in Renewal



Source: IEA and BP (history), Equinor (projections)

And what about new gas supply?

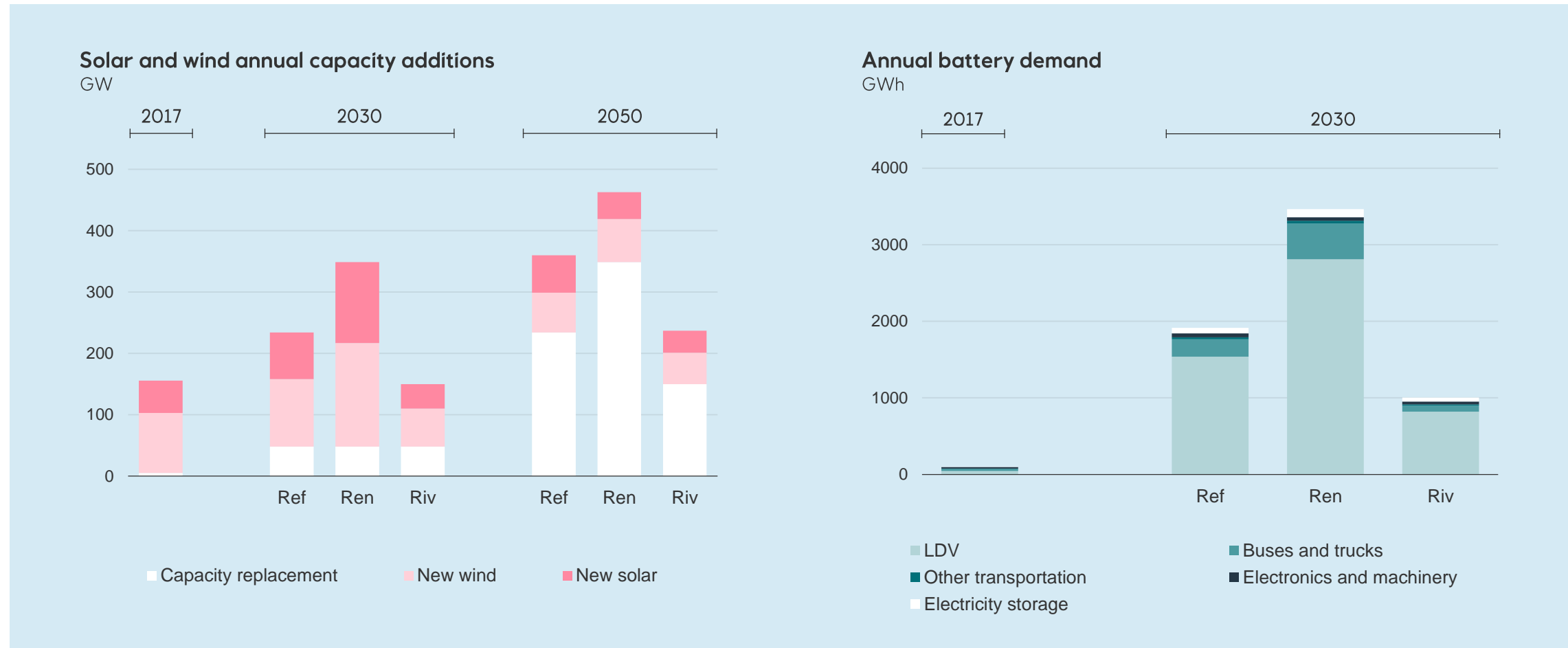
Large investments in all scenarios, although significantly less in Renewal



Source: IEA and BP (history), Equinor (projections)

Enormous investments needed in solar, wind and batteries

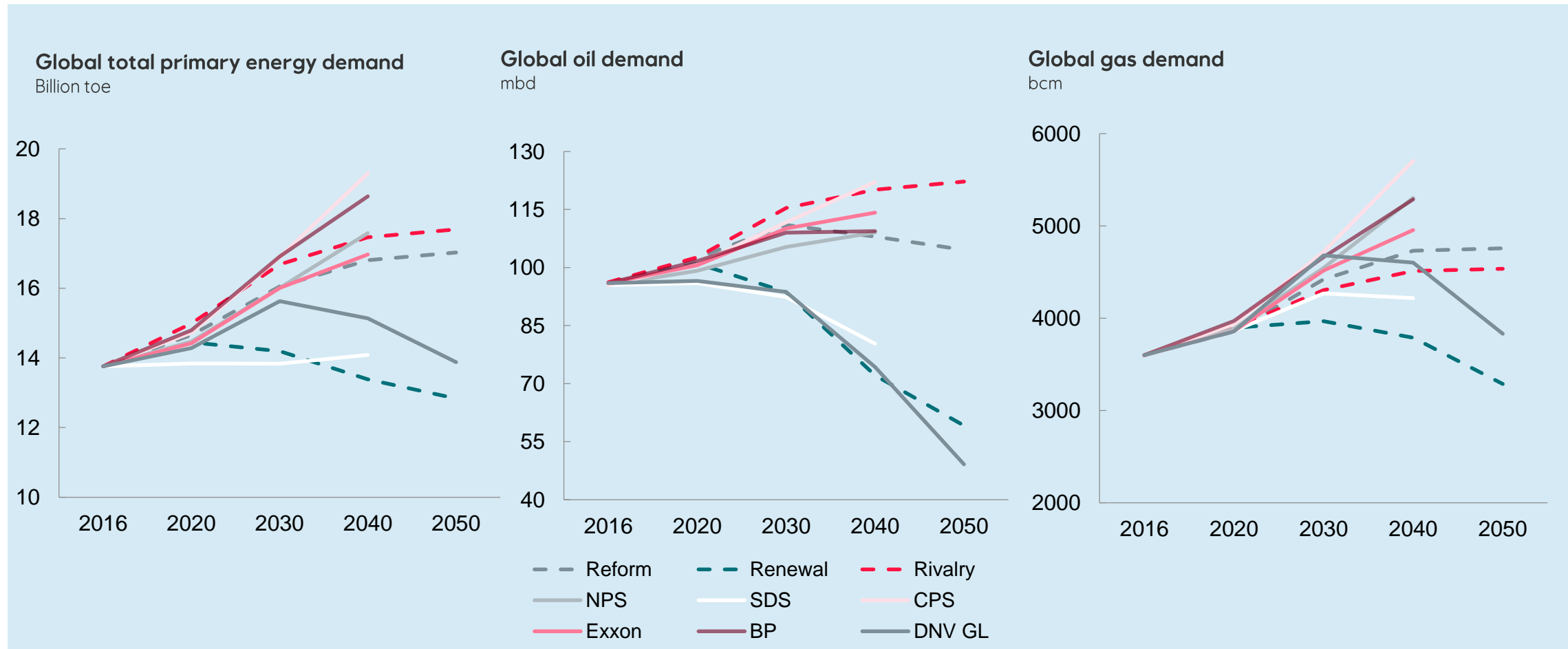
Large investments to grow and maintain solar/wind capacity; battery market to expand by 10 to 35 times by 2030



Source: Various sources (history), Equinor (projections)

Benchmarking: How do Energy Perspectives scenarios compare?

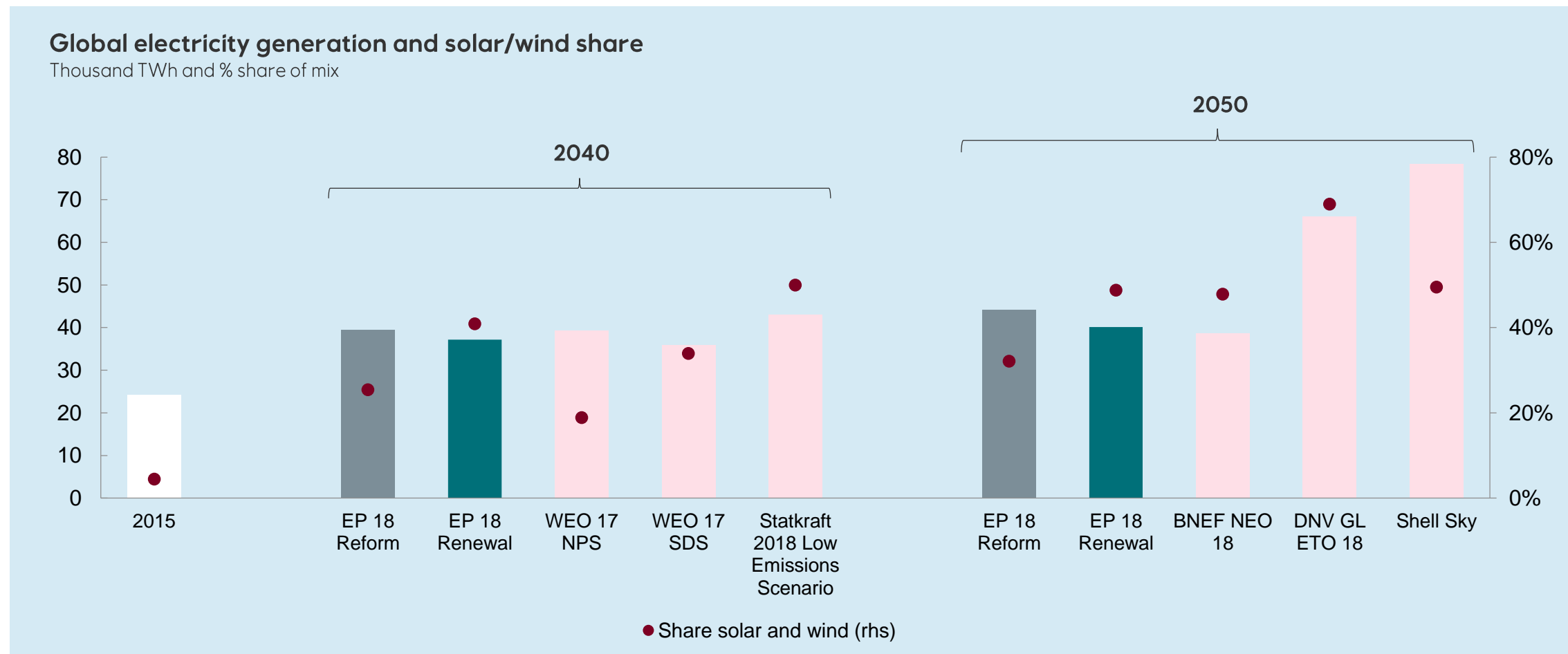
TPED, oil and gas



Source: World Energy Outlook 2017, DNV GL ETO 2018, Exxon Outlook 2018, BP Outlook 2018

Benchmarking: How do Energy Perspectives scenarios compare?

Electricity generation and solar/wind



Energy Perspectives 2018

Eirik Wærness

Senior vice president and Chief economist

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