



equinor

Energy Perspectives 2018

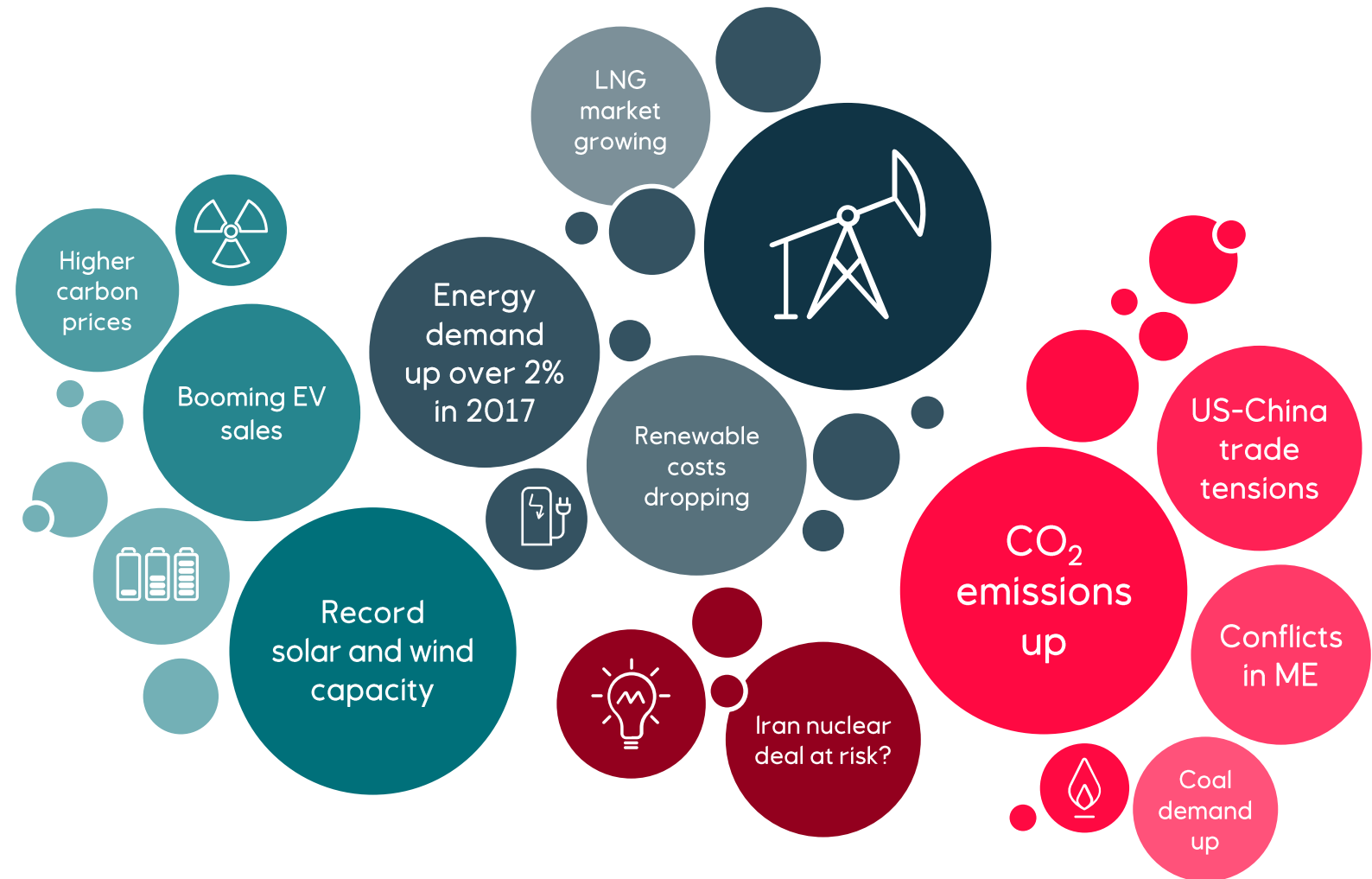
Long-term macro and market outlook

Eirik Wærness, SVP and Chief Economist
USA, October 2018

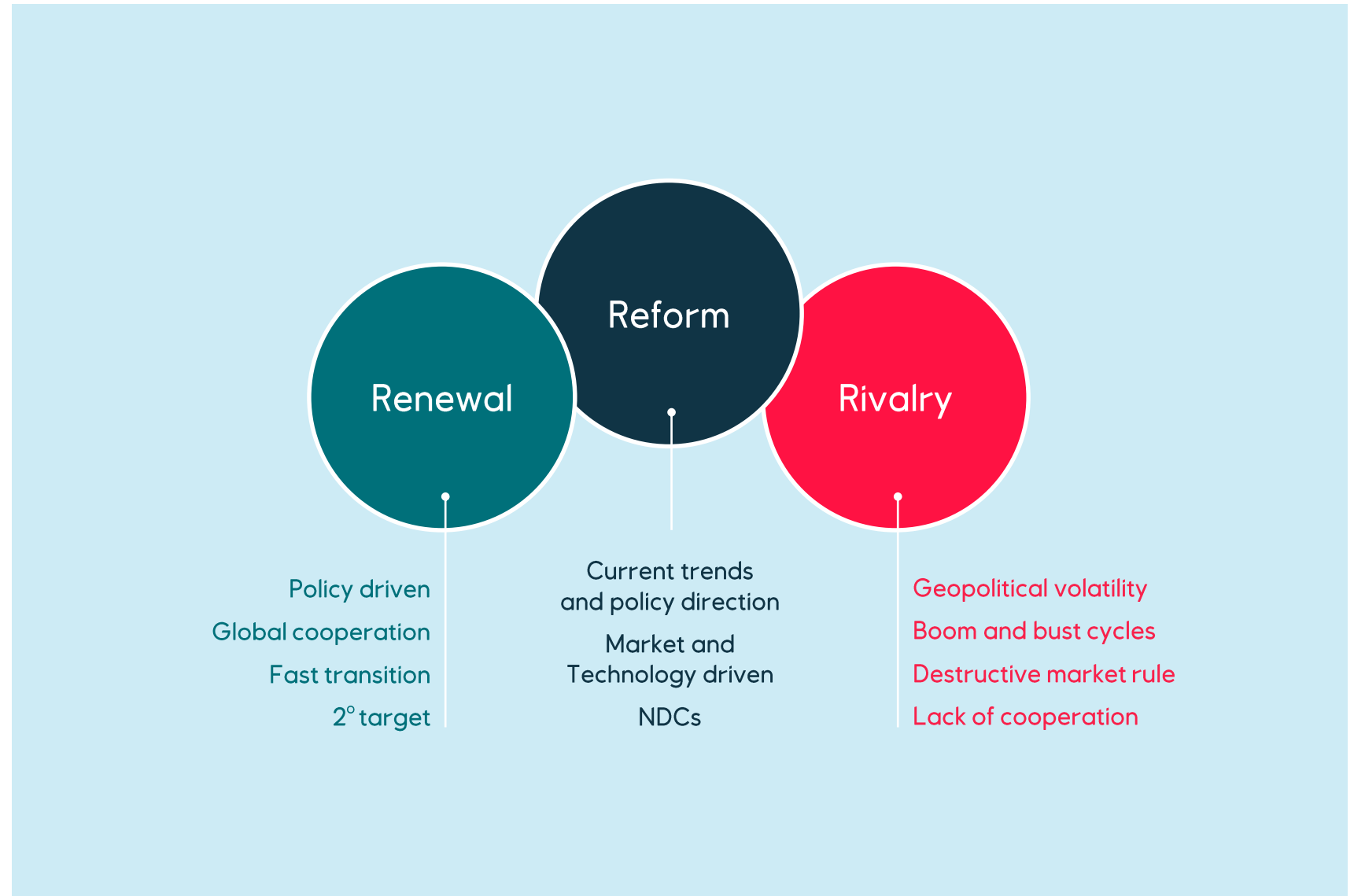
In which direction is the energy world moving?

Recent signposts show diverging paths, in terms of:

- Growth
- Efficiency
- Cooperation
- Technology
- Geopolitics



Scenarios capture different development paths



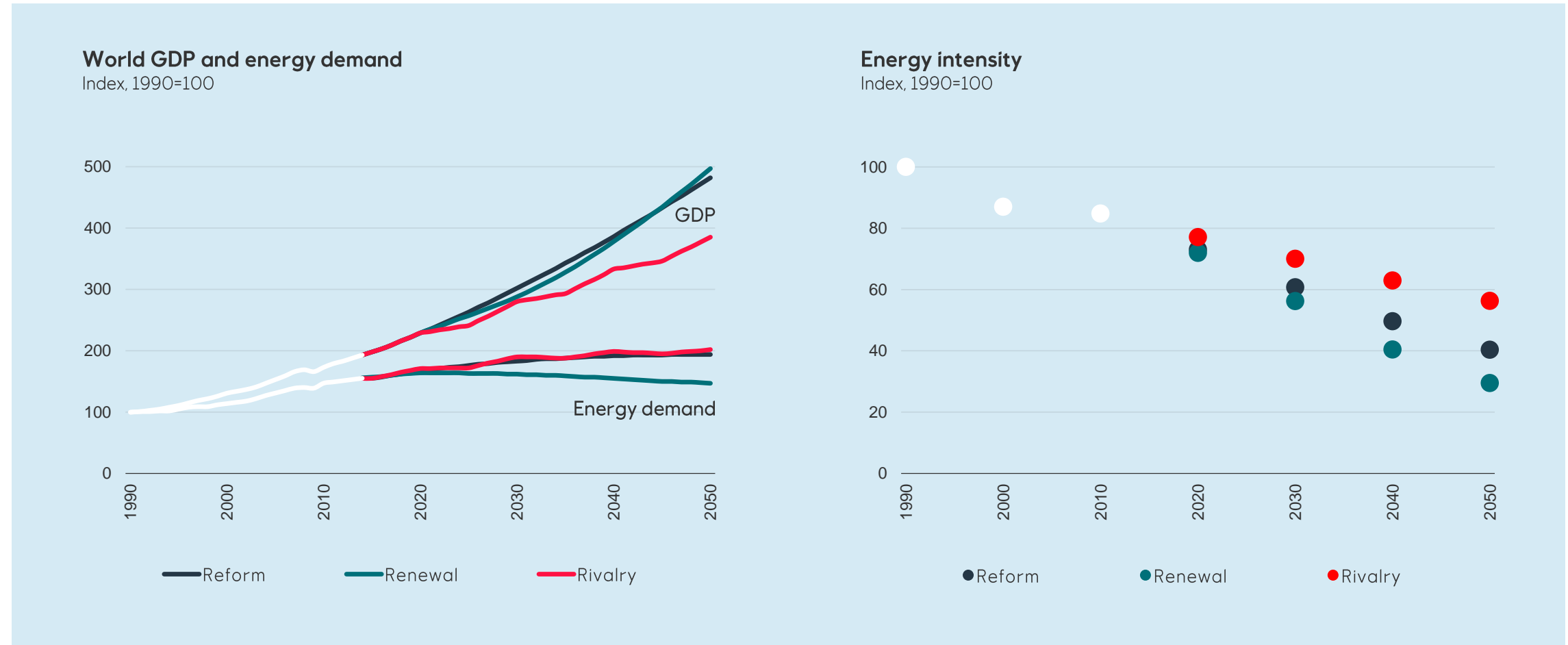
What are common beliefs about the future?

- 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?

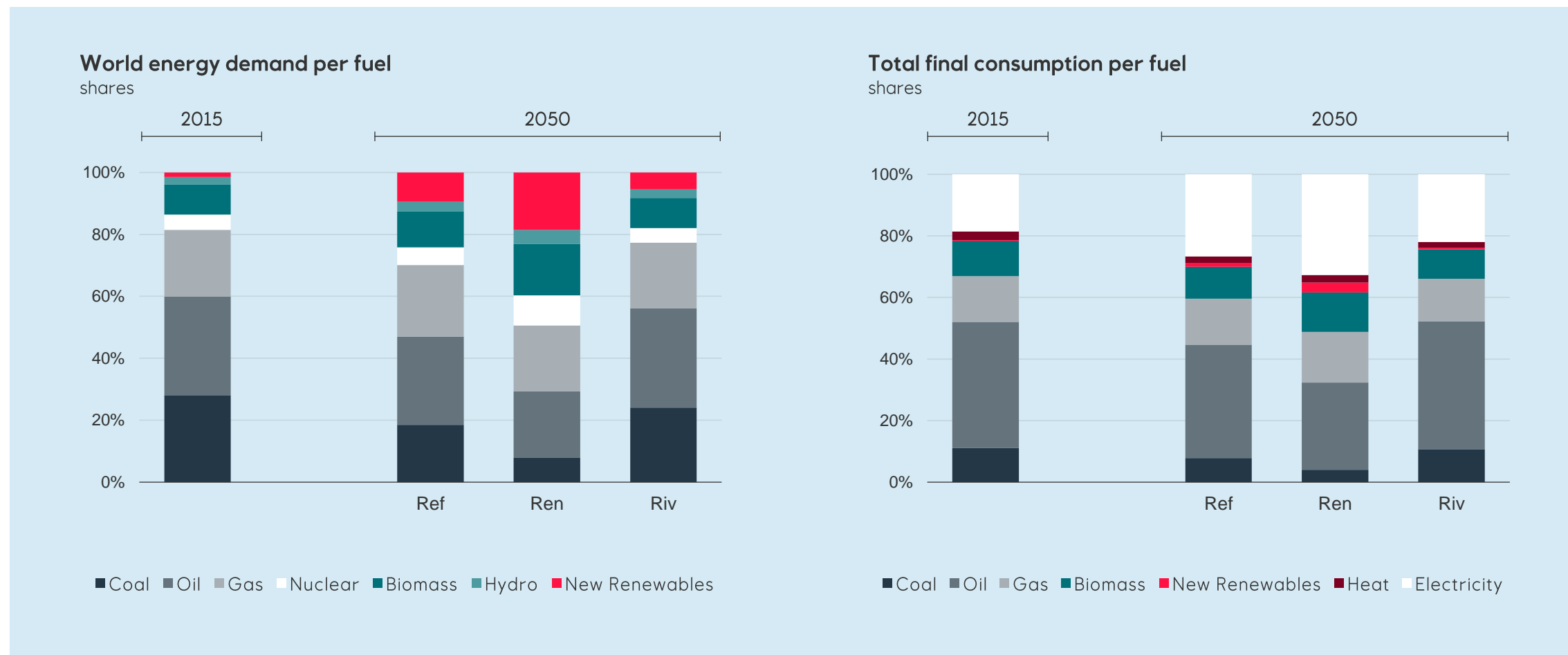
Energy efficiency drives a wedge between economic development and energy demand



Source: IEA (history), Equinor (projections)

Growth in position of new renewables and electricity across all scenarios

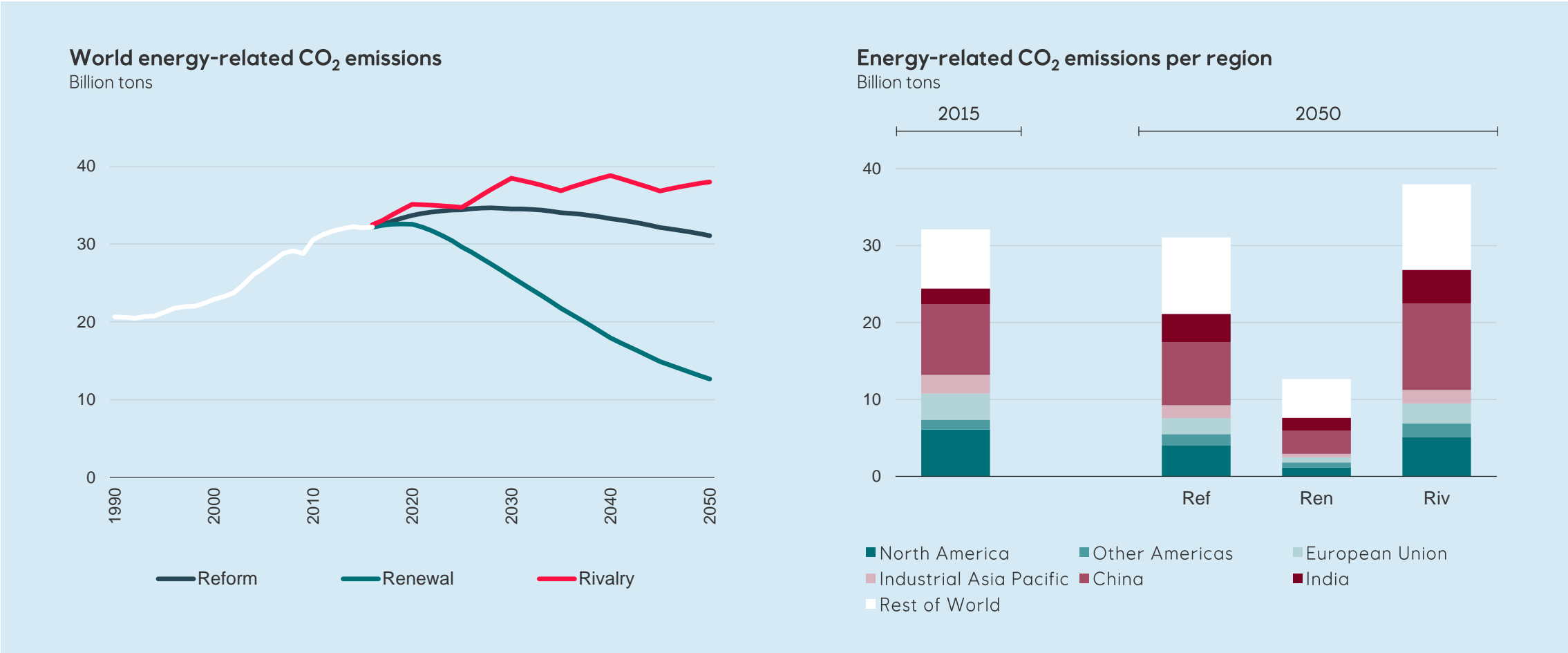
Sufficient speed and scope only in Renewal – fossil fuels keep their share in Rivalry



Source: IEA (history), Equinor (projections)

Will the energy transition affect CO₂ emissions?

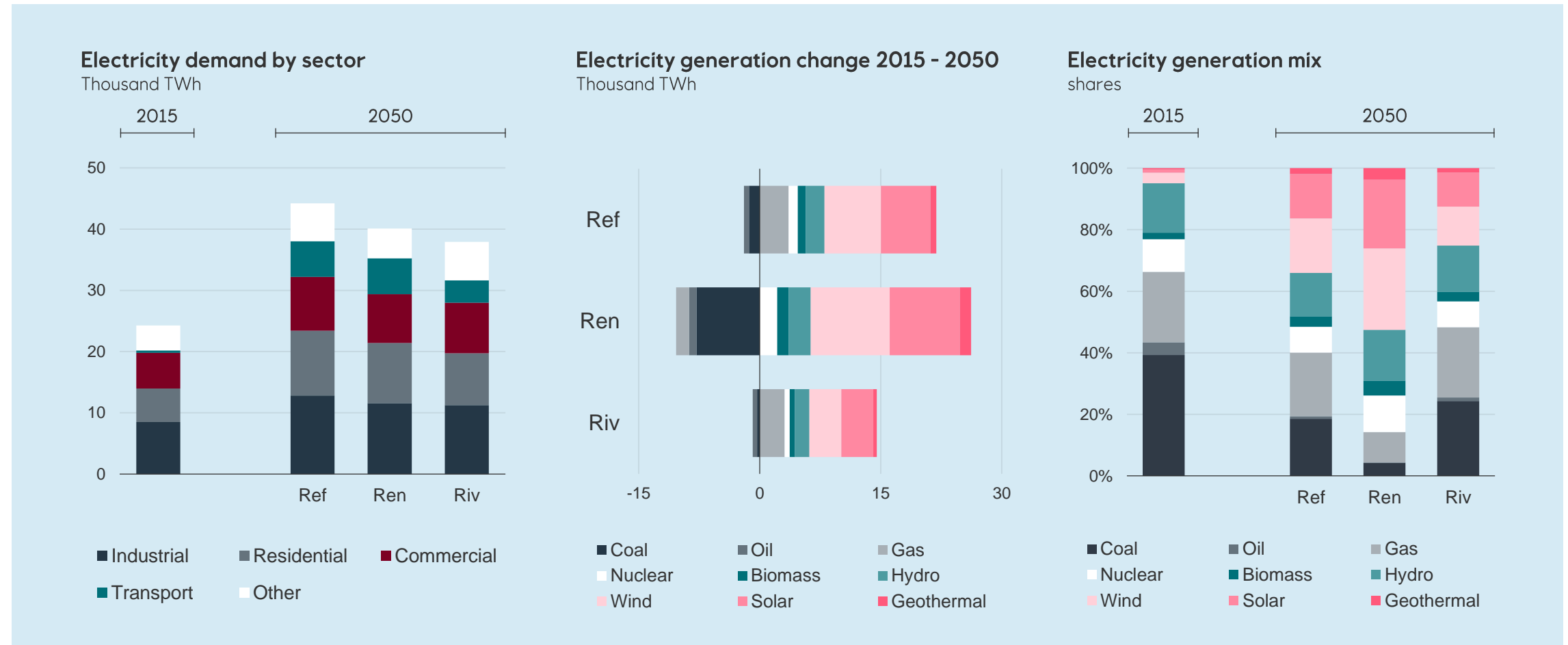
Yes, but only Renewal shows a sustainable development – and there is an urgent need for action



Source: IEA (history), Equinor (projections)

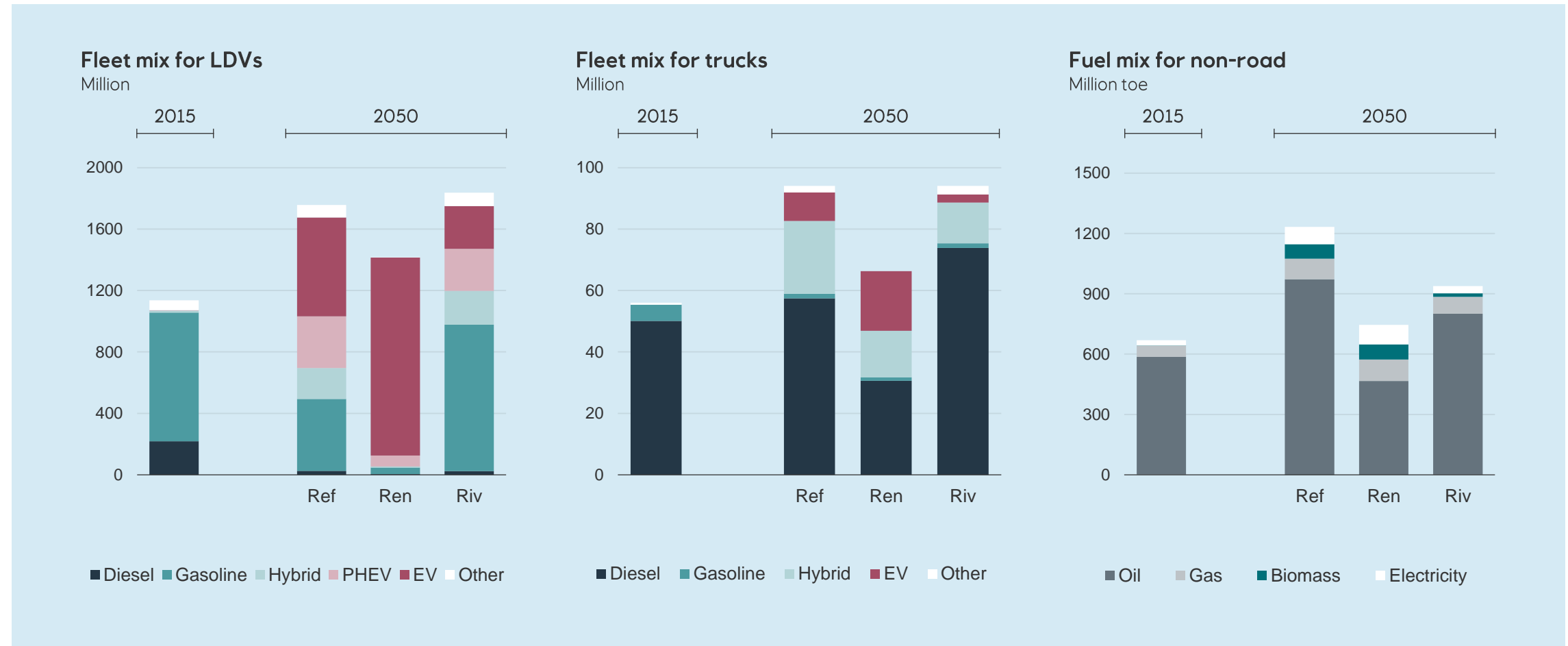
Strong electricity demand growth in all scenarios

Generation mix develops very differently; solar and wind growing strongly



Massive changes in road transport – efficiency and fuel mix

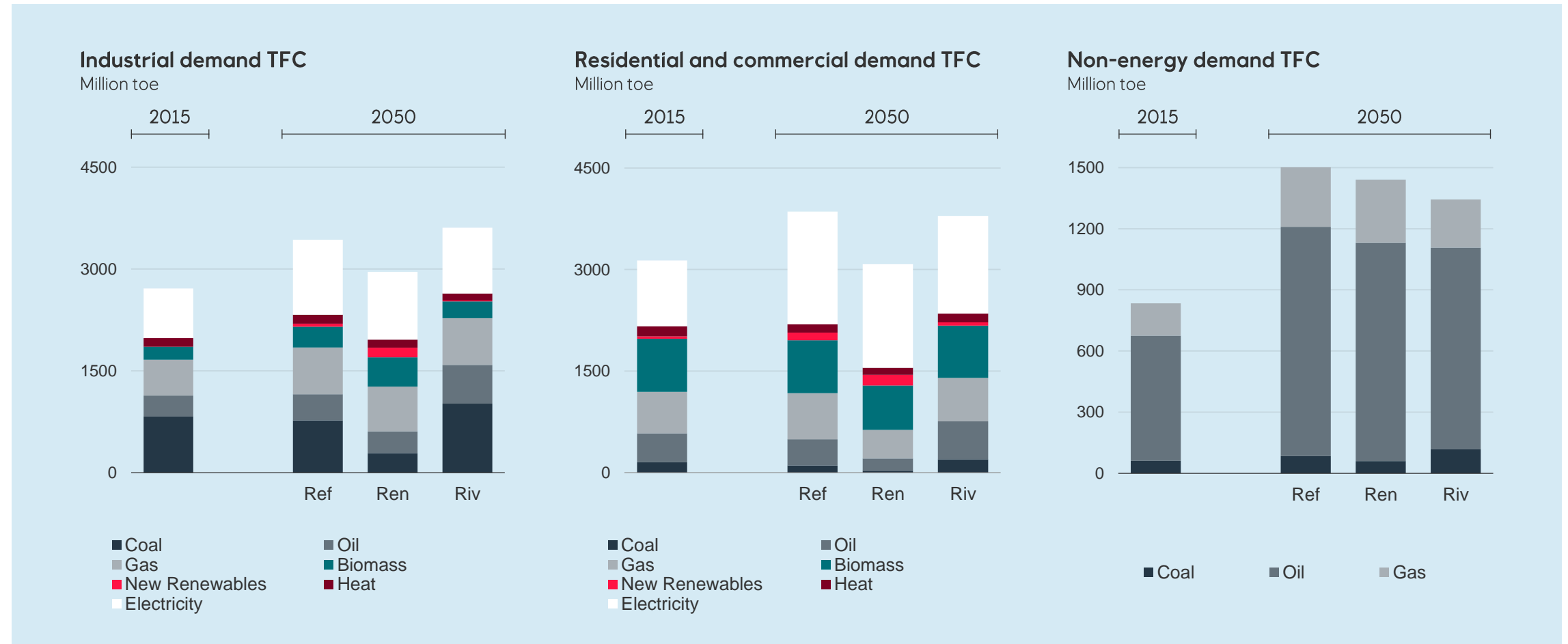
But less certain what is the alternative to oil in shipping and aviation



Source: IEA (history), Equinor (projections)

Transition moving slower in other sectors

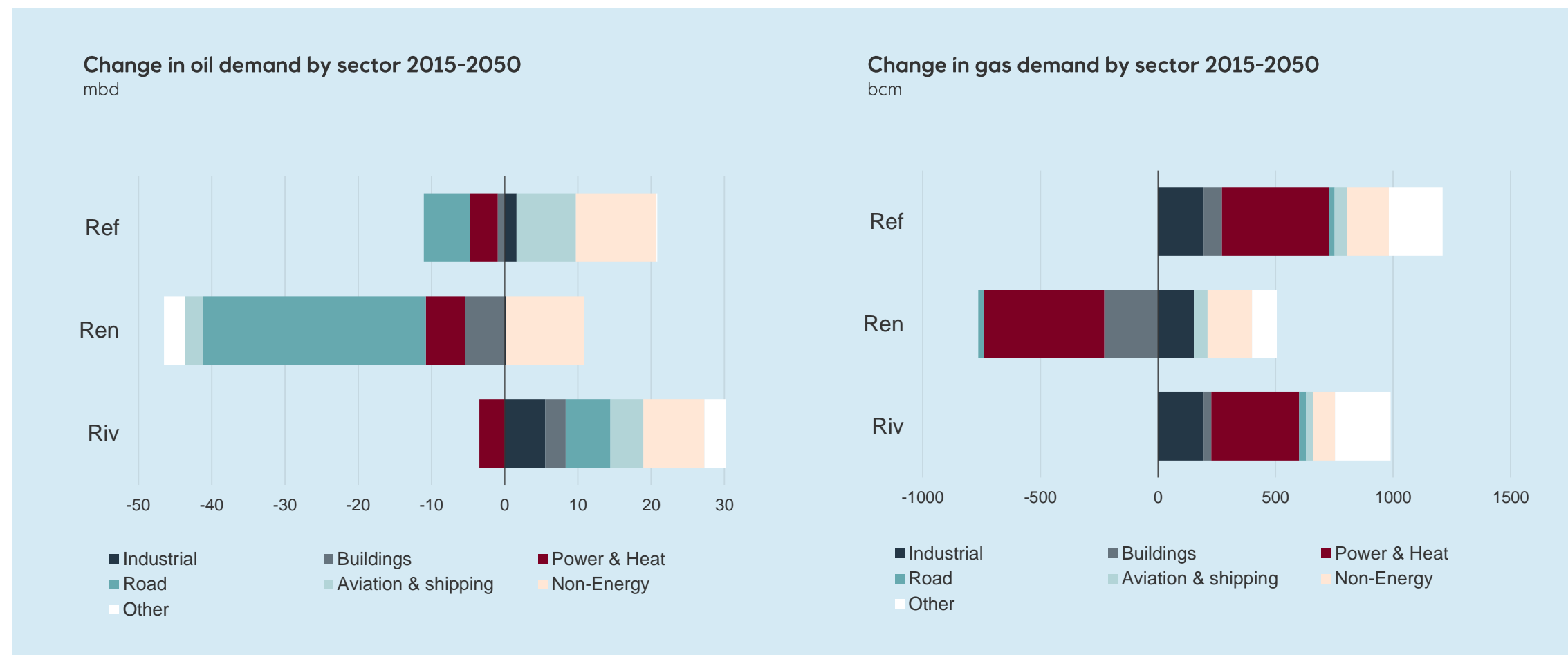
No silver bullet, efficiency and electrification the primary measures



Source: IEA (history), Equinor (projections)

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

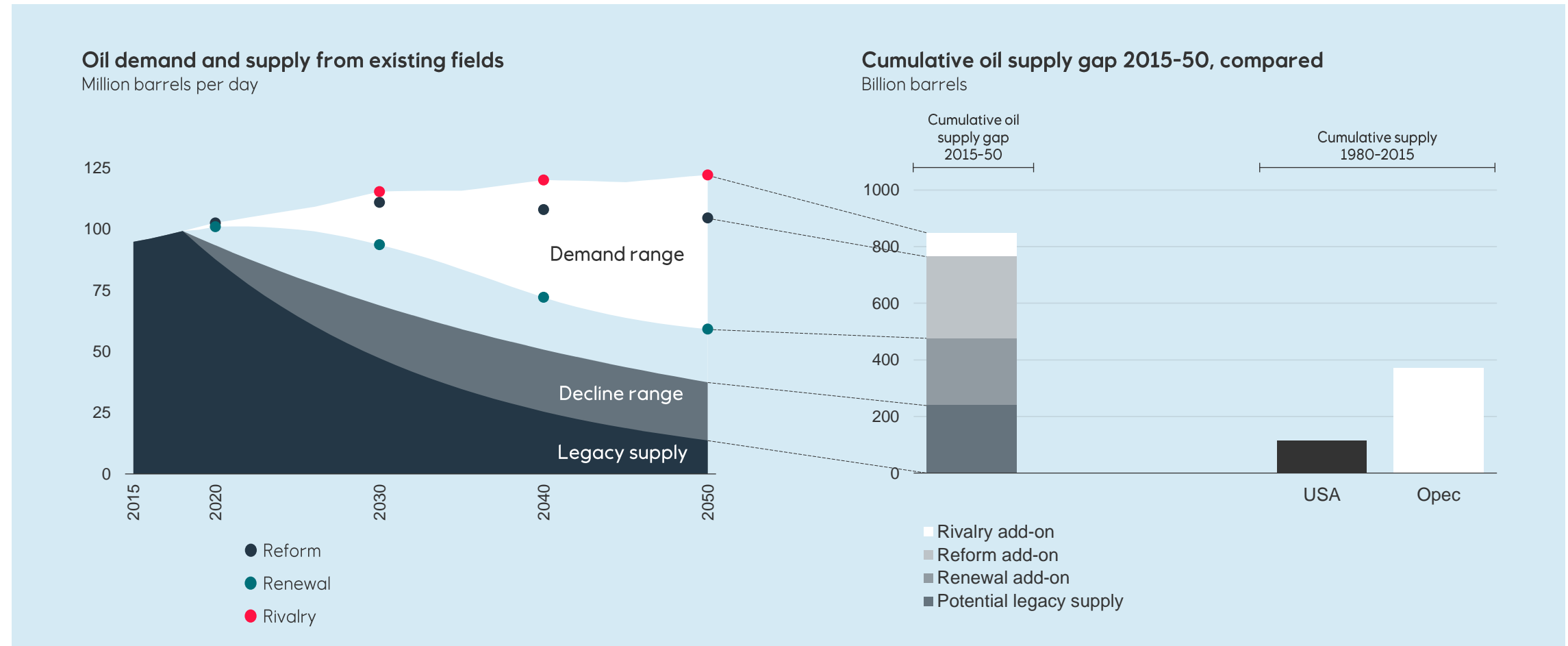
Transport key sector for oil, and power for gas; non-energy demand important for both – growth irrespective of scenario



Source: IEA (history), Equinor (projections)

What is the need for new oil investments?

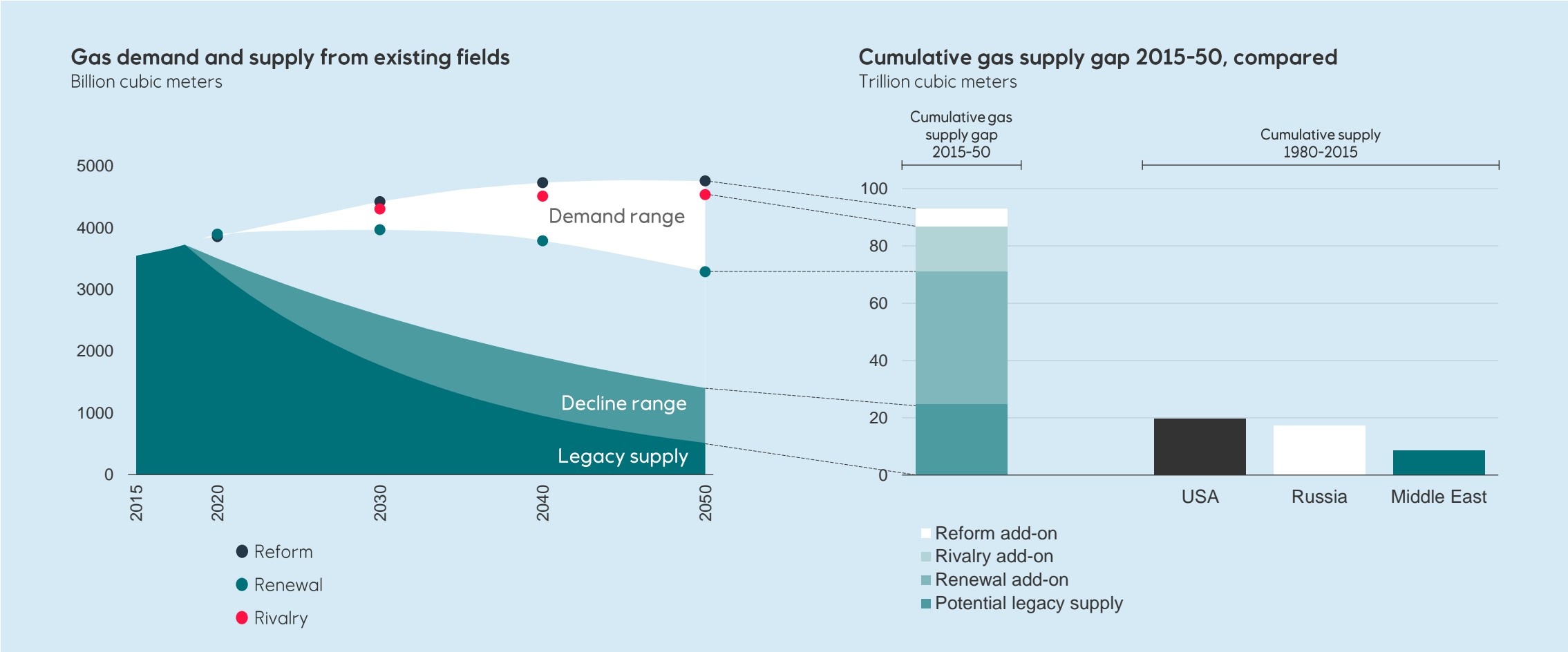
Large investments in all scenarios, although significantly less in Renewal



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

And what about new gas supply?

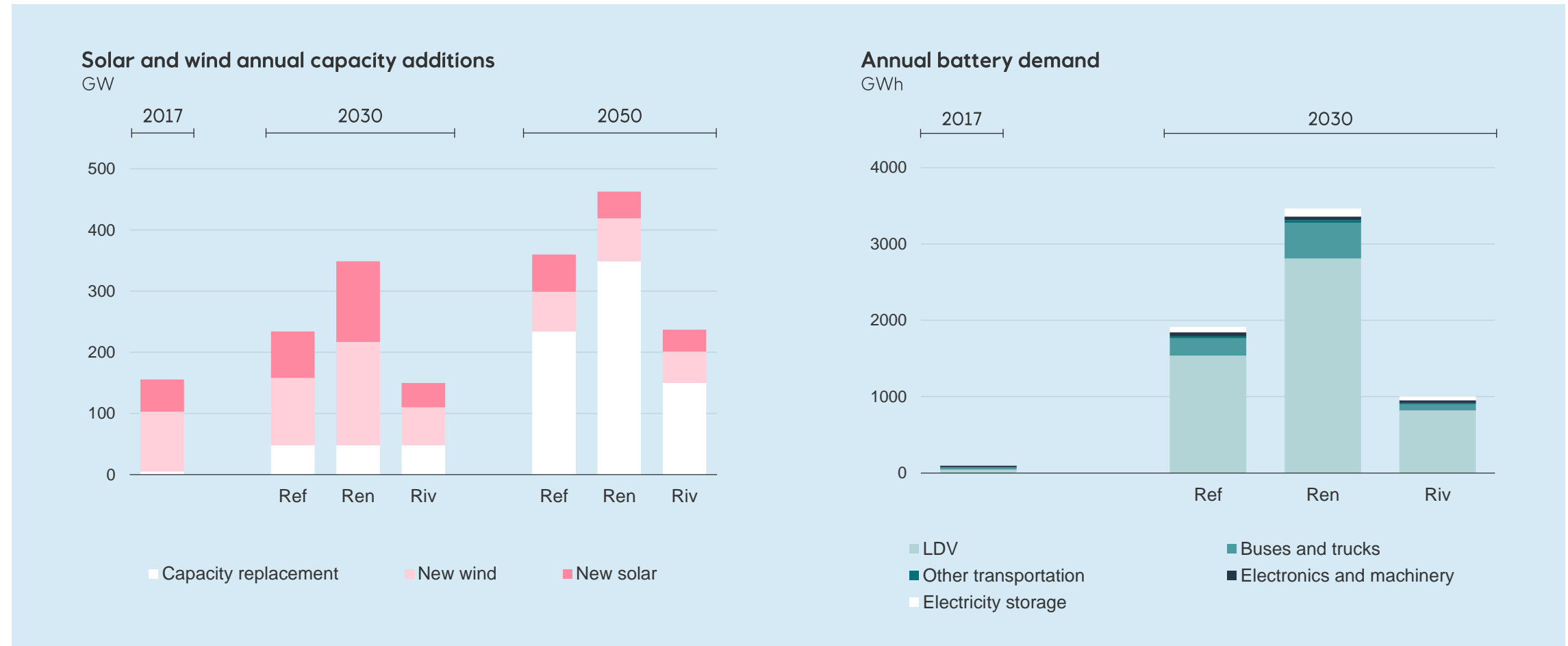
Large investments in all scenarios, although significantly less in Renewal



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

Enormous investments needed in solar, wind and batteries

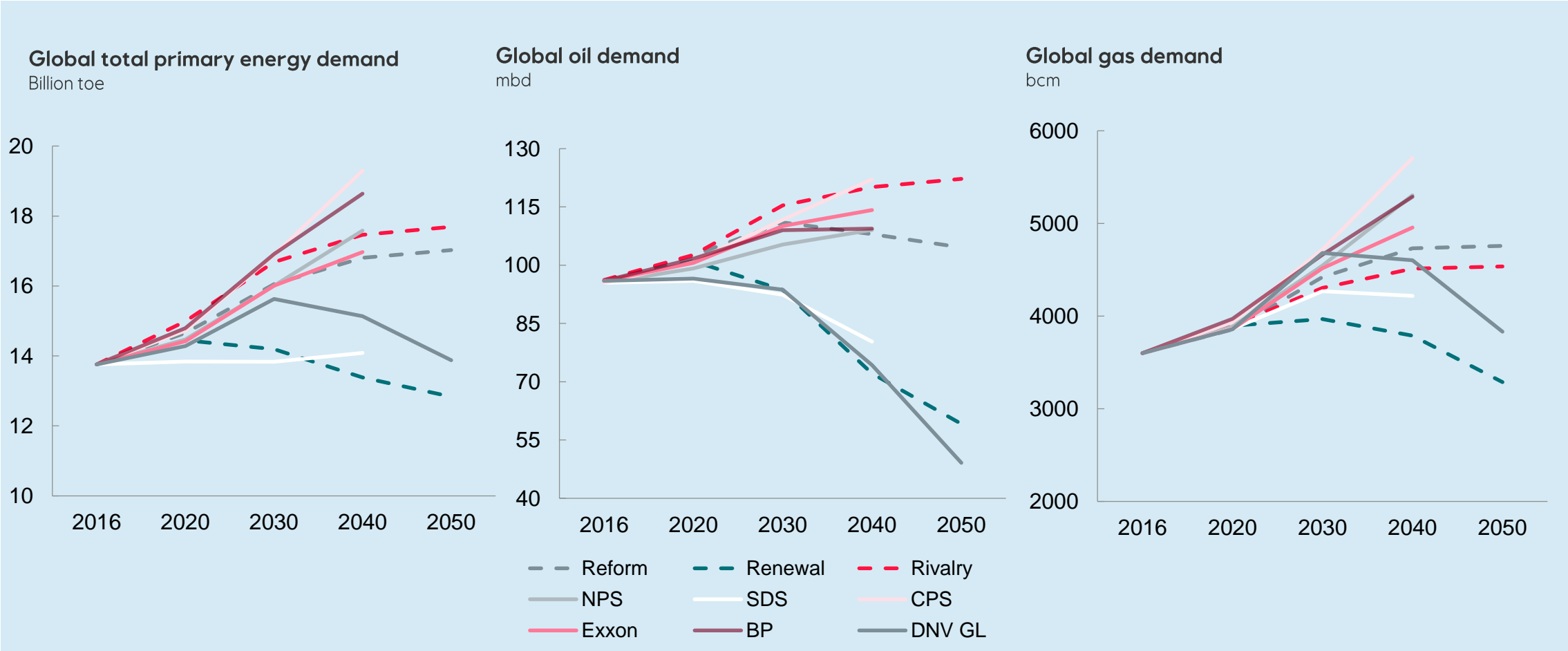
Large investments to grow and maintain solar/wind capacity; battery market to expand by 10 to 35 times by 2030



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

Benchmarking: How do Energy Perspectives scenarios compare?

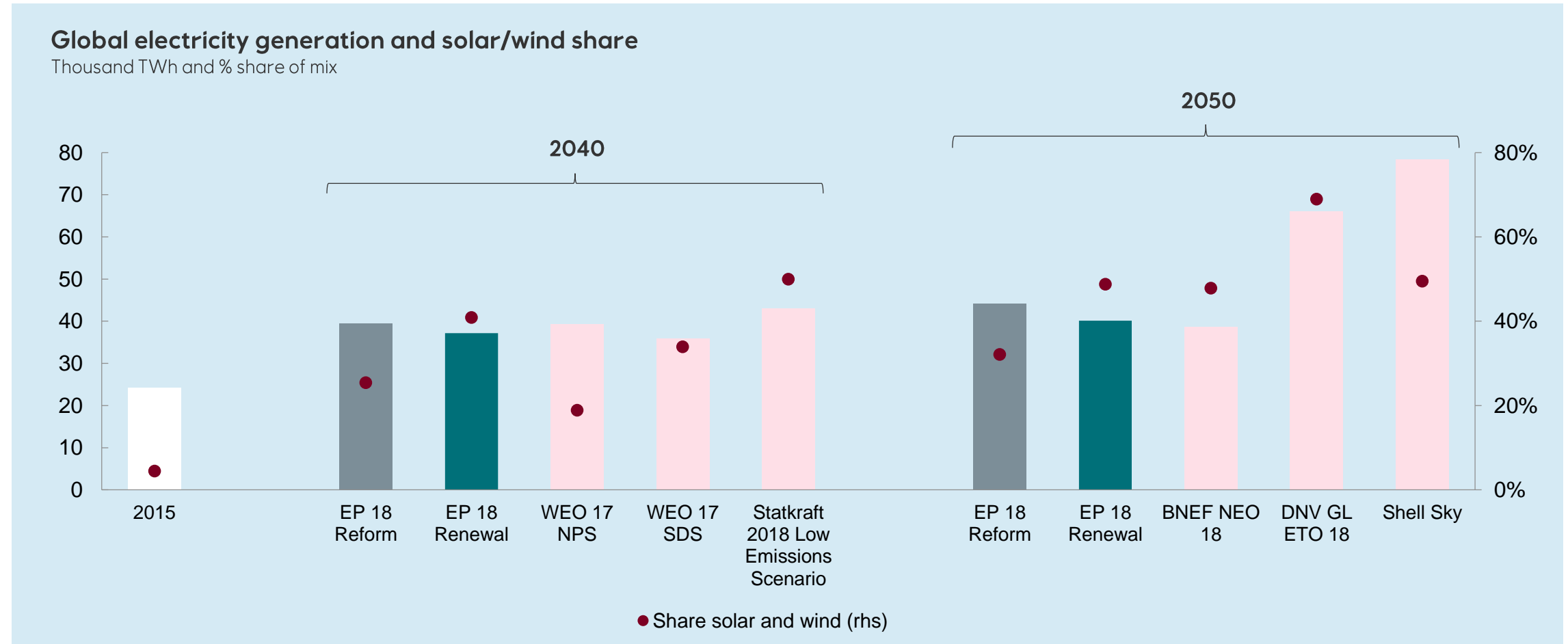
TPED, oil and gas



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

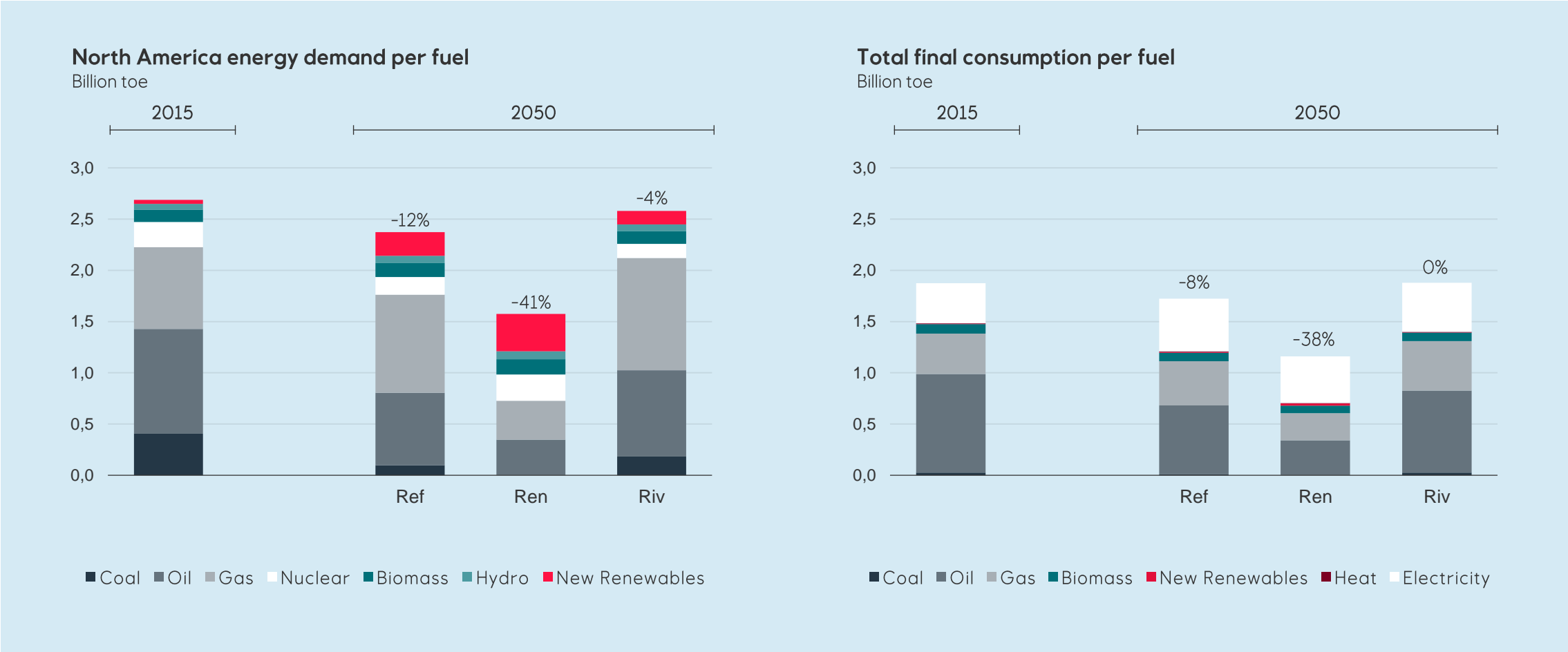
Eirik Wærness

Senior vice president and Chief economist

© Equinor ASA

This presentation, including the contents and arrangement of the contents of each individual page or the collection of the pages, is owned by Equinor. Copyright to all material including, but not limited to, written material, photographs, drawings, images, tables and data remains the property of Equinor. All rights reserved. Any other use, reproduction, translation, adaption, arrangement, alteration, distribution or storage of this presentation, in whole or in part, without the prior written permission of Equinor is prohibited. The information contained in this presentation may not be accurate, up to date or applicable to the circumstances of any particular case, despite our efforts. Equinor cannot accept any liability for any inaccuracies or omissions.

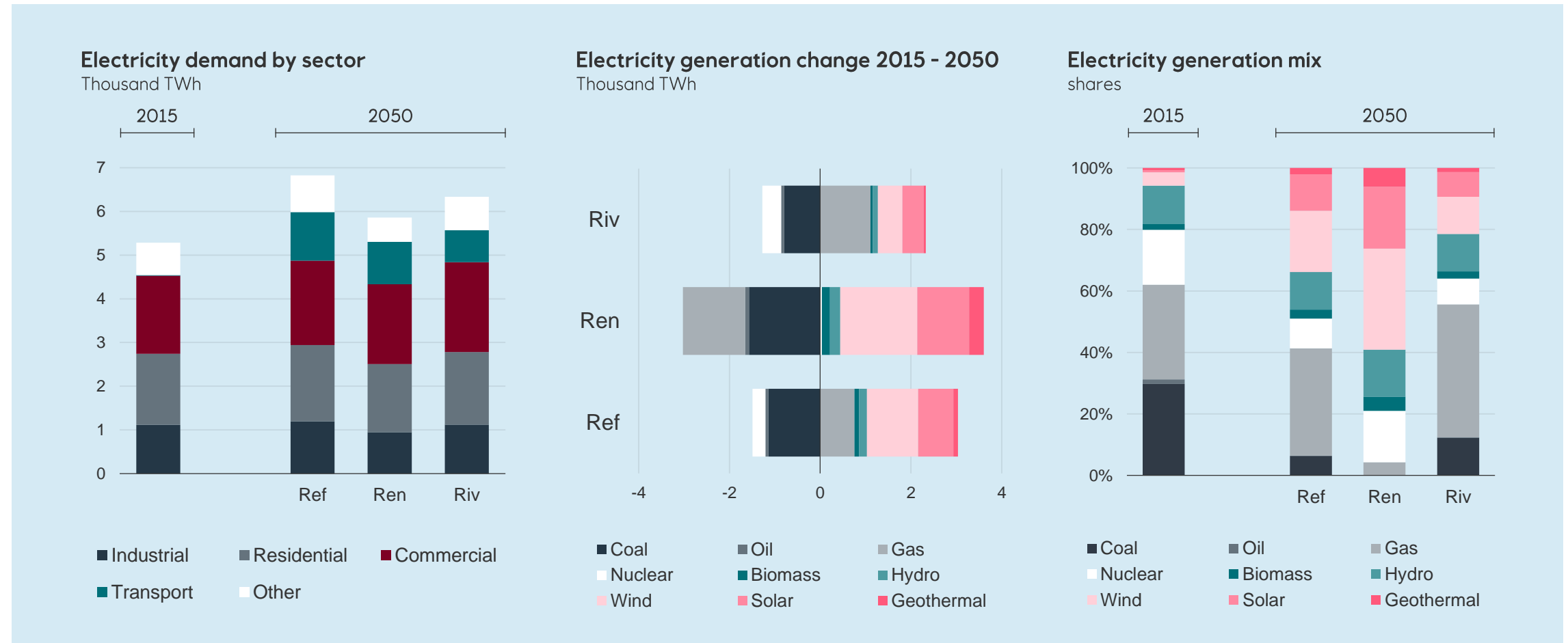
Significant fuel mix changes in all North America scenarios



Source: IEA (history), Equinor (projections)

Strong electricity demand growth in all scenarios in North America

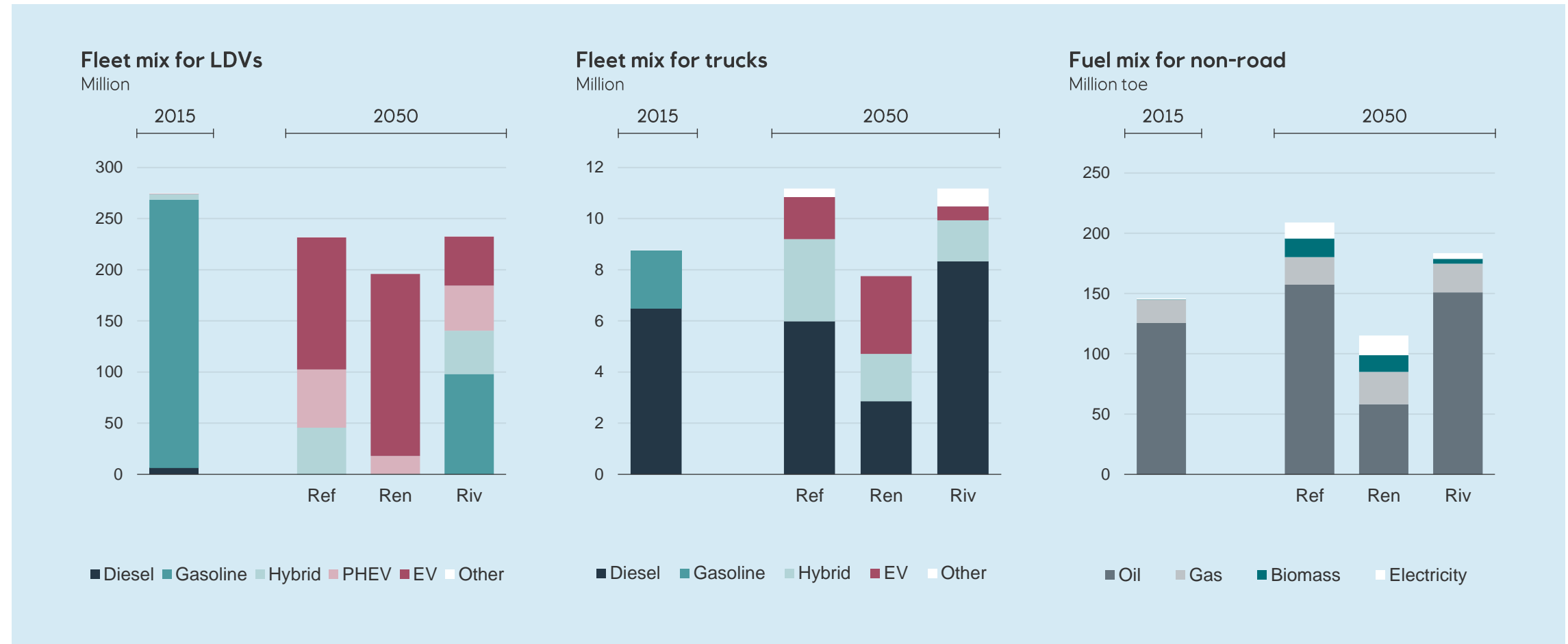
Generation mix develops very differently; solar and wind growing strongly



Source: IEA (history), Equinor (projections)

Massive changes in road transport – efficiency and fuel mix in North America

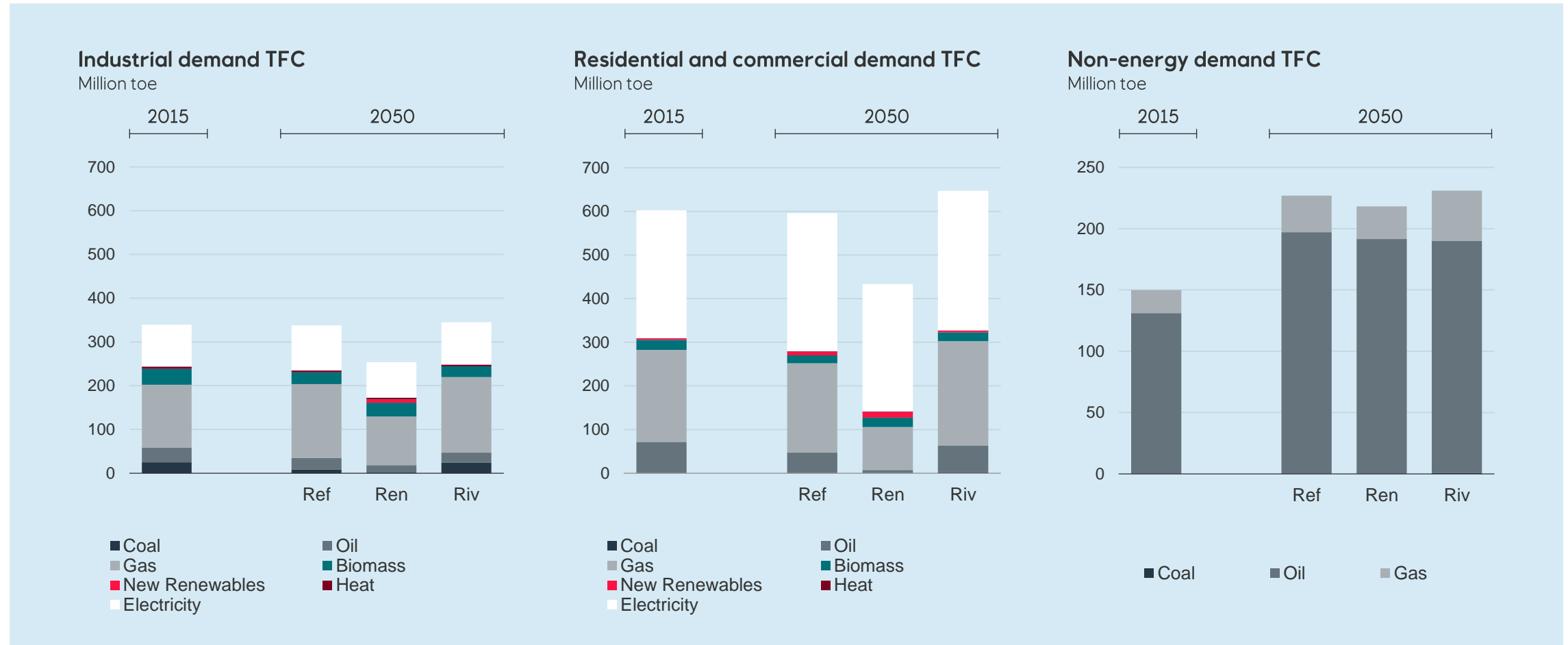
But less certain what is the alternative to oil in shipping and aviation



Source: IEA (history), Equinor (projections)

Transition moving slower in other sectors in North America

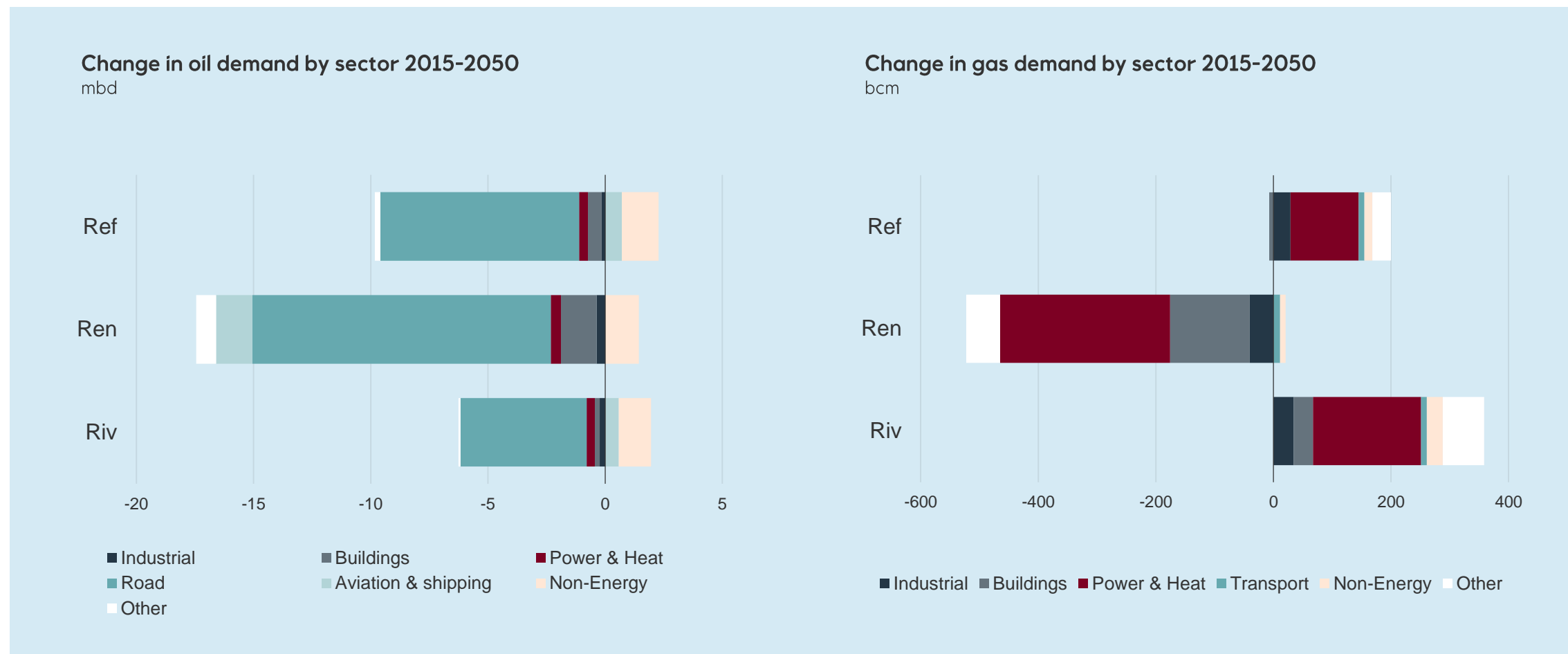
No silver bullet, efficiency and electrification the primary measures



Source: IEA (history), Equinor (projections)

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

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



Source: IEA (history), Equinor (projections)