

The Norwegian Seminar on Green Economics

The SDG's and the Energy outlook for the coming decades

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We live in an exciting era

The World in 2050: Where are we headed?



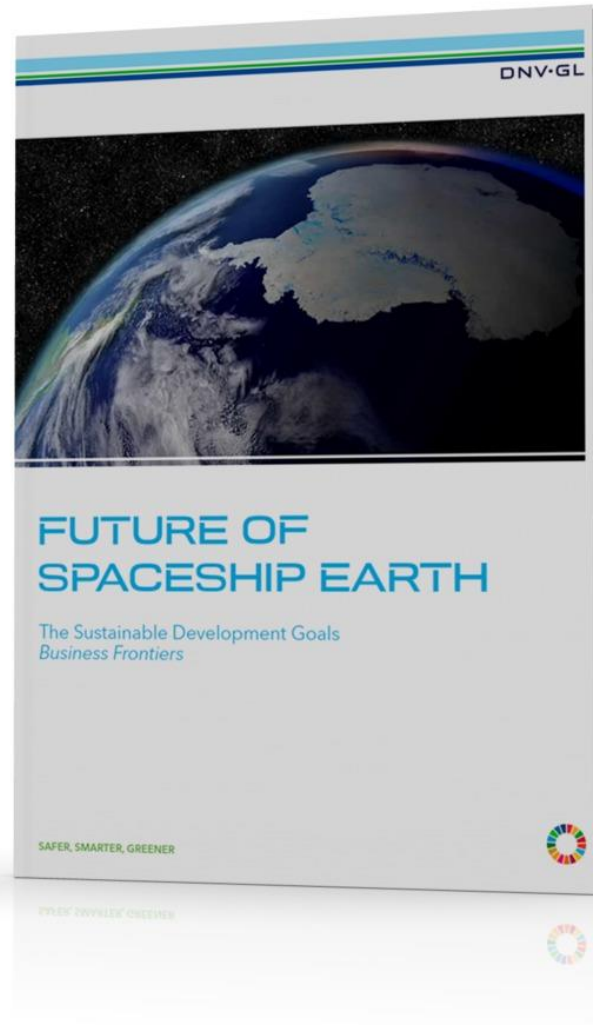
2015 – the world's turning point!



One plan – One planet



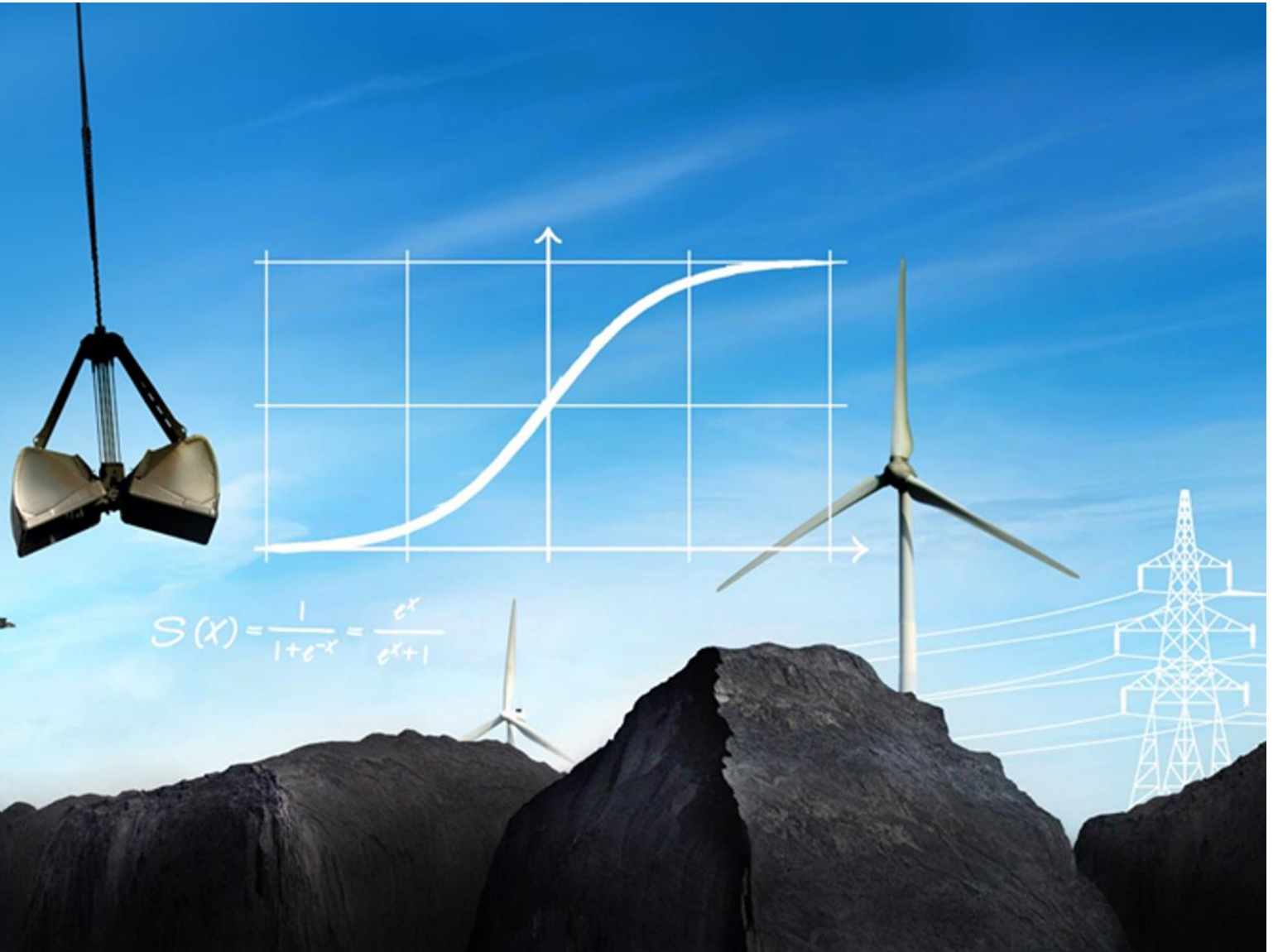
Our 2030 Forecast



| | ROW | BRIC | CHINA | OECD | USA |
|--|---------------------------|------|-------|------|-----|
| 1. No poverty | ● | ● | ● | ● | ● |
| 2. Zero hunger | ● | ● | ● | ● | ● |
| 3. Good health and well-being | ● | ● | ● | ● | ● |
| 4. Quality education | ● | ● | ● | ● | ● |
| 5. Gender equality | ● | ● | ● | ● | ● |
| 6. Clean water and sanitation | ● | ● | ● | ● | ● |
| 7. Affordable and clean energy | ● | ● | ● | ● | ● |
| 8. Decent work and economic growth | ● | ● | ● | ● | ● |
| 9. Industry, innovation and infrastructure | ● | ● | ● | ● | ● |
| 10. Reduced inequality | ● | ● | ● | ● | ● |
| 11. Sustainable cities and communities | ● | ● | ● | ● | ● |
| 12. Responsible consumption and production | ● | ● | ● | ● | ● |
| 13. Climate action | ● | ● | ● | ● | ● |
| 14. Life below water | ● | ● | ● | ● | ● |
| 15. Life on land | ● | ● | ● | ● | ● |
| 16. Peace, justice and strong institutions | ● | ● | ● | ● | ● |
| 17. Partnerships for the goals | Not enough data to assess | | | | |

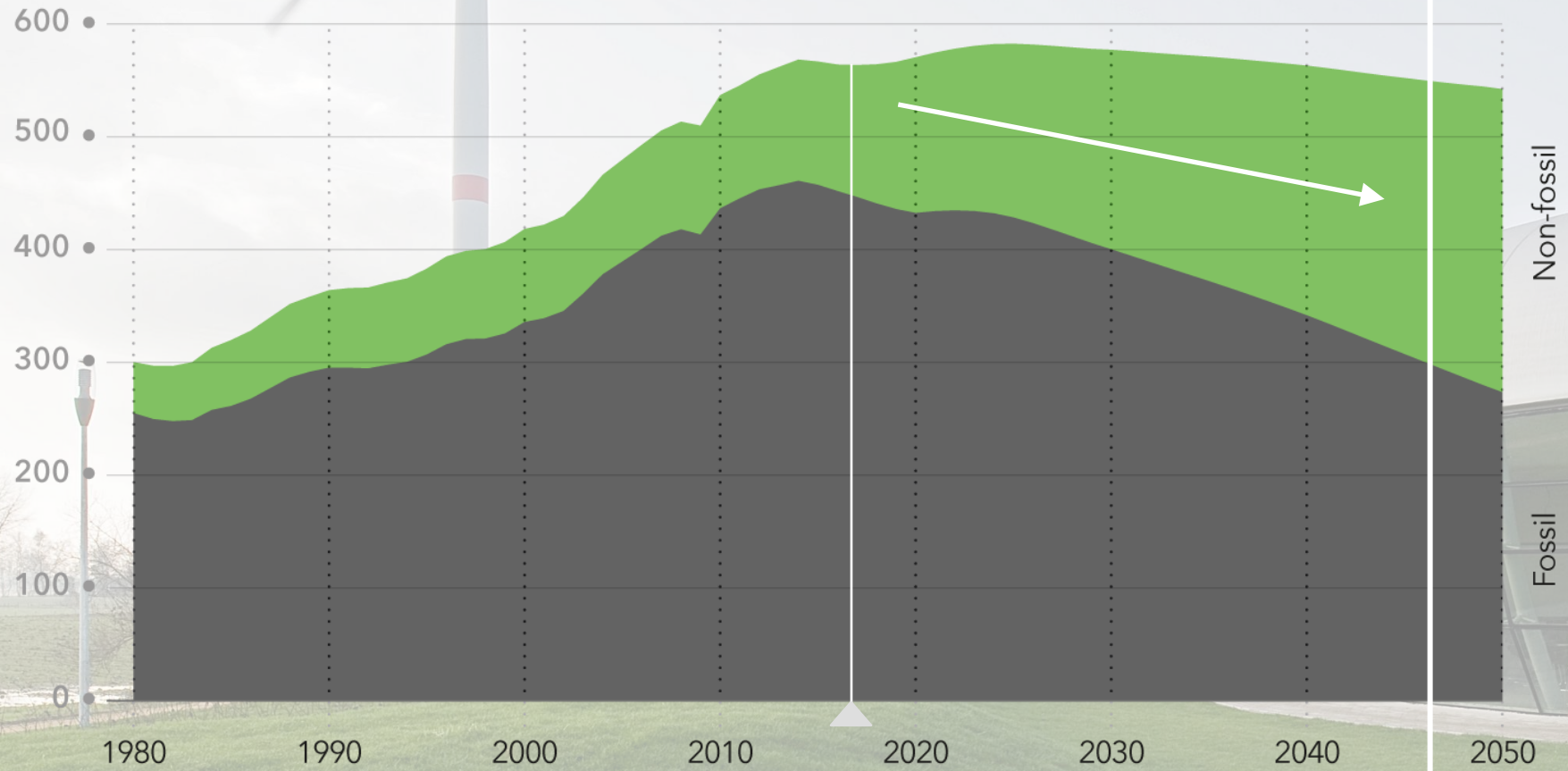
ENERGY TRANSITION OUTLOOK 2017

A global and regional forecast
of the energy transition to 2050



Forecast world primary energy supply

Units: EJ/yr

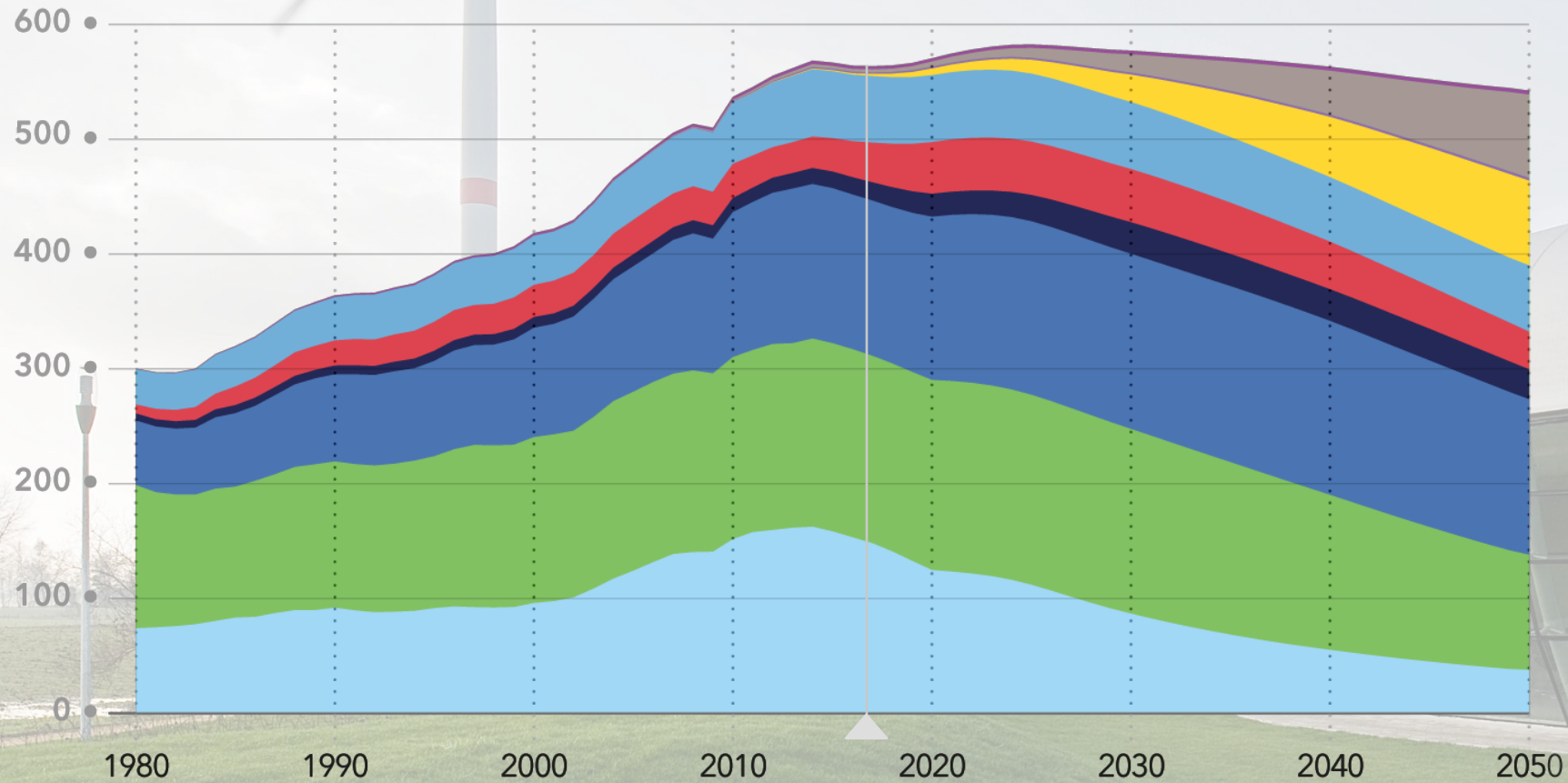


Non-fossil

Fossil

Forecast world primary energy supply by source

Units: EJ/yr

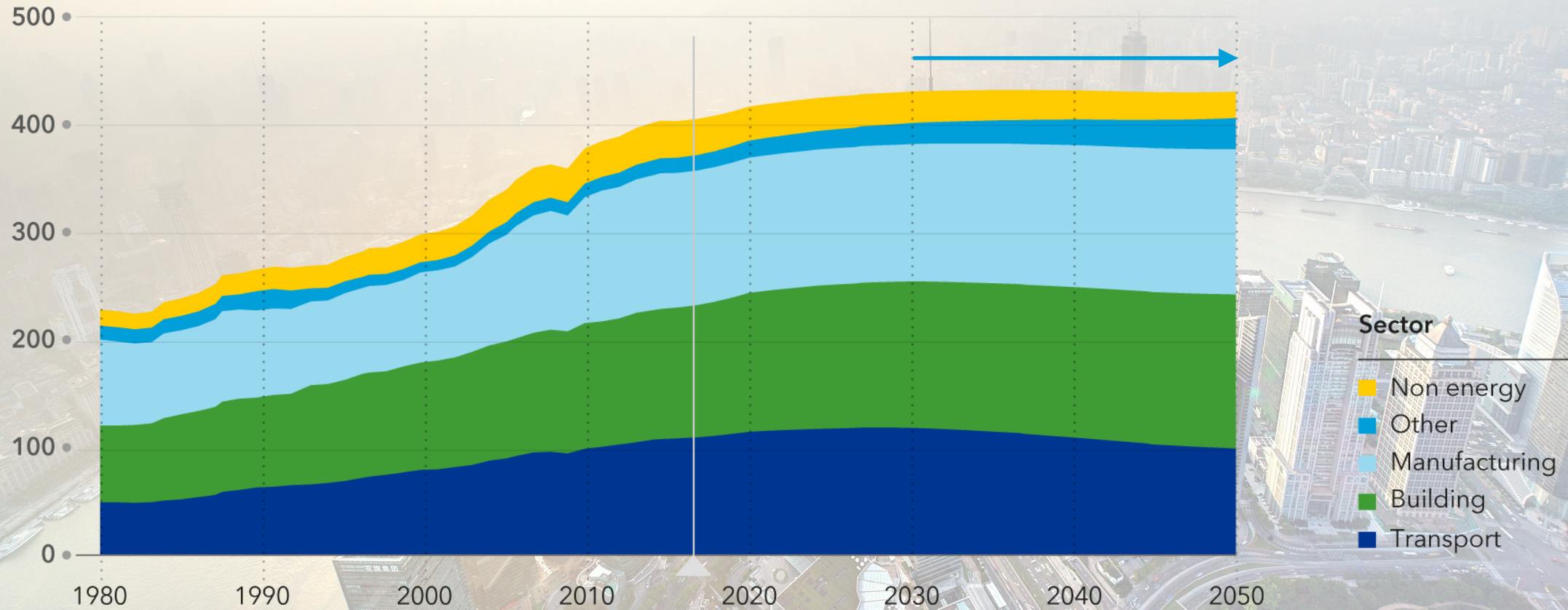


Energy source

- Geothermal
- Wind
- Solar thermal
- Solar PV
- Biomass
- Nuclear
- Hydro
- Gas
- Oil
- Coal

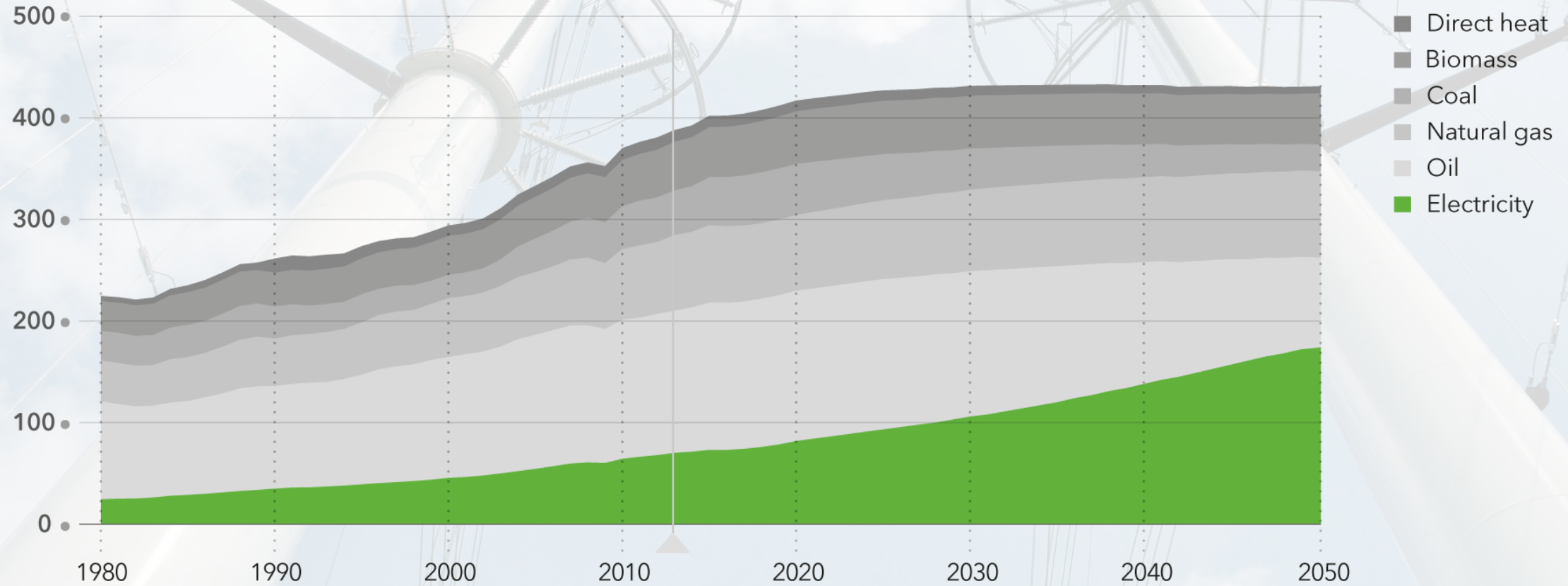
World final energy demand by sector

Units: EJ/yr



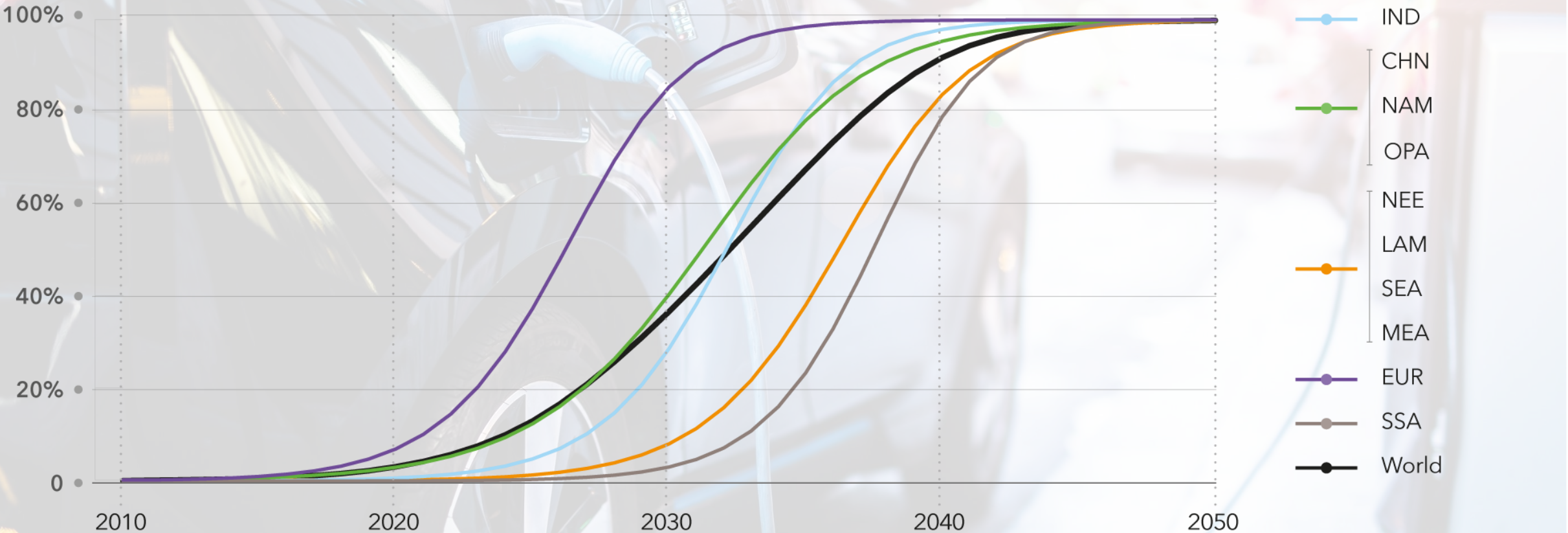
World final energy demand by energy carrier

Units: EJ/yr



Market share of electric vehicles in new light vehicle sales

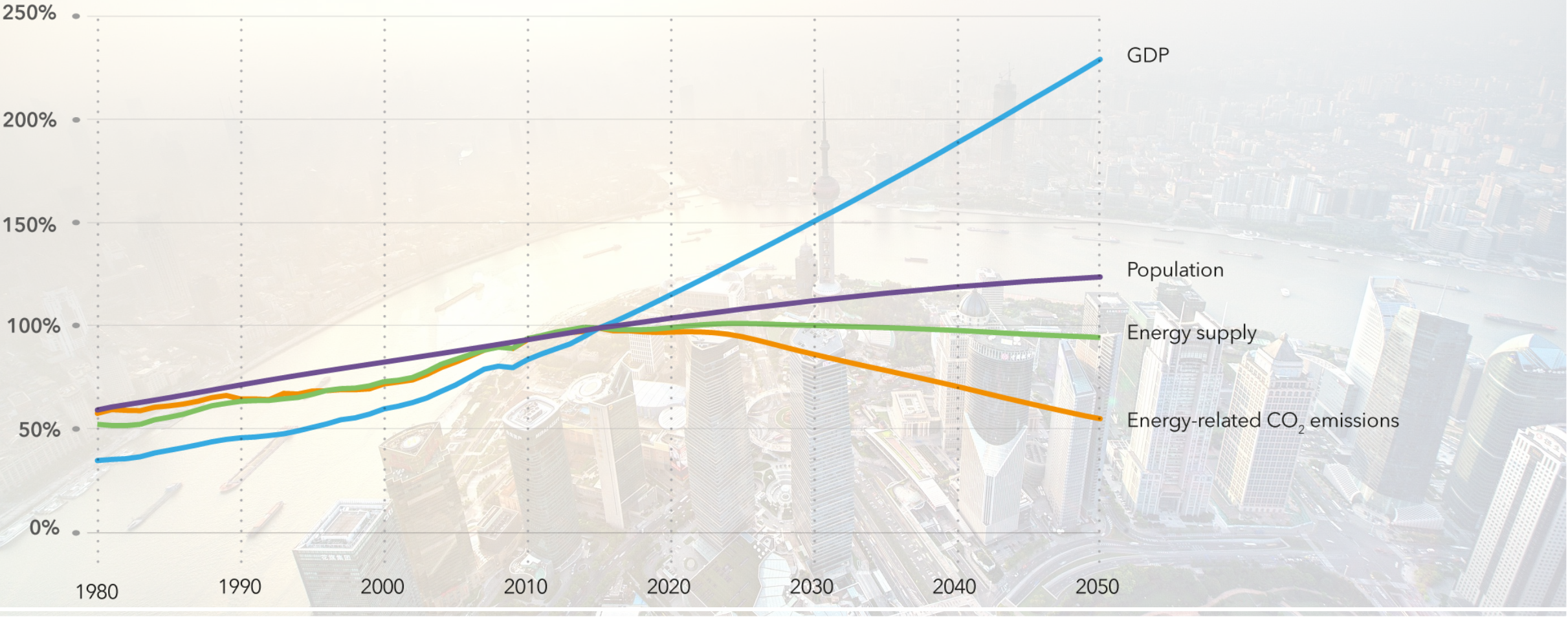
Units: Percentages



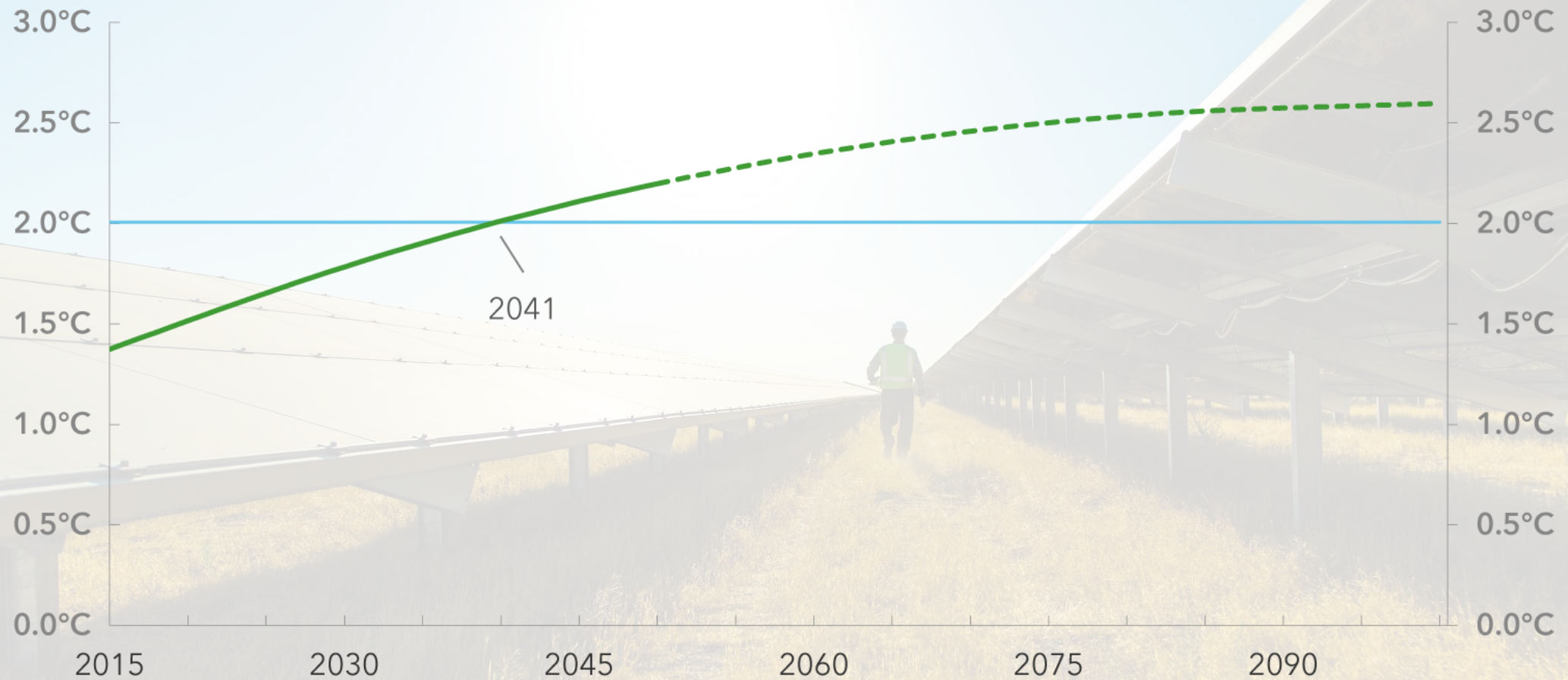
$E > GDP$

Economic growth vs. energy efficiency growth

Units: Percentage of 2015 level



Global warming and carbon budget



Thank you!

Purpose

To safeguard life, property and the environment

Vision

Global impact for a safe and sustainable future