

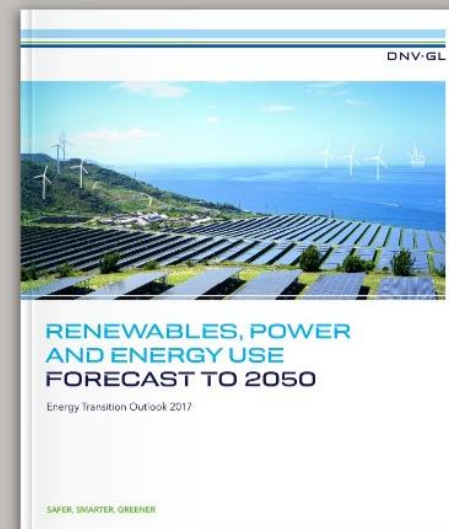
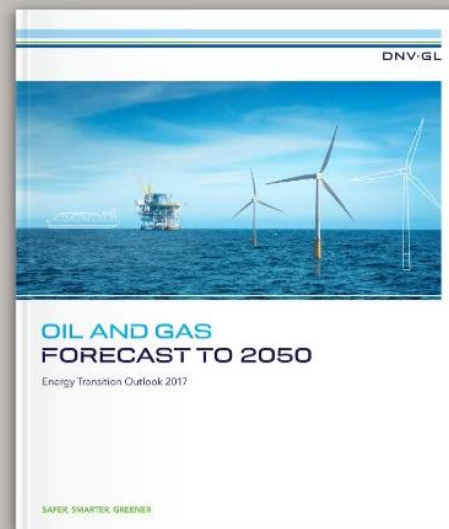
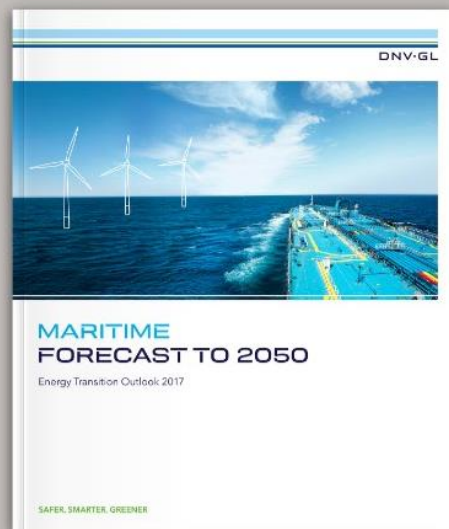
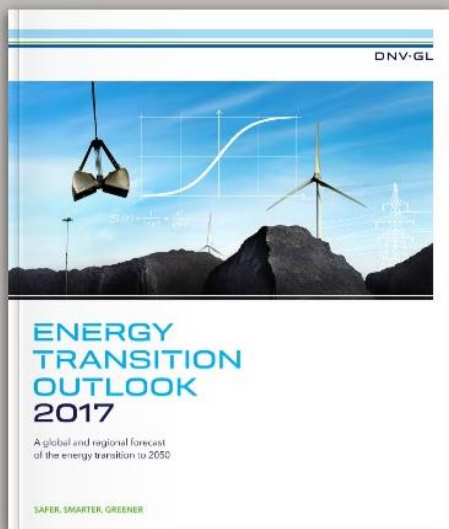
OIL AND GAS FORECAST TO 2050

Energy Transition Outlook 2017



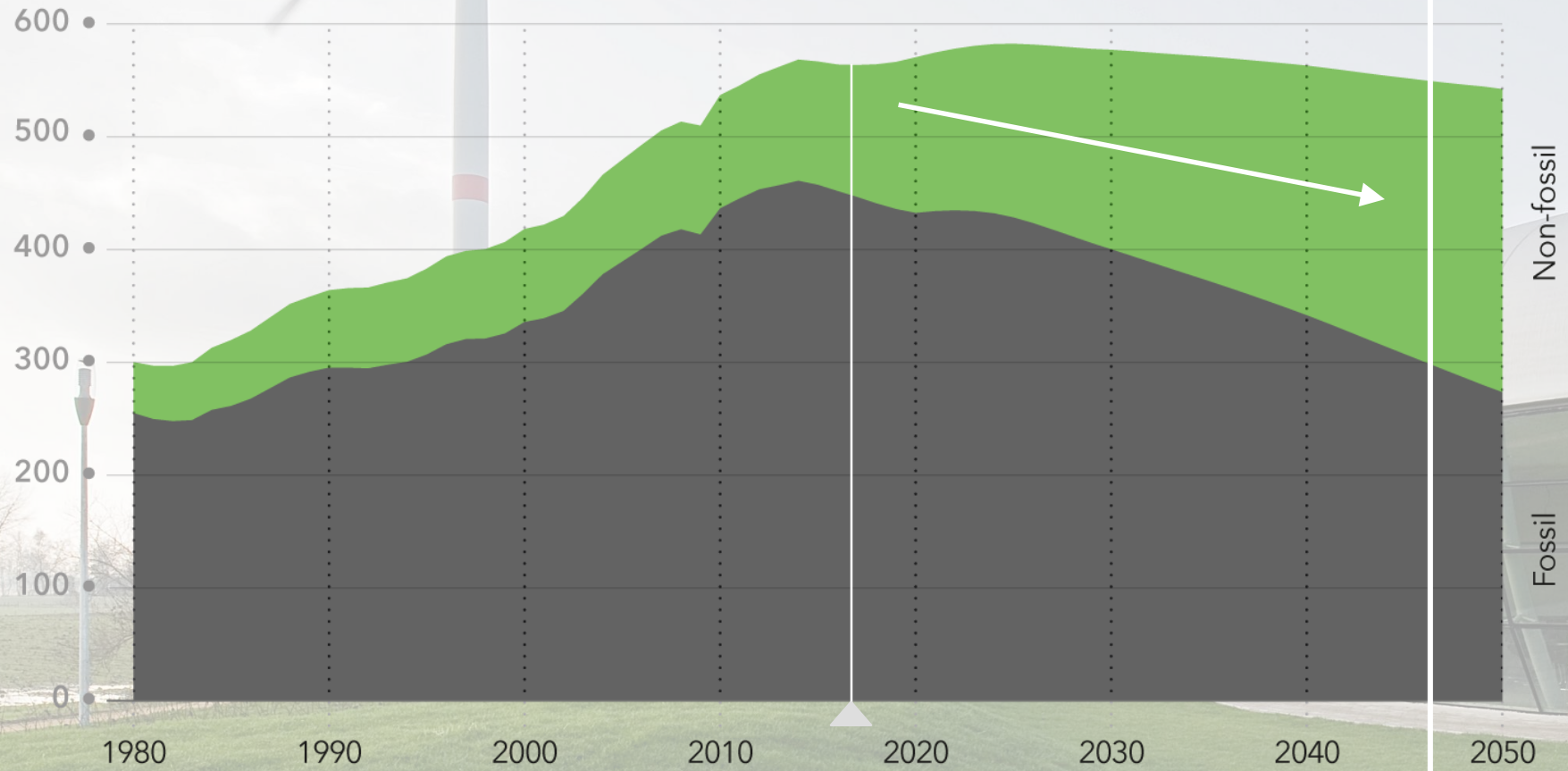
What is Energy Transition Outlook 2017?

- An independent forecast of how the world's energy mix will evolve towards 2050
- Based on our own energy model, forecasting regional energy demand, supply and transport
- Analyses published in a new suite of Energy Transition Outlook reports:



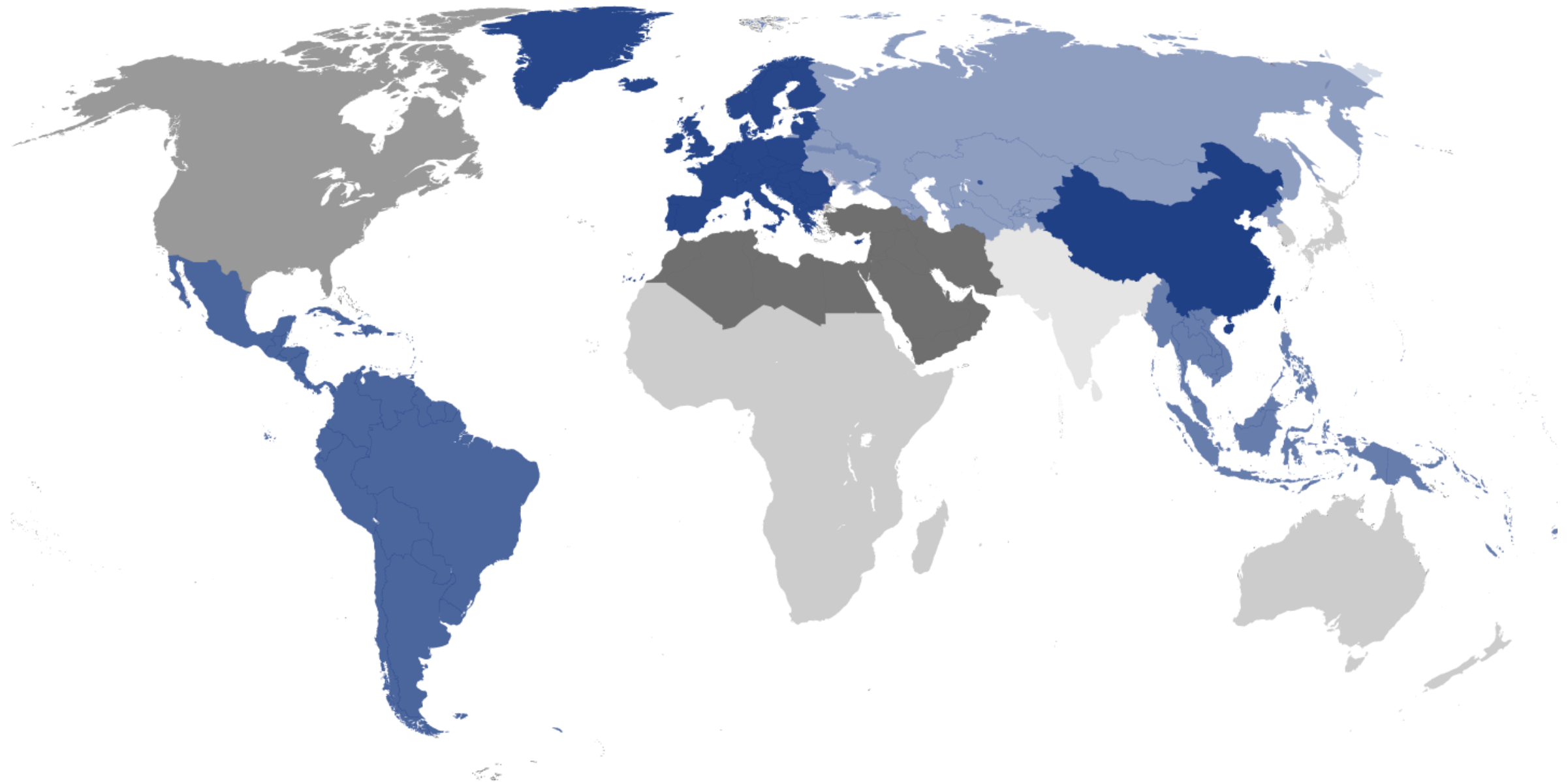
World primary energy supply

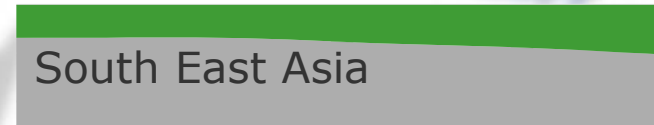
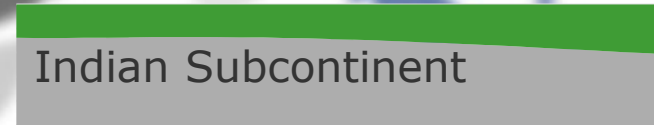
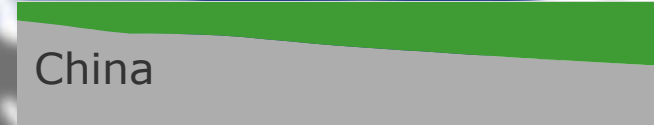
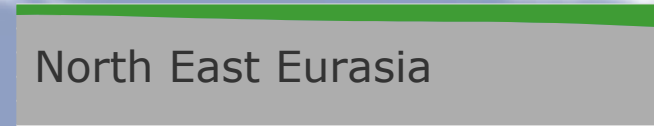
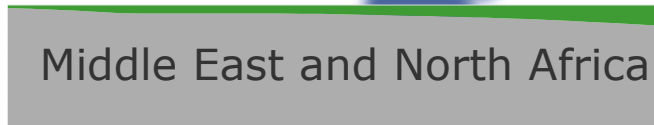
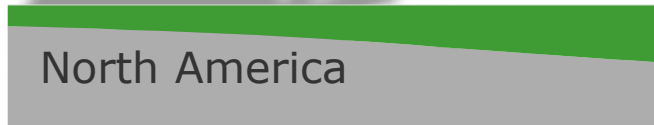
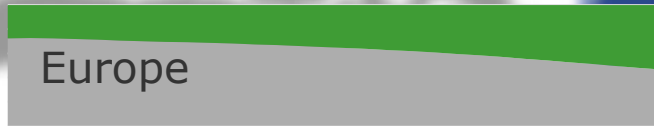
Units: EJ/yr



Non-fossil

Fossil





2017

2050

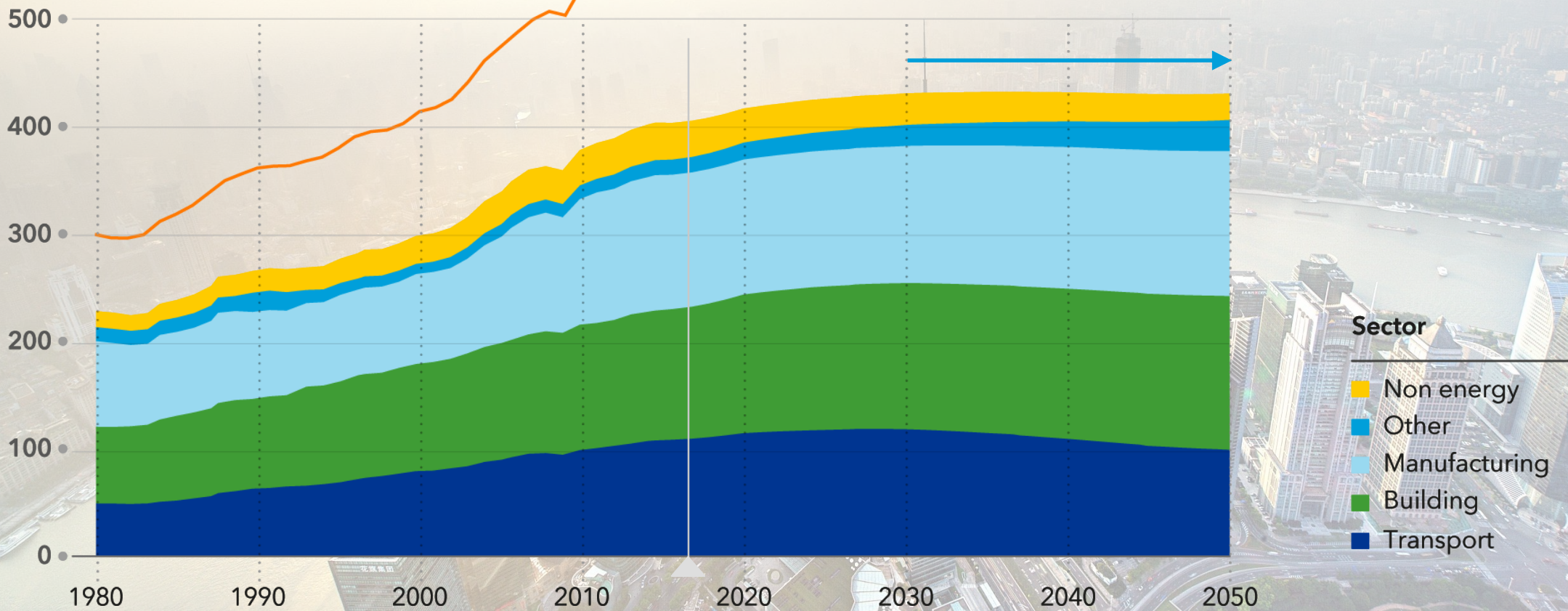
non fossil
fossil

2017

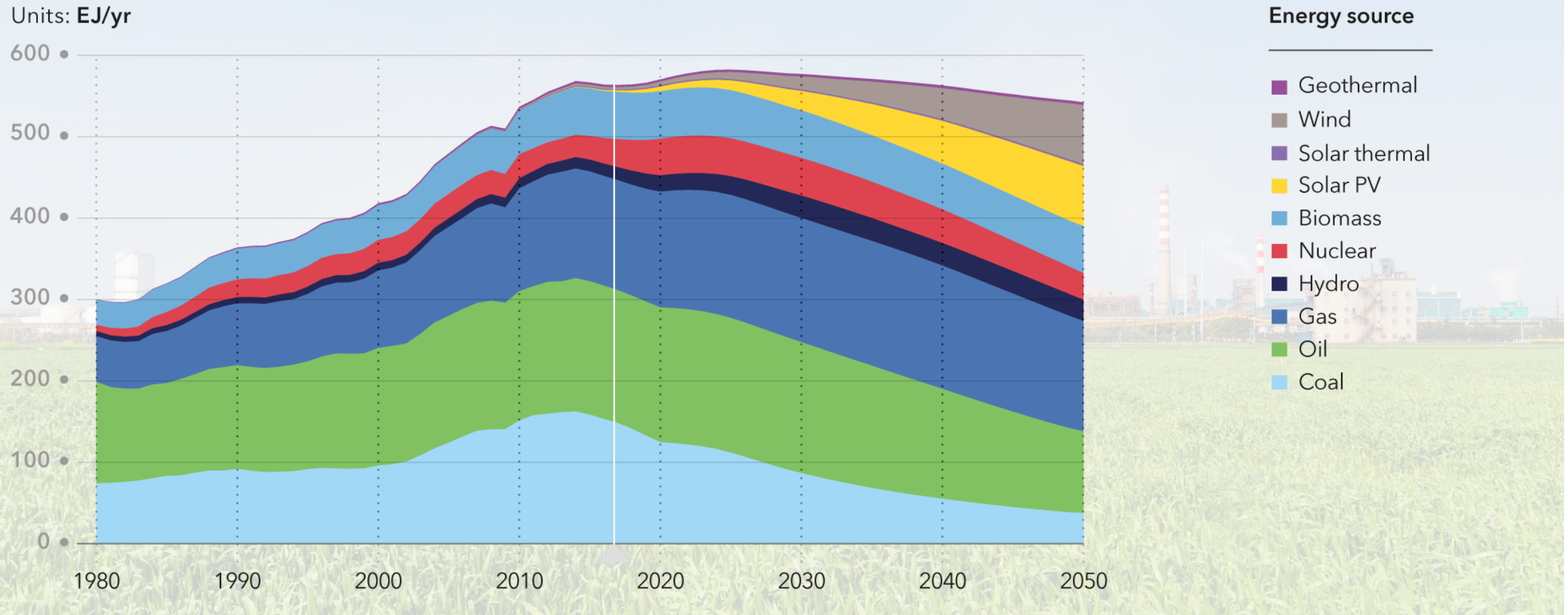
2050

World final energy demand by sector

Units: EJ/yr



World primary energy supply by source



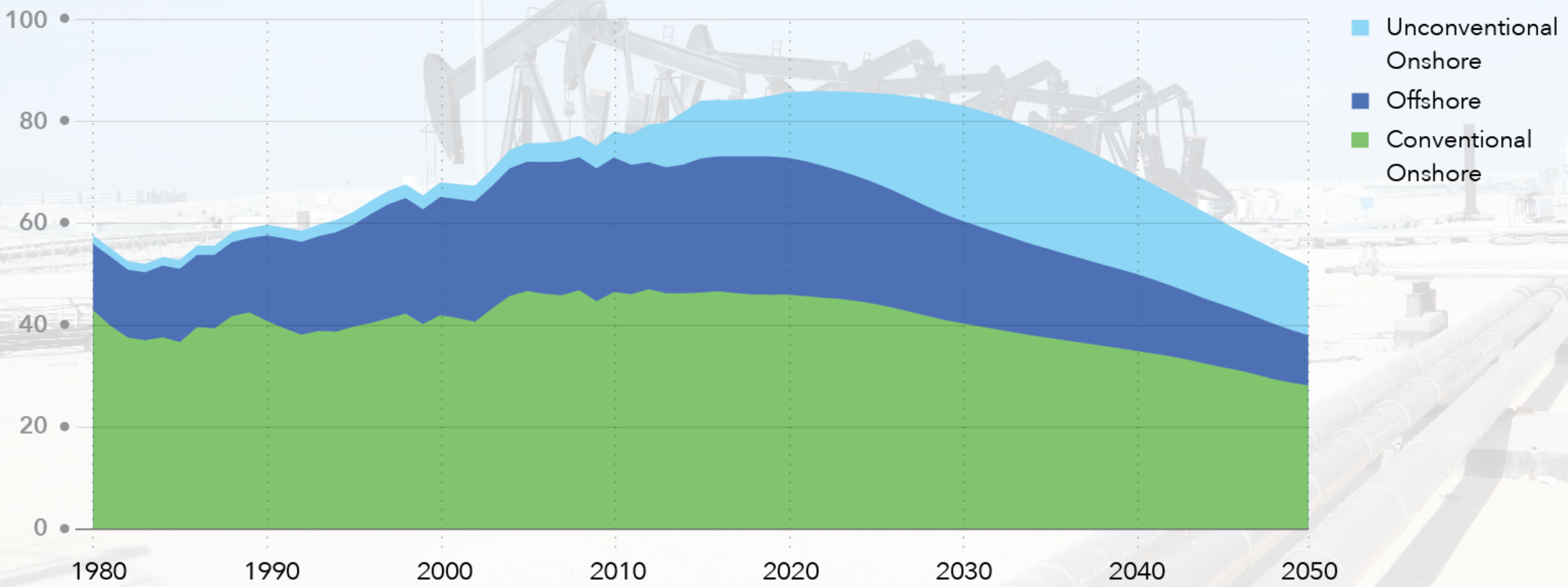
UPSTREAM



Oil production

CRUDE OIL PRODUCTION BY FIELD TYPE

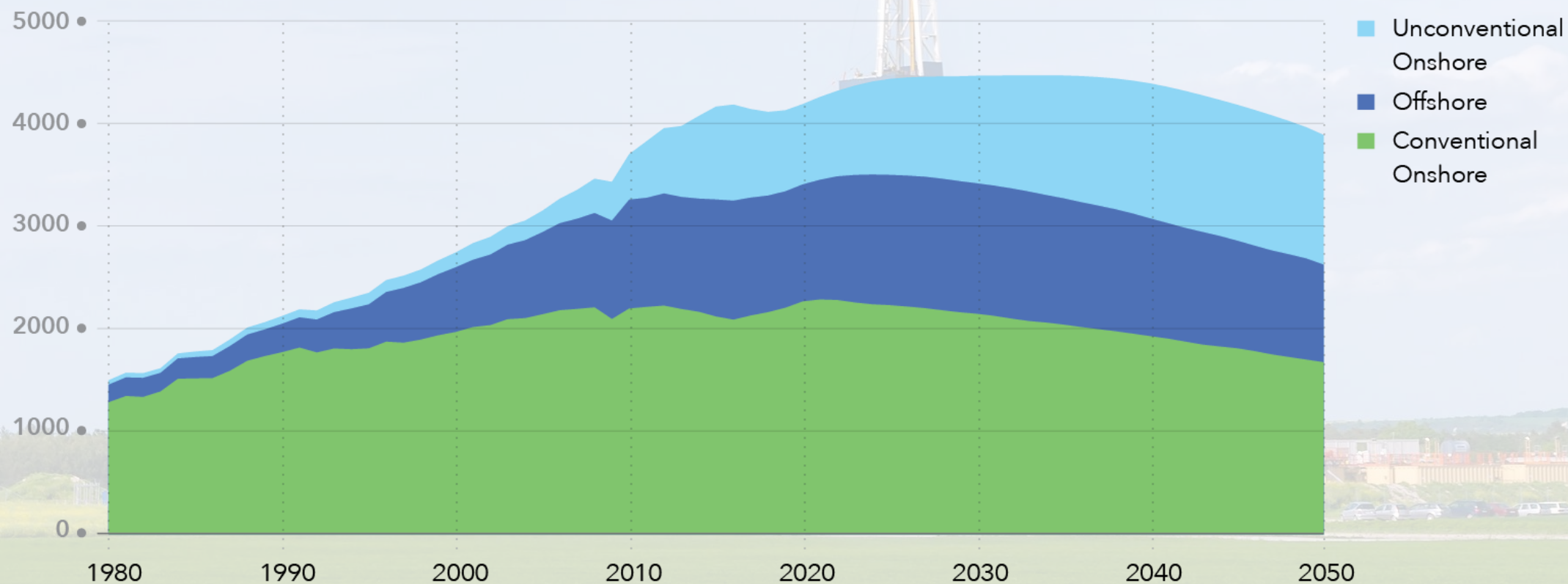
Units: Mbpd



Gas production

GAS PRODUCTION BY FIELD TYPE

Units: Gm³/yr



Gas terminals

- Gas demand forecast to peak in 2035 before declining as renewables take over
- Continued complementary growth in gas processing expected
- Market drivers: Demand for ethane, propane and butane; supplies from Iran and Russia
- European gas processing not expected to grow.

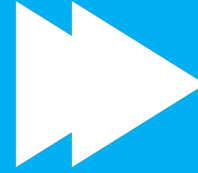
Summary



Energy decouples from **CARBON**, **POPULATION** and **ECONOMIC GROWTH**



Oil and gas account for **44%** of world energy supply by **2050**



TWOFOLD increase in global **ENERGY EFFICIENCY**



Energy demand will **PLATEAU** after **2030**



GAS becomes the **LARGEST** single energy source with peak demand by **2035**



Demand for oil **REMAINS FLAT** and **PEAKS** in 2022



INVESTMENT is needed to add new capacity and operate existing assets safely and sustainably



The oil and gas sector must take new approaches to **COST CONTROL** to stay relevant

Thank you,

Elfride Covarrubias V.

elfride.covarrubias.villegas@dnvgl.com

+39 348 71 200 64

www.dnvgl.com

SAFER, SMARTER, GREENER