

2022

Energy Perspectives

Global macroeconomic and energy market outlook

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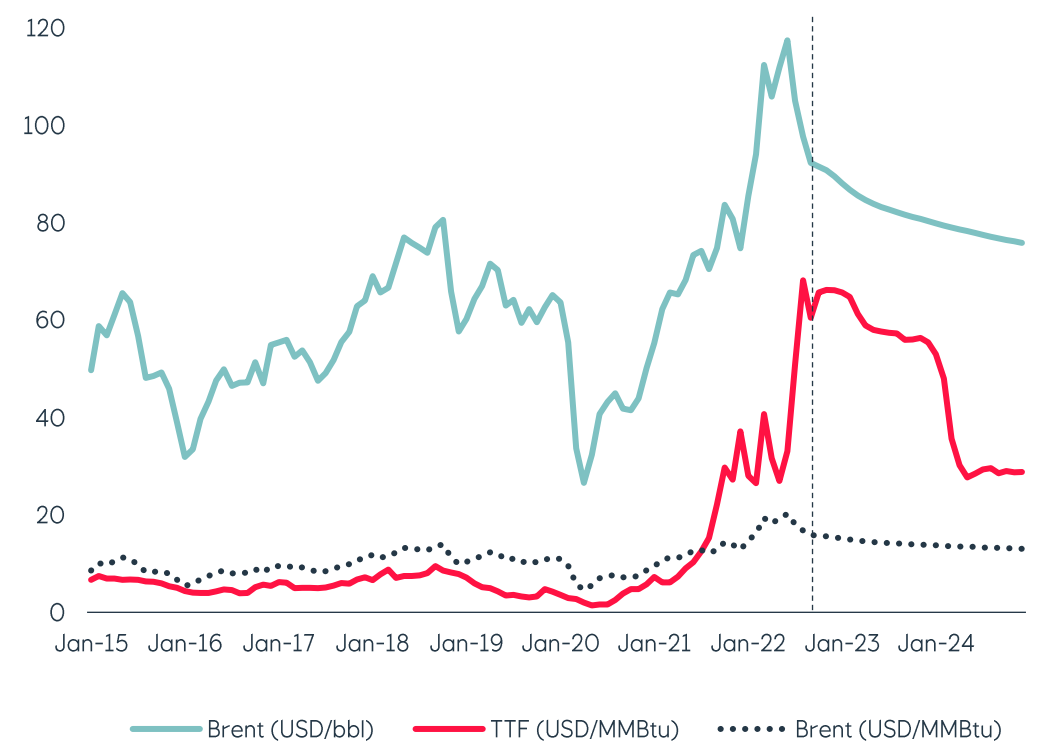
17.09.2022



We are in a world of extremes

Conflicts and unrest, lack of trust, market imbalances, disastrous weather events

Oil and gas price

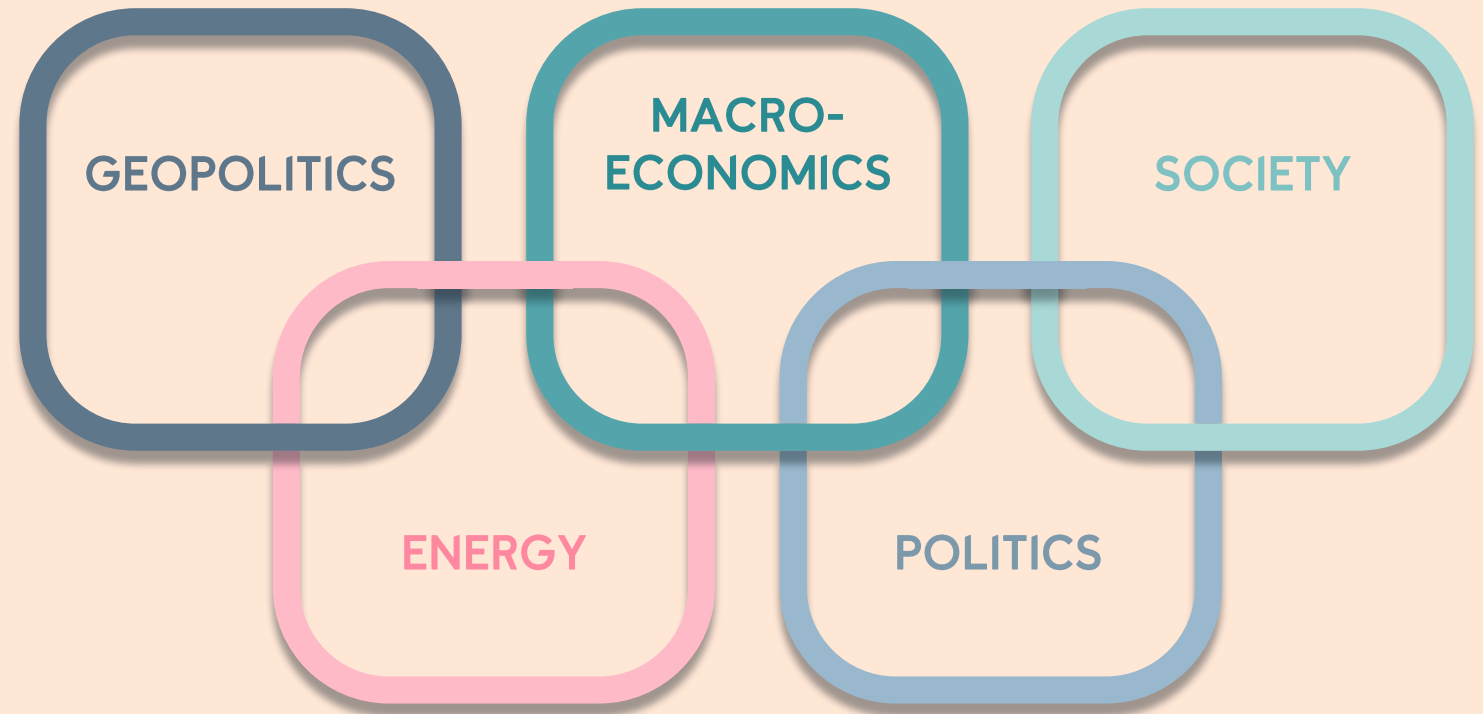


Source: Platts, Heren (history), ICE (projection)



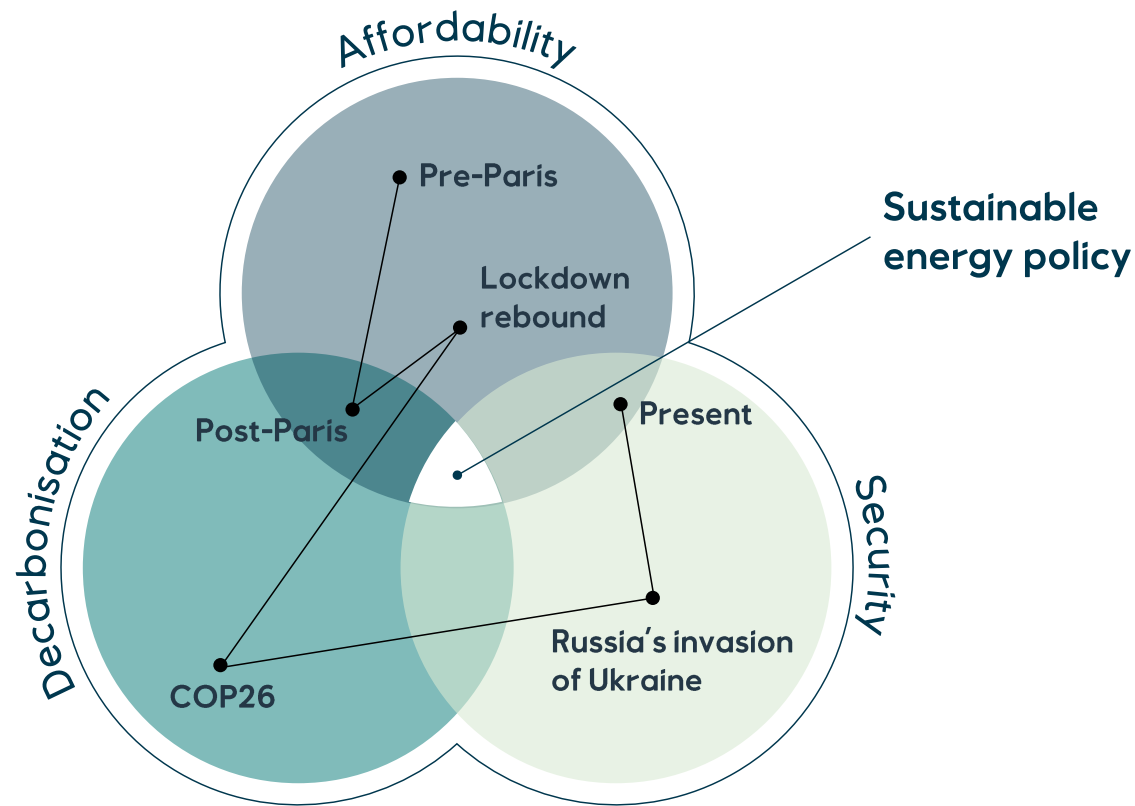
Global interlinkages determine the direction

Russia's invasion of Ukraine will drive broad global change and create uncertainty in many dimensions, with feedback loops



We see a vivid illustration of the energy trilemma

Sustainability requires a balanced approach



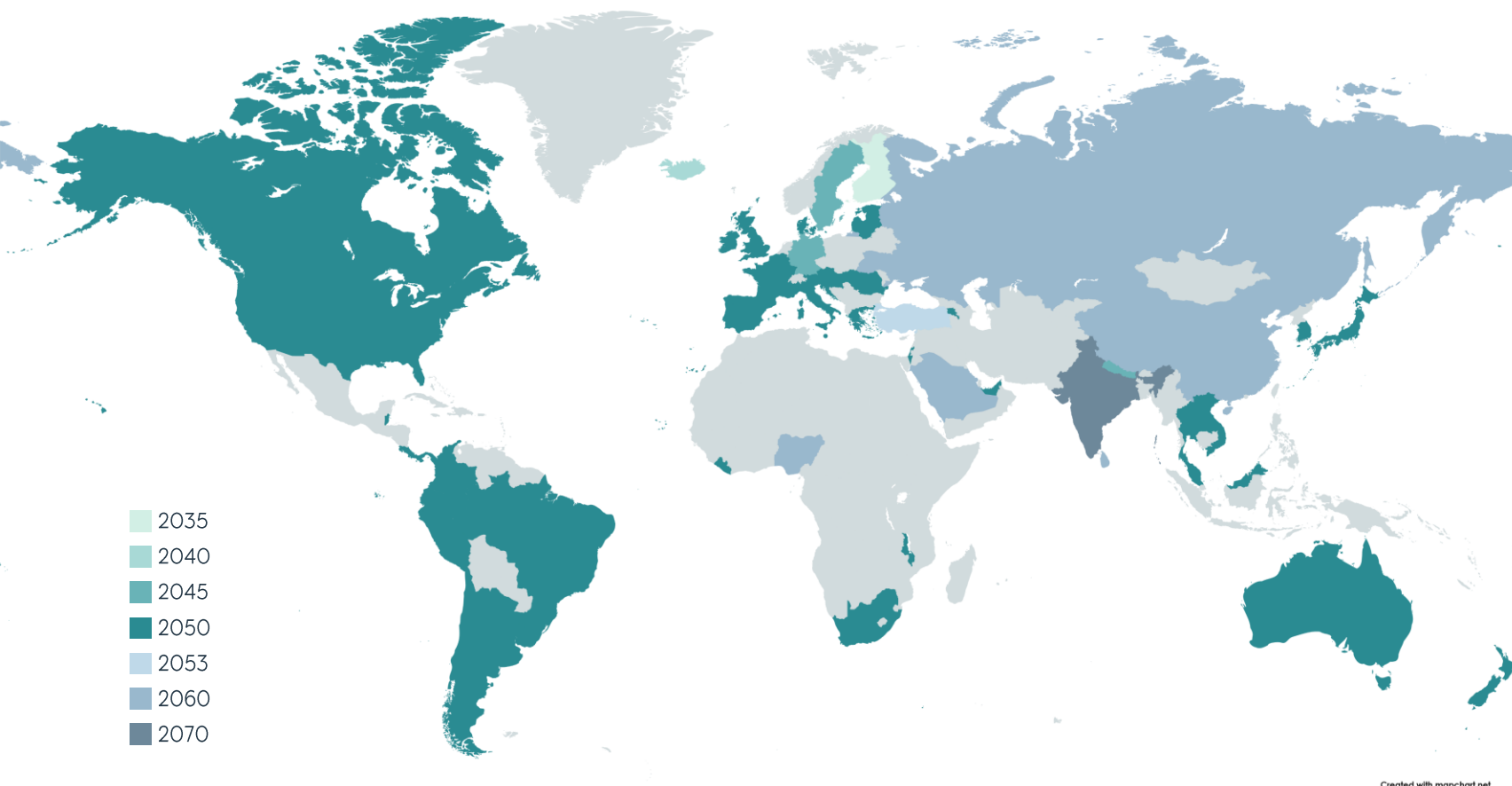
Source: Equinor



Source: United Nations

The net zero target is dominant

Countries with net zero targets set in law, policy documents or pledges



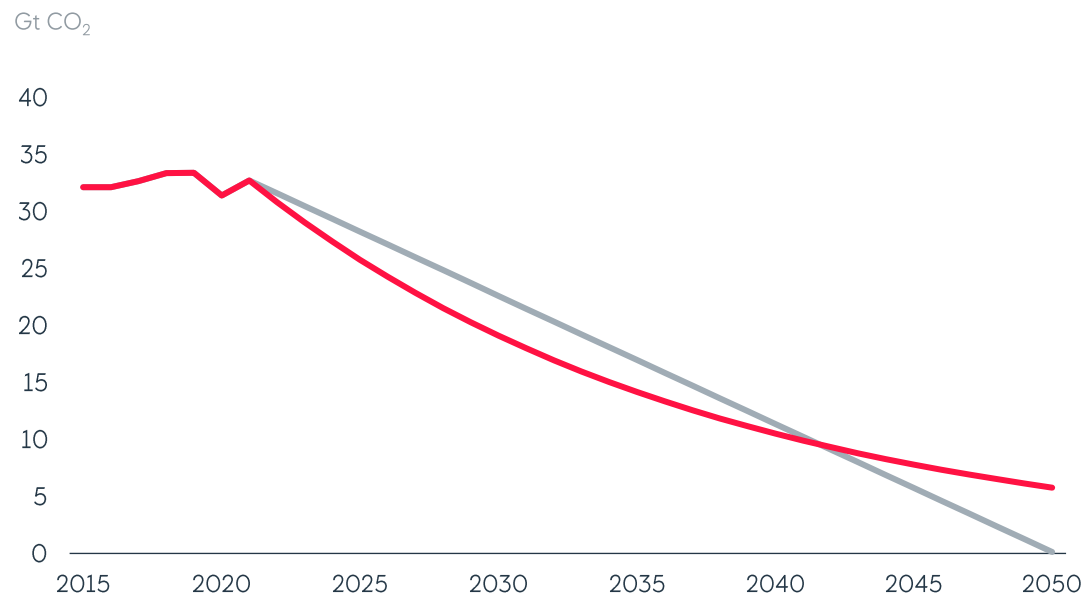
More than 70 countries committed to net zero

Representing more than 75% of global emissions

The 1.5°C target requires more than getting to net zero by mid-century

The carbon budget is extremely challenging – we need to deliver reductions with full speed, but prepare for overshoot

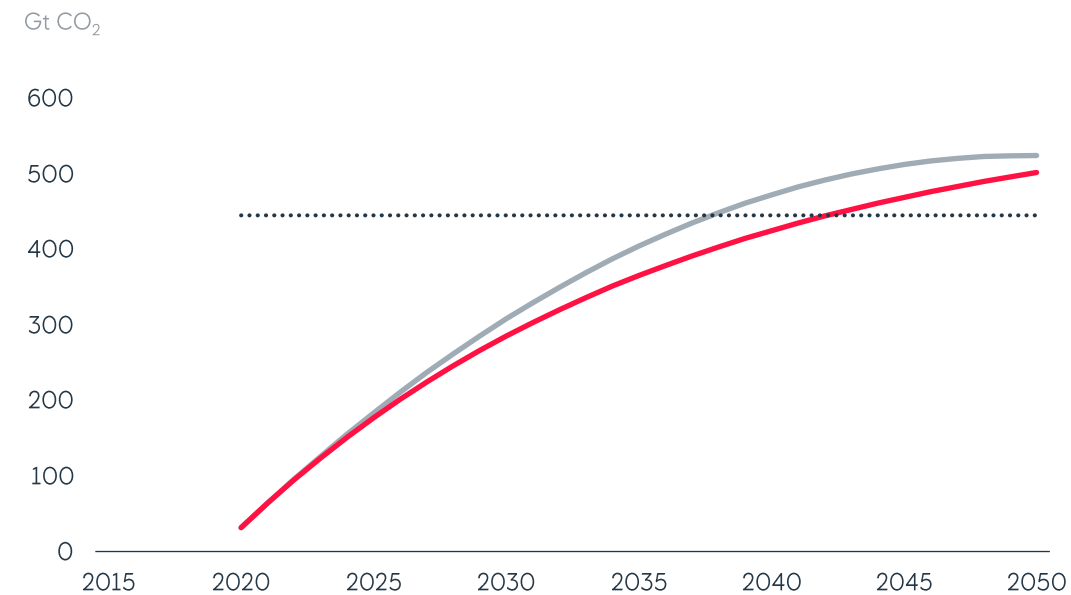
Annual energy-related emissions – an illustration



■ Linear decline ■ Covid decline

Source: IEA (history), Equinor (projections)

Cumulative energy-related emissions – an illustration



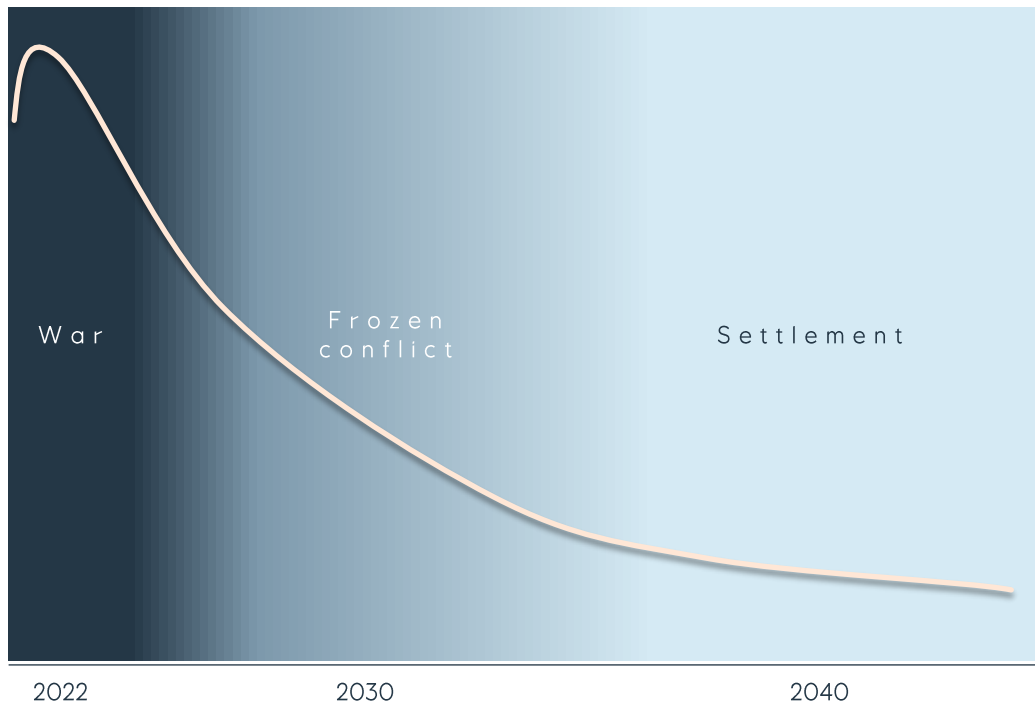
■ Linear decline ■ Covid decline Target

Source: Equinor (projections)

Our take on the global development over the next years

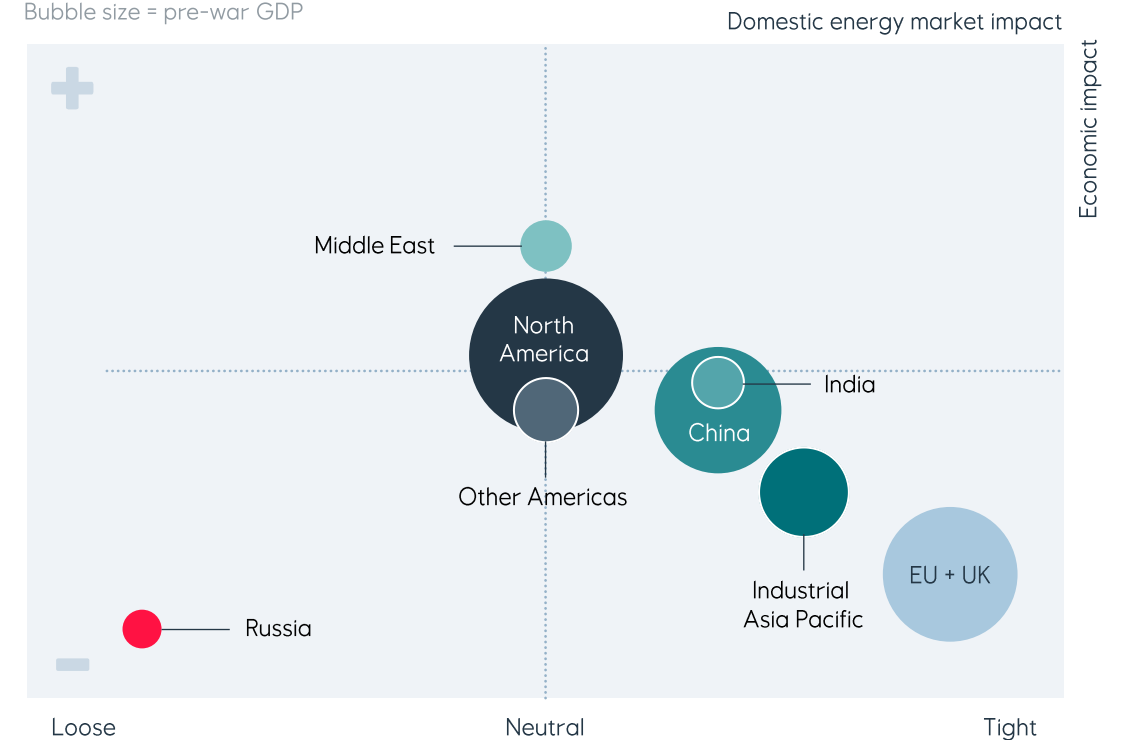
The Russian invasion will have long-lasting impact on the global energy system and economic growth

Negative economic and energy market impact



Regional impact towards 2030

Bubble size = pre-war GDP

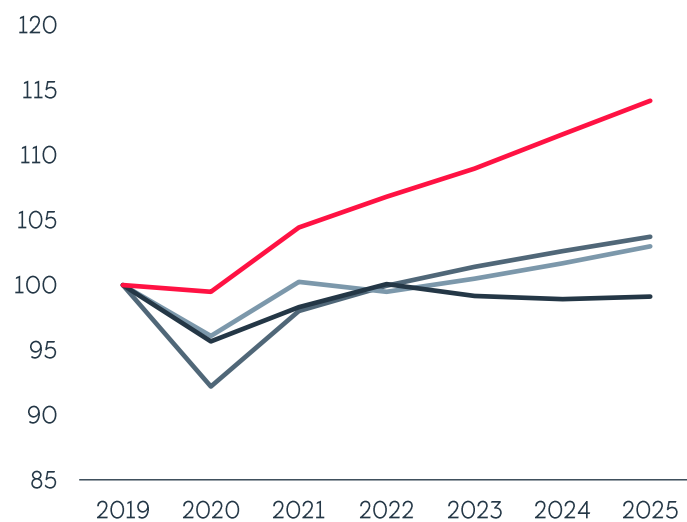


Our short-term outlook to 2025

Out of Covid, handling the energy crisis and supply bottlenecks, food inflation and re-globalisation

Coal, oil, gas and electricity demand

Indexed, 2019 = 100

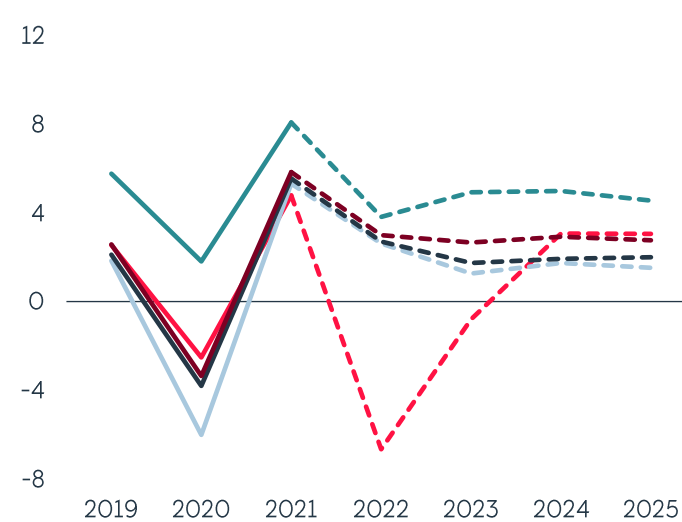


■ Coal ■ Oil ■ Gas
■ Electricity

Source: IEA (history), Equinor (projections)

GDP growth

% change y/y

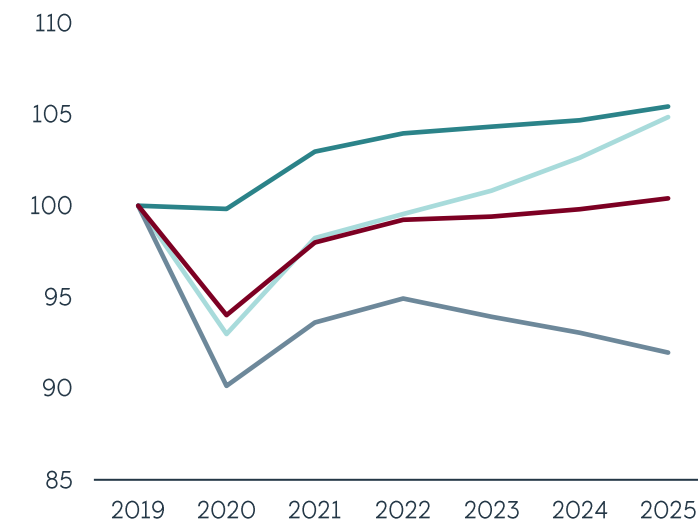


■ China ■ European Union ■ CIS
■ North America ■ World

Source: © Oxford Economics Limited 2022 (history), Equinor (forecast from June 2022)

Energy-related CO₂ emissions

Indexed, 2019 = 100



■ Industrialised ■ China ■ Emerging excl China
■ World

Source: IEA (history), Equinor (projections)



Walls protect

but also divide

Walls

- Builds on historical and current market trends and policy signals
- Economic growth is a key driver
- Russia's invasion of Ukraine and geopolitical tensions have given rise to reappearance of obstacles
- Energy security increasingly important in the short-to-medium term

Bridges connect and enable

Bridges

- A normative back-cast scenario
- Consistent with a temperature rise of 1.5°C
- Immediate and coordinated international action needed
- Illustrates what it takes to get there

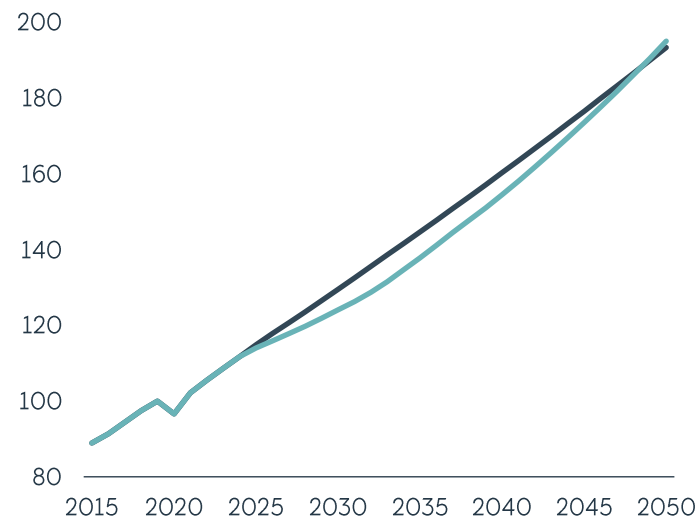


The global economy continues to grow and become more energy efficient

Reaching the 1.5°C target requires a reduction of 25% in total primary energy demand

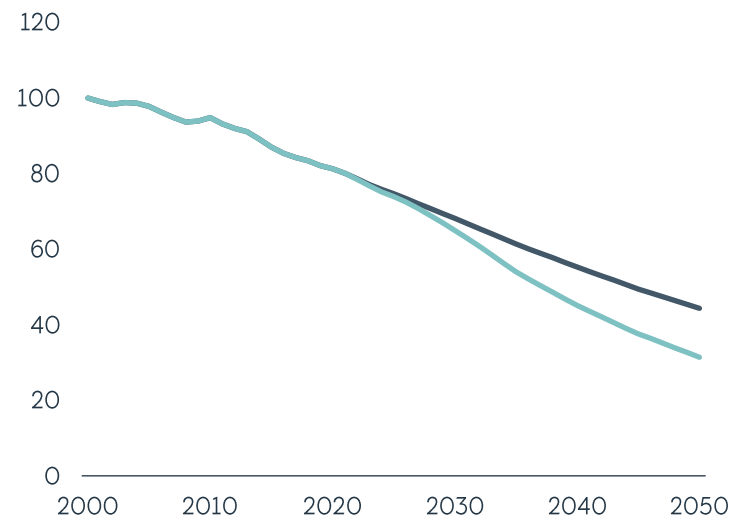
Global GDP

Indexed to 100 in 2019, constant USD



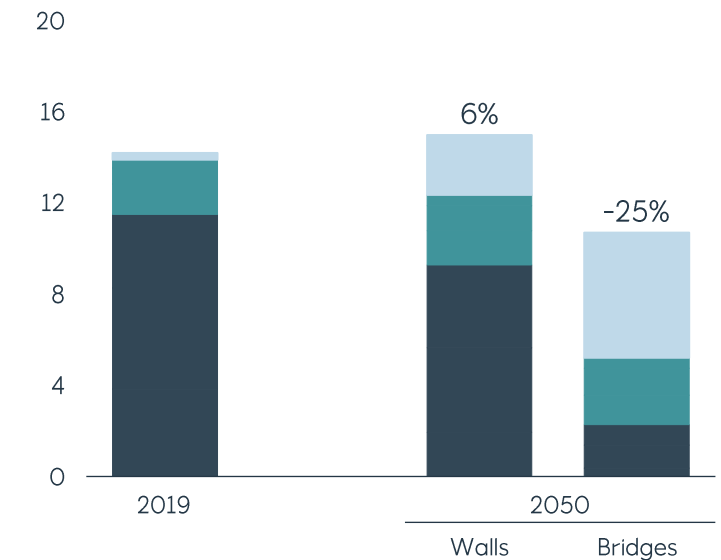
World energy intensity development

Indexed to 100 in 2000



Total primary energy demand

Billion toe



■ Walls ■ Bridges

■ Walls ■ Bridges

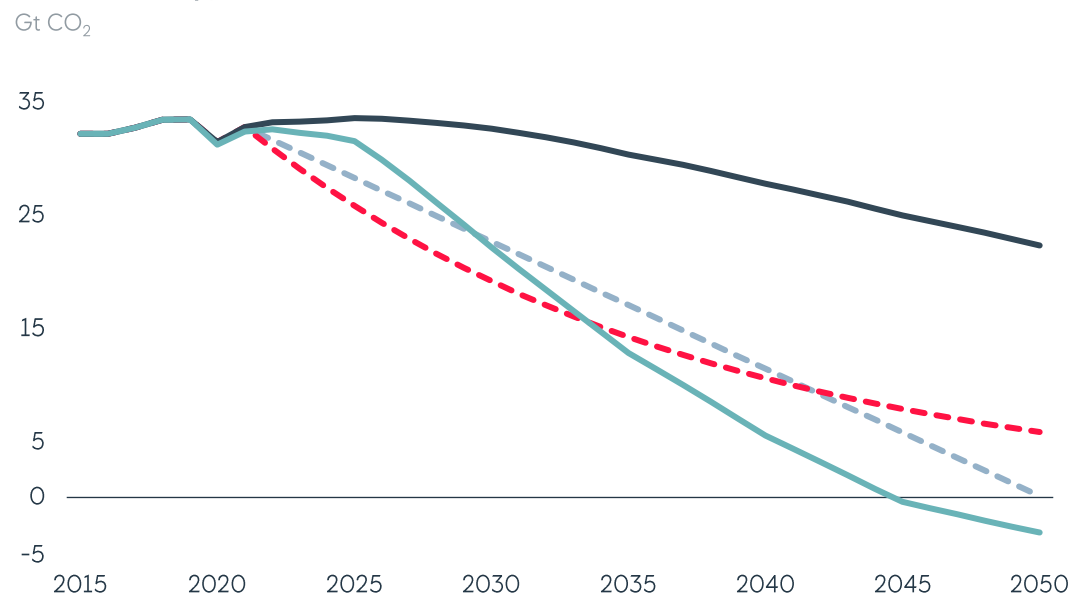
■ Fossil fuel ■ Other ■ New renewables

Source: IEA and © Oxford Economics Limited 2022 (history), Equinor (projections)

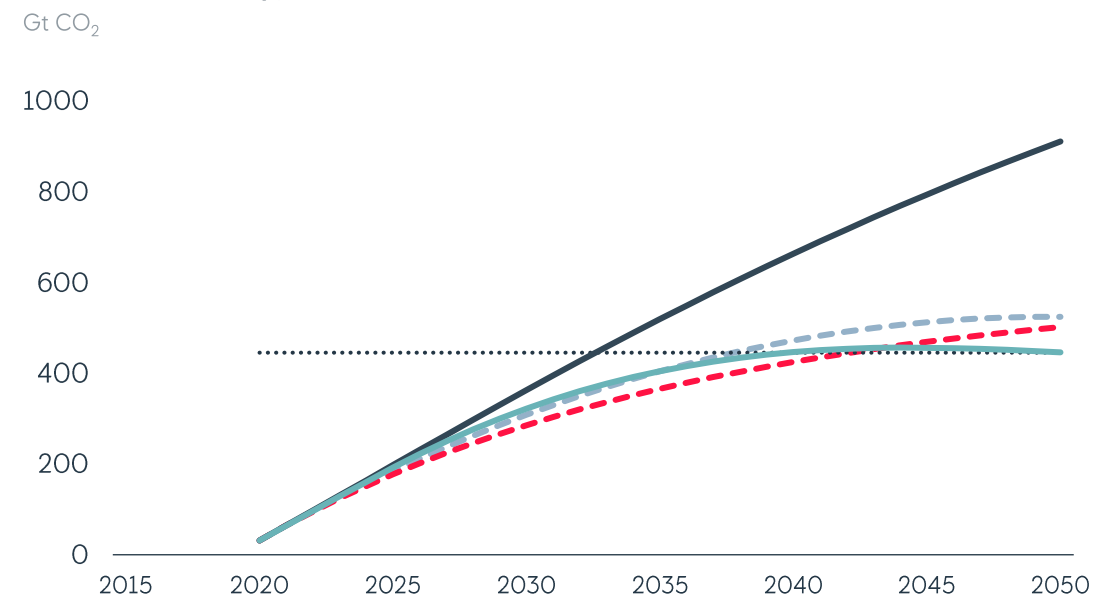
Emissions in Walls and Bridges decline, but at very different speeds

The challenge of staying within the 1.5°C carbon budget is formidable

Annual energy-related emissions



Cumulative energy-related emissions



■ Linear decline ■ Covid decline ■ Walls ■ Bridges Target

Source: IEA (history), Equinor (projections)

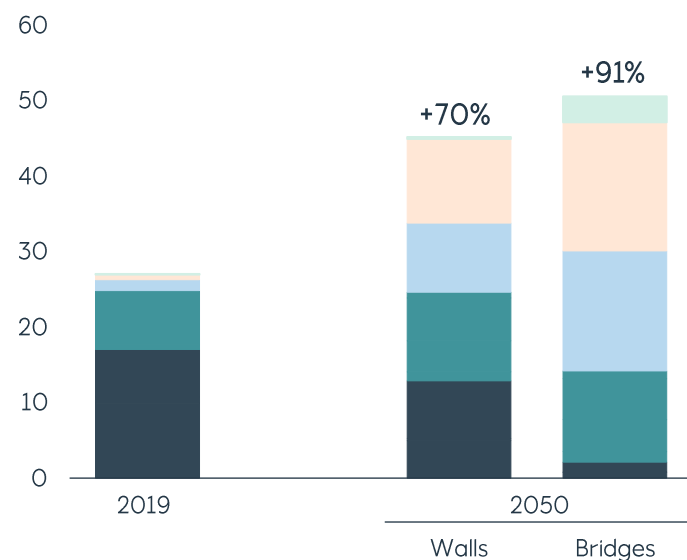
Source: Equinor (projections)

Massive changes in different parts of the energy system

Electrification is the key element of the energy transition, and a major factor in efficiency improvements

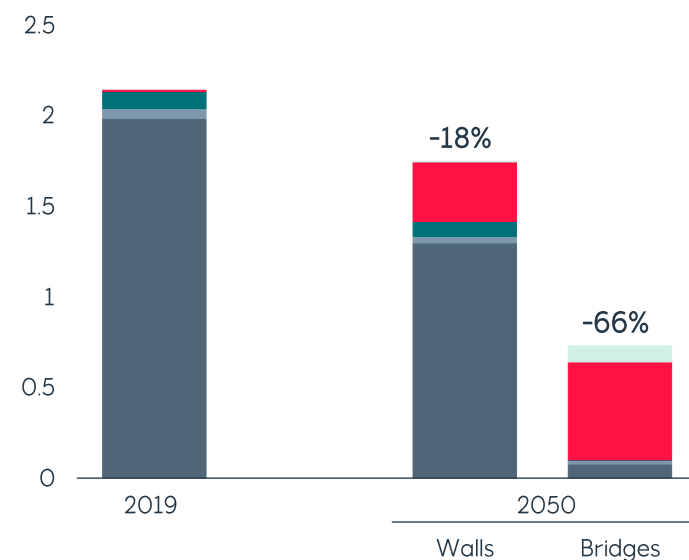
Electricity generation

Thousand TWh



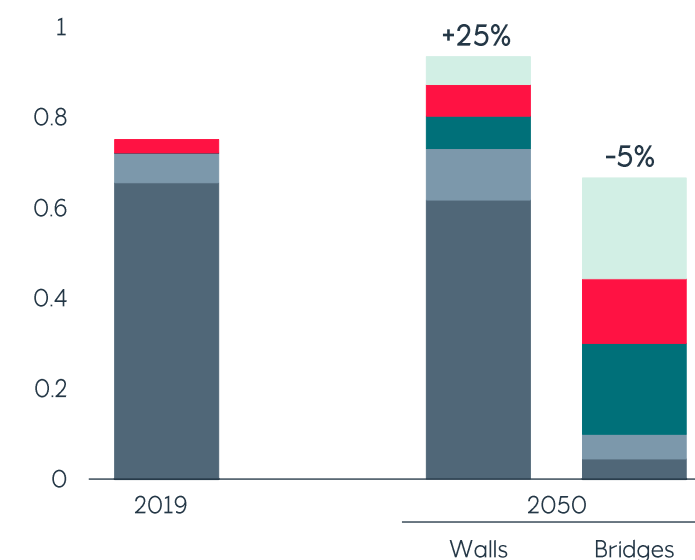
Road transport fuel demand

Billion toe



Non-road transport fuel demand

Billion toe



Fossil fuels
 Other
 Wind
 Solar
 Hydrogen

Oil
 Gas
 Biofuels
 Electricity
 Hydrogen

Oil
 Gas
 Biofuels
 Electricity
 Hydrogen

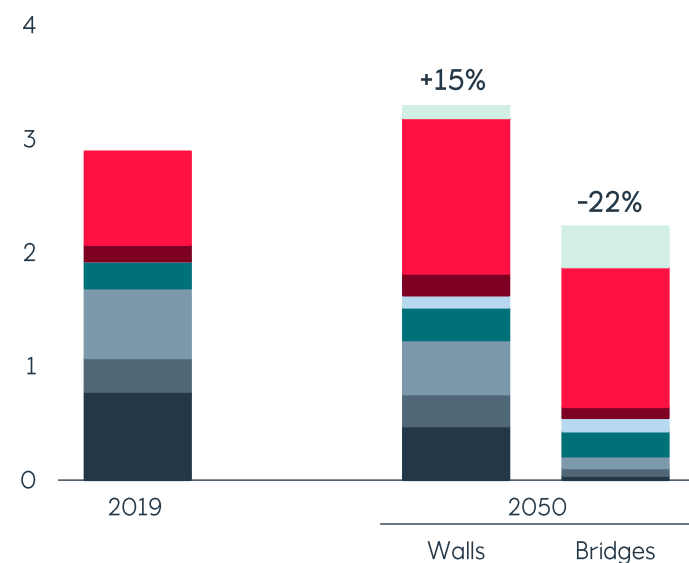
Source: IEA (history), Equinor (projections)

Electrification and efficiency improvements are keys in other sectors

Fossil fuels still needed as feedstock

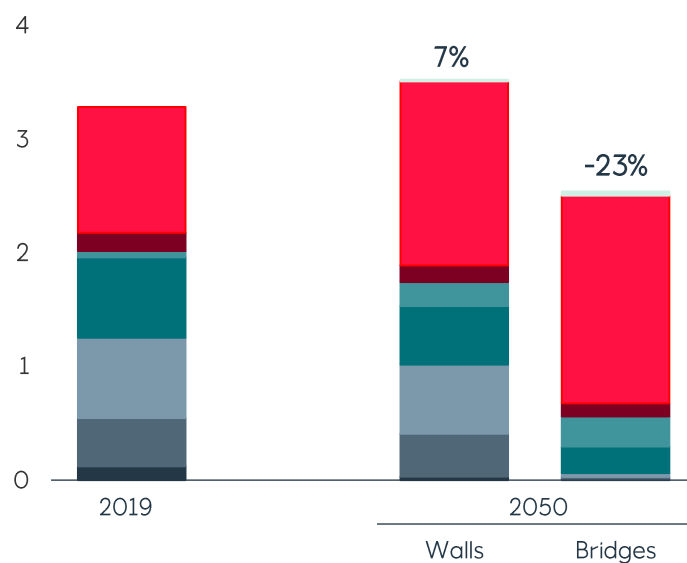
Industrial demand

Billion toe



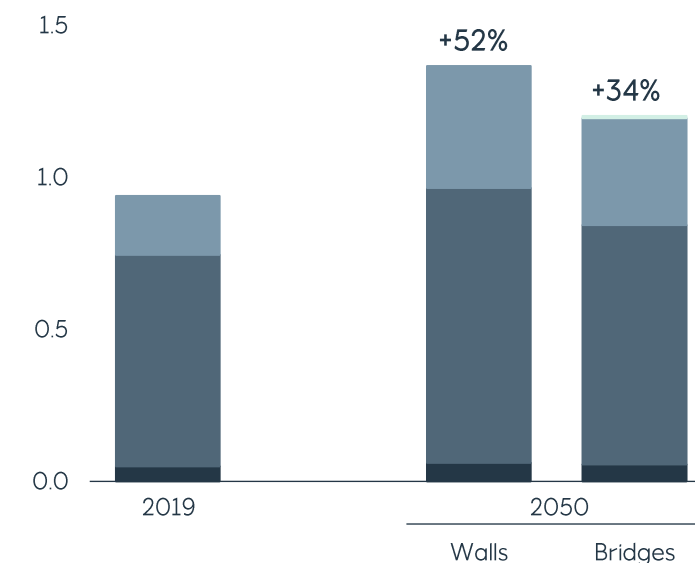
Buildings demand

Billion toe



Non-Energy demand

Billion toe



Coal
 Oil
 Gas
 Biomass
 New Renewables
 Heat
 Electricity
 Hydrogen

Source: IEA (history), Equinor (projections)

A change of pace and a revolution in transforming the energy system



	History 1990 - 2019	Walls 2019 - 2050	Bridges 2019 - 2050
Total primary energy demand CAGR %	1.8%	0.1%	-1.0%
Energy intensity CAGR %	-1.2%	-2.0%	-3.1%
Fossil fuel demand (Change in period - Gtoe)	4.5	-2.3	-9.2
Solar and wind in power generation (Change in period - Thousand TWh)	2	18	31

“We build
too many walls
and not enough
bridges.”

- *Attributed to Sir Isaac Newton*

