

The Need for Structural Changes in the Economy and the Future of Energy

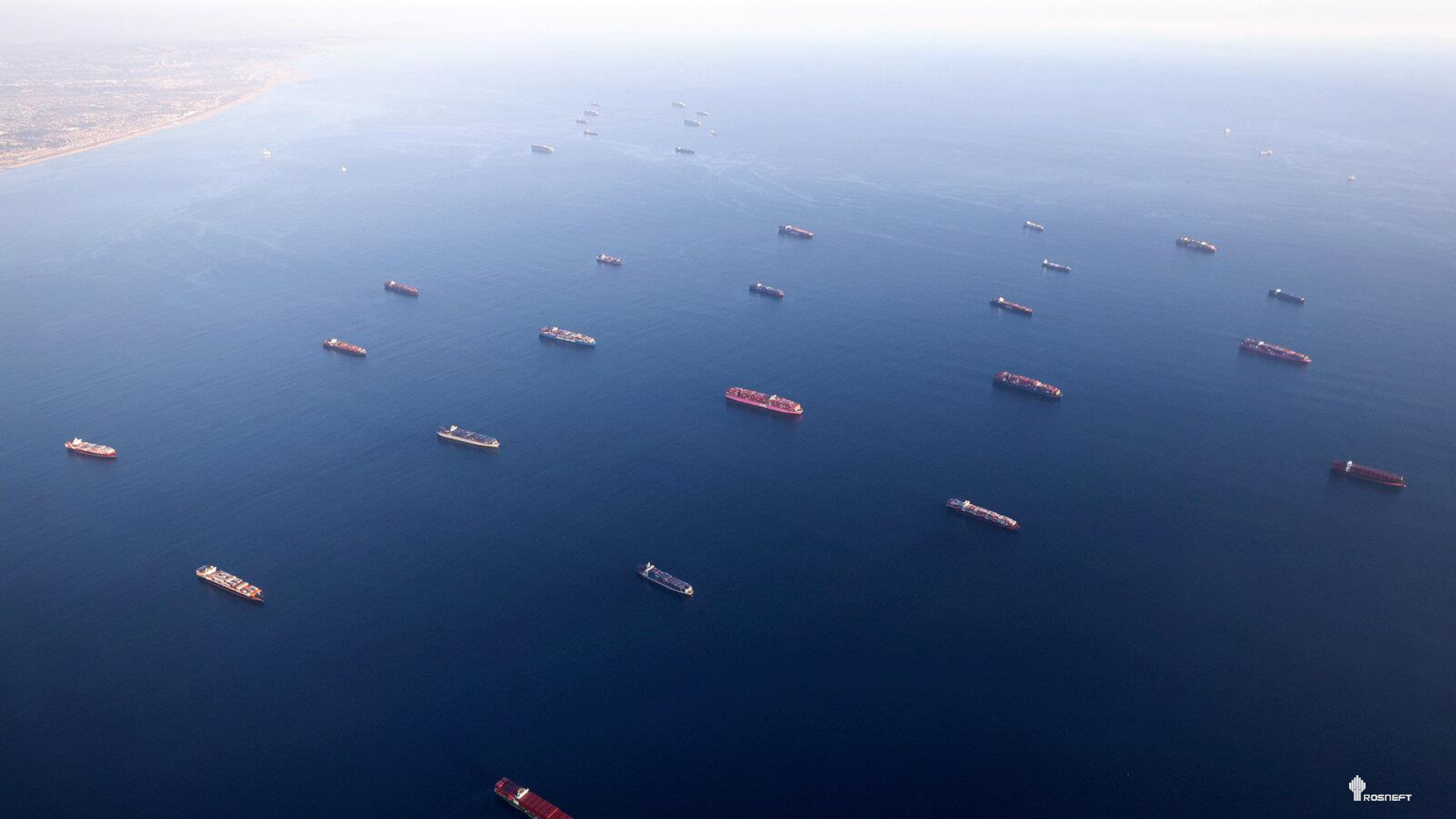
Igor Sechin
Chief Executive Officer, Rosneft



ROSNEFT

XIV Eurasian
Economic Forum
Verona, Italy
October 28-29, 2021

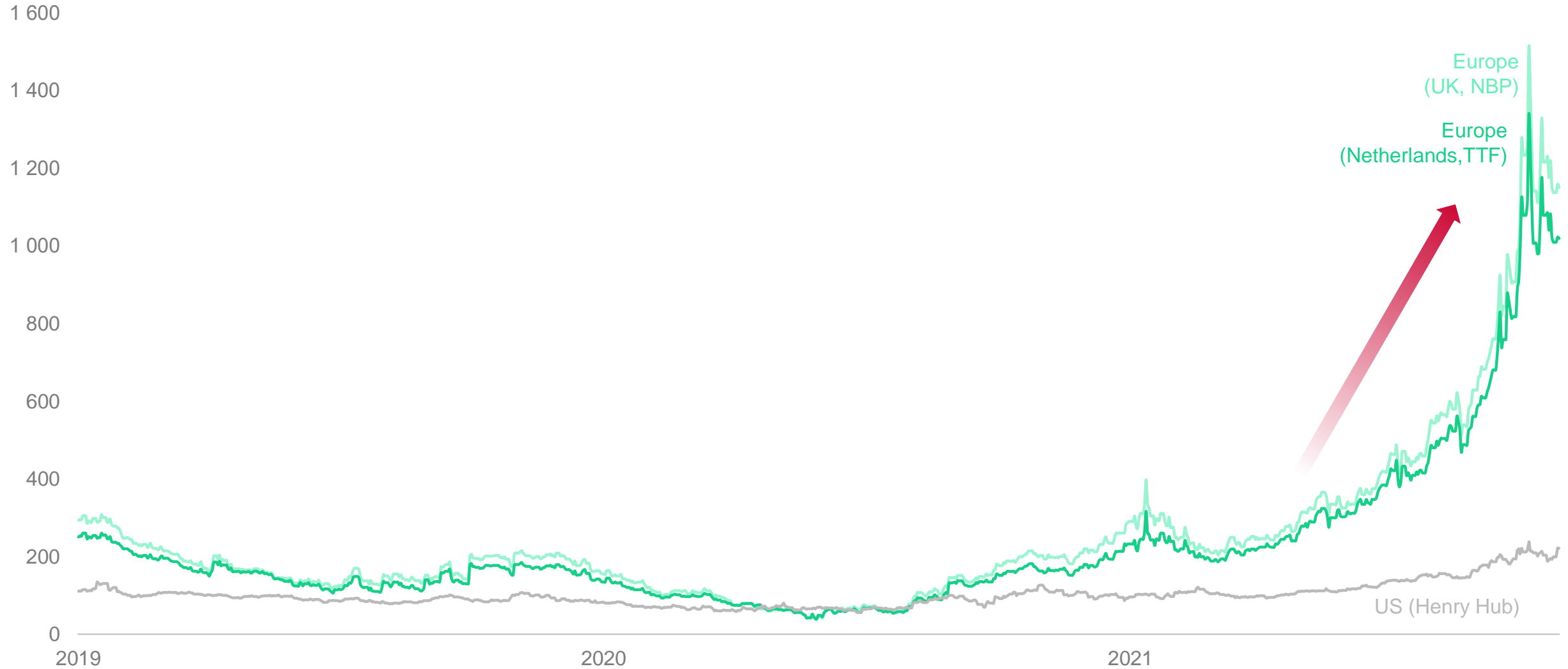




Europe: Skyrocketing Gas Prices

Dynamics of Gas Prices in Europe and in the US

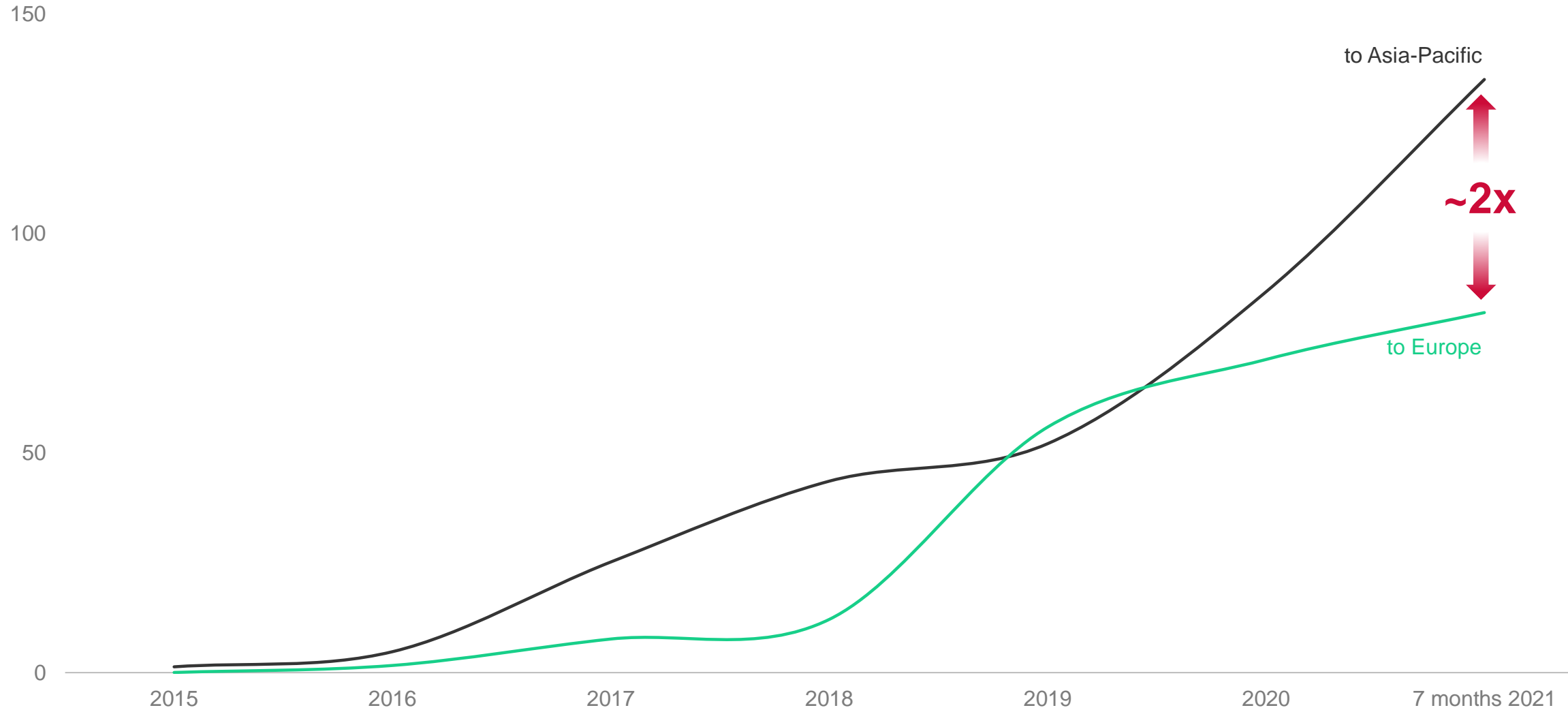
\$ per thousand cubic meters



“Molecules of Freedom” from the US Are Redirected to Asia-Pacific

LNG Exports from the US by Destination

mln cubic meters per day

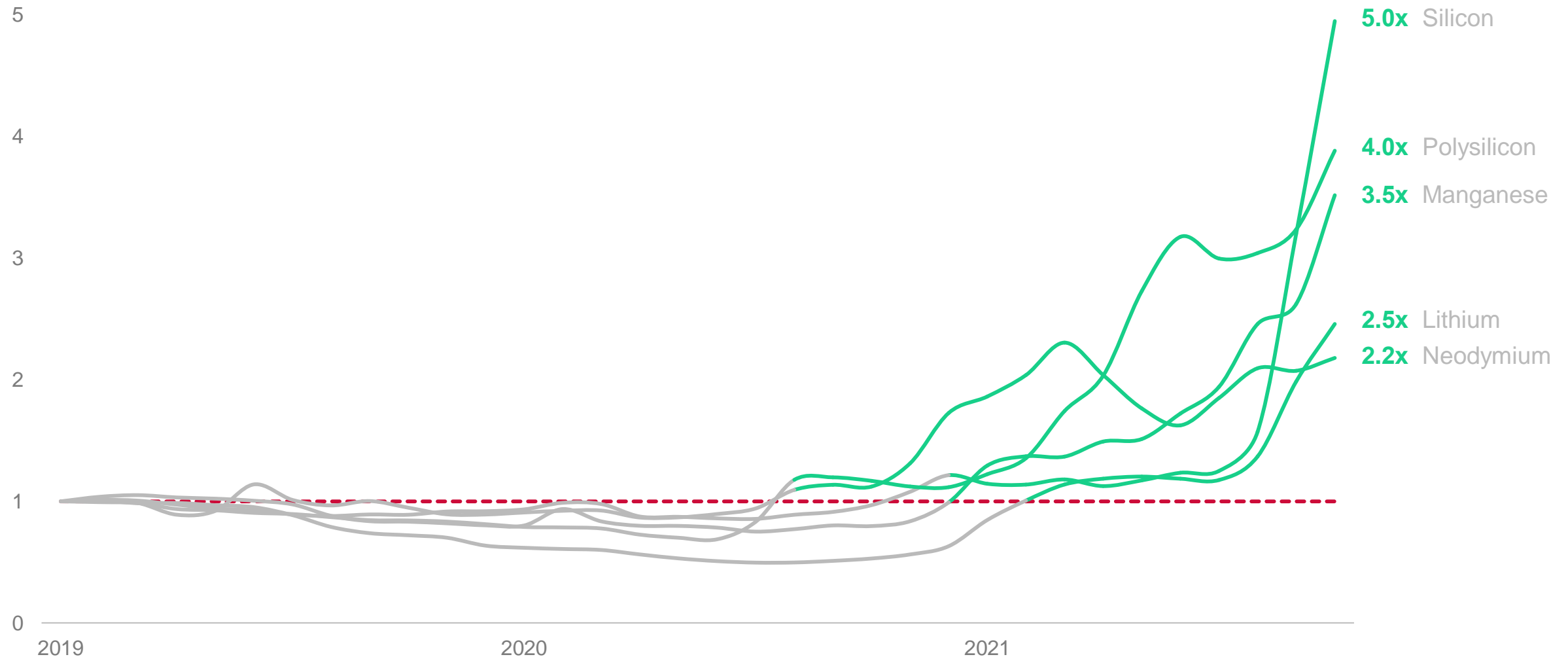




Green Electricity: Rising Costs

Critical Commodity Prices Required for Production of Low Carbon Energy

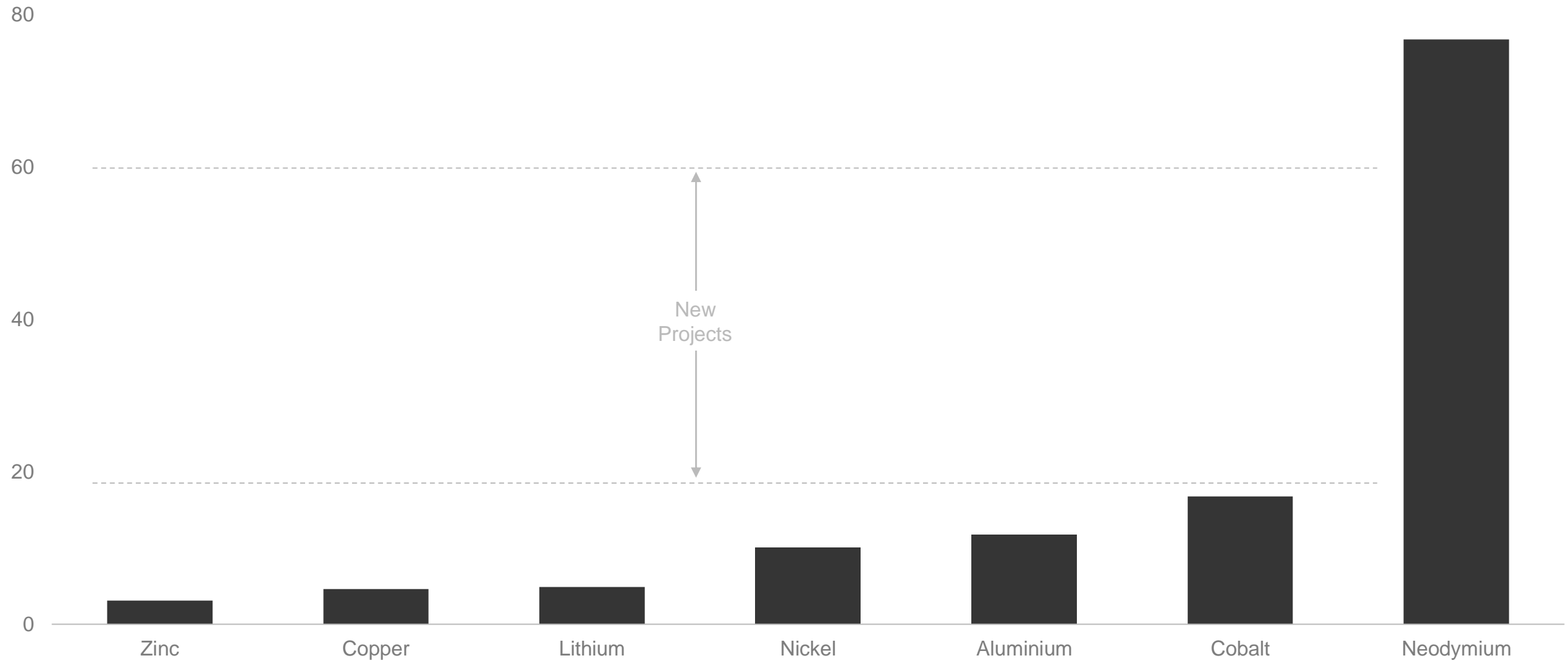
Index, Jan 2019 = 1



Increased Emissions Are Not in Line with Sustainable Development Goals

Emissions from Mining and Processing

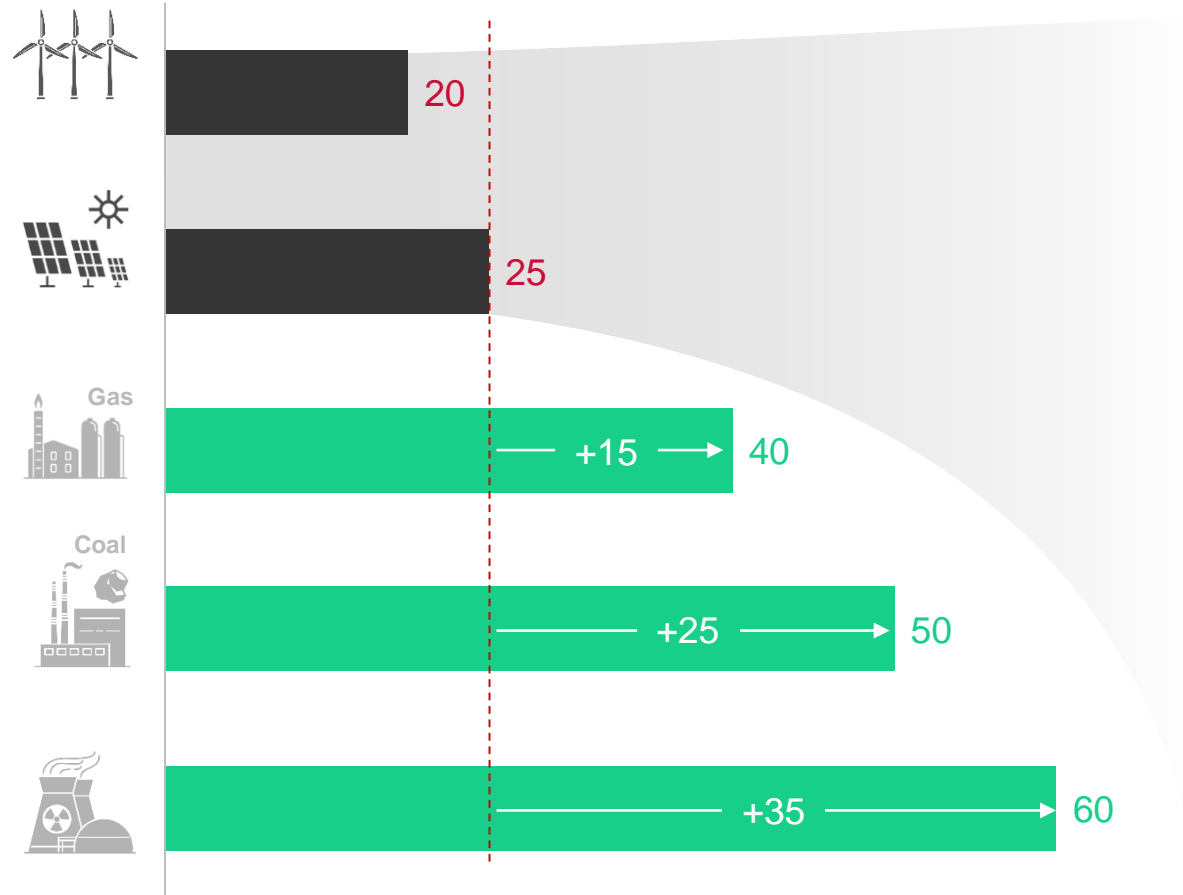
tonnes of CO₂-equivalent per tonne of metals produced



Short Life Cycle of Renewable Capacities

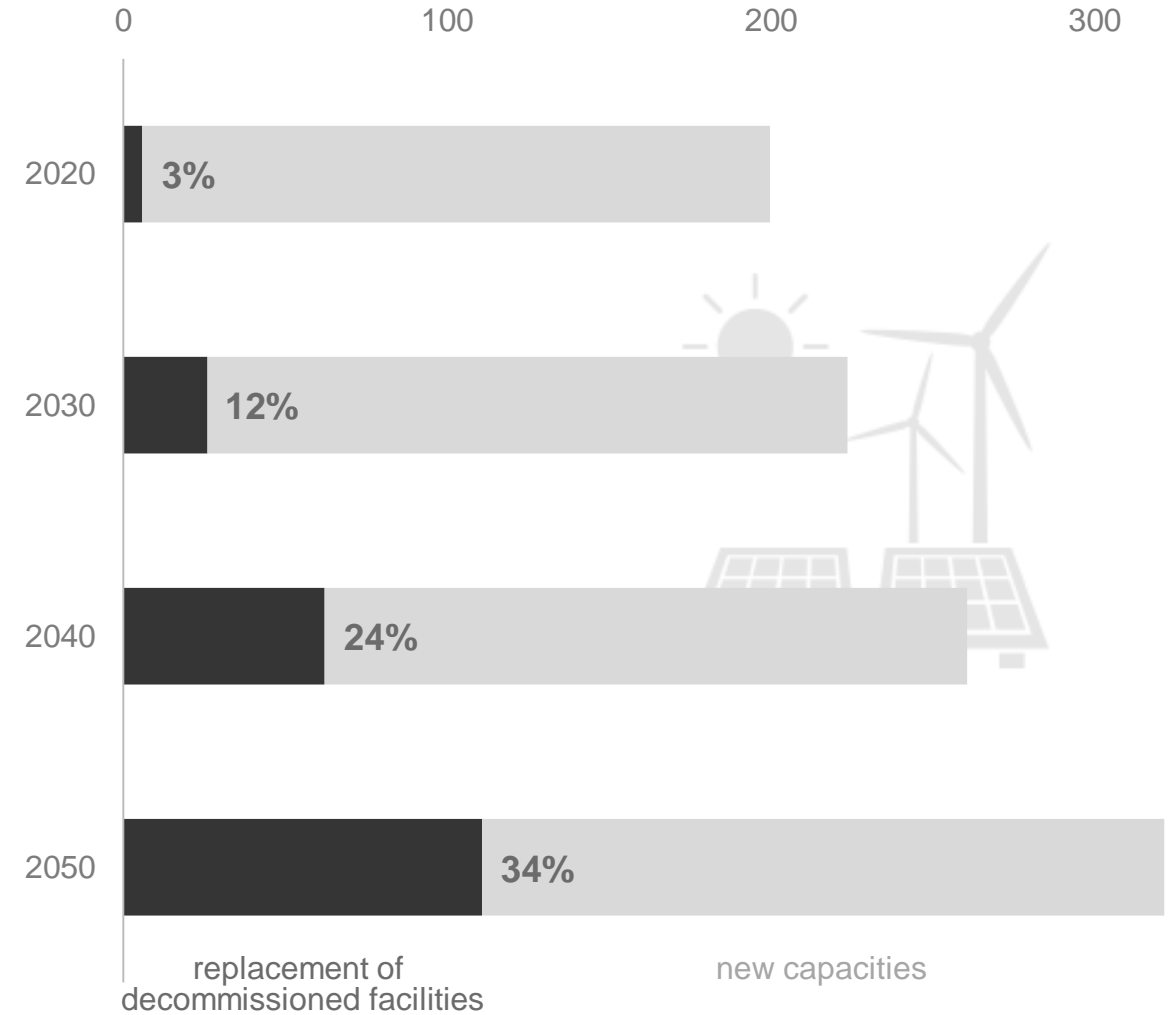
Average Life Cycle of a Power Plant

years

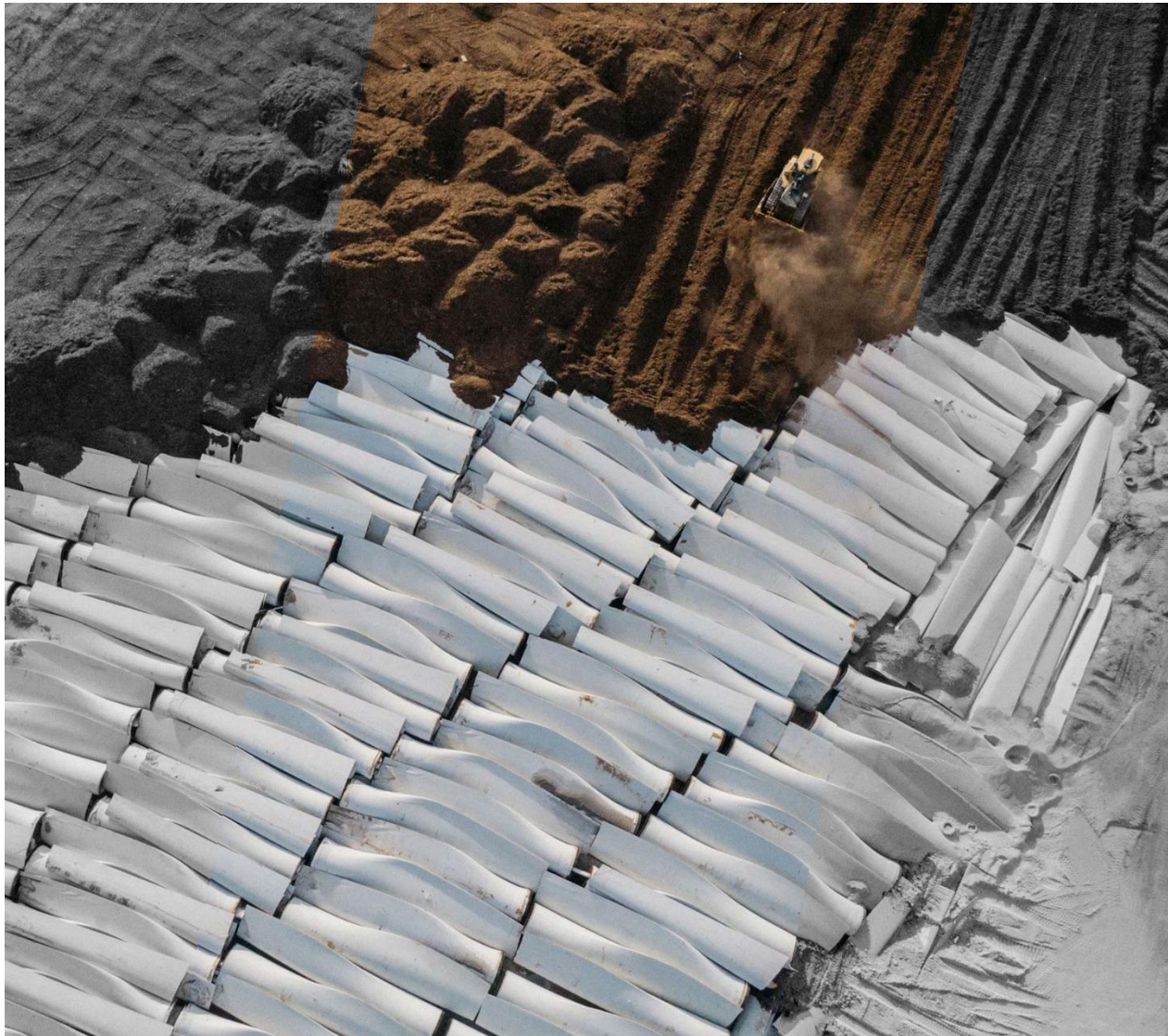


Construction of Renewable Facilities

GWt



Wind Turbines Blades Are Not Recycled

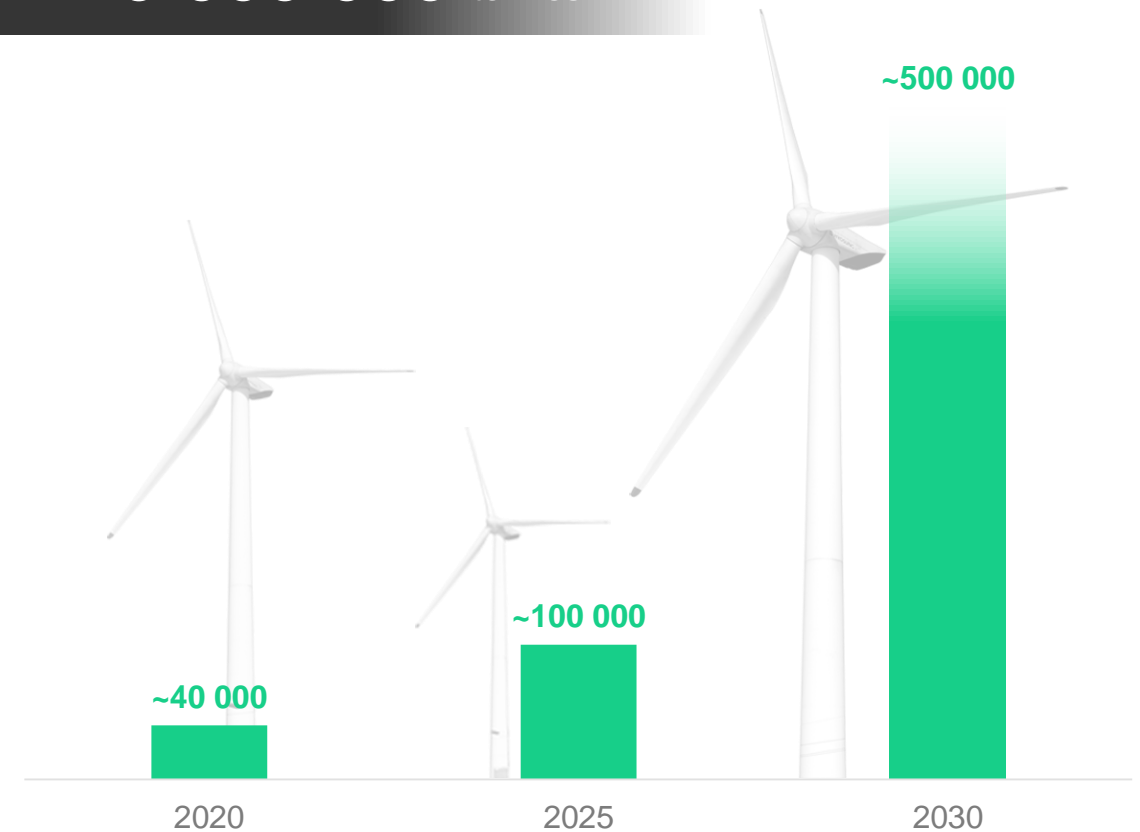


Disposal of blades

tonnes per year

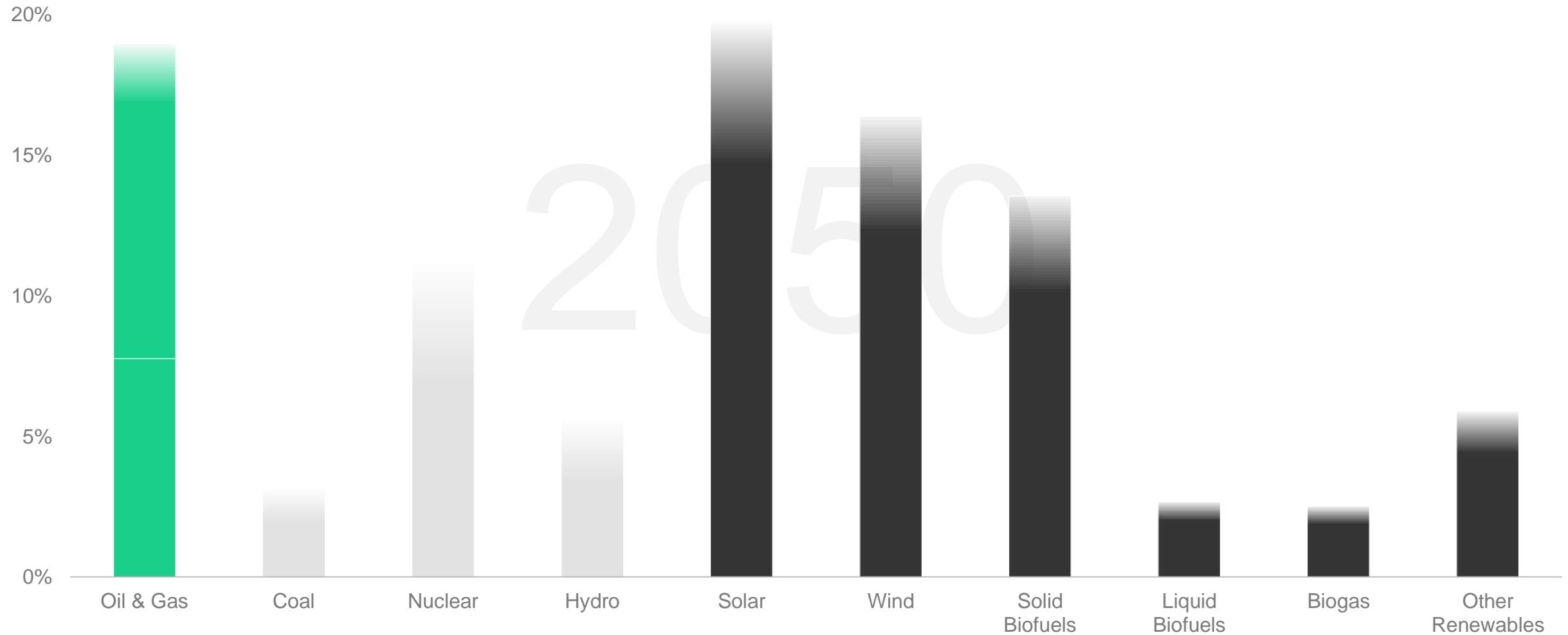
2020 – 2050

~40 000 000 tonnes



Even in the Most Aggressive Net-Zero Scenario Oil and Gas Share Stays Large

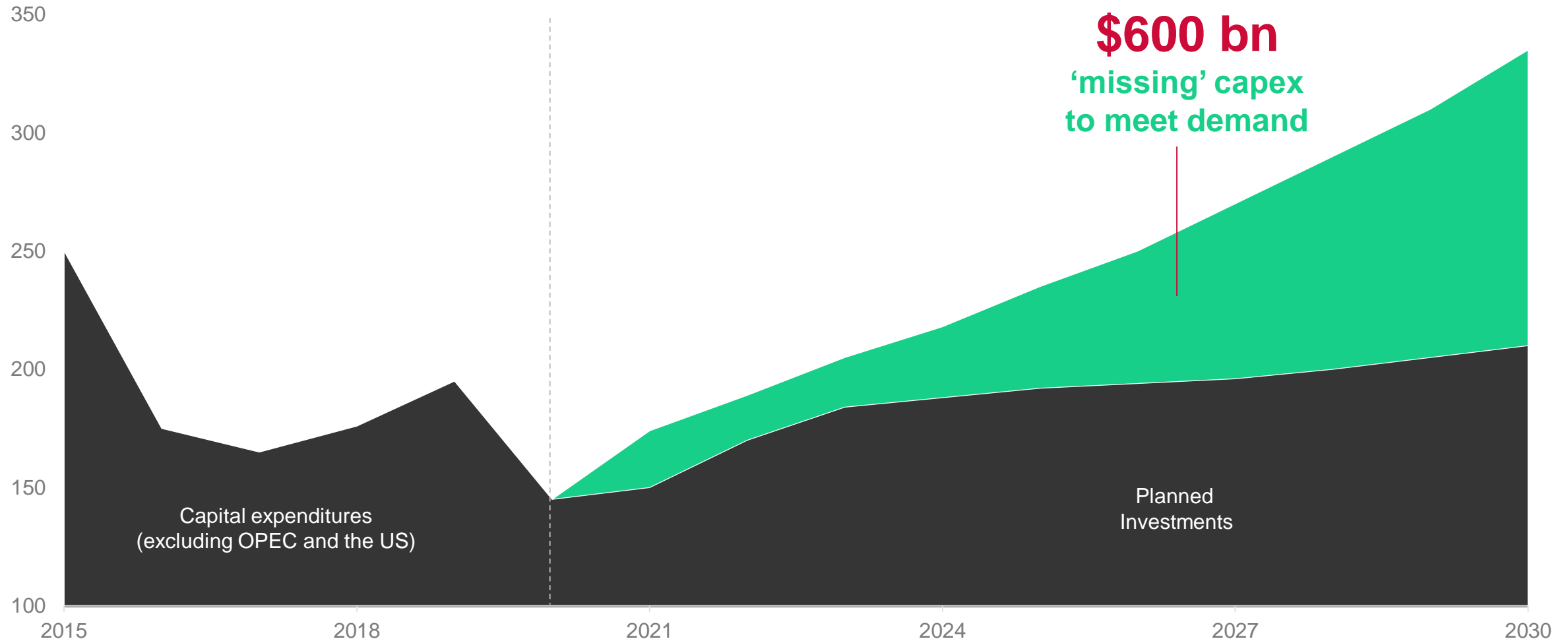
Structure of Primary Energy Consumption in the Theoretical Scenario of Net-Zero Emissions by 2050



Additional Investments Are Required to Meet Oil Demand by 2030

Upstream Capital Expenditures (Oil)

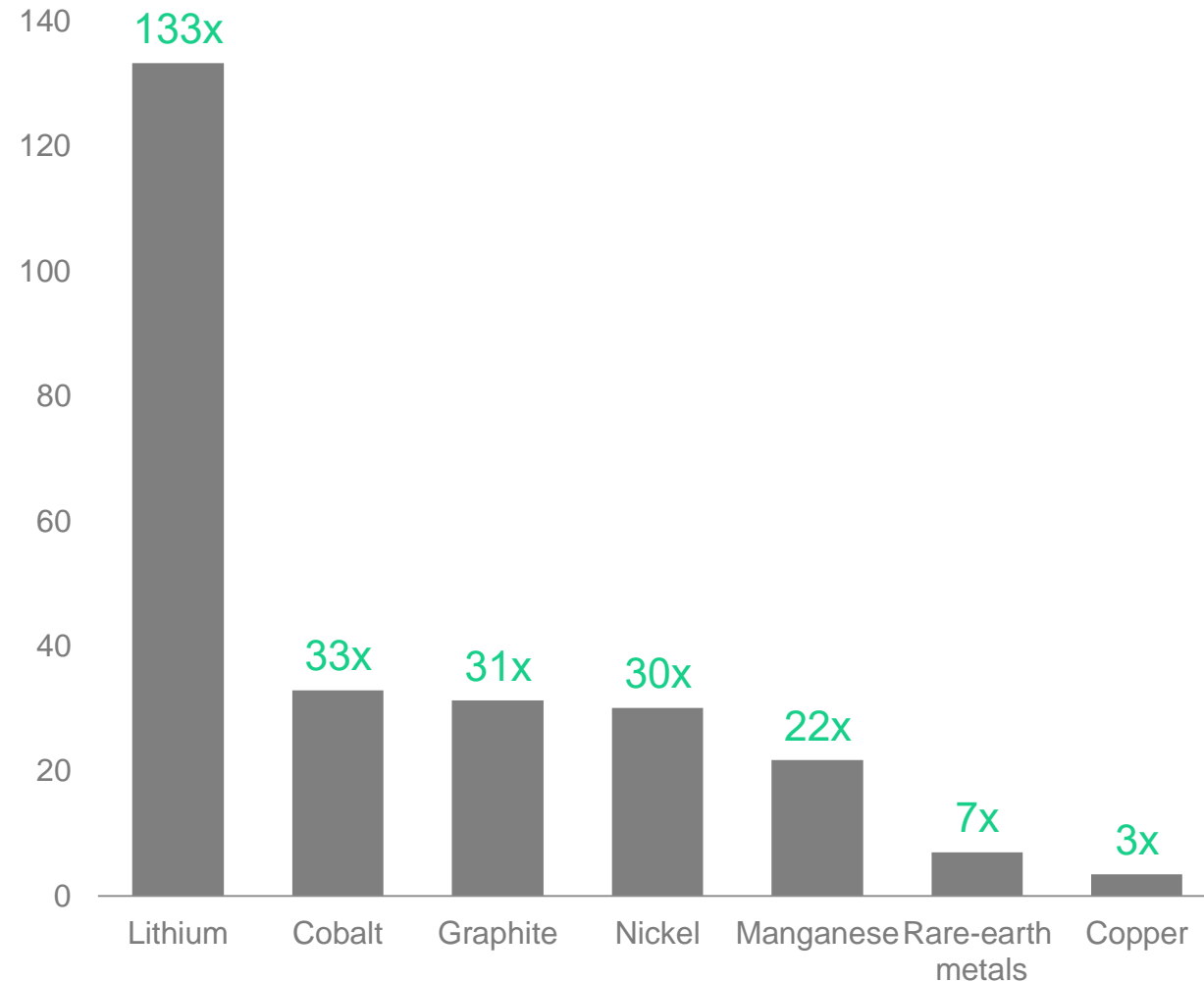
\$ bn



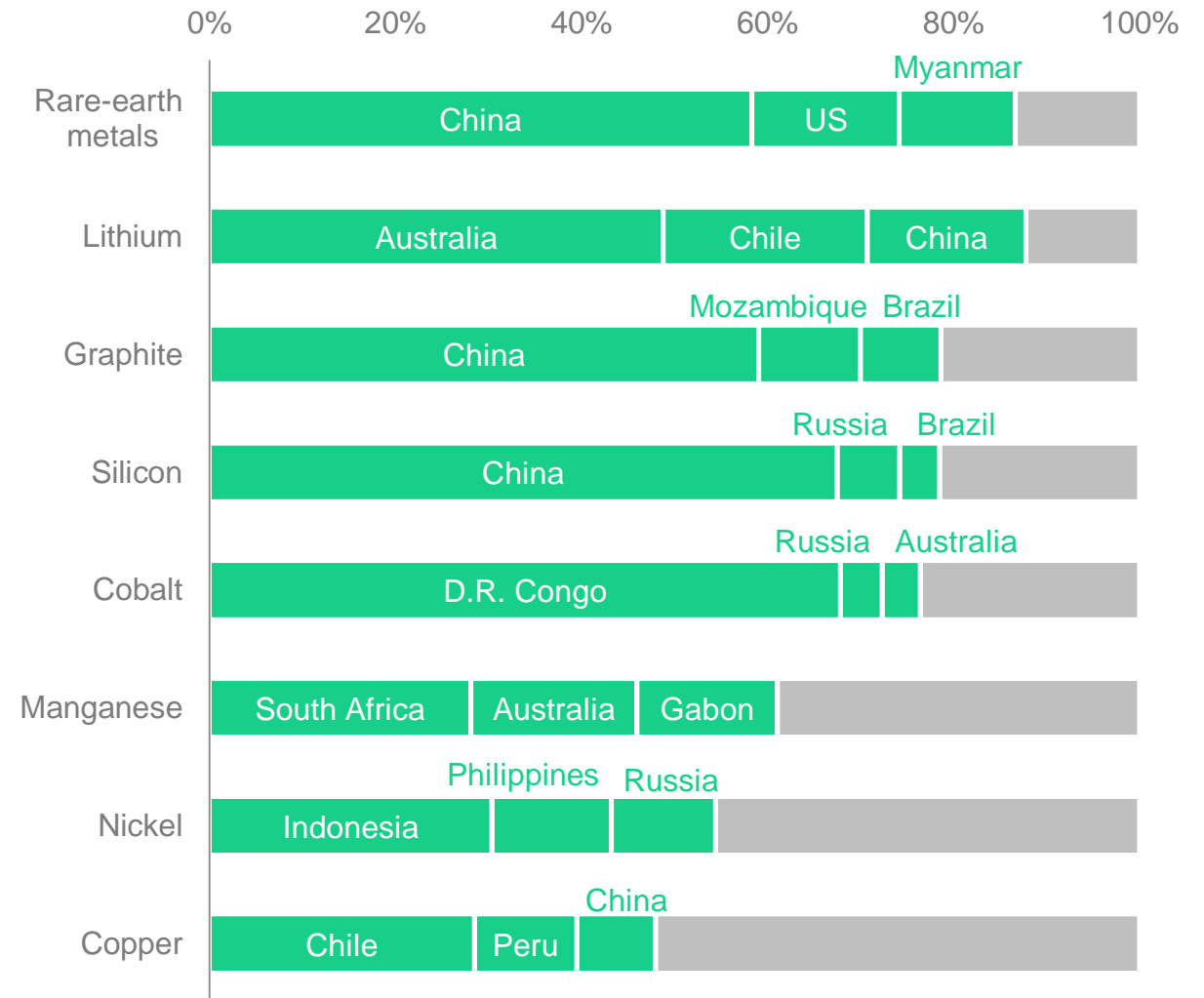
Increased Demand for Metals for EVs Spurs Turf Wars

Demand Increase by 2040

Index (2020=1)



Share of Leading Countries by Metals and Elements Production

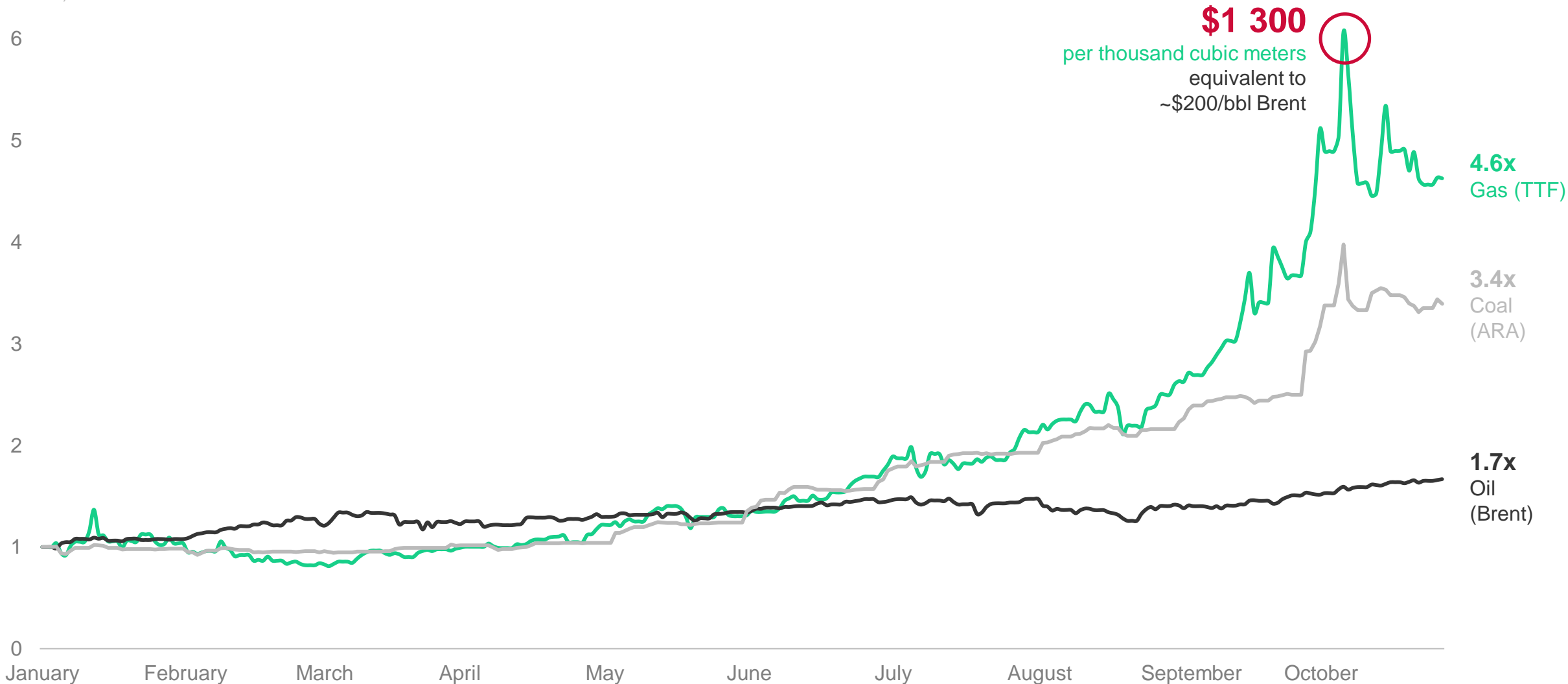


Note. The increase in demand for metals is shown for Net Zero by 2050 scenario (for rare-earth metals, for Sustainable Development scenario)
Sources: IEA, US Geological Survey

Era of Cheap Energy Is Over?

Energy Prices in 2021

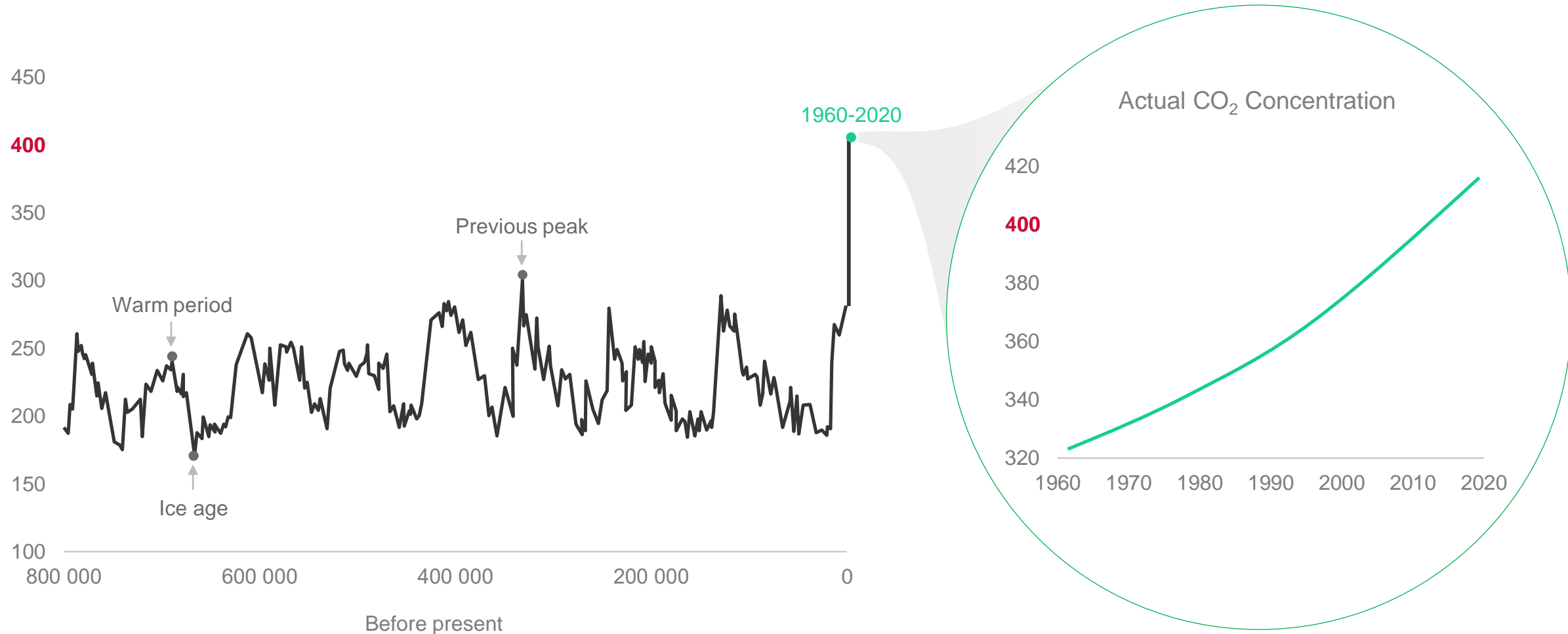
Index, 01.01.2021 = 1



Anthropogenic Effect May Be Overestimated, but CO₂ Concentration in the Atmosphere Has Been Growing Rapidly Over the Past 70 Years

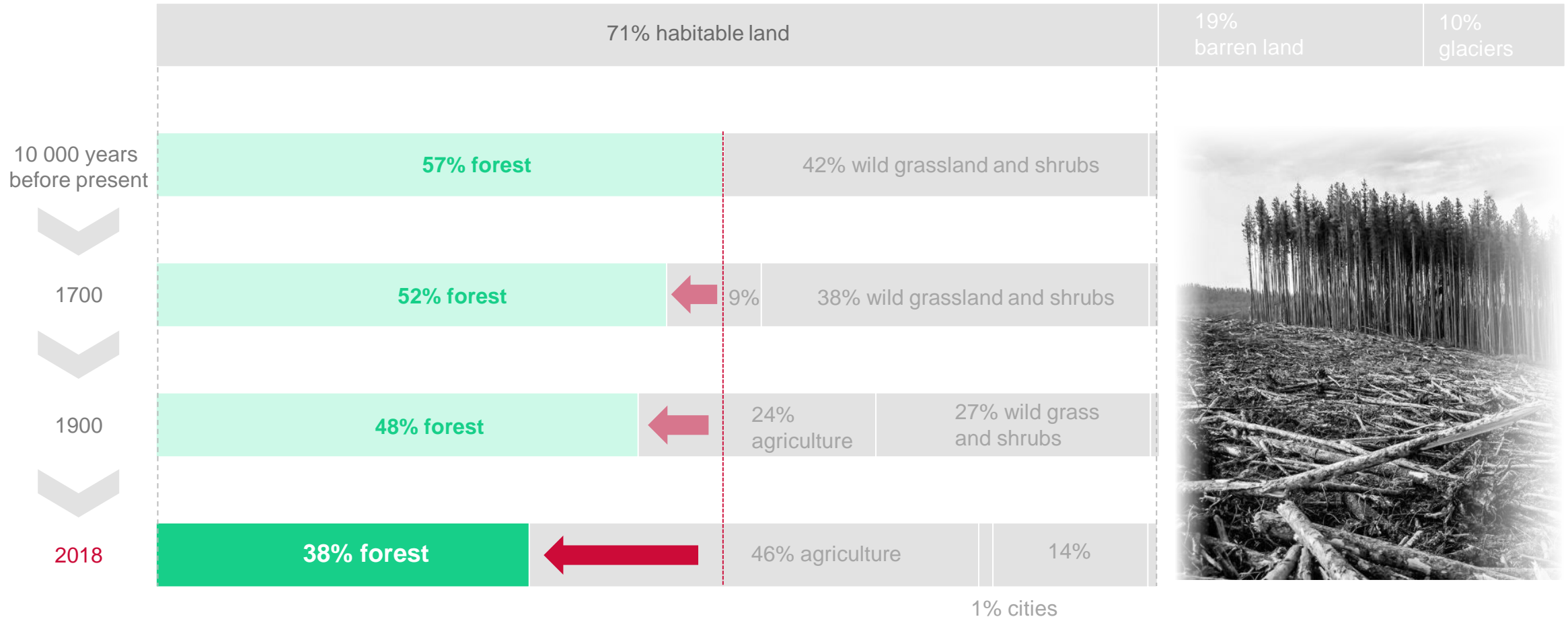
CO₂ Concentration

parts per million



Natural Carbon Sequestration Potential Is Reduced due to Deforestation

Land Area Distribution



The Carbon Agenda Is Integrated into the Rosneft's Strategy

3 years of Rosneft-2022 Strategy execution

Preventing emissions

~4
mmt CO₂e

Planted by Rosneft in Russia

>12 mln trees²

“Green” investments

>120 bn rubles

Share of reusable water¹

94%

Carbon management plan until 2035

Preventing emissions

-20
mmt CO₂e

Upstream CO₂ emissions Intensity

-30%

Routine flaring

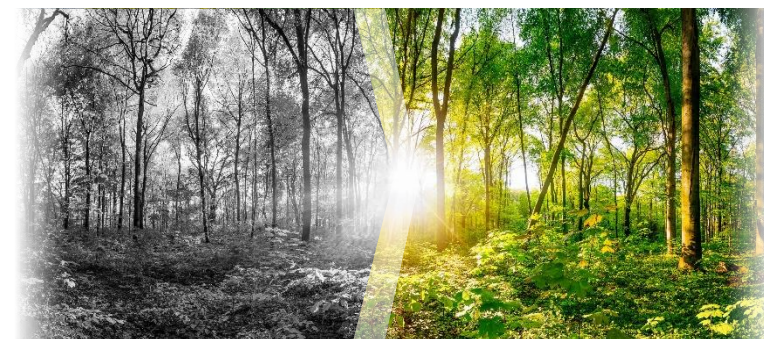
0

Methane emissions intensity

<0.25%

New Strategy Focus Areas

- Leadership in oil & gas decarbonization
- Integration of renewables and CCUS projects
- Reducing greenhouse gas emissions for all businesses



Rosneft's Achievements in Sustainable Development Are Acknowledged by International Ratings

Bloomberg

The global leader – ahead of the major O&G companies

REFINITIV 

Top 10 industry leaders



FTSE4Good

Rosneft remains a constituent of the international FTSE4Good Index Series with strong ESG performance

MSCI 

The rating increased to BB due to improved disclose of information on combating climate change

 SUSTAINALYTICS
a Morningstar company

Rosneft is among the best in the Russian and international peer group

 PART OF
Moody's ESG Solutions

The Company was included in the top 100 of 843 emerging market companies, representing 36 sectors of the economy from 31 countries

Rosneft – Responsible Hydrocarbons Producer

2020

-14%

reduction of atmosphere pollutants

48 bn rubles

industrial and occupational safety spending

>20% gas share

as a share of total production

In 4 regions of Russia

fast charging stations for electric vehicles

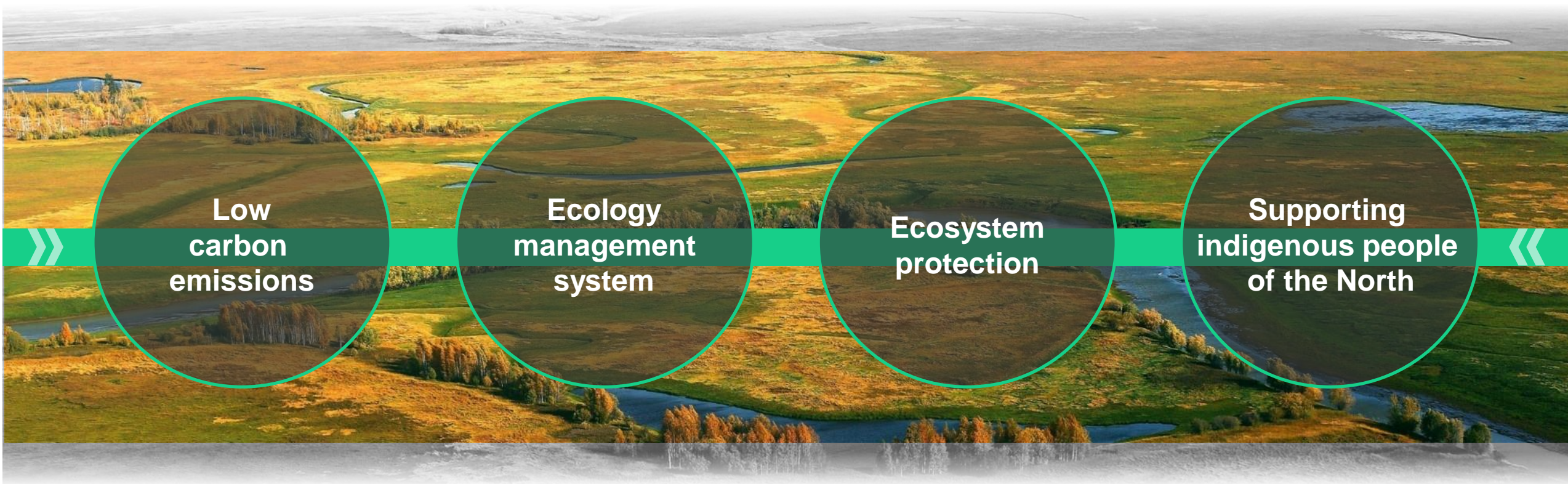
- New projects comply with the principle of a **net positive impact on biodiversity** in line with the IUCN practice

Rosneft is guided by the principles and sustainable development goals of the UN and has approved **5 strategic priority goals**



Rosneft **is the only Russian oil and gas company** announced as the **UN Global Compact LEAD**

Vostok Oil – World-Class Project with Highest Environmental Standards



- Large reserves base
- Light low-sulfur oil with a substantial premium to Brent

- Government support
- Direct access to European and Asian markets via Northern Sea Route



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