Perspectives on Post-Globalizaton and Energy Transition

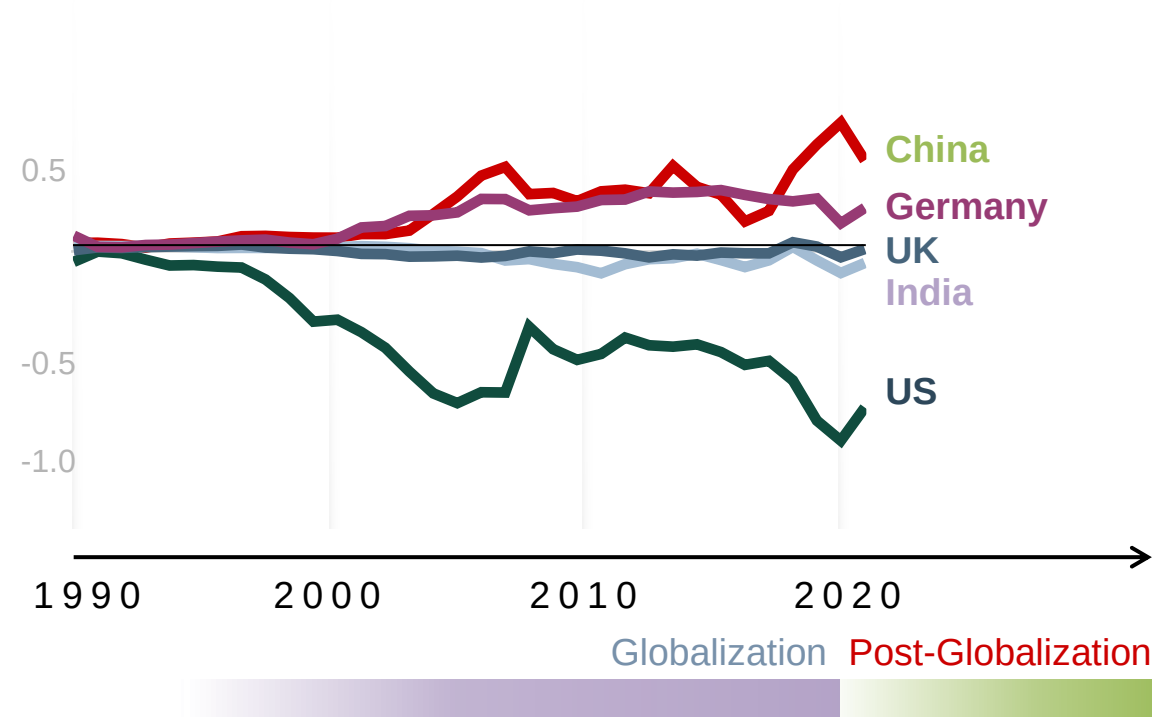
Point of View
Sep 2025

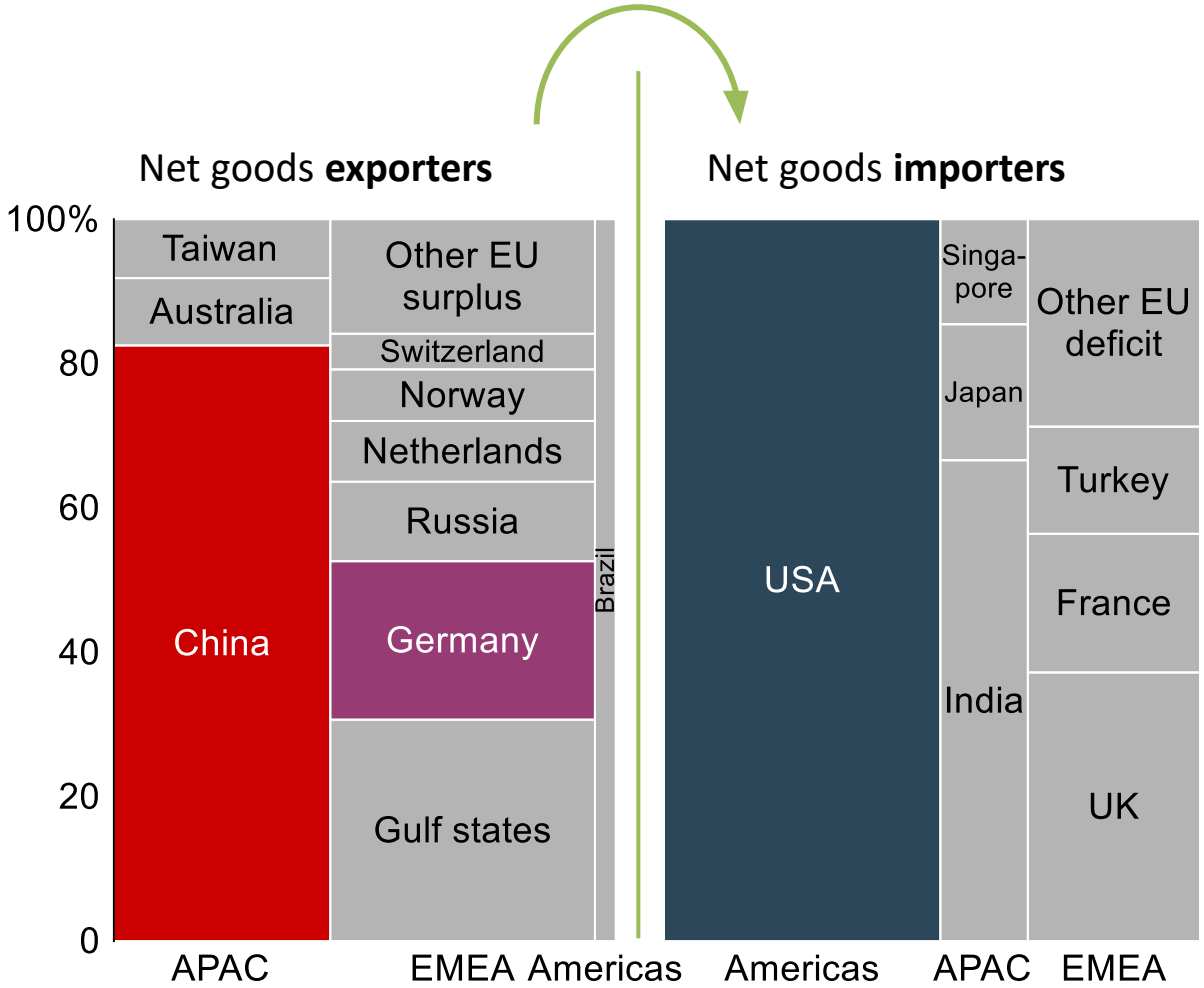
BAIN & COMPANY

Export-led growth fueled globalization and created lasting trade imbalances …

… leading to a world of a few big **sellers** and one major **buyer**

Annual net exports ($T, goods and services)





Note: Right chart excludes countries (outside of the EU and the Gulf States), with <$50B net deficit or surplus, goods only
Source: The World Bank WITS database (as of end 2023); IMF

The US has emphasized three policy objectives which are intersecting and reinforcing

Together, these objectives imply differing strategic intent by sector

Trump Administration Goals:

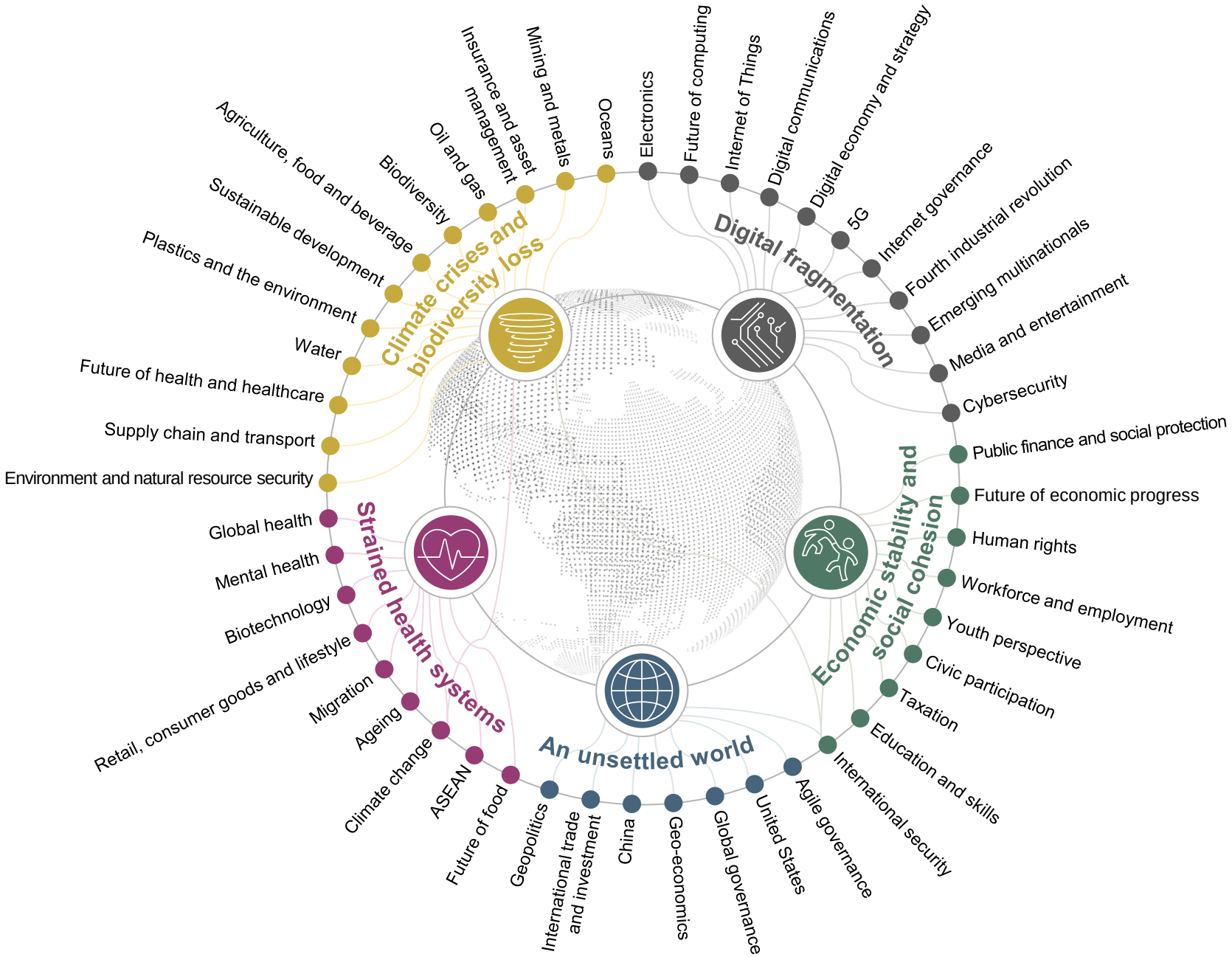
Maintain US primacy	Manufacture key products	Rebalance trade	Other
✓ Balanced and "fair" trade	✓ Balanced and "fair" trade	✓ Balanced and "fair" trade	✓ Balanced and "fair" trade
✓ Diversity of US industrial base	✓ Diversity of US industrial base	✓ Diversity of US industrial base	
✓ National security	✓ National security		

Critical tech	Industrial supply chain	Other deficit drivers	US trade surplus
Semiconductors / AI-related	Machinery	Clothing	Oil/petrochem
Military	Vehicles	Furniture	Corn, soy, wheat
Biotech	Metals	Consumer electronics	
Space	**Medical**	Food and beverage	
	Pharma/medical		

Highest US focus

Lower US focus

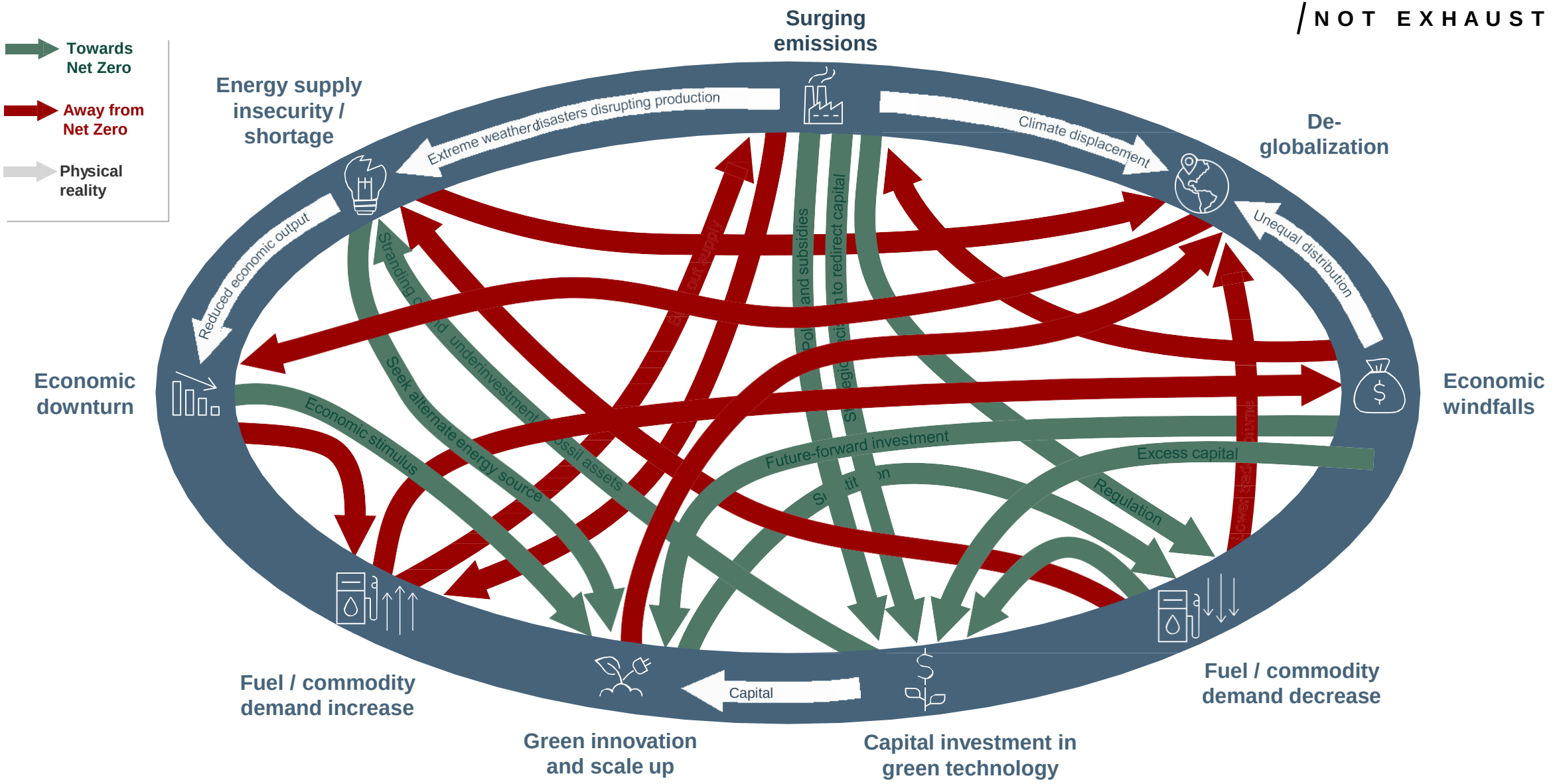
We're faced with more complex array of issues than ever before



Source: World Economic Forum

Complex forces play through the global energy system, increasing the risk of a tumultuous decade to come for the climate and global economies

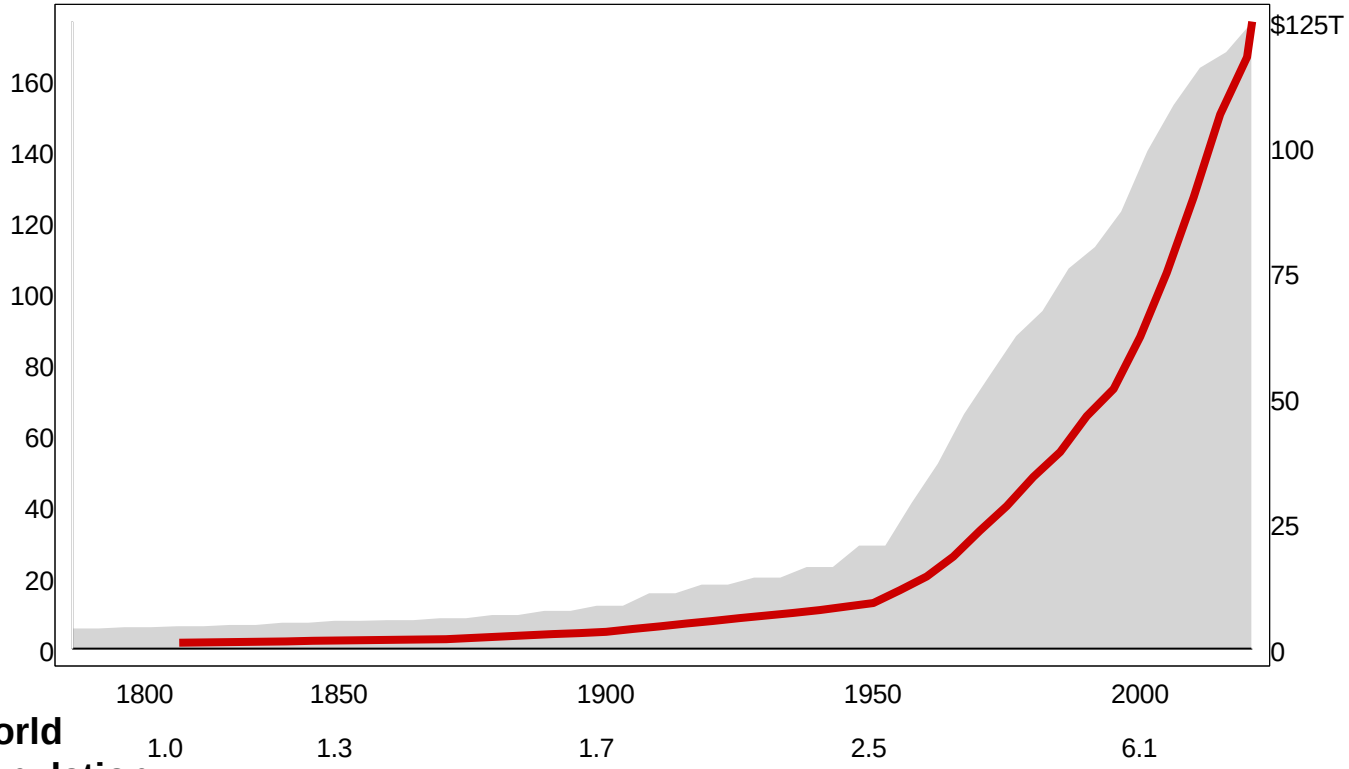
NOT EXHAUSTIVE



Historically, energy consumption and GDP have grown in tandem; solving solely for emissions could jeopardize access to reliable, affordable, secure energy

World energy consumption
(measured in thousands of terawatt-hours)

World GDP
(total output of the world economy, adjusted for inflation and expressed in international-$ in 2011 prices)



World Population
(billions)

1800	1850	1900	1950	2000
1.0	1.3	1.7	2.5	6.1

The developing world needs more energy to improve living standards, including food security

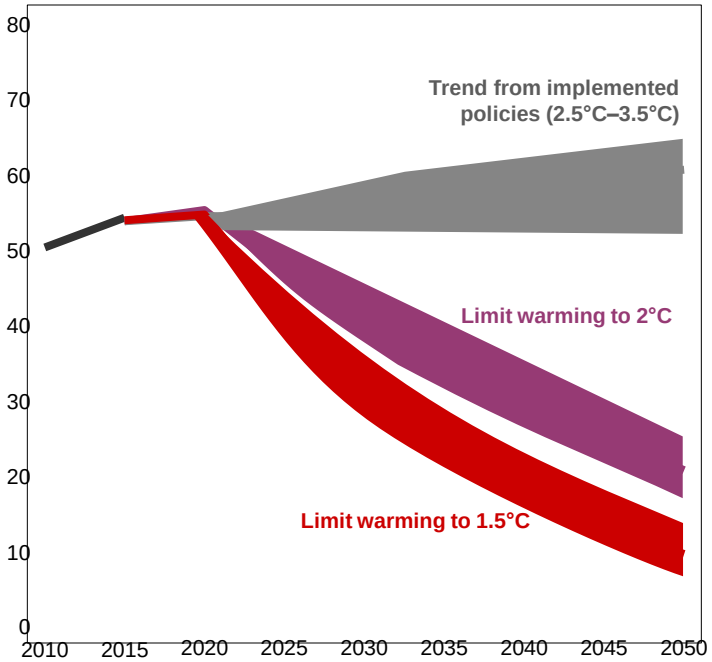
The developed world needs continued access to energy to support economic growth and living standards

Energy access for everyone needs to be
reliable, affordable, and secure

We are facing a “Dual Challenge”: delivering affordable, reliable, secure energy to a growing world population while significantly reducing emissions

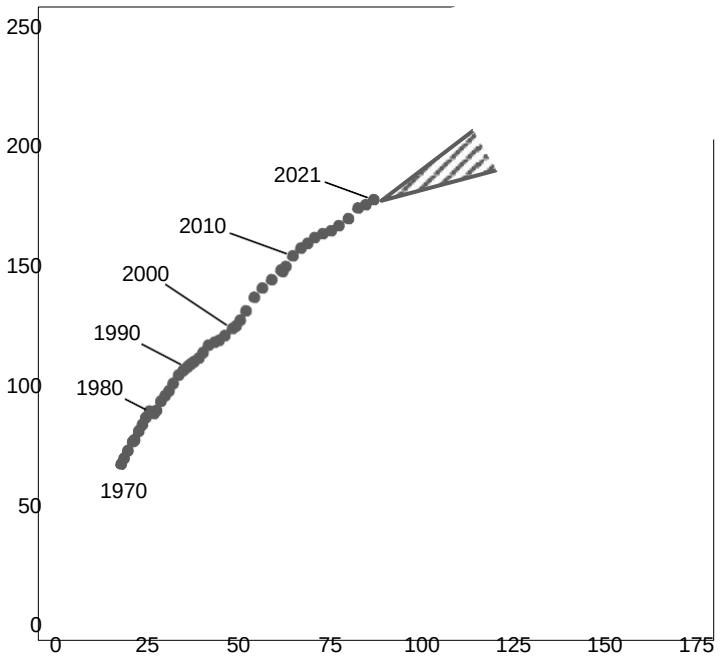
Emissions

Global annual greenhouse gas emissions
(gigatons of CO_2-equivalent)



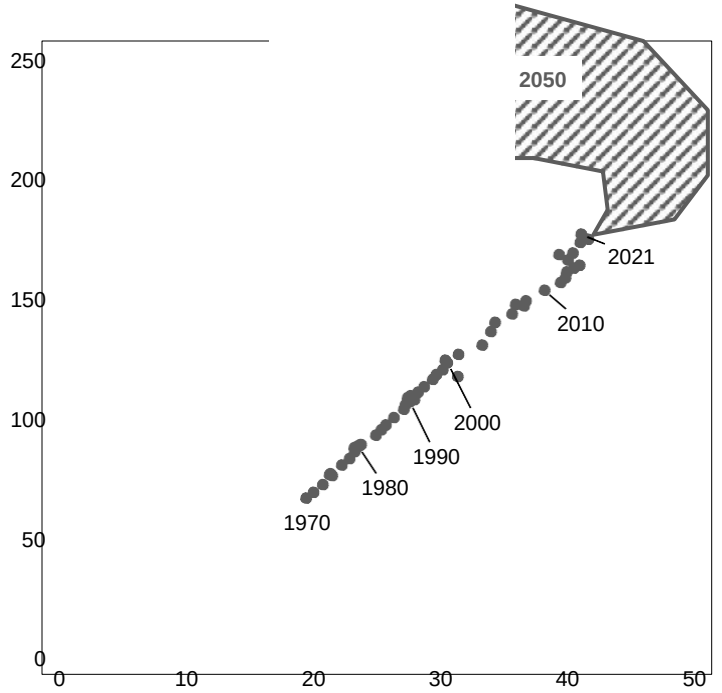
Energy

Global primary energy demand
(petawatt-hours)



The challenge

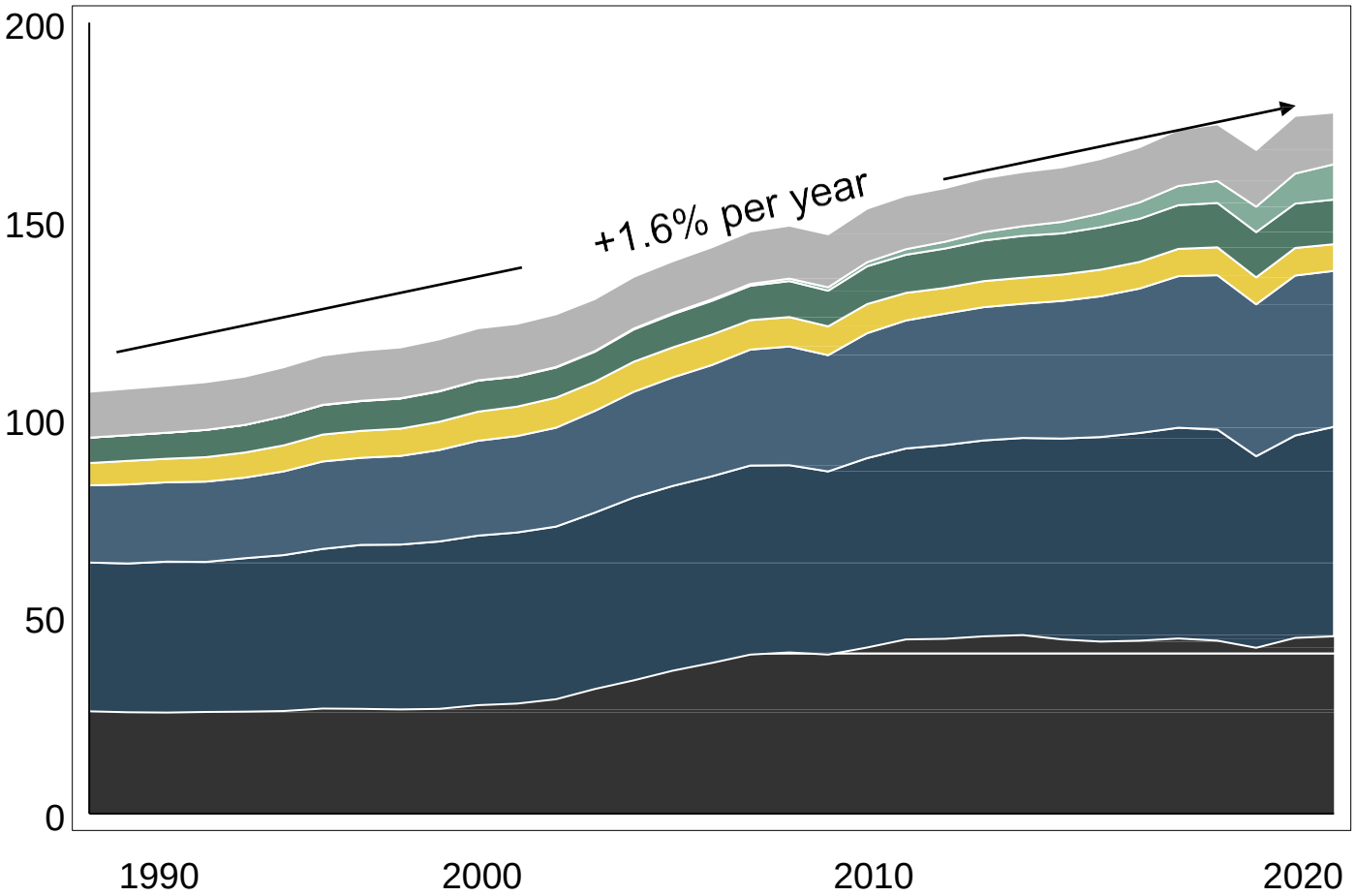
Global primary energy demand
(petawatt-hours)



Notes: Warming figures in left-side emissions chart are relative to the preindustrial period and reflect projected warming level by 2100 in each scenario; bold lines in emissions chart represent median estimate, and shaded regions reflect a range from the 25th to 75th percentile. Emissions in right-side chart reflect global CO_2 emissions inclusive of land use change and exclude non-CO_2 emissions like methane.
Sources: IPCC, Sixth Assessment Report; World Bank; Global Carbon Project; BP Statistical Review of World Energy, 2022; OpenMinds; Bain analysis

Slowly but surely, the global energy mix is changing, with solar and wind growing significantly since the early 2010s

Global primary energy consumption by source
(measured in petawatt-hours)



	% of total			Absolute growth '90-'22
	1990	2010	2022	
Other*	11%	9%	7%	1.1x
Wind & solar	0%	1%	5%	n/a
Hydro	6%	6%	6%	1.8x
Nuclear	5%	5%	4%	1.2x
Gas	18%	21%	22%	2.0x
Oil	35%	31%	30%	1.4x
Coal	24%	27%	25%	1.7x
	100%	100%	100%	100%

Note: * Other includes traditional biomass, biofuels, and other renewables
Source: BP Statistical Review of World Energy, 2022; Our World in Data; OpenMinds

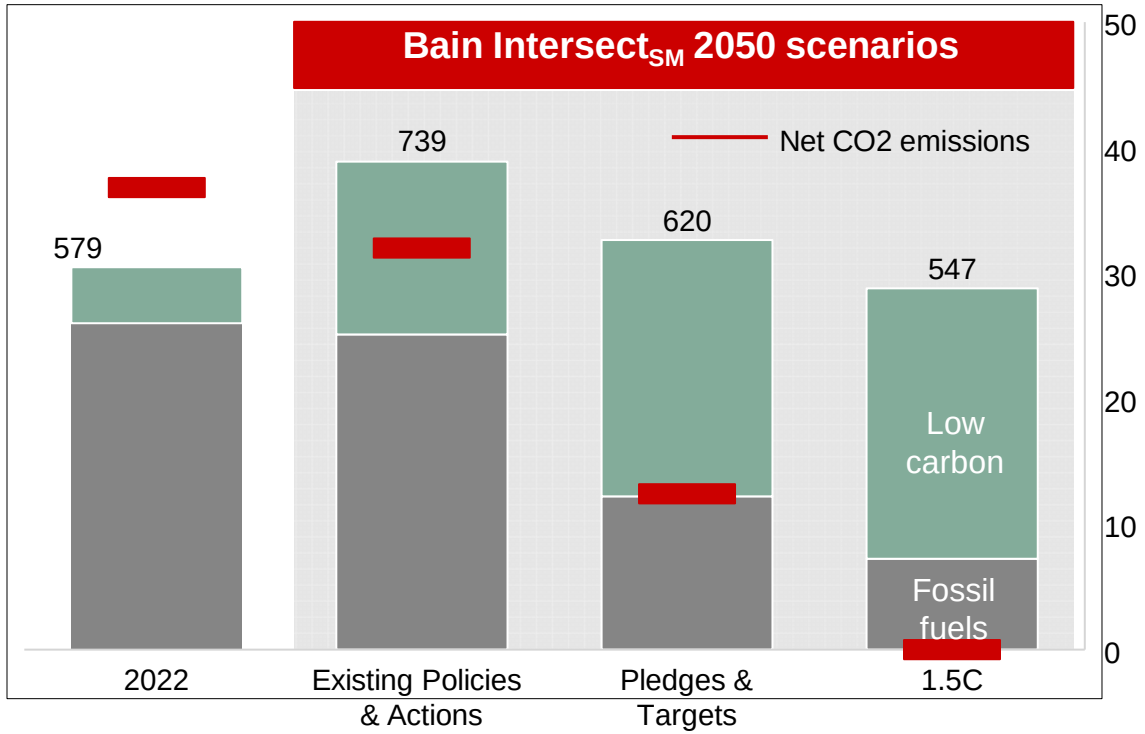
However, long-term energy mix and pace of decarbonization remains uncertain

Intersect℠ BAIN & COMPANY

Future energy mix is highly uncertain

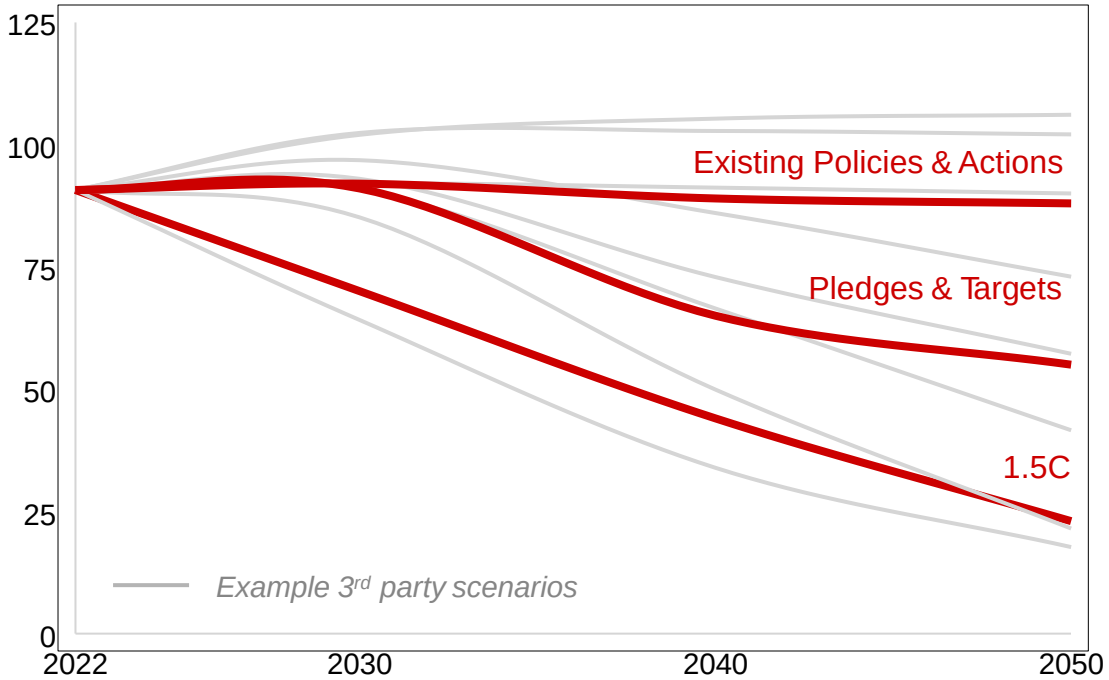
'Direct' primary energy supply
(EJ)

Net CO_2 emissions
($GtCO_2$/year)



Long-term demand growth trajectories are highly uncertain

Global oil demand by scenario
(mb/d, 2022 - 2050)

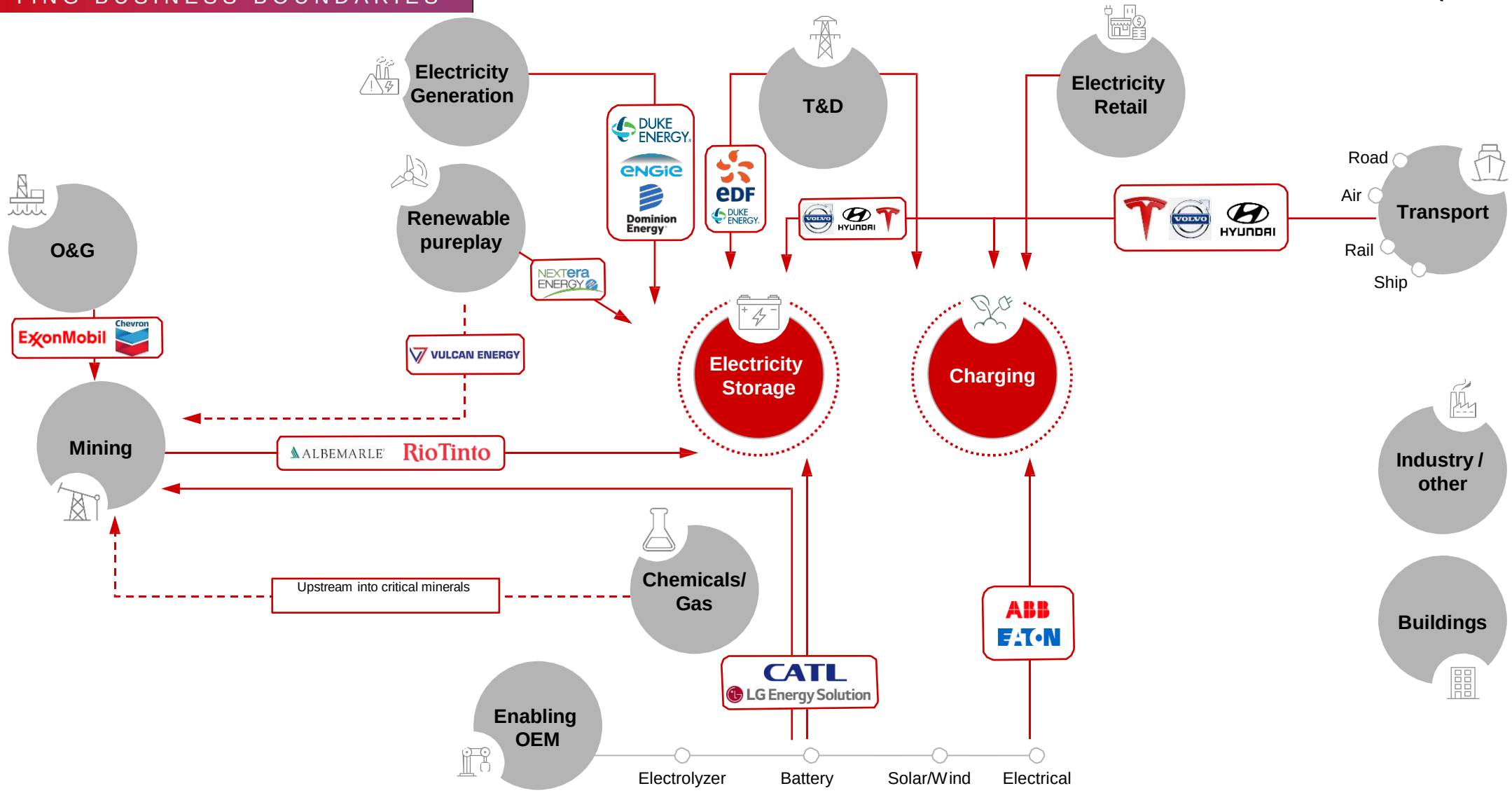


Note: Global oil demand includes scenario outlooks from IEA, BP, OPEC, Exxon, and Intersect℠
Source: Bain Intersect℠ Climate and Energy Transition Model (results as of October 2023)

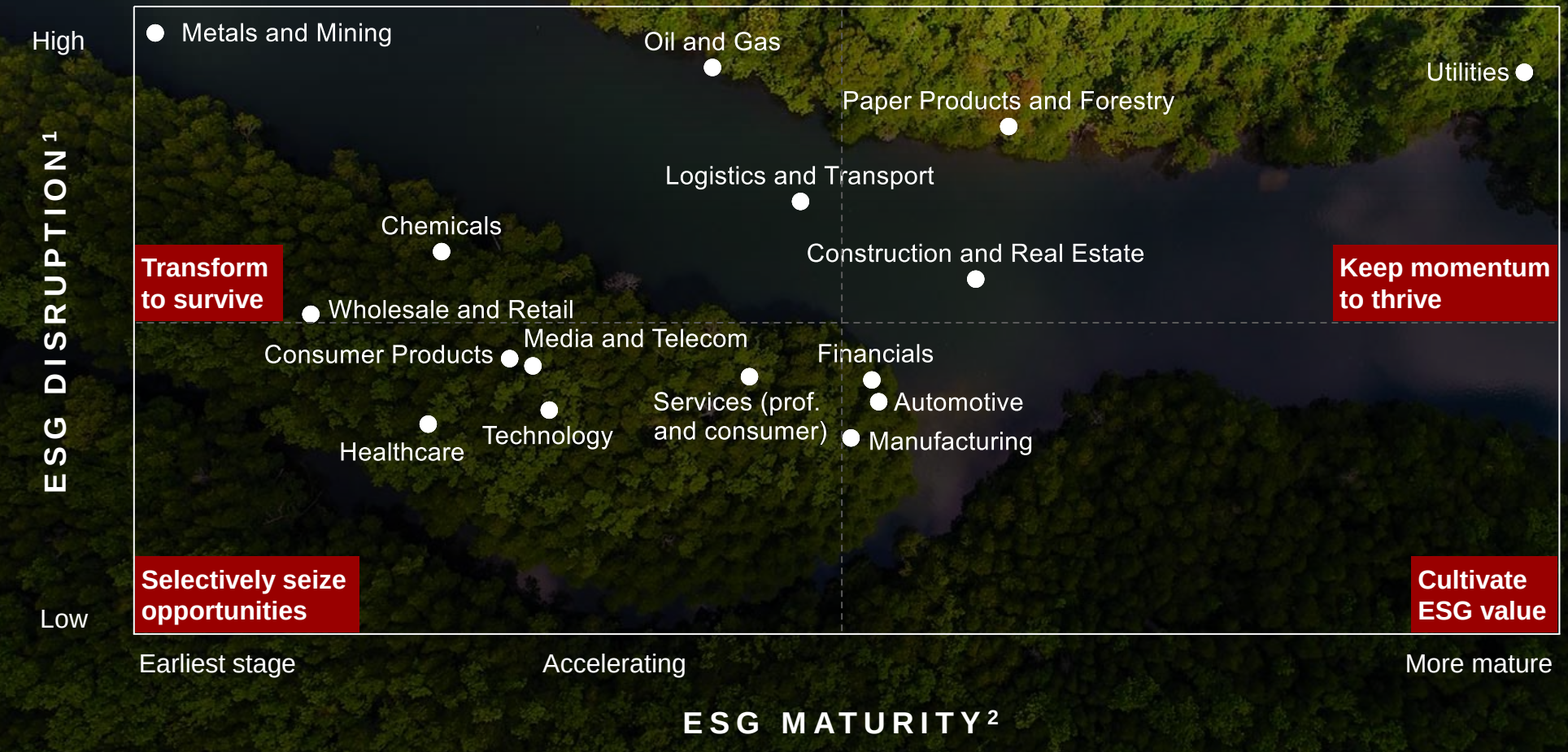
New value chains are creating new, cross-industry competitive battlegrounds
Electrification example

/EXAMPLE

SHIFTING BUSINESS BOUNDARIES

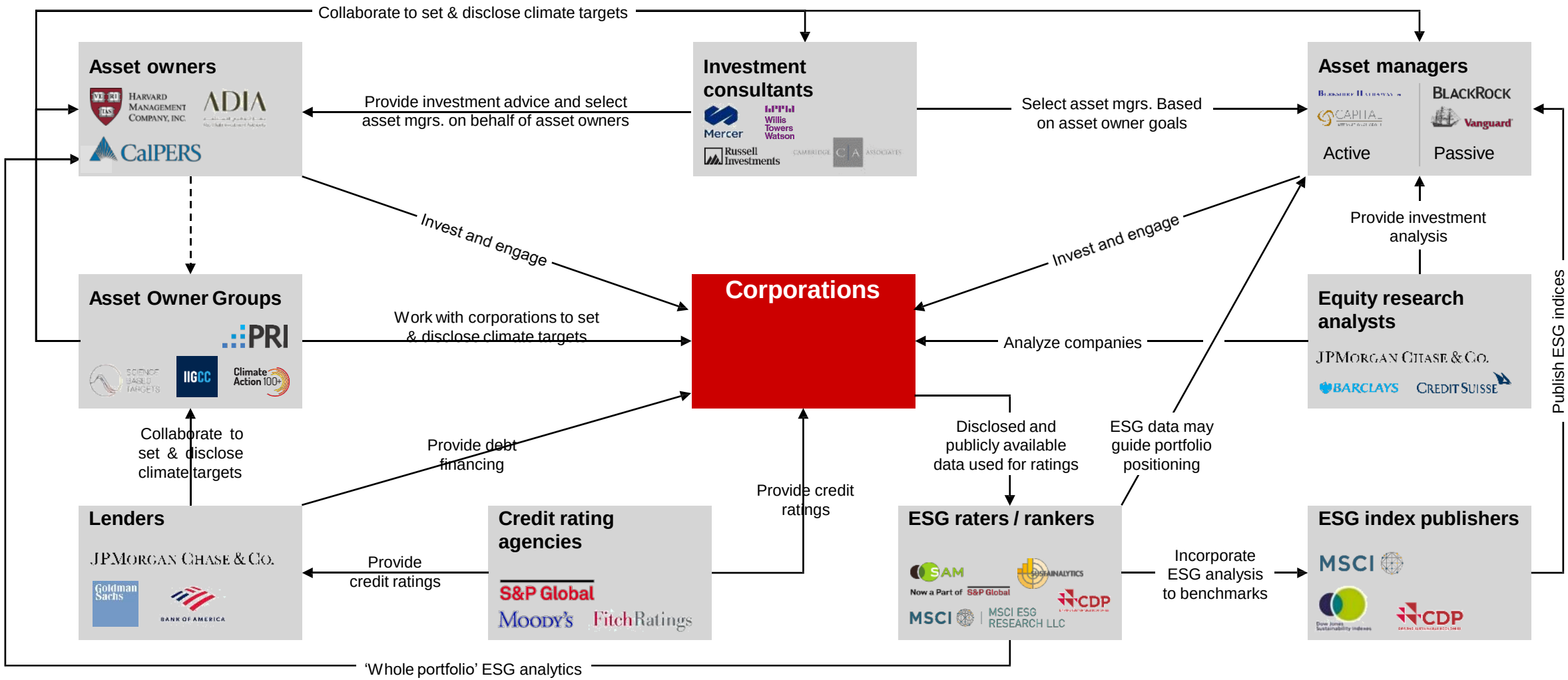


All industries are being affected by sustainability / ESG transition whether they want to or not



Note: (1) ESG Disruption is based on a combination of materiality of ESG risks, climate value at risk and ESG controversies per industry; (2) ESG Maturity is based on a combination of the performance across material E,S,G issues and the degree to which companies have institutionalized ESG processes, with scores displayed on scale of -11 to +21.
Source: MSCI, EcoVadis, Bain analysis – March 2023

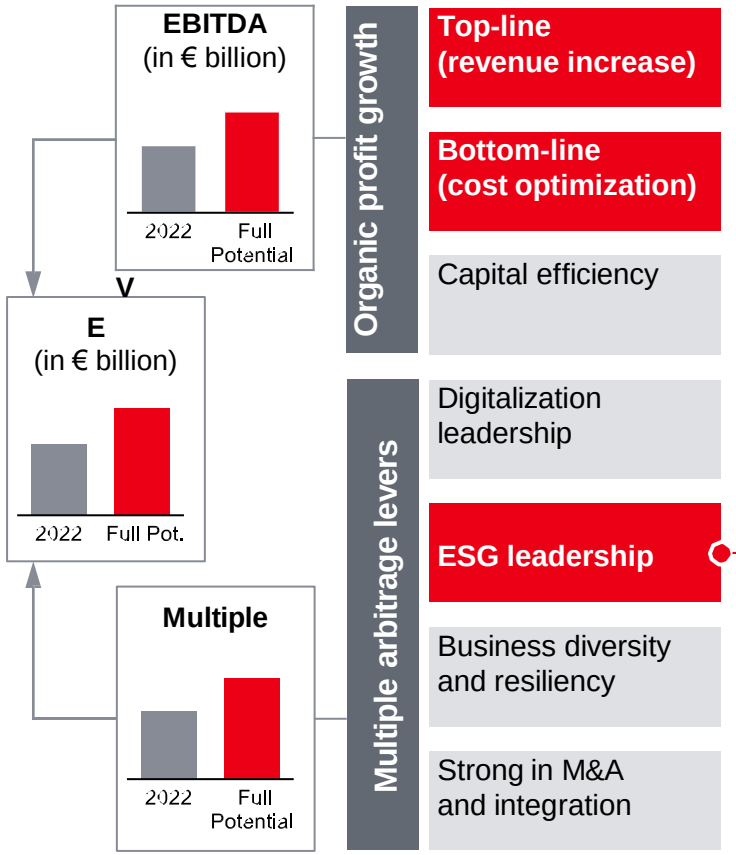
There is an increasingly complex ecosystem of financing driven by energy transition / ESG considerations



Source: Bain analysis

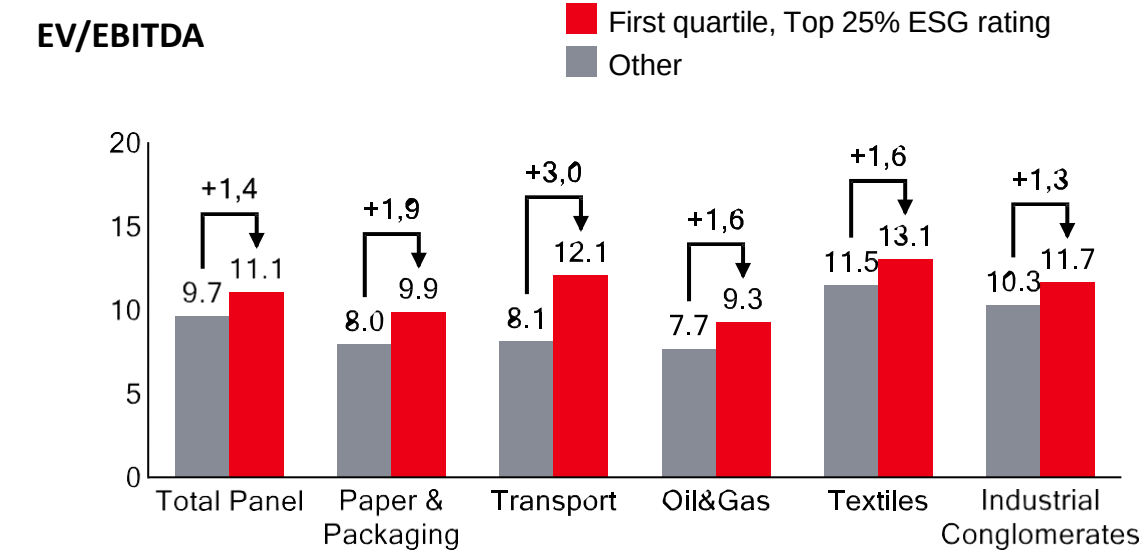
Top performers along can benefit from a higher enterprise value provided by both increase in EBITDA margins and higher EV multiples

EV "driver tree" (exemplary)



+ Increase of EV through compelling equity story

TEV/EBITDA by ESG rating per industry



	Total Panel	Paper & Packaging	Transport	Oil&Gas	Textiles	Industrial Conglomerates
Total	304	28	93	101	41	41
# Top ESG	79	8	24	26	10	11
Other	225	20	69	75	31	30

Companies with higher ESG ratings often associated with a higher delta multiple vs. industry average

TEV maximization

Improved **debt capital market access** thanks to better ESG profile/rating

New **business opportunities** and **resized cost base** from ESG transformation

Improved **share price performance** and **access to capital markets** thanks to better ESG profile/rating

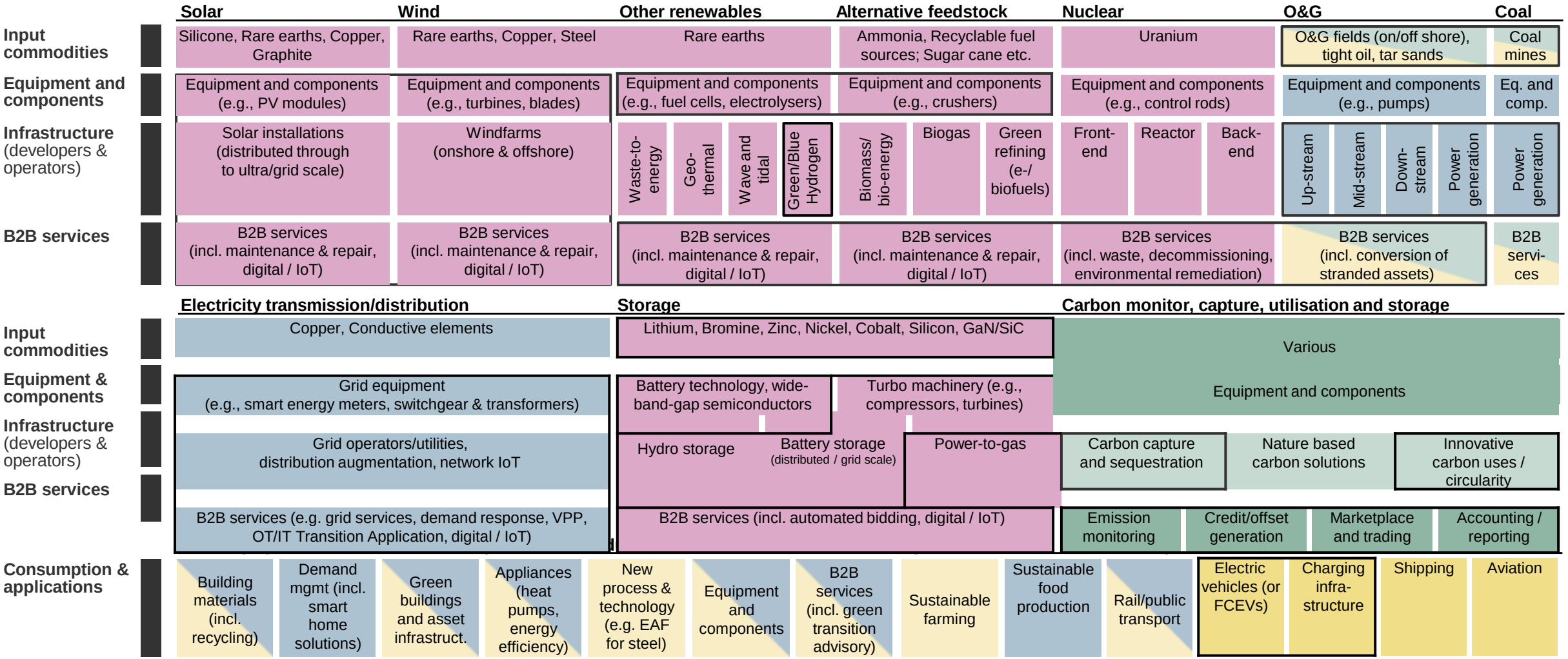
Source: RobecoSAM ESG rating, 2020 Yearbook Ranking, CapitalIQ, Bain Analysis

Finally, many potential growth areas exist across the sustainability landscape with respect to multiple investment themes

Value creation opportunities: Consume less; Green electricity supply; Decarbonize or electrify; Capture what remains

Investment opportunities: ‘Hot’ segments for deal activity

NOT EXHAUSTIVE



Note: Framework is not exhaustive of all opportunities (e.g. excludes financing of investments)