



WESTMINSTER  
ENERGY FORUM



[www.westminsterenergy.org](http://www.westminsterenergy.org)

# Review of Energy Transition Risks – Implications for Political & Corporate Net Zero Strategies

0915-1315hrs, Fri 23<sup>rd</sup> 2022

Prof. Mike Bradshaw, Co-Director, **UK Energy Research Centre**

Gautam Mukherjee, Head of Gas Analytics, **BP**

Tara Schmidt, Sustainability & ESG Finance Director, **Lloyds Banking Group**

Andrew Herring, CEO, Energy & Power, **Marsh**

Sophie Westlake, Deputy Director - International Energy Unit, **FCDO**

Andrea Amelio, First Counsellor – Competition & Energy, **EU Delegation to the UK**

Mariko Higuchi, Dep. Head of Dept for Econ. & Global Affairs, **Embassy of Germany**

Sam McKilligin, Director - Energy Transition, **AECOM**

Abhi Kohok, Subsurface Director, **INEOS**



# WEF In-Person Seminar Diary 2022 - 2023

- Sep 23, 2022 **Risks to the Energy Transition - Implications for Political & Corporate Strategies**
- Oct 20, 2022 **Onshore Energy System Review - Strategy, Innovation & Delivery**
- Nov 30, 2022 **Transitioning the North Sea - Integrating Oil & Gas with CCUS, Hydrogen & Renewables**
- Jan 25, 2023 **Annual post-COP Review of International Climate Risk, Resilience & Response**
- Mar 1, 2023 **UK Energy Security & Markets Winter Review – Assessing Key Challenges and Uncertainties Ahead**
- Apr 25, 2023 **Climate Risks, Tipping Points & Financial Impacts – Issues & Interventions to Optimise Resilience**
- Jun 7, 2023 **UK Energy Industry Innovation and Transformations Required for Security and Net Zero**
- Jul 13, 2023 **UK Climate Risk Assessment & Energy Transition Deliverability Review**

# Jan 25<sup>th</sup>: Annual post-COP Review of International Climate Risk, Resilience & Response - Implications for Geopolitics

Dr. Friederike Otto, Senior Lecturer in Climate Science & Attribution, **Imperial College London**

Alison Campbell, Deputy International Climate Negotiator, **Cabinet Office**

Chris Stark, CEO, **Climate Change Committee**

Beverley Cornaby, Programme Director, **Cambridge Institute for Sustainable Leadership**

Dr. Richard Hewson, Director - Climate Risk, **Verisk Maplecroft**

Dr. Timothy Clack, Director – Climate (in)Security Programme, **Oxford University**

Rebecca Nadin, Director of Global Risks and Resilience, **Overseas Development Institute**

Michael Ruehle, Head, Climate and Energy Security Section, **NATO**



# Corporate Supporters







# Knowledge Transfer Network

Key regular NGO,  
Diplomatic & Academic  
Participants in the WEF

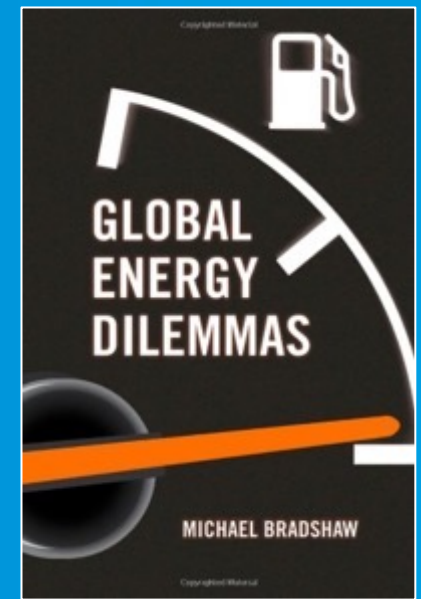
AIRMIC	Grantham Institute - Climate Change and the Environment	Oxford Institute for Energy Studies
British Antarctic Survey	Green Finance Institute	Parliamentary Offices of Science and Technology
Buglass Energy Advisory	HM Treasury	RAND Europe
Cambridge Institute for Sustainable Leadership	Hydrogen UK	RenewableUK
Carbon Capture and Storage Association	Innovate UK	Royal United Services Institute
Carbon Tracker Initiative	Ipsos	Space4Climate
CBI	King's College London	techUK
Chatham House	Lloyd's	The Association for Renewable Energy and Clean Technology
Climate Change Committee	London Stock Exchange Group	The Climate Group
COP26	Loughborough University	The Elders Foundation
DEFRA	Low Carbon Contracts Company	Tony Blair Institute
Department for Business, Energy & Industrial Strategy	Low Carbon Vehicle Partnership	Transparency International UK
Department for International Trade	Ministry of Defence	Trove Research
E3G - Third Generation Environmentalism	National Centre for Atmospheric Science	Turing Institute
Energy Institute	National Infrastructure Commission	UK Export Finance
Energy Networks Association	National Nuclear Laboratory	UK Onshore Oil & Gas
Energy Systems Catapult	North Sea Transition Authority	UK Petroleum Industry Association
Energy UK	Nuclear Decommissioning Authority	UKERC / Warwick Business School
Environment Agency	Nuclear Industry Association	UNFCCC Climate Champions
ESPRC	OEUK	World Energy Council
EU Delegation to UK	Office for Nuclear Regulation	World Nuclear Association
European Bank for Reconstruction and Development (EBRD)	Offshore Renewable Energy Catapult	WWF-UK
Foreign Commonwealth & Development Office	Ofgem	ZSL - Zoological Society of London



# For the Game Changers

Mike Bradshaw

Professor of Global Energy  
Warwick Business School  
*September 2022*

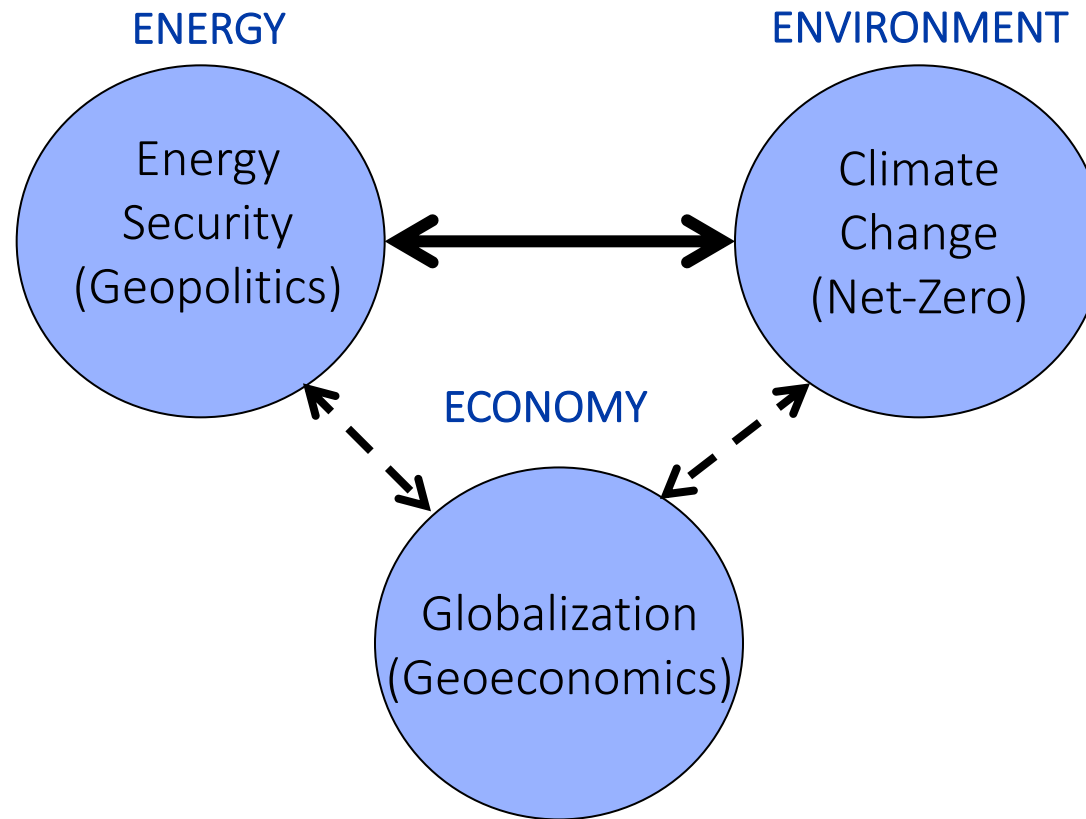


## Global Energy Dilemmas: Energy Security & Climate Action in a New World

**WEF Review of Energy Transition Risks –  
Implications for Political & Corporate Net Zero Strategies**

# The Global Energy Dilemma

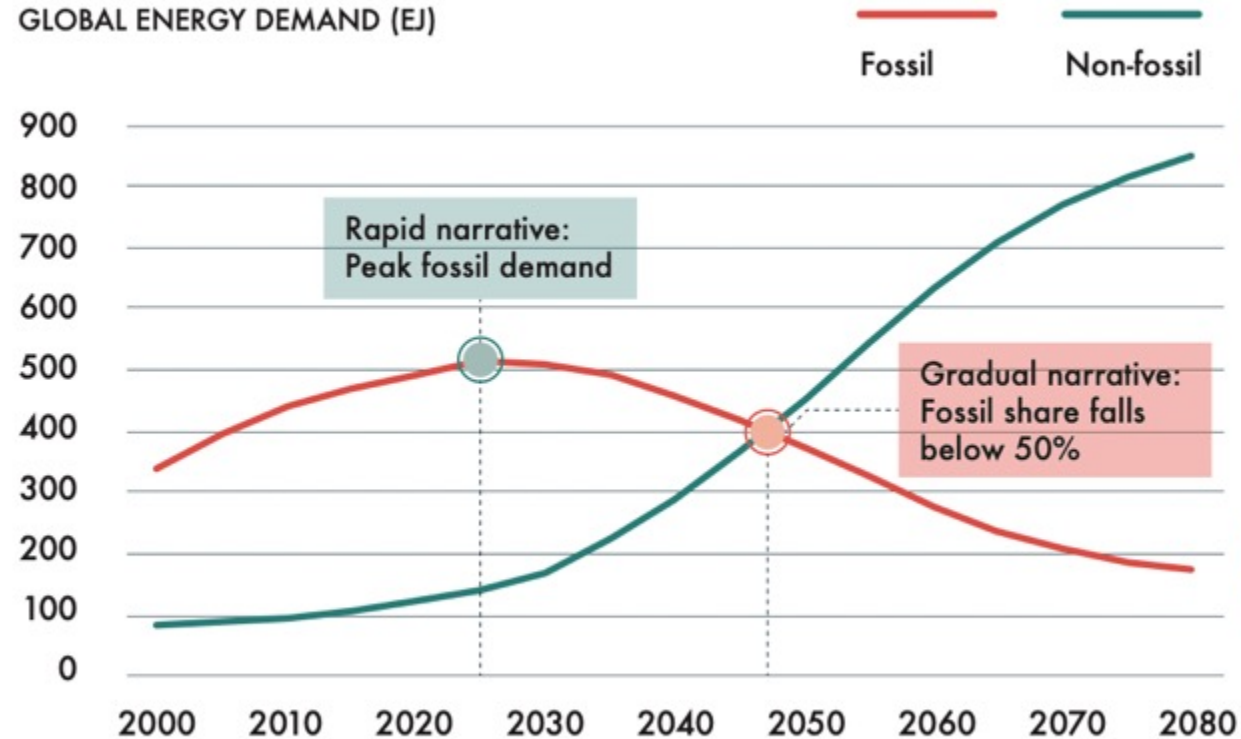
*Can the world have secure, affordable and equitable energy services that are environmentally benign?*



# WEF (2019) The Speed of the Energy Transition

## WHEN IS THE TRANSITION POINT

GLOBAL ENERGY DEMAND (EJ)



Source: Shell Sky scenario

WEF (2019) [\*The Speed of the Energy Transition\*](#)

# So what transition trajectory is the most likely?

1. **A *Gradual Transition*** in which the energy world of tomorrow will look roughly the same as that of today – implying that the global energy system has an inertia incompatible with the Paris Agreement.

Or

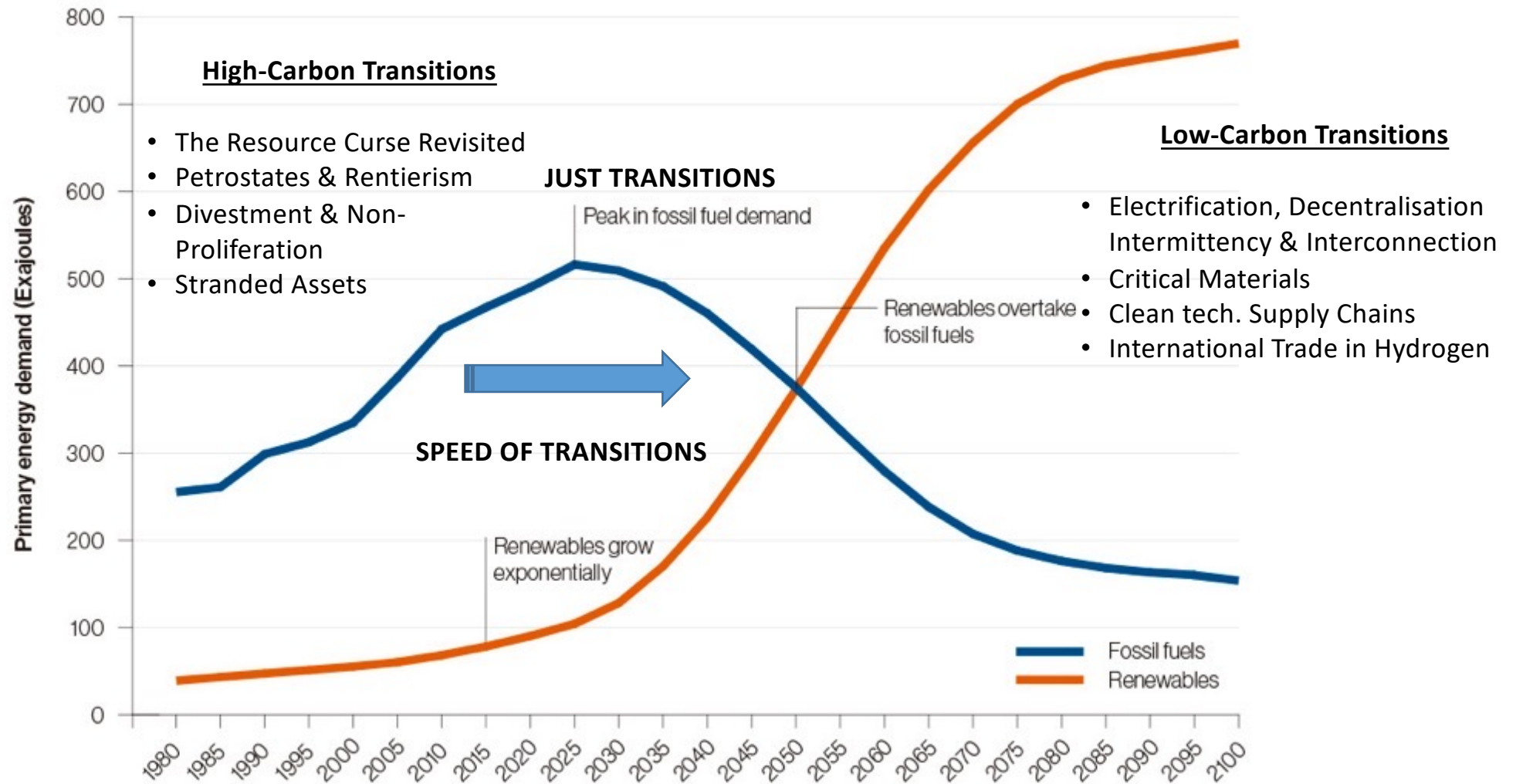
2. **A *Rapid Transition*** whereby current and new clean energy technologies are rapidly supplying all the growth in energy demand and together with new policies will reshape markets, business models and patterns of consumption leading to a peak in fossil fuel demand in the course of the 2020s putting the world on a Net-Zero path.

Or

3. **A *Messy Transition*** that fails to manage the phase out of fossil fuel consumption alongside the build out of clean power generation and energy services, resulting in increased price volatility and a public backlash against the transition and a breakdown in international cooperation on climate change.

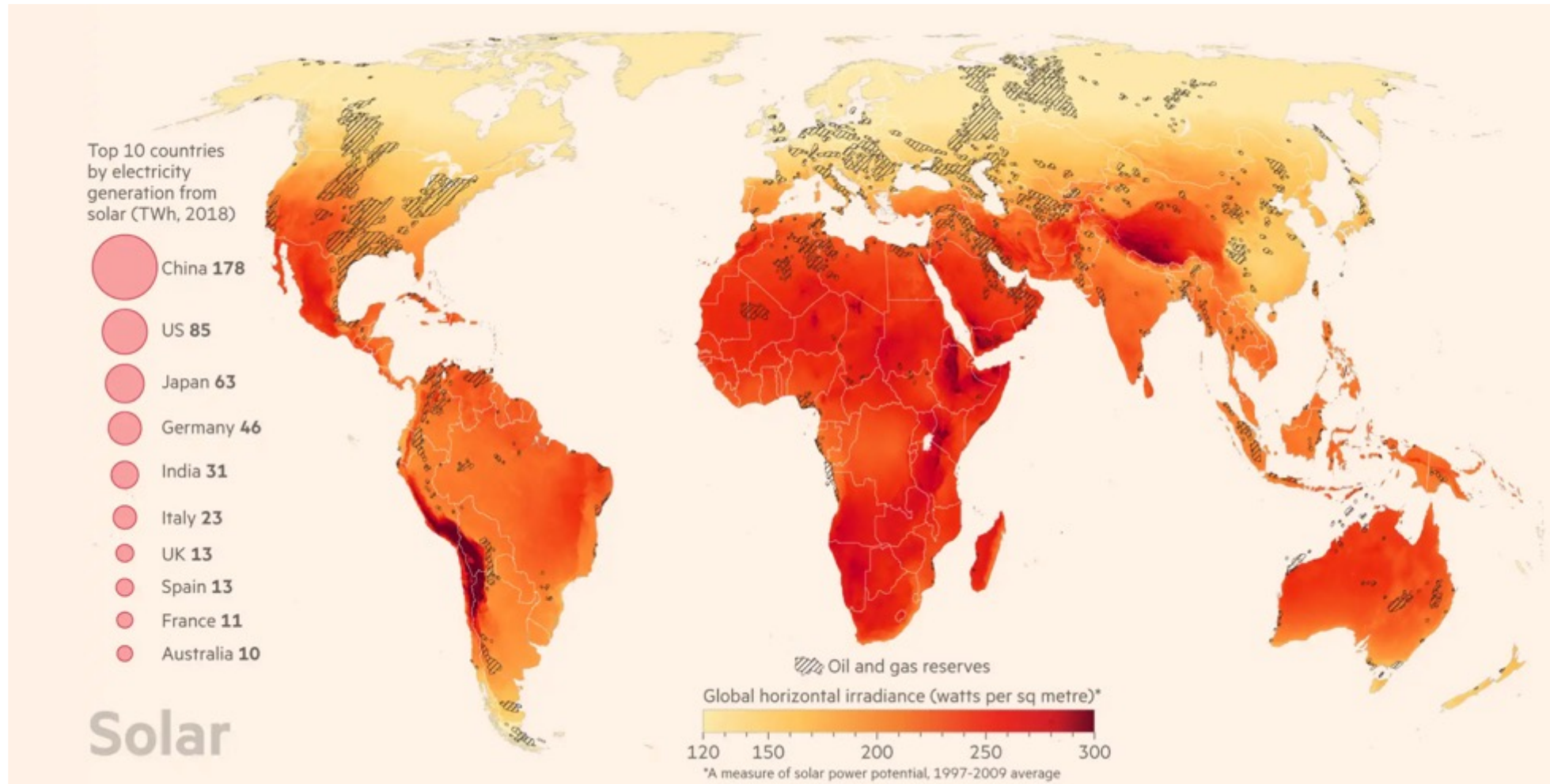


# The Geopolitics of Energy System Transformation



<https://compass.onlinelibrary.wiley.com/doi/10.1111/gec3.12580>

# The Landscapes of Energy System Transformation

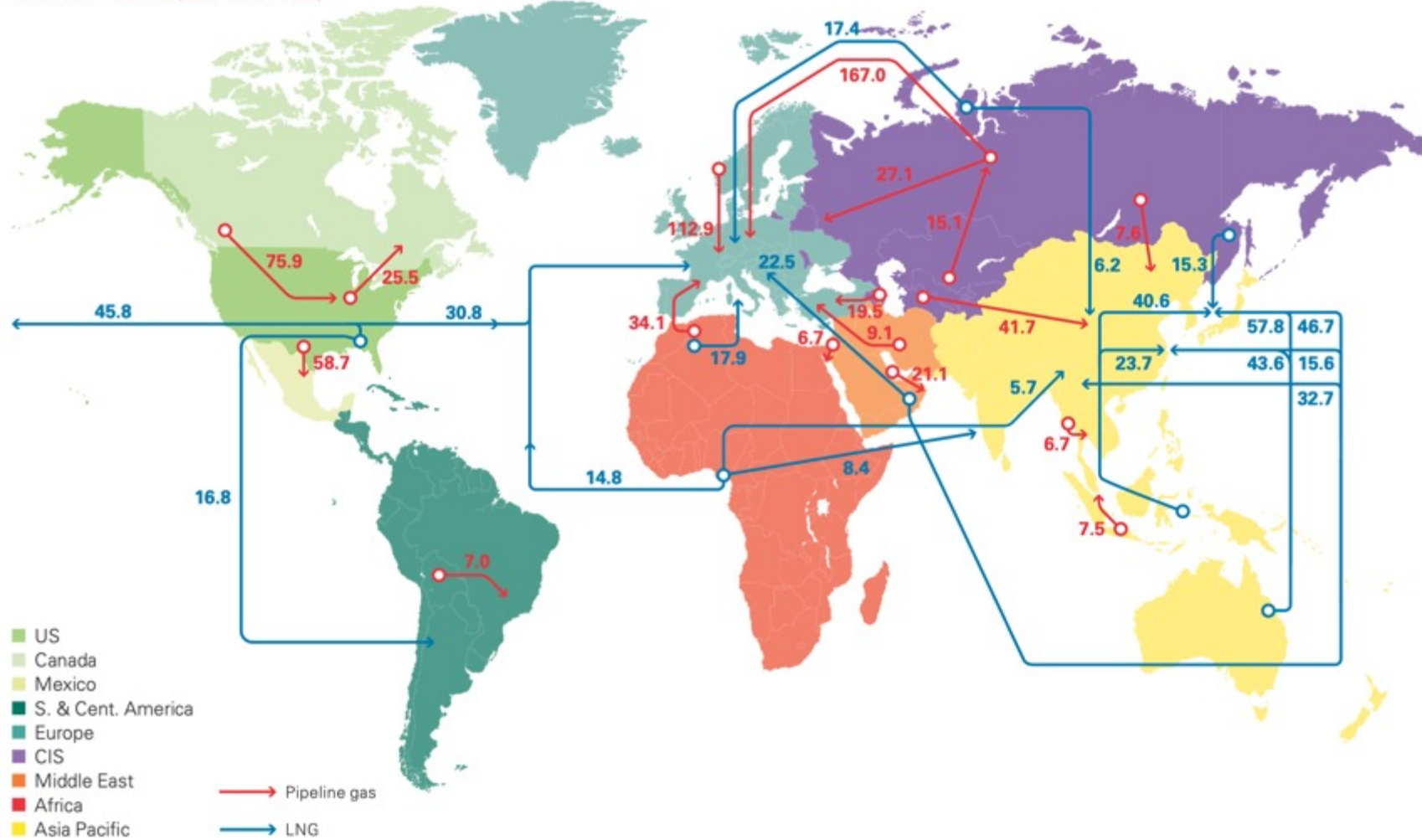


Source: *Financial Times* (2021) [How the race for renewable energy is reshaping global politics](#)

# International Trade in Natural Gas 2021

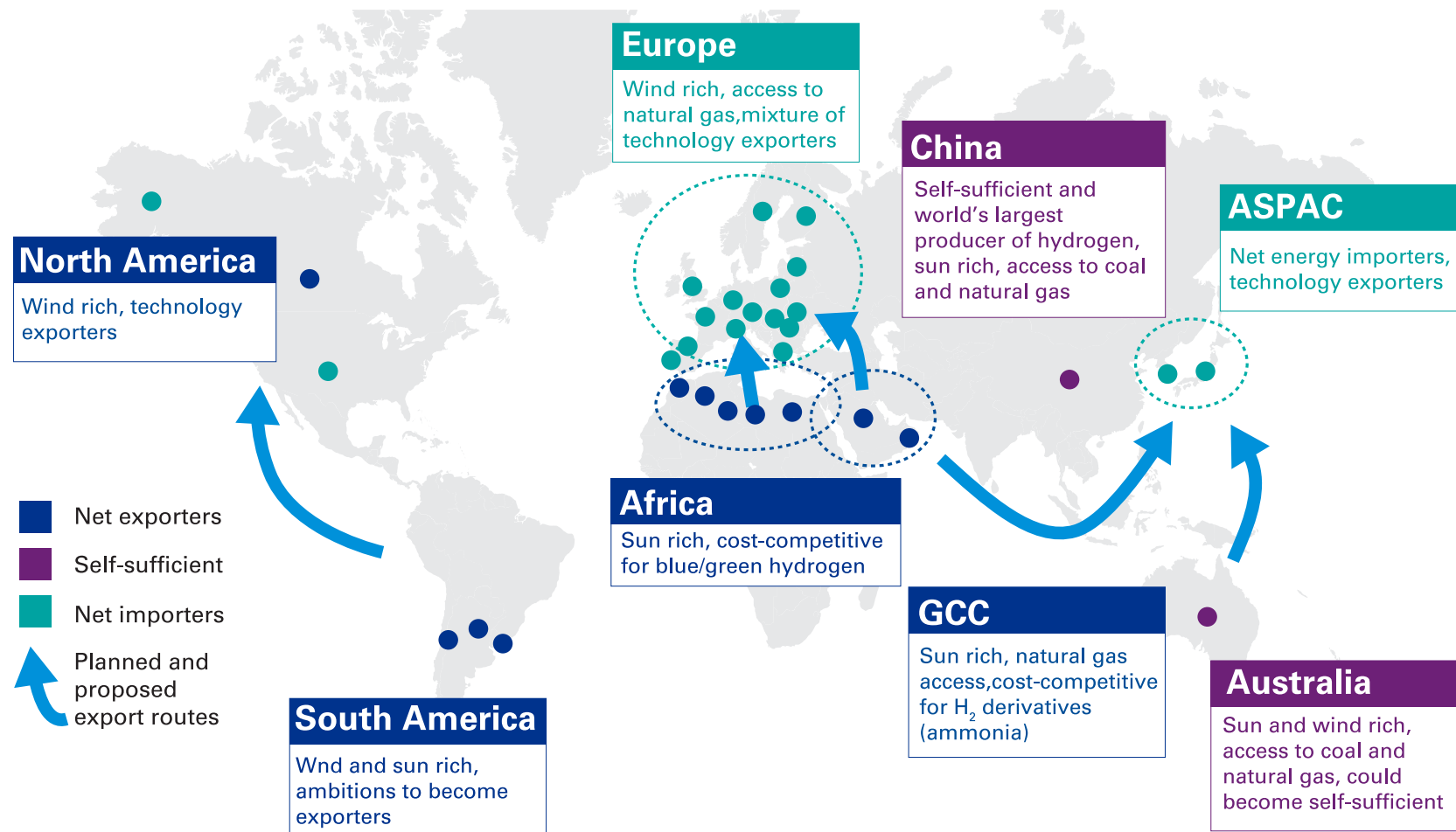
## Major trade movements 2021

Trade flows worldwide (billion cubic metres)



Source: BP (2022) *bp Statistical Review of World Energy 2022*

# Global hydrogen hotspots and distribution corridors



<https://home.kpmg/xx/en/home/insights/2021/01/geographic-hydrogen-hotspots.print.html>



# Global Energy Dilemmas to 2050

- **High-Energy Societies (High Income):** to deliver rapid decarbonisation of energy services to achieve Net-Zero CO<sub>2</sub> emissions by 2050.
- **Emerging Economies (Upper/Middle Income):** to secure the energy needed to fuel economic growth and improved living standards while constraining and then reducing GHG emissions (China emissions peak in 2030 & Net-Zero by 2060).
- **Developing Economies (Lower Middle Income and Low Income):** to ensure sustainable energy access for all and a future based on sustainable prosperity (SDGs by 2030)



# Global Energy Dilemmas in a New World

- What is the impact of the Covid-19 pandemic and the war in Ukraine on the pace of the energy transition?
- What does the current emphasis on energy and security mean for climate action?
- What are the impacts of the current global energy crisis on the prospects for the emerging and developing economies?
- What are the consequences of an increasingly fragmented and 'de-coupled world' for economic growth and the deployment of low-carbon energy technologies?
- In sum, is there a way out of the current 'messy transition'?



# **Review of Energy Transition Risks**

**Westminster Energy  
Forum**

**Gautam Mukherjee**  
bp  
Head of Gas Analytics

bp Energy Outlook  
2022 edition

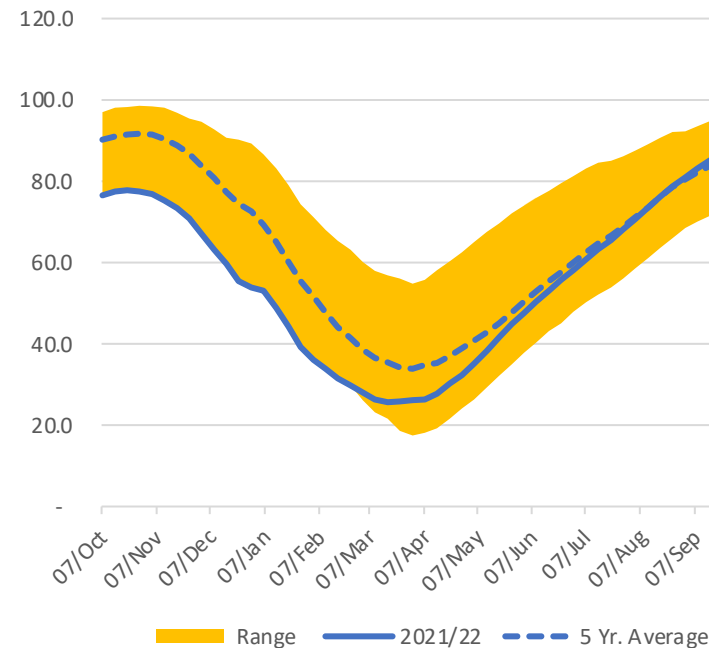
# Agenda



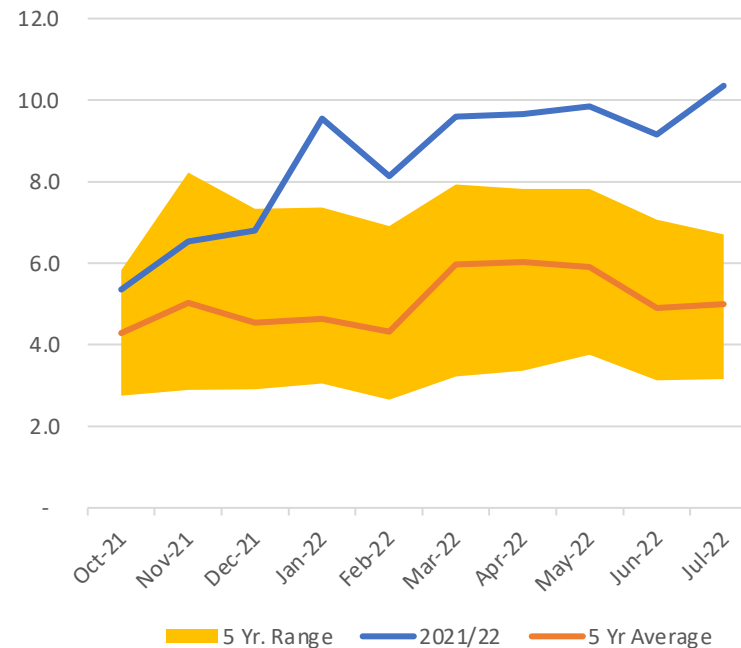
1. Implication for European gas balance this Winter
2. Longer term outlook for energy and bp's Energy Outlook

# Storage, LNG and demand response are key to winter balance in Europe

## Gas stocks in EU has been higher than expected



## EU LNG Imports have increased through the year in response to lower Russian Supply



## Storage, LNG and demand response will all be needed to balance Europe this winter

- Under normal weather, storage is likely to exceed 90% target by end of November
- Additional FSRU in Netherlands and Germany will add to import capacity this winter
- Competition for LNG supplies especially if demand in China recovers
- Demand side response will therefore be needed to balance markets
  - EU target of lowering demand by at least 15%
  - Industrial demand has been c. 25% lower due to high prices
  - Return of nuclear in France and continued use of non-gas fossil fuel in power sector

# Agenda



1. Implication for European gas balance this Winter
2. Longer term outlook for energy and bp's Energy Outlook

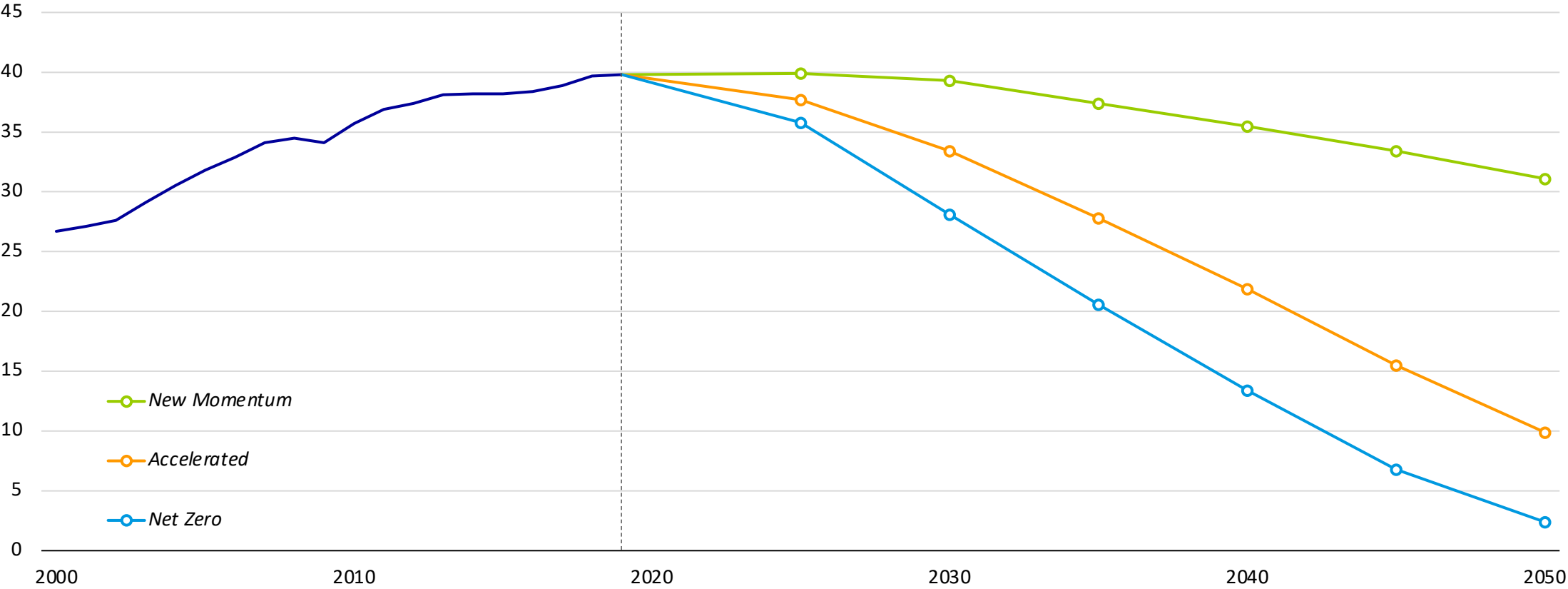




# Three scenarios to explore the energy transition

## Carbon emissions

Gt of CO<sub>2</sub>e



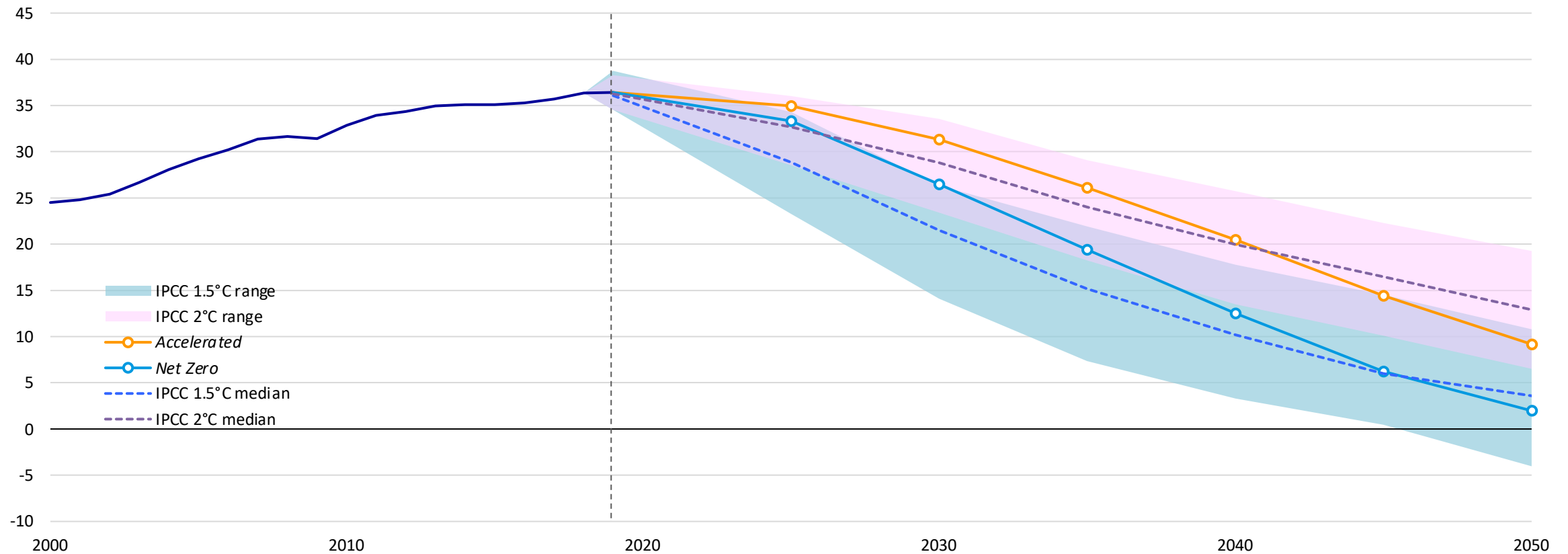
Carbon emissions include CO<sub>2</sub> emissions from energy use, industrial processes, natural gas flaring, and methane emissions from energy production



## Comparison with IPCC AR6 pathways

### Carbon emissions

Gt of CO<sub>2</sub>

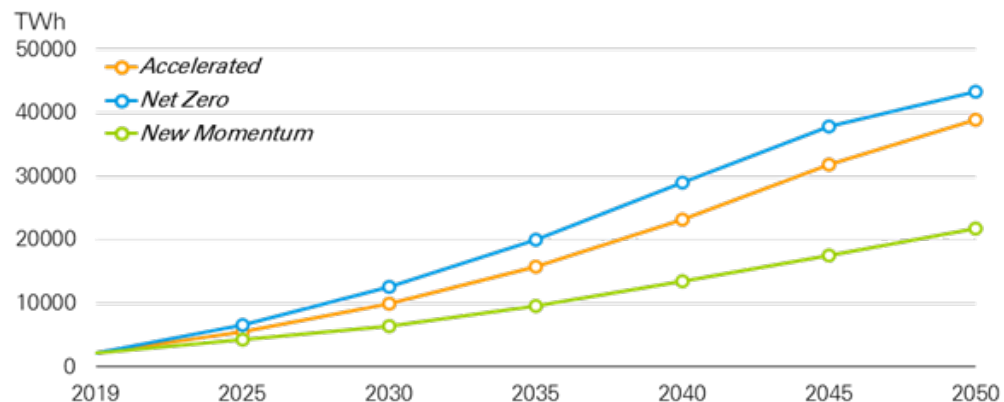


Carbon emissions include CO<sub>2</sub> emissions from energy use, industrial processes, natural gas flaring, and methane emissions from energy production  
Ranges show 10<sup>th</sup> and 90<sup>th</sup> percentiles of the IPCC scenarios

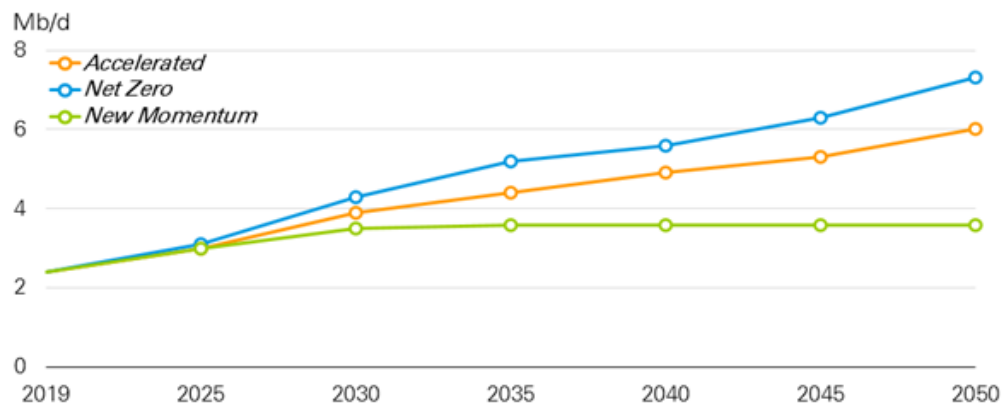
# Critical elements needed for a successful energy transition?



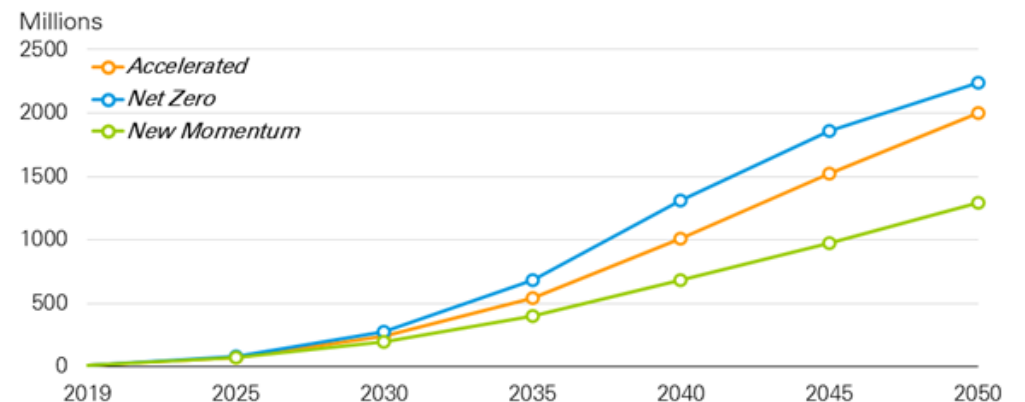
## Wind and solar power generation



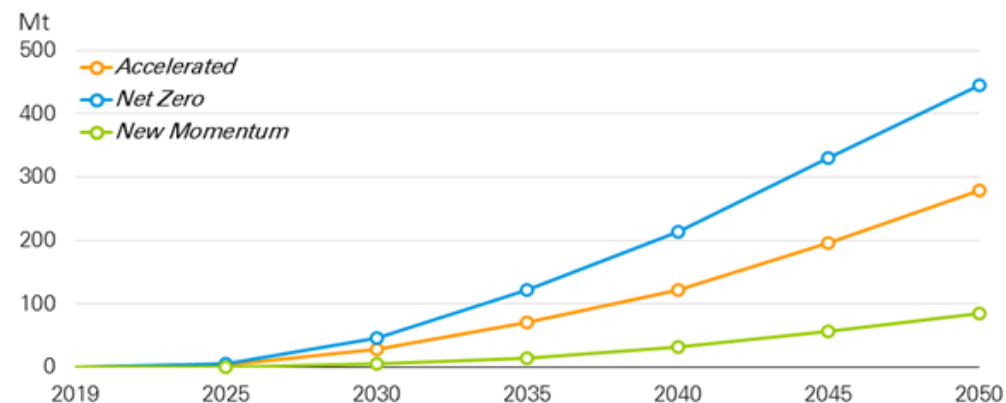
## Biofuels



## Electric vehicles



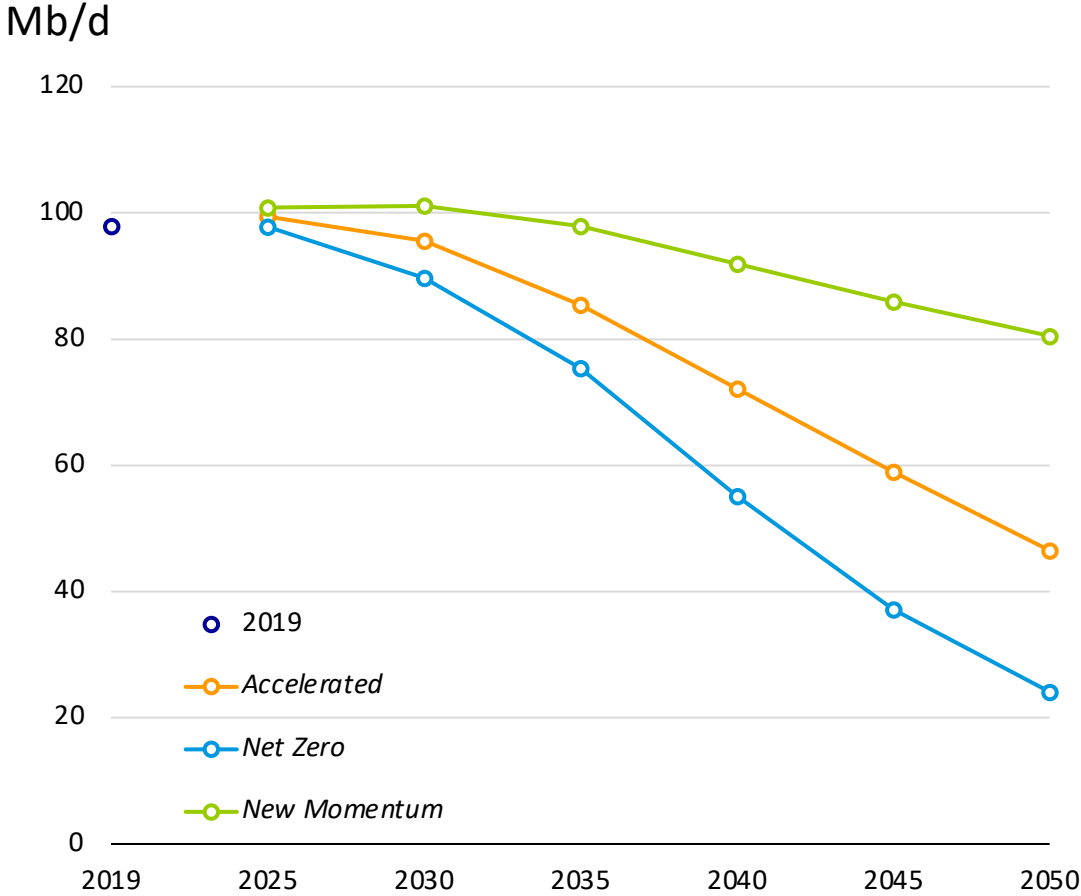
## Low-carbon hydrogen



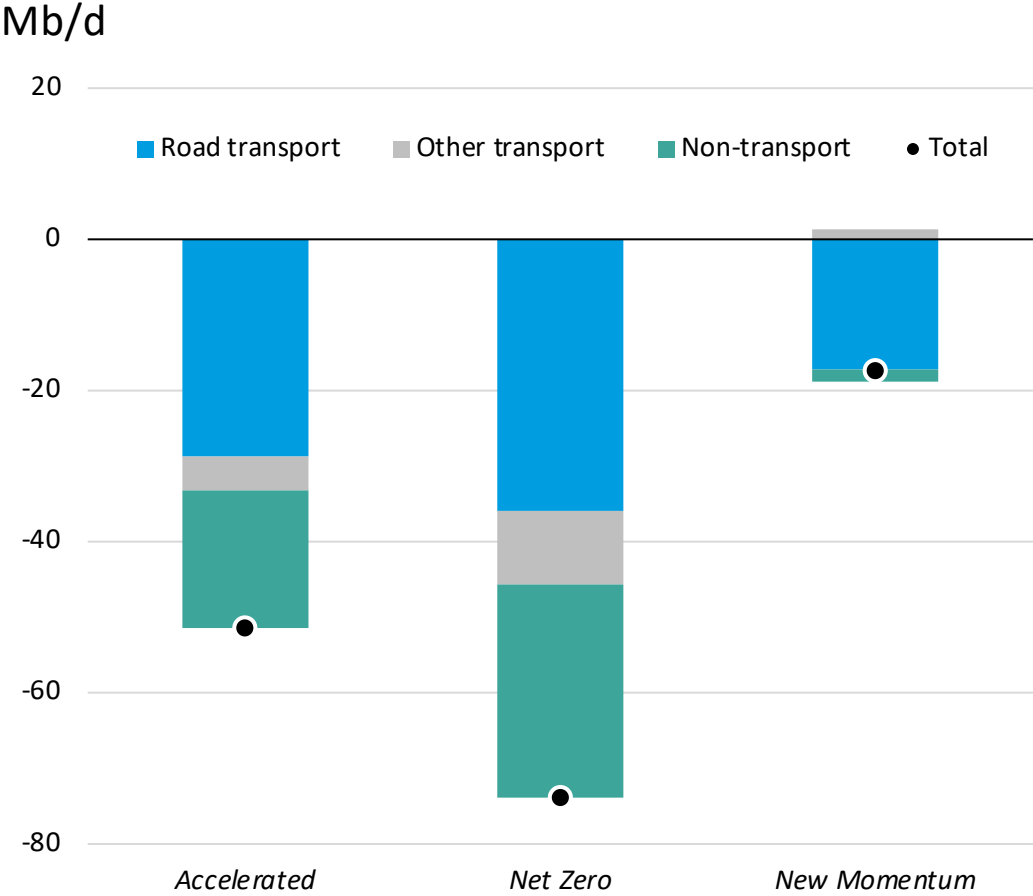


# Outlook for oil demand

## Oil demand



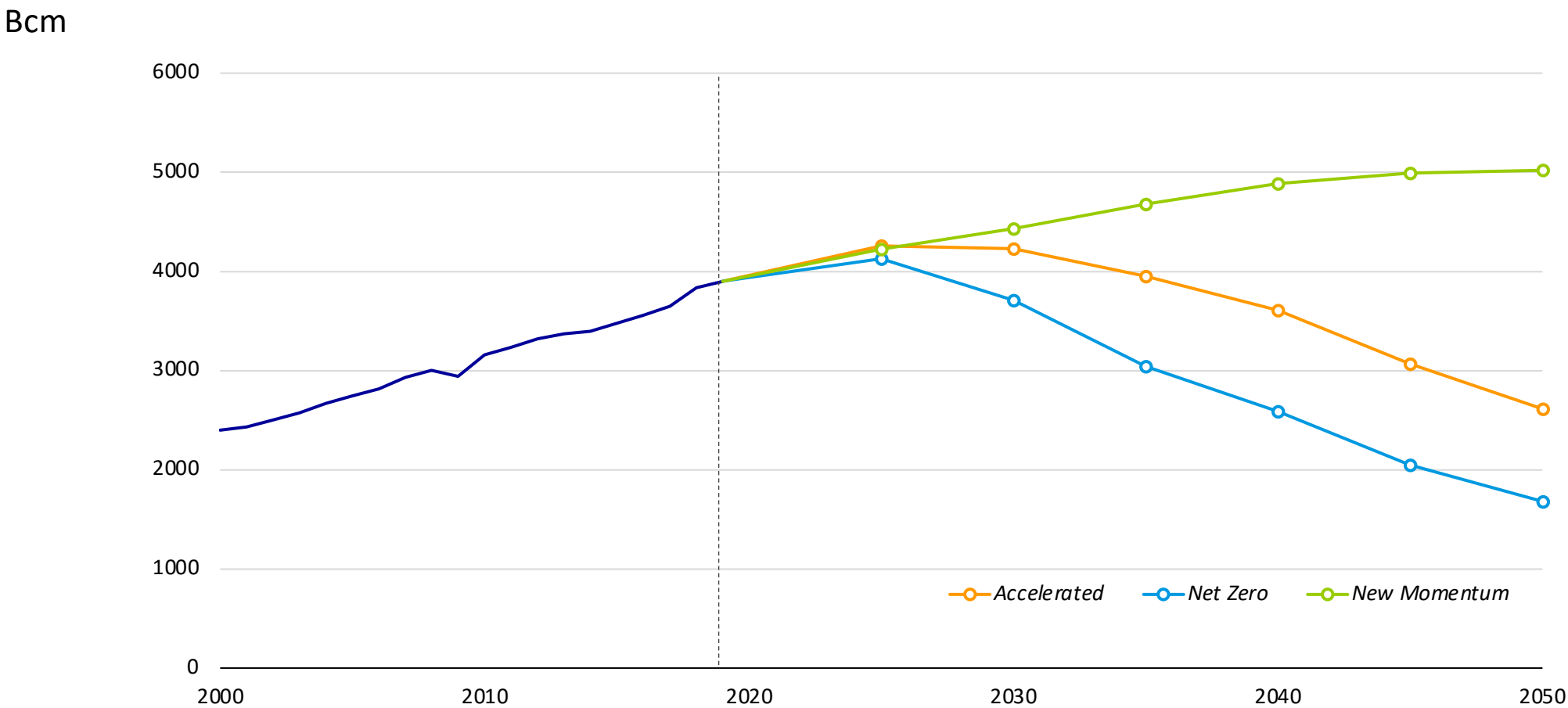
## Change in oil demand (2019 – 2050)





# Outlook for natural gas demand

## Natural gas demand

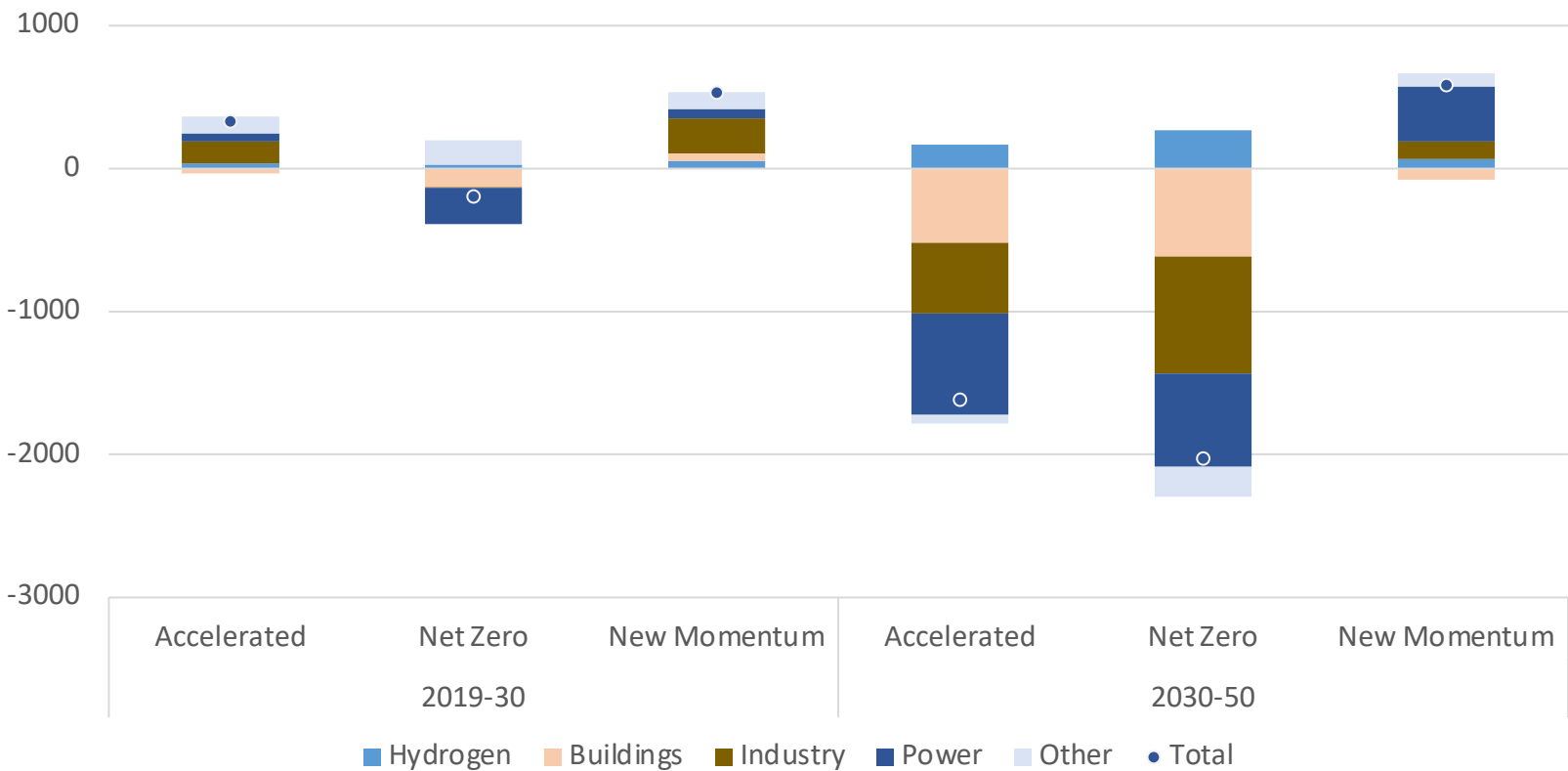




# Outlook for natural gas demand

## Natural gas demand growth

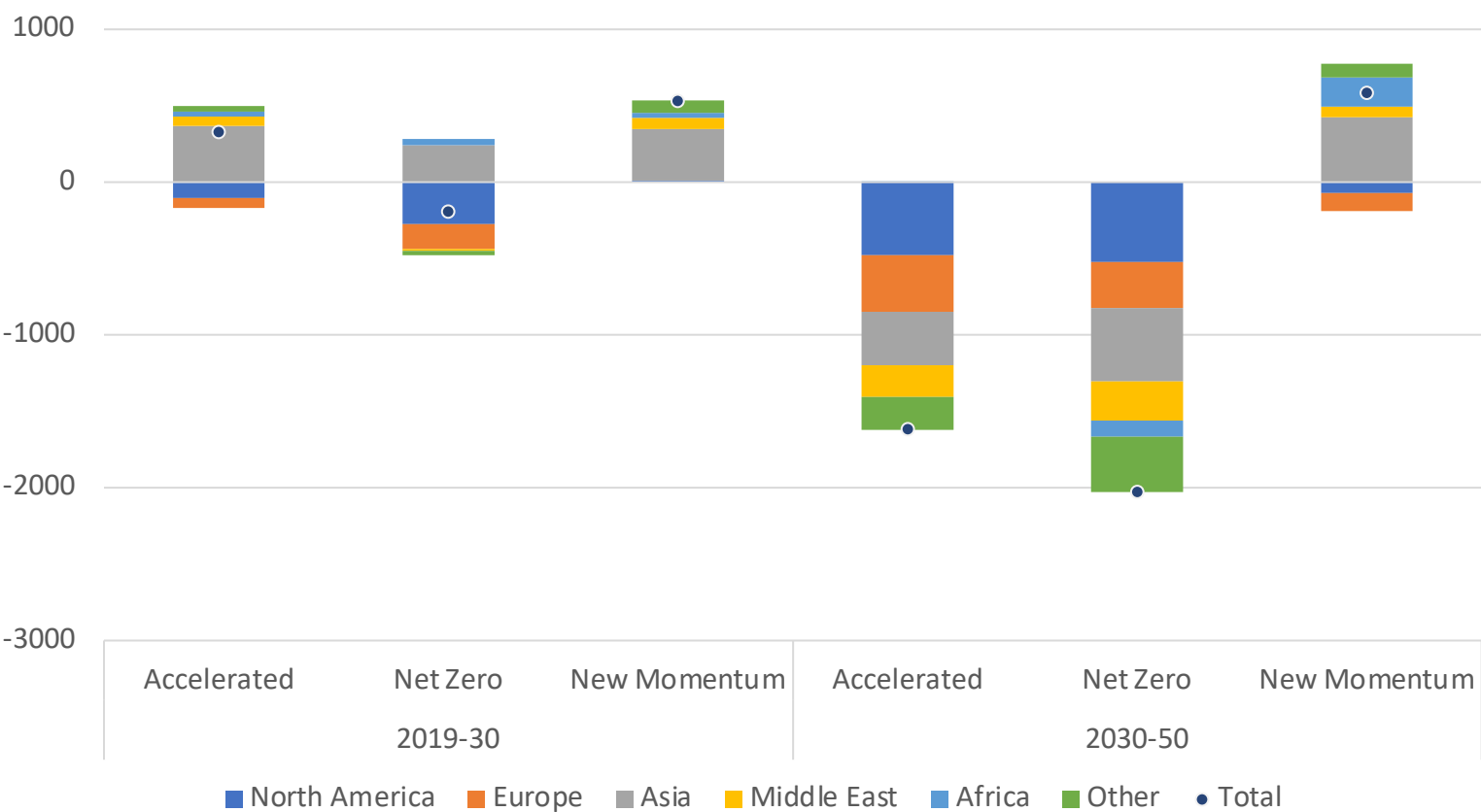
Bcm



# Outlook for natural gas demand

## Natural gas demand growth

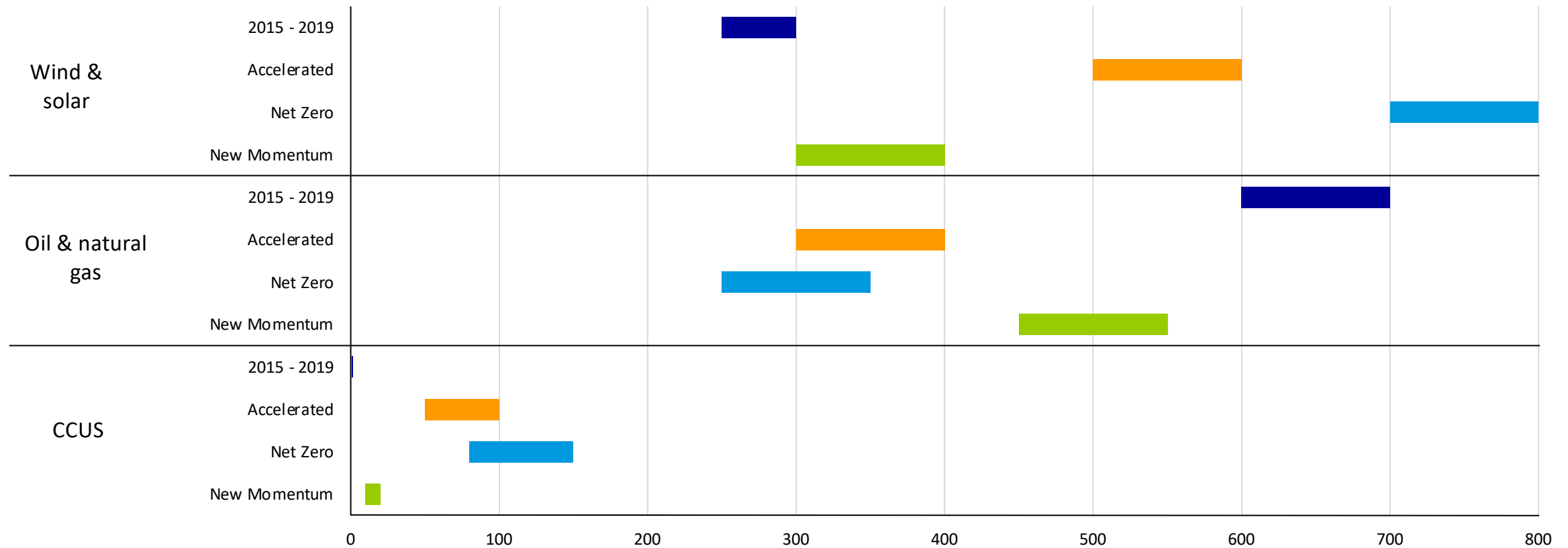
Bcm



## Levels of implied investment

Average annual investment, history and 2020 - 2050

Average annual investment range, \$2020 Billion

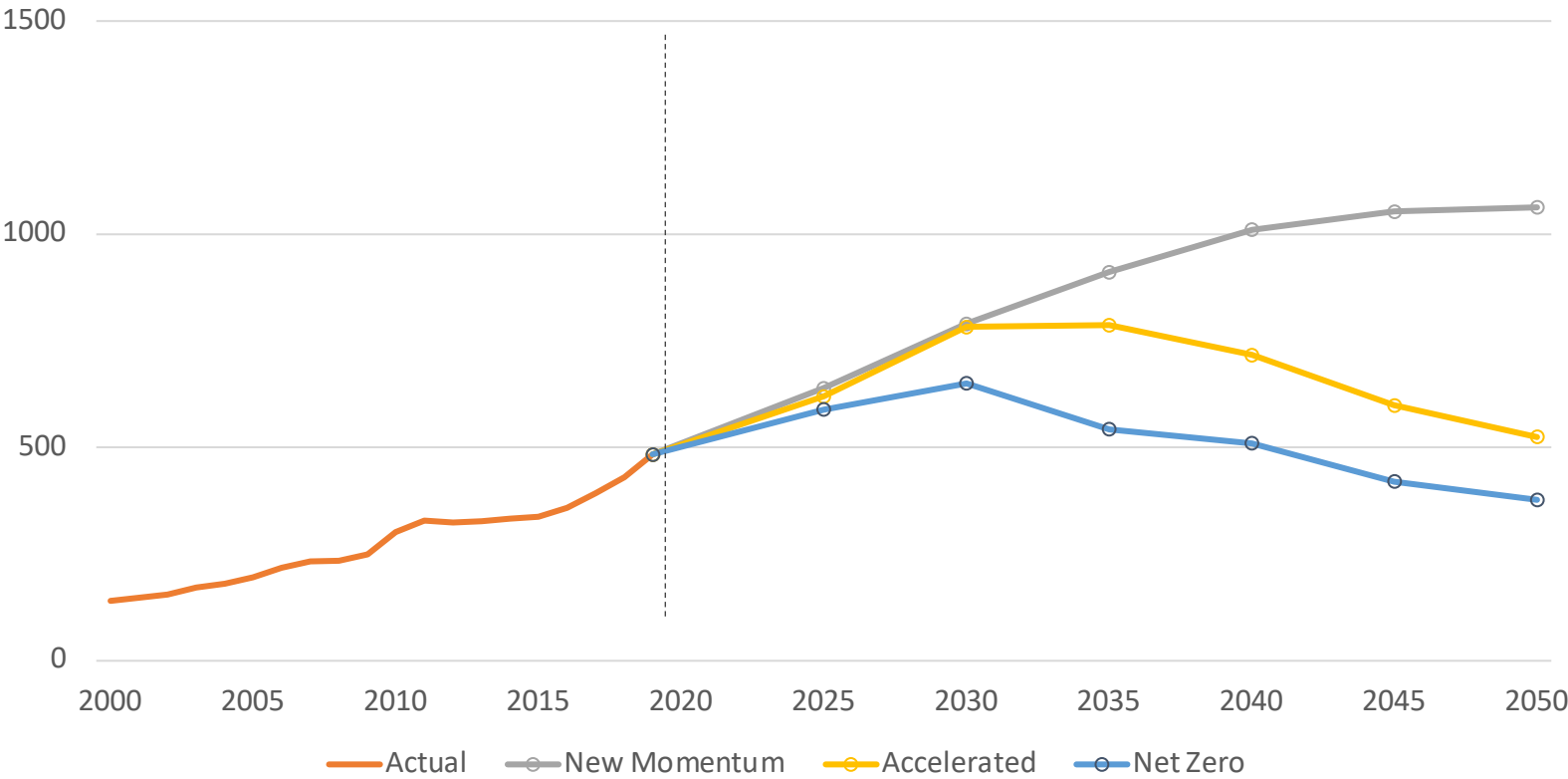




# LNG trade trends

## LNG Trade

Bcm

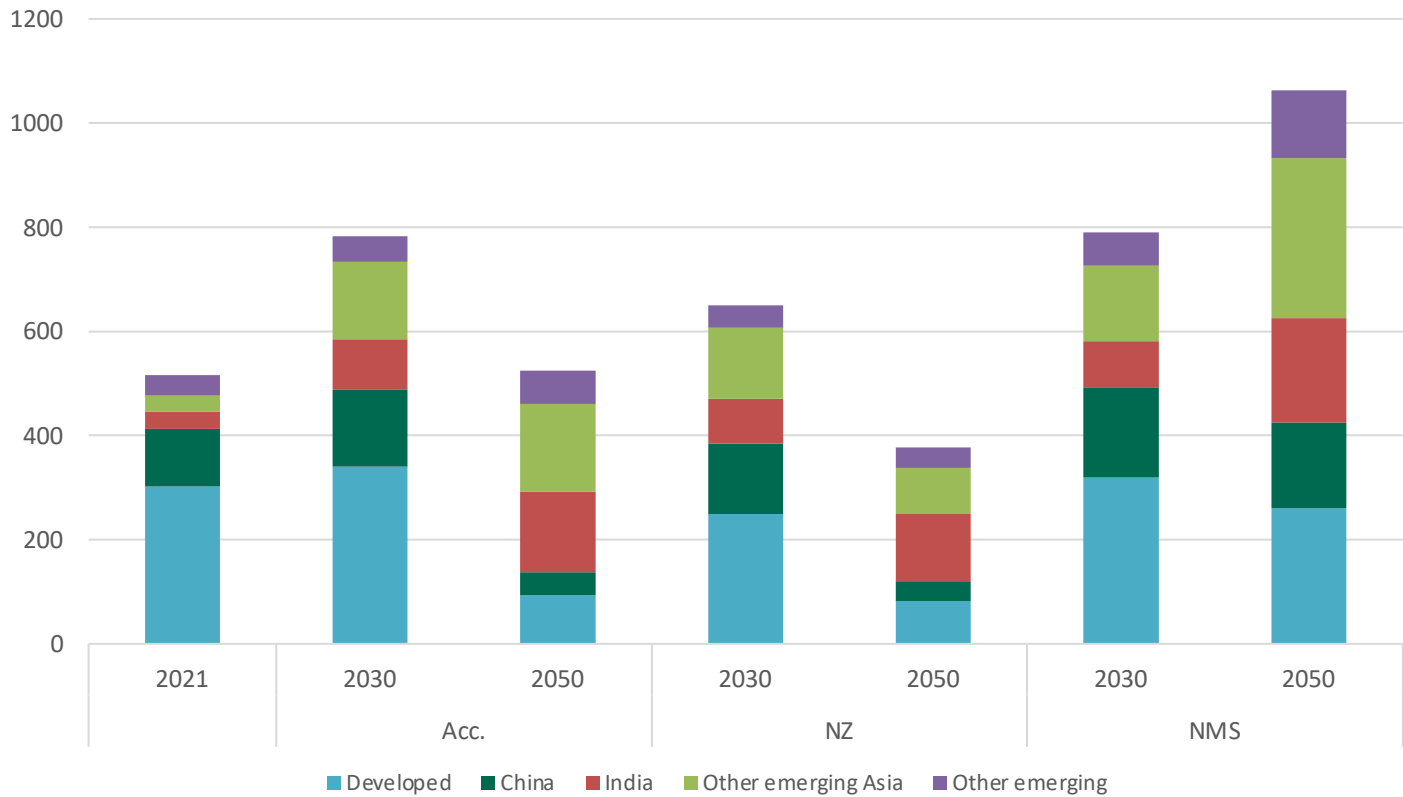




# LNG trade trends

## Regional LNG Demand

Bcm



# Climate Risks: Trends in Capital Flows, Corporate Risks/Opportunities & Implications

Tara Schmidt

Head of Climate & Sustainability Strategy - Sustainability & ESG Finance

Lloyds Bank, Corporate & Institutional Banking



LLOYDS BANK



# Climate Risks: Trends in Capital Flows, Corporate Risks/Opportunities & Implications

---

Why is mobilising climate finance so important?

---

How is the financial sector's engagement accelerating?

---

What could be the most material impacts for our corporate clients?

---

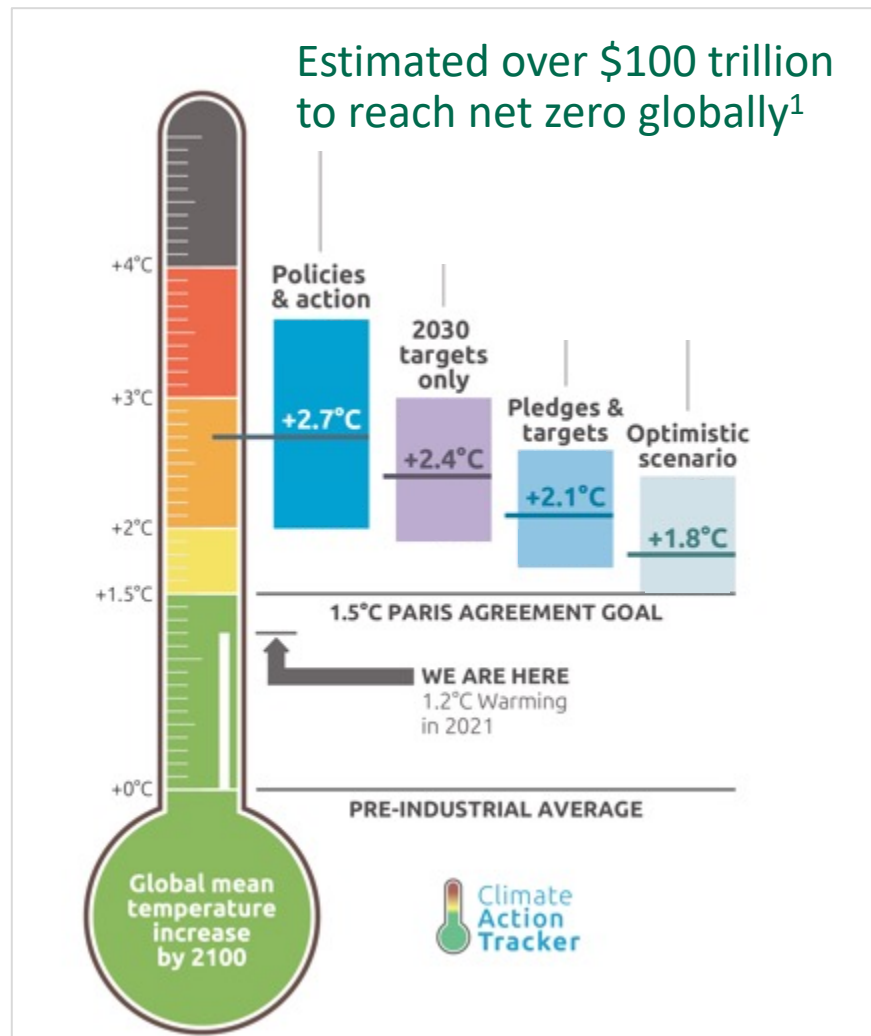
Q&A

---



# Reaching Net Zero Will Require Vast Sums of Financing

But the cost in doing nothing is much greater and a 'code red for humanity'

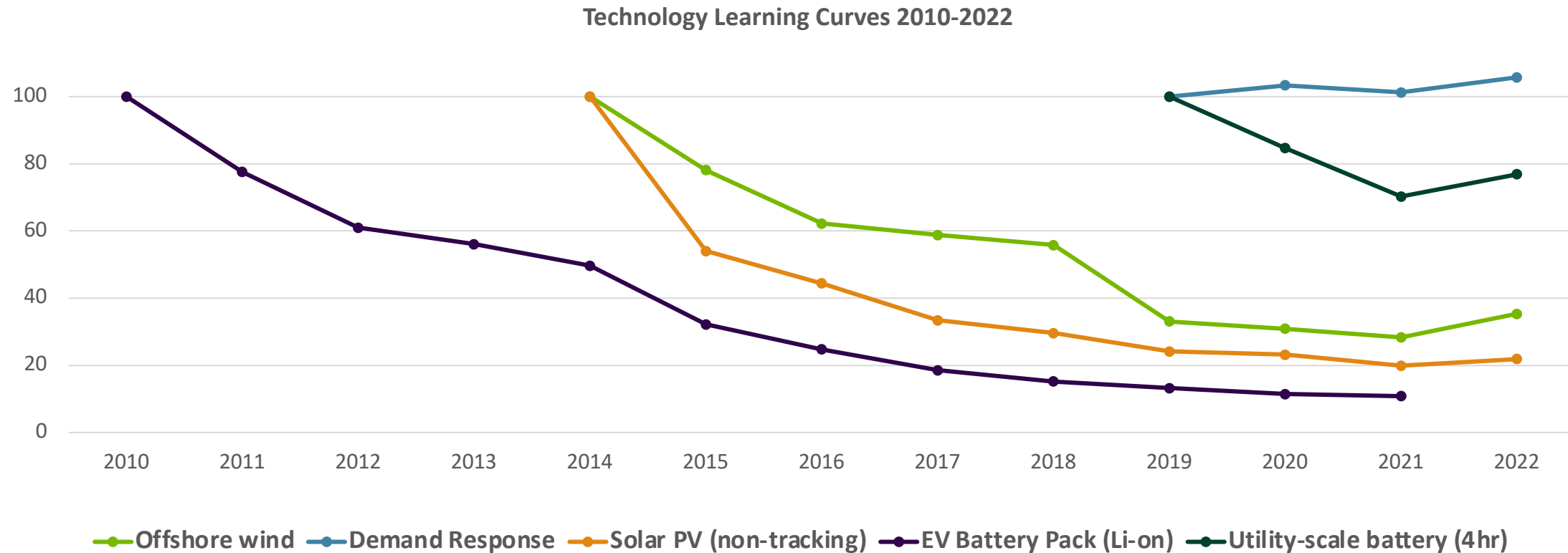


Cost of doing nothing deemed by IPCC as 'code red for humanity'

- An **estimated 45% of the world's population** already live in contexts highly vulnerable to climate change events such as flooding<sup>2</sup>
- **200 million** people could be forced from their homes and rendered climate refugees by 2050<sup>3</sup>
- **90%** of world's GDP is now covered by an ambition to reach net zero by mid-century

# Financing is required today to scale up net zero technology solutions

Which call for a rewiring of our entire economy, working with gov't and business to drive down the costs on society

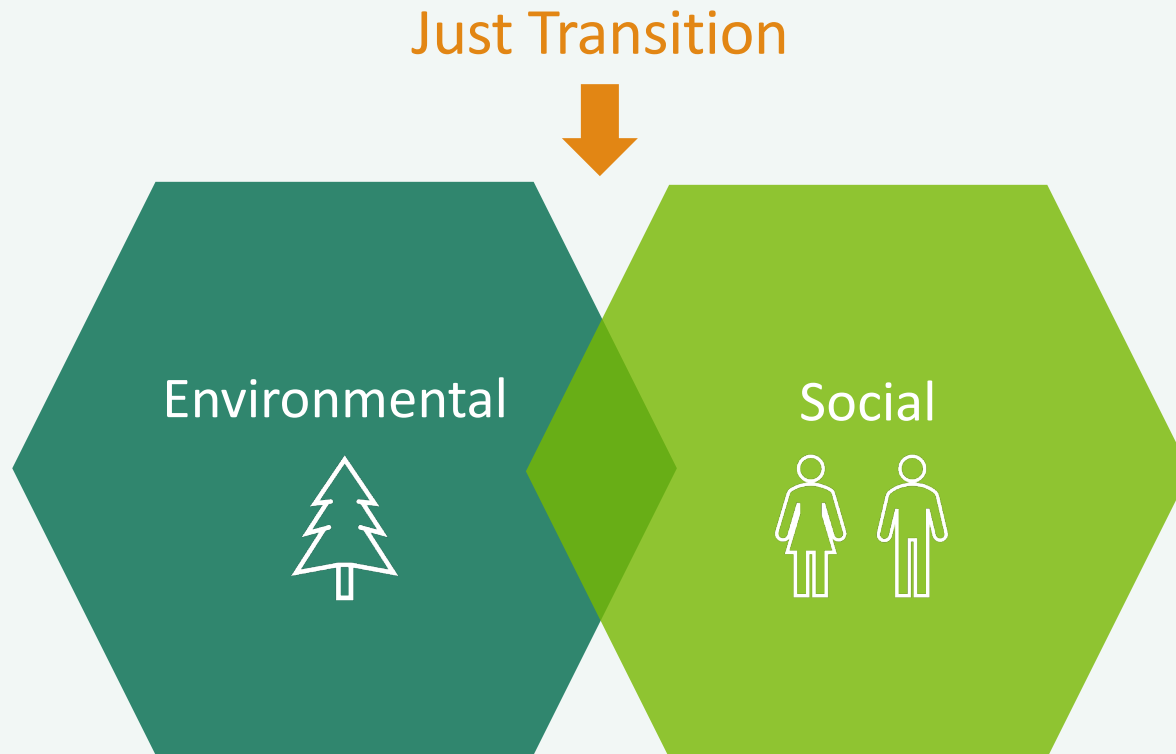


Source: BloombergNEF, July 2022

*"Barriers are variables, not constants" James Arbib, Founder of RethinkX*

# Society is Calling for Investment in a Resilient, Sustainable Economy

As the world is hit by a series of unprecedented crises... Covid Pandemic, Cost of Living Crisis, Energy Security Threat



Green,  
resilient jobs



Security of  
supply for  
our economy



Affordability  
for consumers





# Climate Risks & Opportunities: How is the financial sector's engagement accelerating?



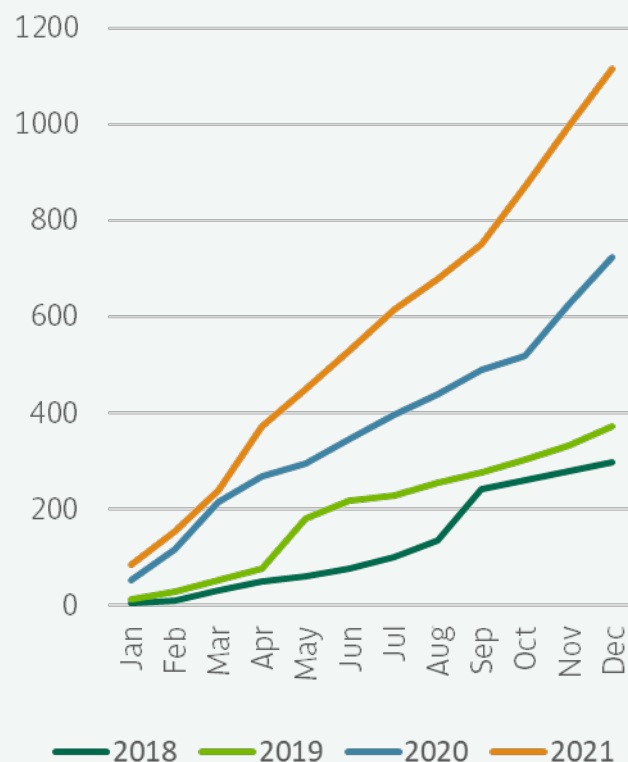
LLOYDS BANK



# Investors are Rapidly Integrating Climate into Financial Decision Making

With TCFD actively seeking to shed more light on companies' financial risks & opportunities in the energy transition

TCFD company commitments / yr<sup>1</sup>



Climate-related financial impacts<sup>2</sup>



**UK Gov't has introduced mandatory TCFD reporting requirements, including financial institutions and companies with over 500 employees and £500 million in turnover<sup>1</sup>**

Sources: <sup>1</sup>Bloomberg New Energy Finance, July 2022; TCFD Recommendations, 2017, <sup>2</sup>Recommendations of the Task Force on Climate-Related Financial Disclosures, TCFD, 2017 (Page 8)

<sup>1</sup> This regulation has already taken effect for UK-based AIM-listed companies with 500 or more employees, limited liability partnership (LLPs) with 500 or more employees and a turnover of over £500 million, and non-listed companies with 500 employees or more and a turnover of over than £500 million.

# The global financial community is advancing toward net zero



GFANZ has pivotal role in mobilising the \$100tn+ for net zero, underpinned by new 'plumbing' in global financial system

## Glasgow Financial Alliance for Net Zero (GFANZ)

Has grown to cover 40% of world's total financial assets since its launch in April 2021, representing total assets of over \$130trn committed to achieving net zero by 2050 or sooner Committed to use rigorous science-based scenarios and advisory panels collaborating with NGOs & experts to track climate progress, including establishing nearer-term targets

### Banks

#### Net Zero Banking Alliance (NZBA)

- 95 Banks
- 39 Countries
- \$66trn total assets
- 43% of global banking assets

### Insurance

#### Net-Zero Insurance Alliance (NZIA)

- 15 of the world's leading insurers and reinsurers
- Convened by UNEP's Principles for Sustainable Insurance Initiative (PSI)

### Asset Owners

#### Net-Zero Asset Owner Alliance (the Alliance)

- 61 Int'l investors
- \$10trn AUM
- Paris Aligned Inv Initiative (PAII)
- 118 investors
- \$34trn AUM

### Asset Managers

#### Net Zero Asset Mgrs Initiative (NZAM)

- 220 signatories
- \$57 trillion AUM

### FS Providers

#### Net Zero FS Providers Alliance (NZFSPA)

- 23 global signatories
- Supported & advised by the PRI and Sustainable Stock Exchanges Initiative

### Consultants

#### NZ Inv Consultants Initiative (NZICI)

- 12 signatories
- At the time of launch were responsible for advising on assets exceeding \$10trn

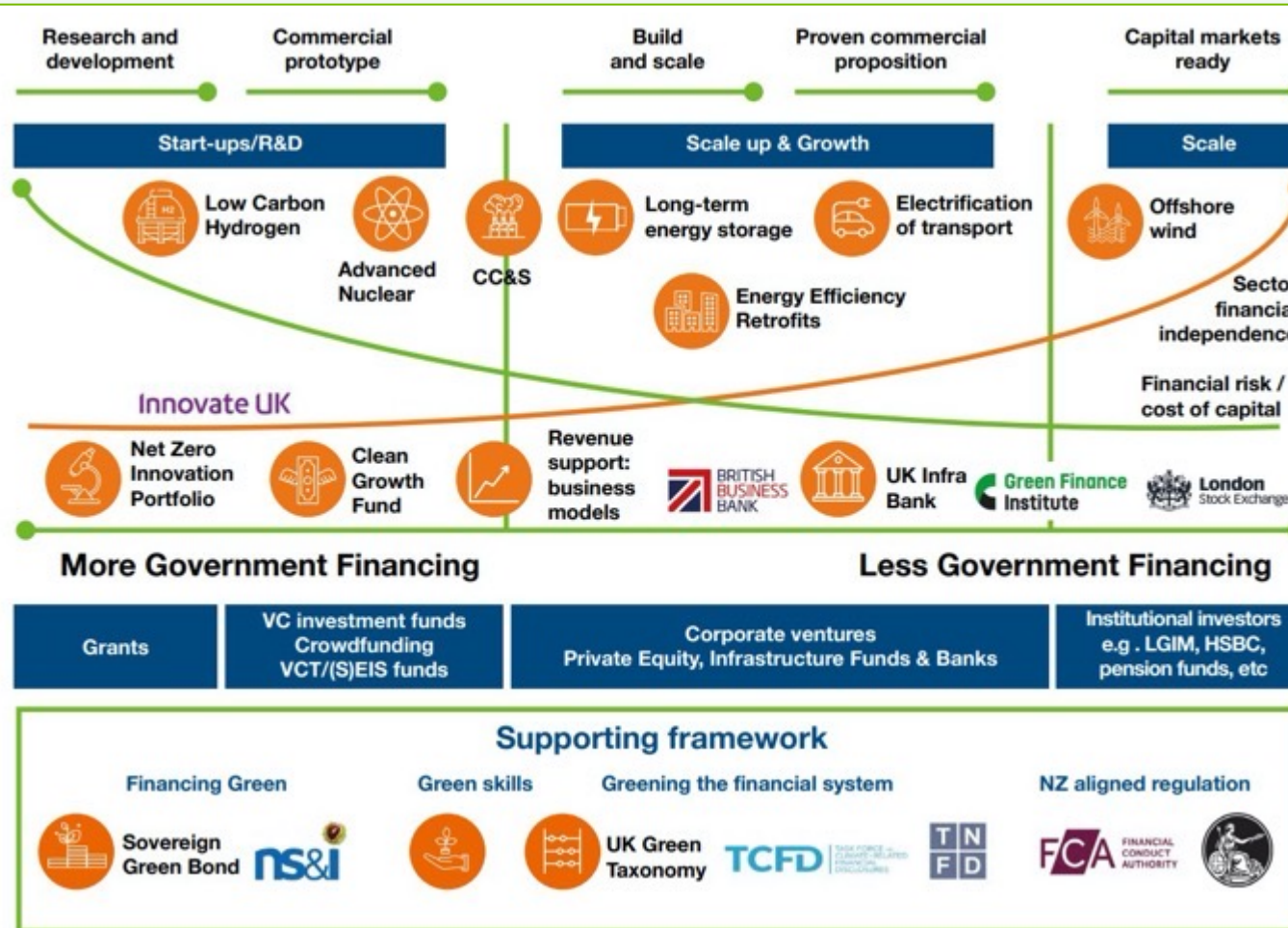
- **IFRS International Sustainability Standards Board:** to create a global baseline for corporate sustainability disclosures that meet investor demands to properly compare firms' sustainability performance, with G7 support to make climate disclosures mandatory aligned with TCFD
- **Science-based Net Zero Standards for FIs:** published its draft net-zero 'foundations' for financial institutions aimed at creating a "common language" around net-zero concepts and target setting for the sector. The draft is open for public consultation until Dec 17th

- **NGFS Glasgow Declaration:** which brings together 100 central banks and supervisors and 16 observers in countries comprising 67% of the world's emissions have agreed to a number of commitments over the coming years to "deepen, expand and strengthen their collective efforts towards greening the financial system, and to encourage the scaling up of the financing flows needed to support the transition towards a sustainable economy."

# Here in the UK, the Gov't is Building out a Unique Financial Ecosystem

Which could help address de-risking technologies & further accelerate investment in energy transition

UK Net Zero Strategy (Oct 2021)



Low Carbon Sector Maturity & Capital Requirements



# Climate Risks & Opportunities:

## What could be the most material implications for corporates?



LLOYDS BANK

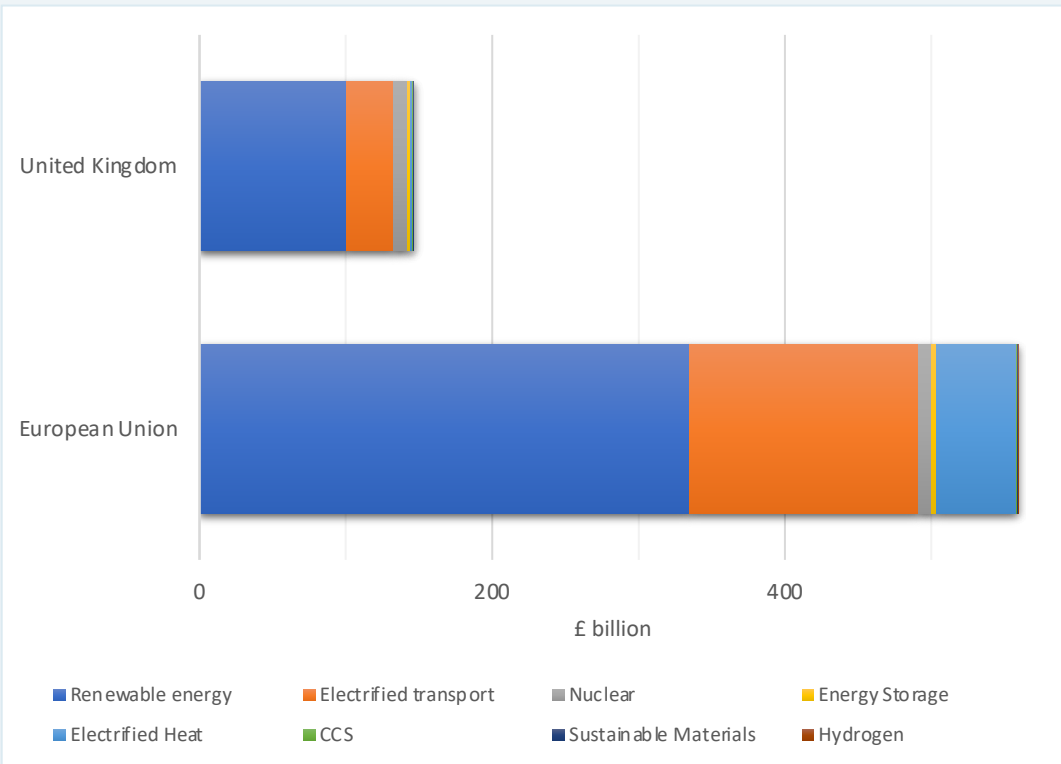


# Investment in the UK's energy transition has grown by a third since 2016

But will need to grow more rapidly to reach net zero, decarbonising not just energy supply but also demand

## Investments in Energy Transition by Supersector (2017-2021)

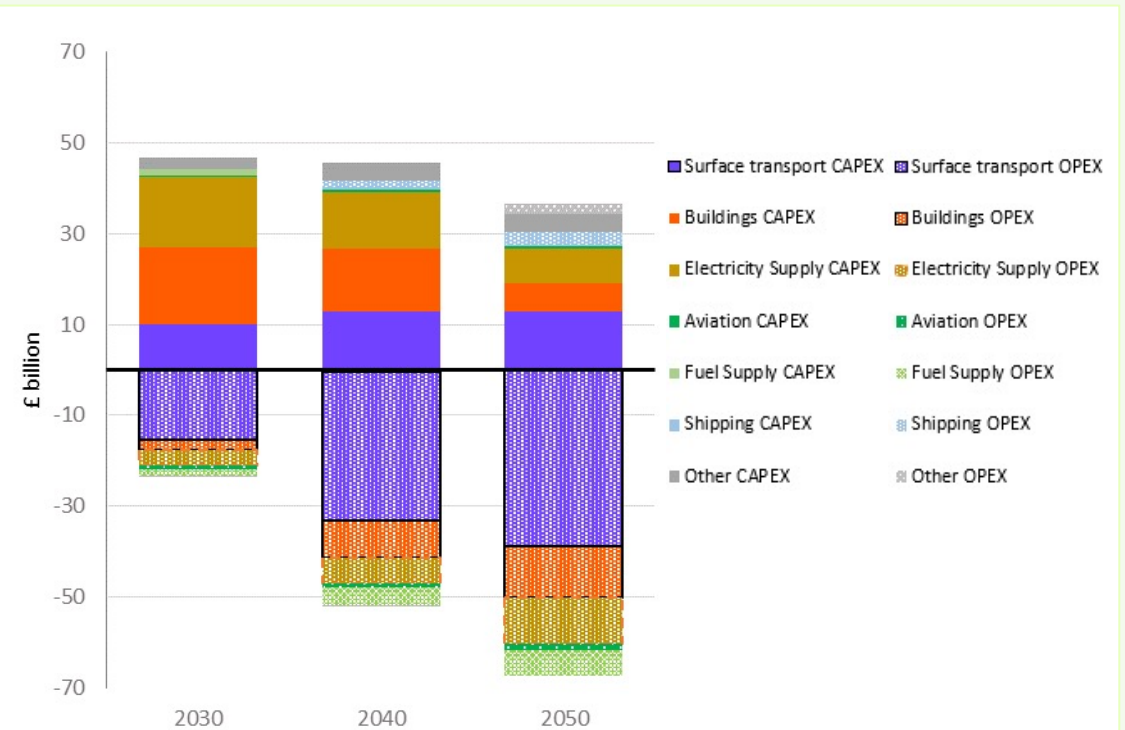
*Focused on renewable supply, with gaps to fill in electrifying transport & heating*



Source: BloombergNEF, Energy Transition Investment Data Tool, July 2022

## UK CAPEX and OPEX Needs – CCC Balanced Net Zero Pathway

*Looking ahead, net zero requires a ramp up in investment across our entire economy*



Source: Climate Change Committee, Sixth Carbon Budget Dataset, December 2021

# Corporates are seeking balance on a Net Zero Tightrope

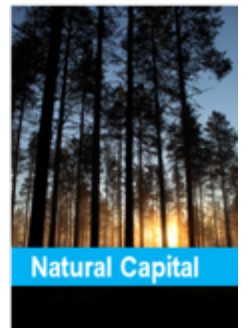
Confronted by potential near and long term trade-offs like never before in this time of unprecedented crises



Crises can also provide great opportunity to collaborate and innovate...



Establishing a Credible Transition Plan – with transparent, actionable aims & milestones – could be a key enabler for corporates and financial institutions in advancing on our path toward net zero



# Science-based targets are rising across the global corporate landscape

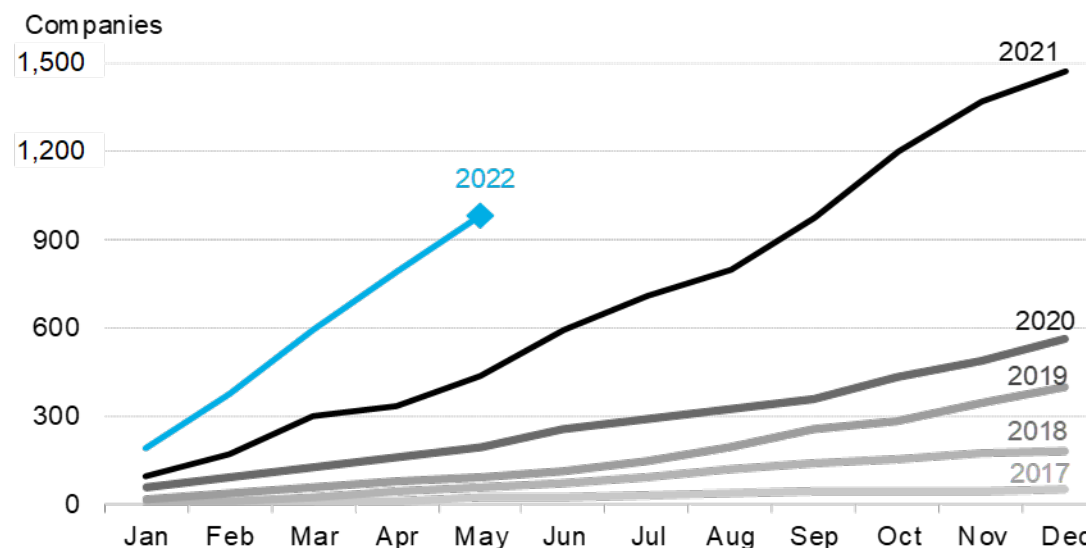


Representing over a third of global market cap at \$38 trillion, and presenting opportunities for innovative collaboration

## Science Based Targets (SBTs)

- SBTs are recognised as the gold standard for corporate emission reduction commitments
- Targets ensure emissions trajectory alignment with the Paris Agreement goals (2C down to 1.5C) in the near and long term out to 2050
- In the run up to COP26, the UN Race to Zero supported rapid growth in SBTs – particularly in the UK market
- Guidelines for a number of sectors more challenged with decarbonisation are under development by the SBTi guidelines to support target setting
- As more commitments are made and targets set, a number of companies across their business and regional value chains, as well as across and out with their sectors, are identifying new opportunities to collaborate on net zero

## Annual New SBT Commitments



## Sector Guideline Coverage

Apparel	Finance	ICT	Power	Aviation
Buildings	Chemicals	Cement	Land & Agri	Oil & Gas
Steel	Transport	Aluminium		

Finalised
In Development
Scoping Phase

Source: Graph BNEF, July 2022, SBTi



## Conclusions

- Finance has a key role to play in supporting a just transition on our path to net zero by 2050 or sooner
- Net zero will require a rewiring of our economy – calling on government, finance, and business to build a new financial ecosystem for scaling up the low-carbon technologies required to reach net zero
- A growing number of investors are integrating climate into financial decision making, and governments like the UK are mandating this, which could present investment opportunities for transitioning energy companies
- The global financial community stands ready with the capital to advance toward net zero – with banks, insurers, asset owners & managers representing over \$130 trillion, committed to net zero using scientifically-aligned scenarios and setting nearer-term targets
- Lloyds Banking Group is a founding member of the Net Zero Banking Alliance (NZBA), and is committed to supporting our clients through their transition journeys

Thank You



LLOYDS BANK





WESTMINSTER  
ENERGY FORUM



[www.westminsterenergy.org](http://www.westminsterenergy.org)

# Review of Energy Transition Risks – Implications for Political & Corporate Net Zero Strategies

0915-1315hrs, Fri 23<sup>rd</sup> 2022

Prof. Mike Bradshaw, Co-Director, **UK Energy Research Centre**

Gautam Mukherjee, Head of Gas Analytics, **BP**

Tara Schmidt, Sustainability & ESG Finance Director, **Lloyds Banking Group**

Andrew Herring, CEO, Energy & Power, **Marsh**

Sophie Westlake, Deputy Director - International Energy Unit, **FCDO**

Andrea Amelio, First Counsellor – Competition & Energy, **EU Delegation to the UK**

Mariko Higuchi, Dep. Head of Dept for Econ. & Global Affairs, **Embassy of Germany**

Sam McKilligin, Director - Energy Transition, **AECOM**

Abhi Kohok, Subsurface Director, **INEOS**



# Review of Energy Transition Risks

**UK Energy Strategy & Sector Transformation  
Challenges facing Industrial Delivery**

Sam Mackilligin

# AECOM Activity Supporting Energy Transition



**Organizational  
Decarbonization**



**Hydrogen/  
Future Fuels**



**Transportation  
Decarbonization**



**Renewable  
Generation**



**Grid  
Modernization**



**Microgrids**

# UK Net Zero Deliverability – COP26 Curtain Raiser Slide

## What is Going Well

- Mobilising Corporate and Civil Society



- Renewable Energy Capacity



- Transport Electrification



## What is not Going Well



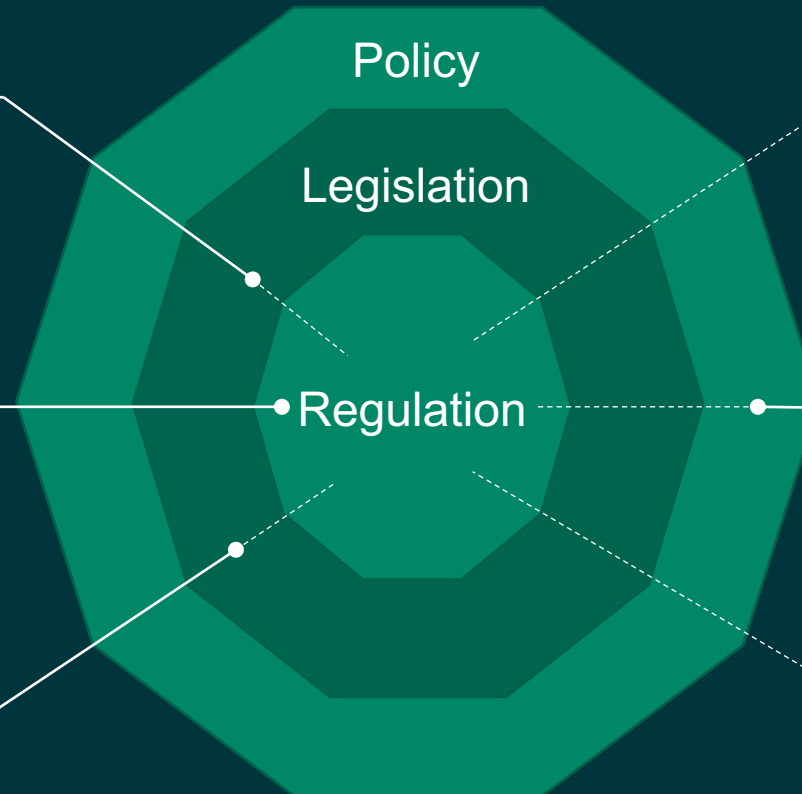
Decarbonising Heat



Hydrogen Strategy



Electrical Storage



# UK Net Zero Deliverability – COP26 Curtain Raiser Slide

## What is Going Well

- Mobilising Corporate and Civil Society



- Renewable Energy Capacity



- Transport Electrification



## What is not Going Well



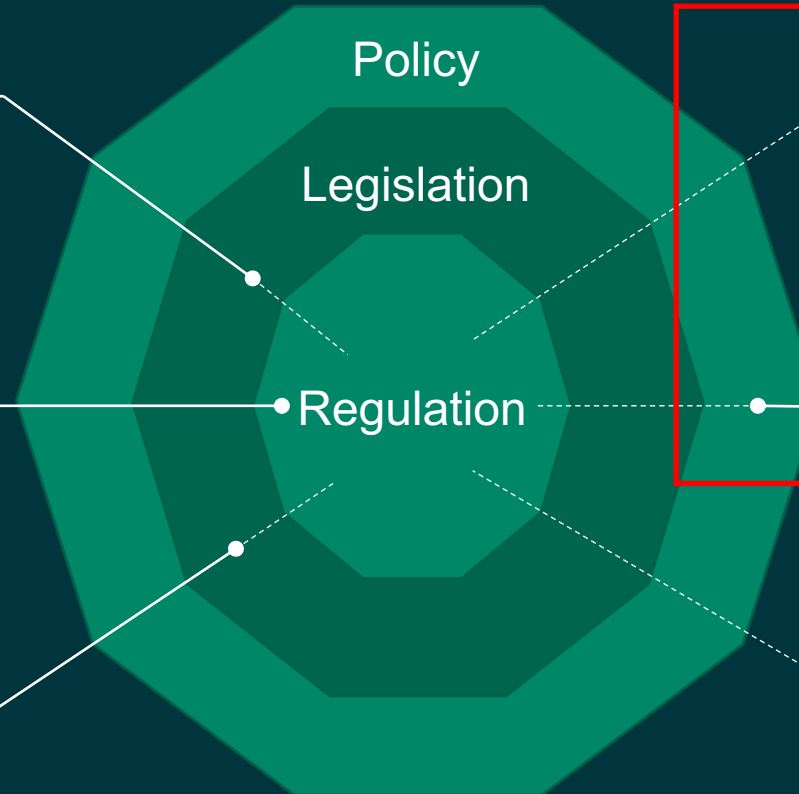
Decarbonising Heat



Hydrogen Strategy



Electrical Storage



## Future of Hydrogen in Industry – Site Surveys : BEIS

- Part of a suite of research to collate evidence on the feasibility, costs and benefits of using 100% hydrogen for heat
- Gas grid transition decisions in 2026
- Large gas users away from hydrogen clusters
- Reviewing the safety, cost and feasibility of a switch
- 7 volunteer sites surveyed; a cross section of sectors sizes, and end use of gas



Site Ref	Industry Sector	Type of Gas Users	Annual Gas Use TWh	% of Energy Use
1	Other Industry	Industrial steam boilers, ovens, water heaters, space heaters, flare pilot & ignition packages	83	58%
2	Food & Drink	Industrial ovens, fryers, air handling units, water heaters	18	90%
3	Non-ferrous metals	Furnaces, gas torches, burners, water heaters and space heaters	28	87%
4	Vehicle Manufacturing	Industrial ovens, air handling units, recuperative thermal oxidisers, water heaters	246 (of which 29 surveyed)	68%
5	Non-metallic minerals	Aggregate dryer	35	100%
6	Non-ferrous metals	Industrial ovens, recuperative thermal oxidisers, water heaters and space heaters	6	66%
7	Food & Drink	Germination kilning vessels, roasters, grain dryers, thermal fluid heaters, water heaters, space heaters	42	84%



## Conclusions – Where are the challenges



### 1. Does Hydrogen Work?

- Chemical Properties
- Emissions (NO<sub>x</sub>) Profile

### 2. Plant and Site Considerations

- Plant and Equipment Sizing
- OEM Equipment Availability
- Site-wide Piping and Metering Changes

### 3. Standards and Regulations

- Equipment Standards Applicability
- Safety Standards



**Thank you.**

[sam.mackilligin@aecom.com](mailto:sam.mackilligin@aecom.com)

**AECOM** Delivering a  
better world

The background of the slide is a composite image of industrial scenes. The top half shows a clear blue sky with a few wispy clouds. Below the sky, there are various industrial structures, including tall towers, pipes, and scaffolding, some of which are illuminated with warm lights. The bottom half of the slide features a dark blue rectangular area containing the title and speaker information. The bottom edge of the slide shows more industrial details, including pipes and structural elements.

# INEOS ENERGY

---

## Energy Strategy & Sector Transformation

**Abhi Kohok**

Subsurface Director, INEOS Energy

23<sup>rd</sup> September 2022

# Agenda

- INEOS Group Overview
- Energy Strategy and Targets
- Sector Transformation: INEOS Project Greensand
- Challenges
- Q&A

# INEOS Energy

## Strategy & Key Targets



### Oil & Gas 2X production

Committed Capex of \$250m to organically increase hydrocarbon production by 100% by 2024



### LNG 1.4 MTPA

1.4 million tonnes of LNG export per annum from the US Gulf Coast for 20 years



### CCS 8 MTPA

Project Greensand target injection rate of 1.5 MPTA by 2025 and eventually 8MPTA by 2030



### Hydrogen £25m

Strategic investor in HydrogenOne, first of a kind LSE listed fund dedicated to clean hydrogen

## Oil & Gas

production  
North Sea

## CCS

Across EU

## LNG

US supply

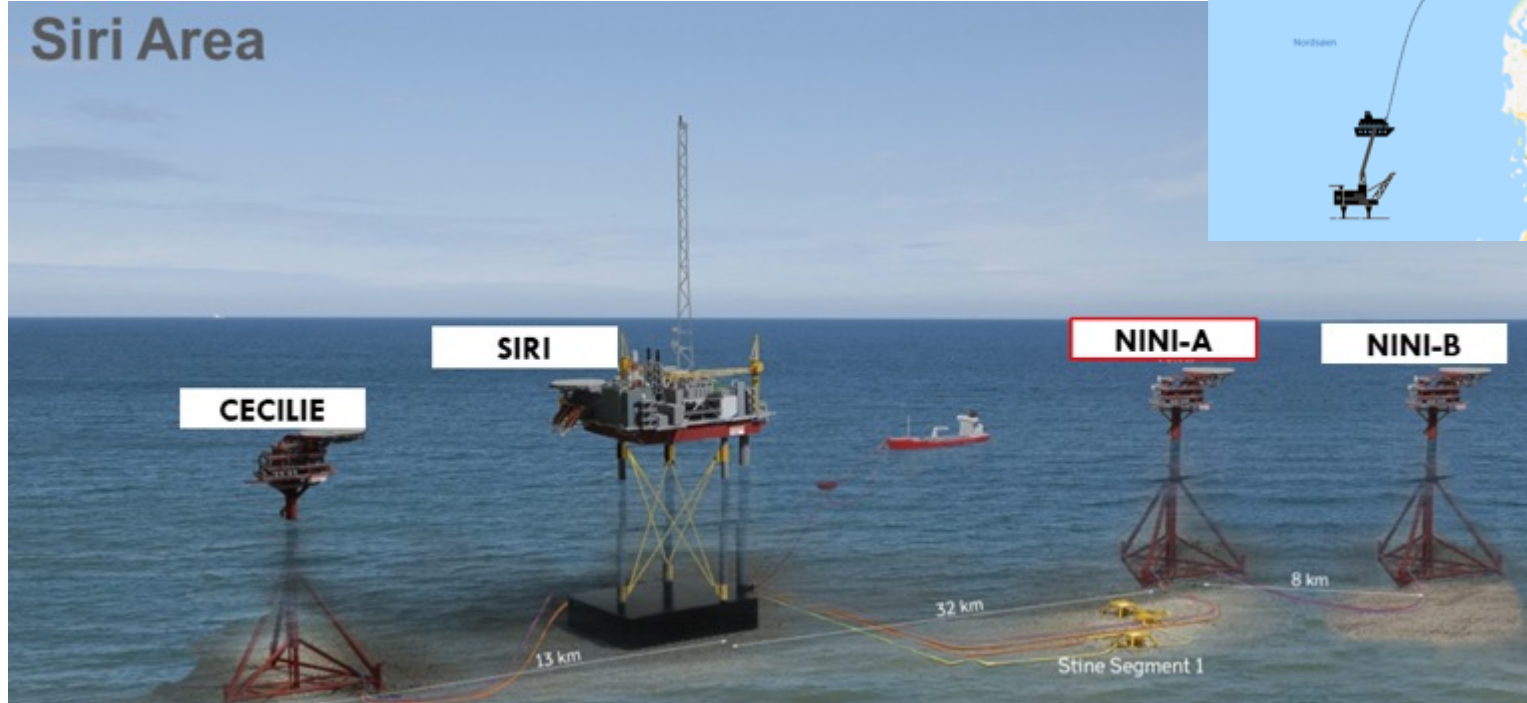


## Hydrogen Capital fund

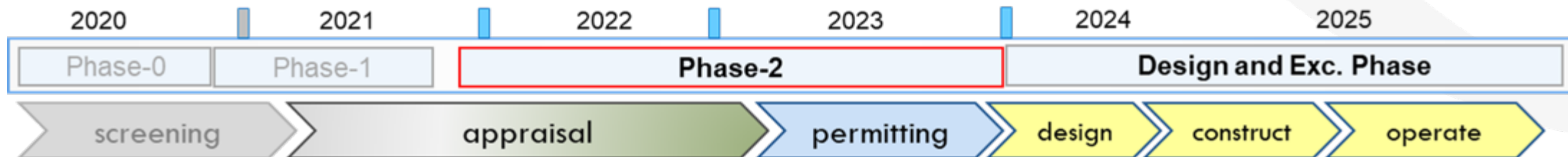
INEOS is committed to achieving net zero by 2050 across its operations and is working to decarbonise the supply chain through carbon capture and storage and provide optionality for alternative sources of energy such as its leadership in the production of hydrogen.

# Sector Transformation: Project Greensand

Oil production hub to CO2 Injection hub

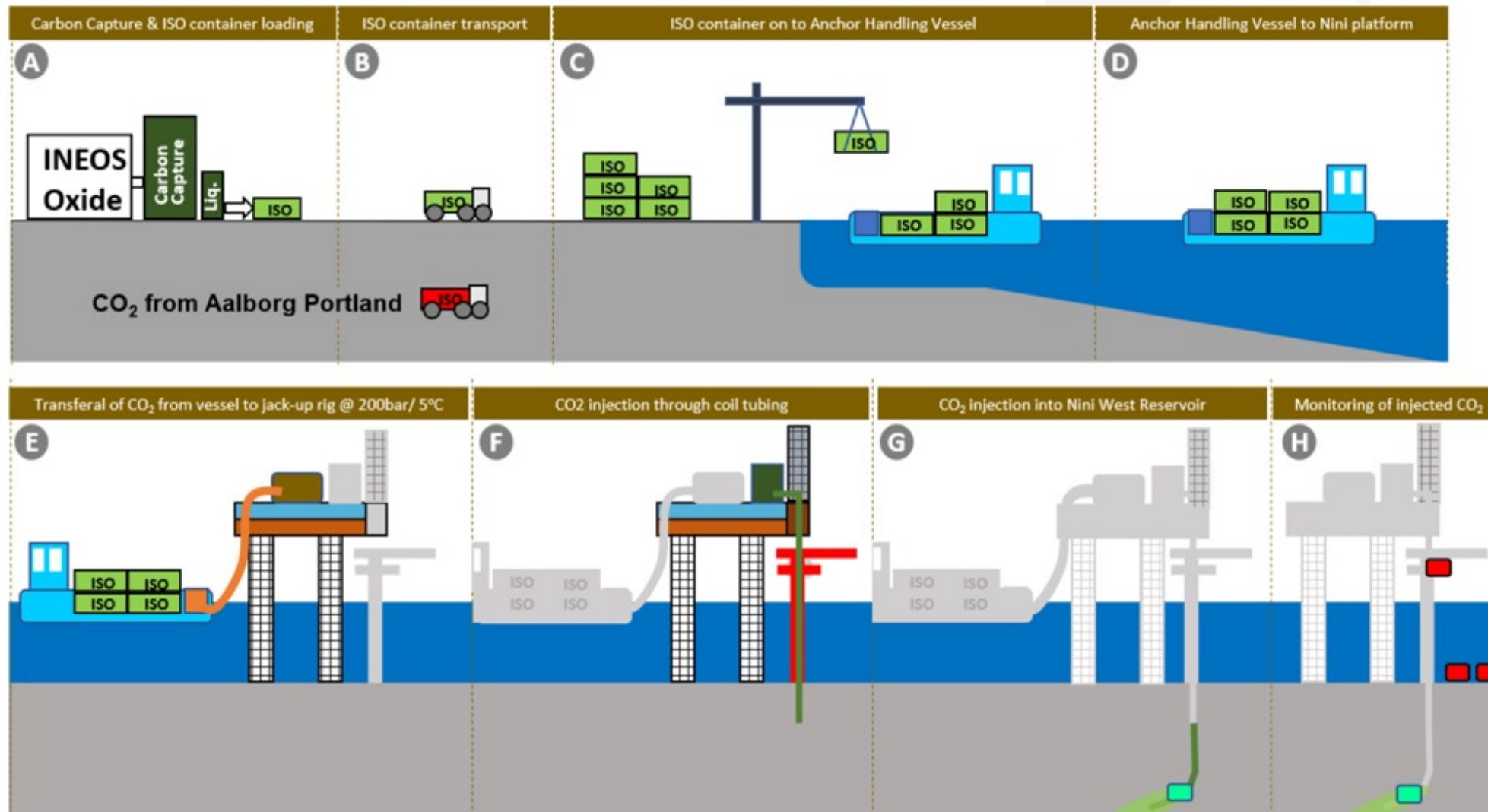


- Located in the Danish North Sea.
- INEOS led Consortium of 23 partners.
- CO2 pilot injection in Q4 2022.
- Commercial injection from 2025.
- Target to inject 8 MTPA by 2030.
- Injection into depleted oil reservoirs.
- Facility re-use & ship based transport.





# Capture, Transport and Field Trial – Q4 2022



# Challenges for the Greensand Project and the CCS industry in general.....

---

- Human resource (expertise/experience)
- Supply chain delays
- Price fluctuations
- Access to Capital
- Overcoming remaining regulatory barriers
- Continued collaboration throughout the value chain
- Subsurface uncertainties
- Competing against oil & gas projects
- The yet to be realised challenges!





# Q&A

Thank You!

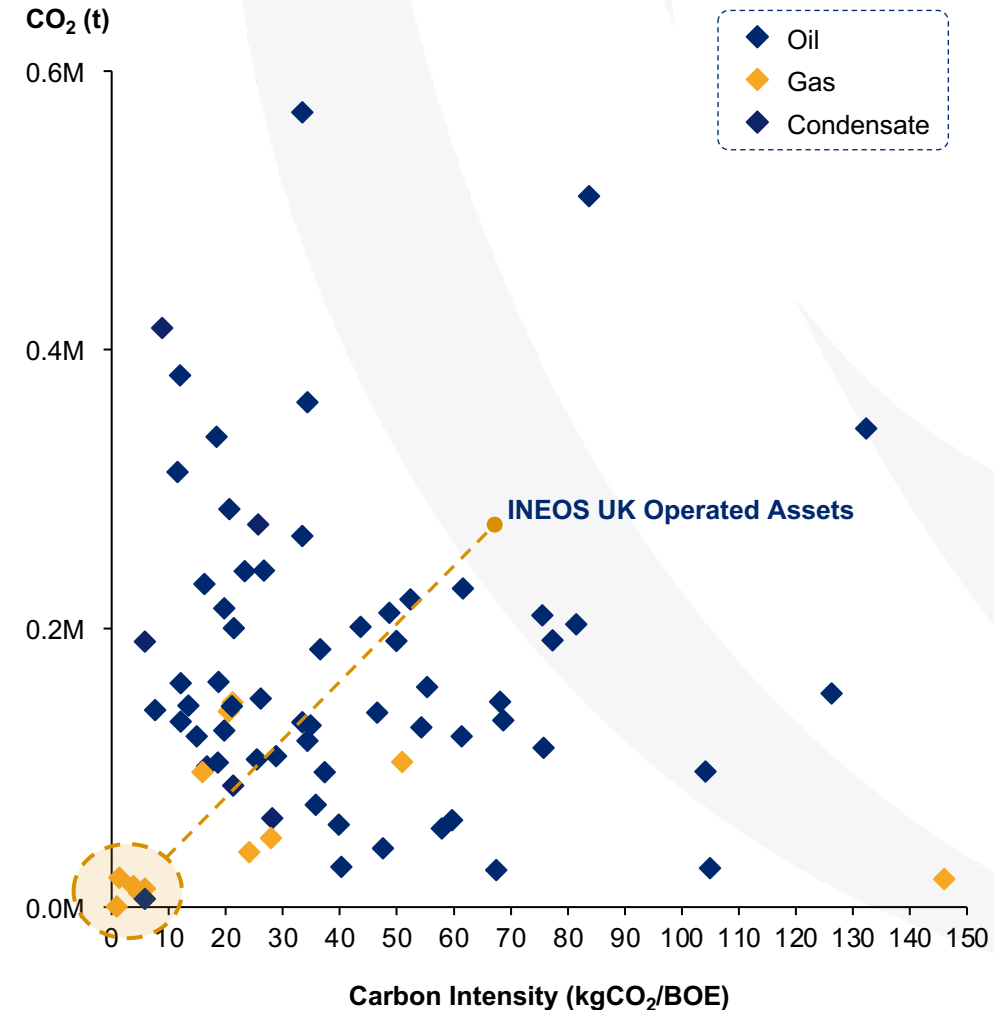
# INEOS Energy Environmental Performance – Operated Assets UKCS

## Environmental Benchmarking

- Benchmarking exercise completed in 2021 to evaluate Scope 1 emissions over the last 5 years of routine production operations
- INEOS operated Breagh and Clipper South production installations have some of the lowest carbon intensities in the UKCS, compared to publicly available data from the OGA
- Both installations combined produced less than 1,000 tonnes of CO<sub>2</sub> per year
- Combined, the average carbon intensity is <0.25kgCO<sub>2</sub>/BOE over the last 5 years (provisional calcs)

Source: Oil & Gas Authority - UKCS Offshore Carbon Intensity Analysis (2020) from EU ETS Installations & Company Info

## UKCS CO<sub>2</sub> & Carbon Intensity by Installation





WESTMINSTER  
ENERGY FORUM



[www.westminsterenergy.org](http://www.westminsterenergy.org)

# Review of Energy Transition Risks – Implications for Political & Corporate Net Zero Strategies

0915-1315hrs, Fri 23<sup>rd</sup> 2022

Prof. Mike Bradshaw, Co-Director, **UK Energy Research Centre**

Gautam Mukherjee, Head of Gas Analytics, **BP**

Tara Schmidt, Sustainability & ESG Finance Director, **Lloyds Banking Group**

Andrew Herring, CEO, Energy & Power, **Marsh**

Sophie Westlake, Deputy Director - International Energy Unit, **FCDO**

Andrea Amelio, First Counsellor – Competition & Energy, **EU Delegation to the UK**

Mariko Higuchi, Dep. Head of Dept for Econ. & Global Affairs, **Embassy of Germany**

Sam McKilligin, Director - Energy Transition, **AECOM**

Abhi Kohok, Subsurface Director, **INEOS**