



INTERNATIONAL
PUBLIC
PARTNERSHIPS



INPP CAPITAL MARKETS DAY

27 February 2024

IMAGE
Dudgeon OFTO, UK

IMPORTANT INFORMATION

By reading this presentation, you agree to be bound by the following limitations:

The information in this presentation has been prepared at the direction of International Public Partnerships Limited ("**INPP**" or the "**Company**"), a FTSE 250-listed, Guernsey incorporated investment company. This presentation and its contents, as well as any accompanying verbal presentation, are solely for information about INPP and are not to be distributed, published, reproduced (in whole or in part) by any medium or in any form, or disclosed or made available by recipients, to any other person without the prior consent of INPP or Amber.

Financial information or projections contained herein are based on the published INPP unaudited semi-annual financial statements to 30 June 2023 or the 31 December 2022 audited annual financial statements where indicated.

Nothing in this presentation constitutes, nor is it intended to constitute: (i) an invitation or inducement to engage in any investment activity, whether in the United Kingdom, the United States or in any other jurisdiction; (ii) any recommendation or advice in respect of the shares in INPP ("Shares"); or (iii) any offer for the sale, purchase or subscription of any Shares.

This presentation, nor any accompanying verbal presentation, are not intended to be a financial promotion, nor have they been approved by a person authorised under the Financial Services & Markets Act 2000 ("FSMA") for the purposes of section 21 FSMA (or as amended). If and to the extent that this presentation or any of its contents are deemed to be a financial promotion, INPP is relying on the exemption provided by Article 69 of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005/1529 in respect of section 21 FSMA (or as amended). Other than in the UK, this presentation and the information contained is not intended for retail investors.

No representation or warranty, express or implied, is made as to, and no reliance should be placed on, the fairness, accuracy, completeness or correctness of the information, or opinions contained herein. The information in this presentation may change or be subject to updating, completion, revision, verification and amendment and such information may change materially. Neither INPP nor Amber nor any of its representatives are under any obligation to inform you should this occur and neither INPP nor Amber accept any liability or responsibility for loss of any kind arising from the use of this document of information within it, however arising, by any party.

Any companies, sector opportunities or strategies discussed or named within the presentation are for illustrative or educational purposes only and are not intended to be marketing of INPP. The information communicated in this presentation contains certain statements that are or may be forward looking. These statements typically contain words such as "expects" and "anticipates" and words of similar import. Where graphical, such words are implied in that information through the shape and size of graphed information relating to future years. By their nature forward looking statements involve risk and uncertainty because they relate to events and depend on circumstances that will occur in the future. These circumstances may or may not transpire and accordingly no reliance or expectation should be formed based on these statements.

No warranty or guarantee is given by Amber or INPP nor may any reliance may be placed on any returns or other performance indicators or targets which may be used for illustrative and educational purposes relating to the infrastructure sector, in this recording. The value of an investment in the Company, and the returns derived from it, if any, may go down as well as up and an investor may not get back the amount invested. The Company's investment portfolio may not perform as anticipated at the time of investment and may be loss making. The market price of the shares in the Company may fluctuate independently of their Net Asset Value and the shares in the Company may trade at a discount or premium to their Net Asset Value at different times and it may be difficult for shareholders in the Company to realise their investment.

This presentation and its contents, are not for publication or distribution, directly or indirectly, to persons in the United States (within the meaning of Regulation S under the US Securities Act of 1933, as amended (the "Securities Act")) or to entities in the EEA (other than to professional investors in Ireland) Australia, Canada, South Africa, New Zealand, or Japan or in any other jurisdiction where this would be unlawful. Therefore, the recording or copies, may not be taken into, transmitted or distributed in such jurisdictions, except in compliance with the applicable securities law of that jurisdiction. Failure to comply may result in a violation of that jurisdiction's national securities laws or that of the United States.

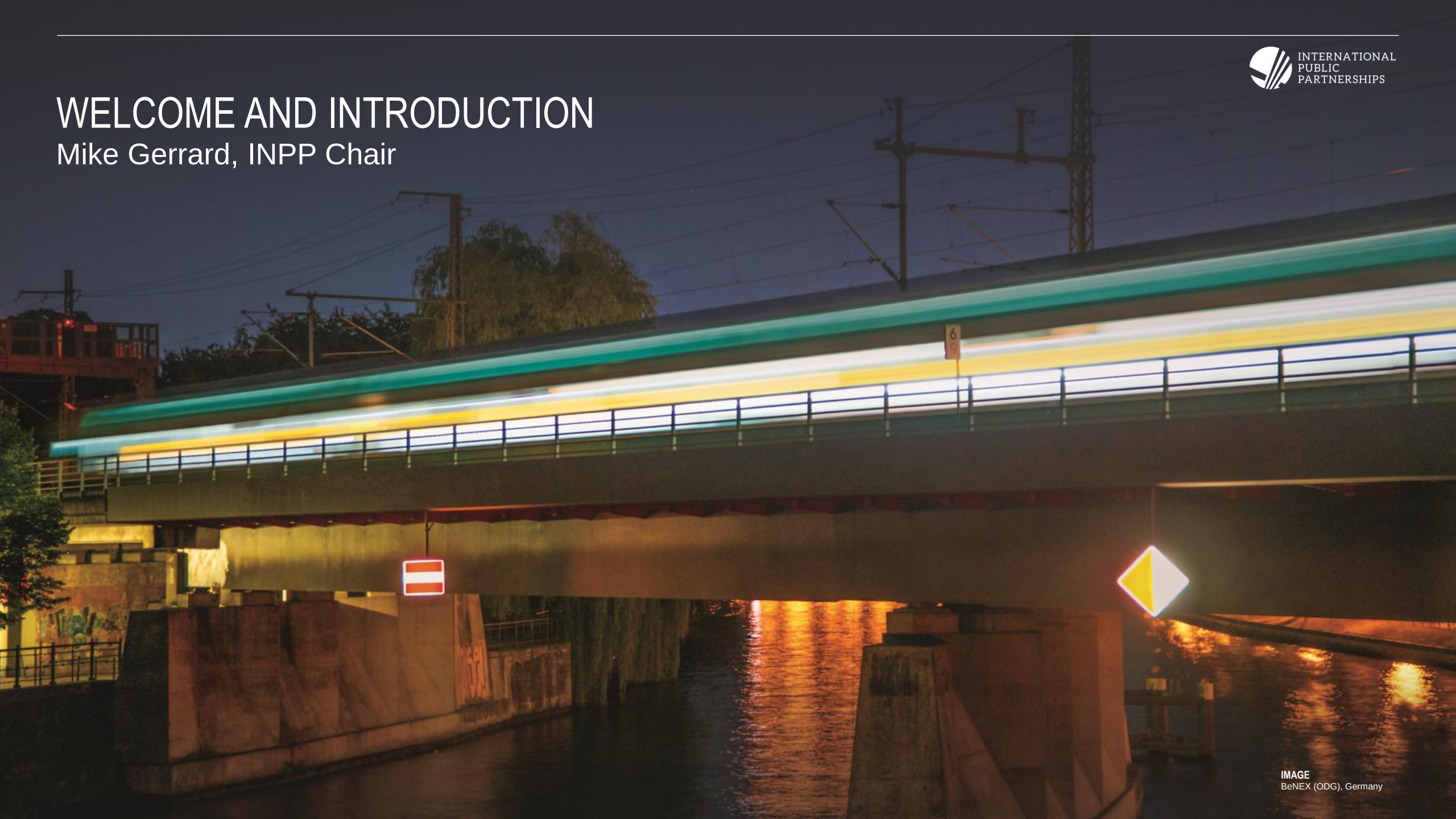
AGENDA

09.00 am	Arrival and coffee	
09.25 am	Welcome and introductions	Mike Gerrard, INPP
09.35 am	INPP: Six-month review	Chris Morgan, Amber Infrastructure
09.50 am	Amber Asset Management update	Dan Ward, Amber Infrastructure
10.05 am	Amber overview and update	Gavin Tait, Amber Infrastructure
10.20 am	Q&A	Amber Infrastructure / INPP
10.30 am	Break	
10.45 am	Net zero – scene setting	Graham Bennett, Amber Adviser (formerly DNV)
11.15 am	Panel discussion	Giles Frost, Amber Infrastructure Rachel Nodder, IPA Malcolm Brown, Angel Trains Angela Needle, Cadent
11.55 am	Q&A with panel participants and Graham Bennett	Giles Frost, Amber Infrastructure (moderator)
12.05 pm	Concluding comments	Mike Gerrard, INPP
12.15 pm	Close	



WELCOME AND INTRODUCTION

Mike Gerrard, INPP Chair



INPP: SIX-MONTH REVIEW

Chris Morgan, Amber Infrastructure

OUR APPROACH

OUR PURPOSE IS TO INVEST RESPONSIBLY IN SOCIAL AND PUBLIC INFRASTRUCTURE THAT DELIVERS LONG-TERM BENEFITS FOR ALL STAKEHOLDERS.

INPP believes that the financial performance of its investments is linked to environmental and social success and, as such, it considers issues that have the potential to impact the performance of its investments, both now and in the future.

The Company draws on several frameworks and benchmarks to provide direction.

Signatory of:



CONSISTENT AND PREDICTABLE RETURNS

- Resilient, inflation-linked cash flows
- Focus on growing predictable dividends
- Backed principally by regulated or contracted government-backed revenues

DIVERSIFIED PORTFOLIO

- Investments are spread by both sector and developed geographies
- Investments support the delivery of a range of essential public services
- Low correlation to other asset classes

INVESTMENT STEWARDSHIP

- Active approach to asset management
- Integration of ESG considerations across the investment lifecycle to protect and enhance value
- Categorised as an Article 8 Financial Product under SFDR as well as being aligned with PRI, Sustainable Development Goals ('SDGs') and TCFD

RESPONSE TO CURRENT MARKET ENVIRONMENT

THE COMPANY PREVIOUSLY ANNOUNCED THAT IT WOULD TAKE THE FOLLOWING ACTIONS TO ENSURE IT REMAINS WELL POSITIONED IN THE CURRENT MARKET ENVIRONMENT



Enhancing short-term dividend growth



Realising value from the existing portfolio



Reducing the use of its corporate debt facility ('CDF')

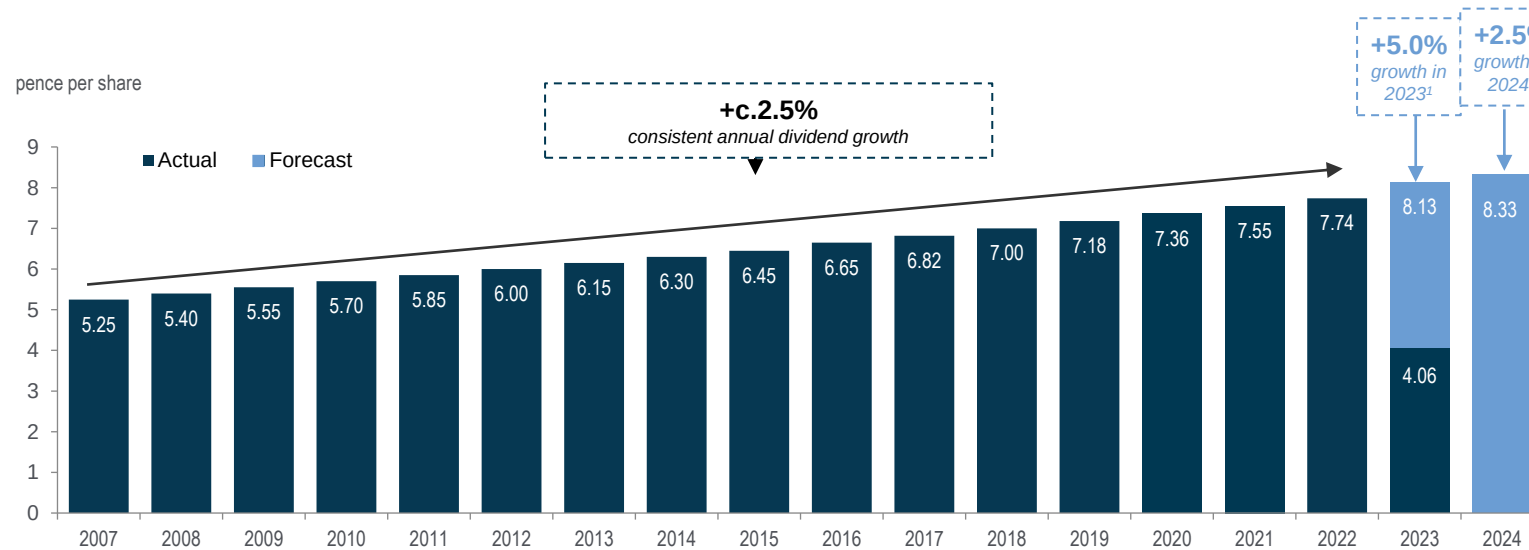


Keeping other initiatives under review



- ENHANCING SHORT-TERM DIVIDEND GROWTH

2023 DIVIDEND GROWTH INCREASED TO 5.0%¹



2023 TARGET DIVIDEND
GROWTH¹

5.0%

SUSTAINABLE FUTURE
DIVIDEND GROWTH²

>20 years

DIVIDEND YIELD³

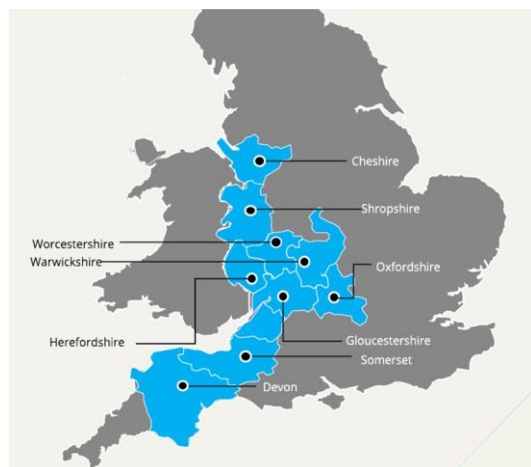
6.3%

1. There can be no assurance that these targets will be met or that the Company will make any distributions at all.
 2. This includes the 2023 and 2024 dividend targets and assumes 2.5% annual dividend growth thereafter.
 3. INPP dividends expected to be paid during the year to 31 December 2024 divided by the INPP share price on 31 December 2023.

- REALISING VALUE FROM THE EXISTING PORTFOLIO

AIRBAND

- Airband is a leading fibre network operator serving rural and hard-to-reach areas across the West of England
- INPP first invested in Airband in 2018 and supported the business in expanding its fibre network to cover more than 290,000 homes, businesses and industries
- In July 2023, INPP completed the sale of its stake in Airband with the sales proceeds in line with INPP's 30 June 2023 valuation



REALISATION COMPLETED

JUL 2023

REALISATION PROCEEDS

£12M

OFFSHORE TRANSMISSION OWNERS ('OFTOS')

- OFTOs own the electricity transmission infrastructure connecting offshore windfarms to the onshore grid
- INPP is invested in eleven OFTOs and held senior debt positions in four of these. In December 2023, INPP completed a transaction to realise its four senior debt investments and add a prudent amount of leverage to the Lincs OFTO
- The four senior debt investments were realised at a modest premium to INPP's 30 June 2023 valuations
- The OFTO transaction enhances INPP's key portfolio metrics and generated cash proceeds of c.£200m



REALISATION COMPLETED

DEC 2023

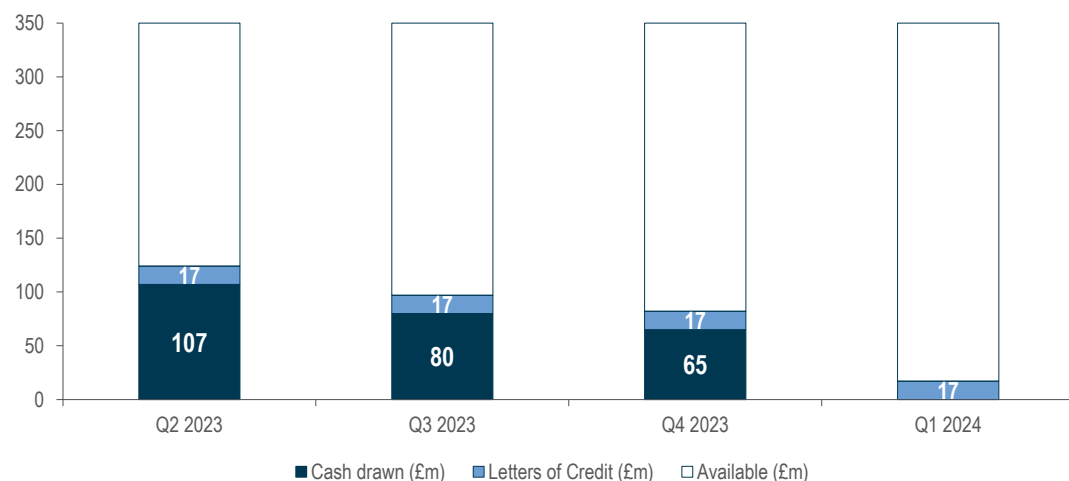
REALISATION PROCEEDS

£200M

- REPAYMENT OF CASH DRAWINGS UNDER THE CDF

REALISATION PROCEEDS HAVE BEEN USED TO REDUCE THE DRAWN BALANCE OF THE CDF IN ACCORDANCE WITH THE BOARD'S PREVIOUSLY-ANNOUNCED COMMITMENT

- INPP has historically made prudent use of its CDF to efficiently acquire new assets
- Acknowledging the higher interest rate environment, in September 2023, the Company announced that it would focus on reducing the use of its CDF
- Realisation proceeds, along with free cash flow, have been used to fully repay the £107m of cash drawings outstanding at 30 June 2023
- The Company has two long-standing investment commitments totalling £17m which are supported by letters of credit and are expected to be funded in 2024 and 2025

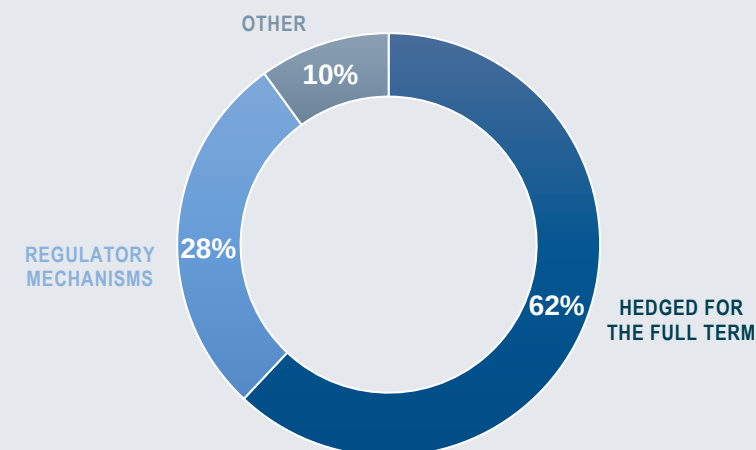


1. As at 30 June 2023. Excludes the Company's senior and mezzanine debt investments.
2. As at 30 June 2023.

ASSET LEVEL DEBT BENEFITS FROM MITIGATIONS IN RELATION TO CHANGES IN BASE RATES

- Asset level debt is non-recourse to the Company
- Weighted average asset leverage of c.65%¹

90% of portfolio by fair value² benefits from mitigations in relation to changes in base rates



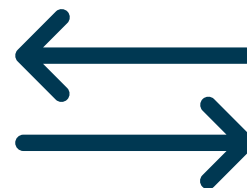
DISCIPLINED APPROACH TO CAPITAL ALLOCATION

FOCUS ON DISCIPLINED ALLOCATION OF CAPITAL TO OPTIMISE THE PORTFOLIO AND ENHANCE SHAREHOLDER RETURNS



RECYCLING CAPITAL

- The Company invested **c.£78m into the Moray East OFTO** in February 2024
- Projected returns were considered favourable relative to alternative capital allocation options
- Moray East OFTO is the Company's eleventh OFTO investment and further increases the Company's contribution to the UK's transition to a net zero carbon economy



SHARE BUYBACK

- Continued belief that the share price materially undervalues the Company and hence that a share buyback represents an attractive investment
- The Company intends to allocate up to **£30m towards its share buyback programme** and may consider increasing the allocation as further funds become available
- The share buyback programme commenced in January 2024, with c.£4m worth of shares having been bought to date, and is expected to run for a period of up to 12 months



DIVIDENDS

- **2023 dividend growth was revised upwards to 5.0%**. The Board is currently forecasting to revert to its long-term annual dividend growth rate of 2.5% for 2024 but this remains under review

SUMMARY

PORTFOLIO REMAINS WELL-POSITIONED WITH RESILIENT CASH FLOWS AND PREDICTABLE RETURNS

Strong performance Strong operational and financial performance despite volatile macroeconomic backdrop	Increased dividends 2023 dividend target¹ represents a 5.0% increase on the 2022 dividend	High-level of inflation-linkage 0.7% inflation linkage² which provides a good level of protection in higher-inflation environments	Well covered dividends Delivering on forward dividend guidance published previously with 1.2x dividend cover as at 30 June 2023
Strong liquidity position CDF undrawn since the end of January 2024	Well diversified portfolio >140 investments spread across developed geographies with strong credit ratings	Attractive returns 31 December 2023 share price implied a projected net return of 8.6%³ which was 4.5% more than a 30-year UK govt bond⁴	Responsible investor Continuing to demonstrate strong investment stewardship. Second Sustainability Report published during 2023

1. There can be no assurance that these targets will be met or that the Company will make any distributions at all.

2. As at 30 June 2023. Calculated by running a 'plus 1.0%' inflation sensitivity for each investment and solving each investment's discount rate to return the original valuation. The inflation-linkage is the increase in the portfolio weighted average discount rate.

3. This is calculated based on INPP's 30 June 2023 weighted average discount rate, less the ongoing charges ratio, adjusted to reflect the share price discount to the NAV using published sensitivities.

4. As at 31 December 2023. 30-year bond used owing to the UK weighting of the portfolio and the weighted average investment tenor of c.37 years.



INTERNATIONAL
PUBLIC
PARTNERSHIPS

ASSET MANAGEMENT UPDATE

Dan Ward, Amber Infrastructure

IMAGE
Olga Primary School, Tower Hamlets, UK
Photo credit: Bob Wheeler

IN-HOUSE ACTIVE ASSET MANAGEMENT

AMBER'S ASSET MANAGEMENT TEAM IS RESPONSIBLE FOR ENSURING EFFECTIVE RISK MANAGEMENT AND DRIVING THE OVERALL FINANCIAL, OPERATIONAL AND ESG PERFORMANCE OF INPP'S INVESTMENTS TO DELIVER LONG-TERM VALUE FOR ALL STAKEHOLDERS

Amber's active approach to asset management has been fundamental to the Company's performance since its IPO.

Amber has a dedicated team of over 50 asset managers with sector expertise and presence across the geographies in which INPP is invested.

Asset management work varies depending on the nature of the investment; Amber either manages the day-to-day activities of the investment or exercises its responsibilities through board representation and engagement with management teams.

>50

Number of asset managers globally

11

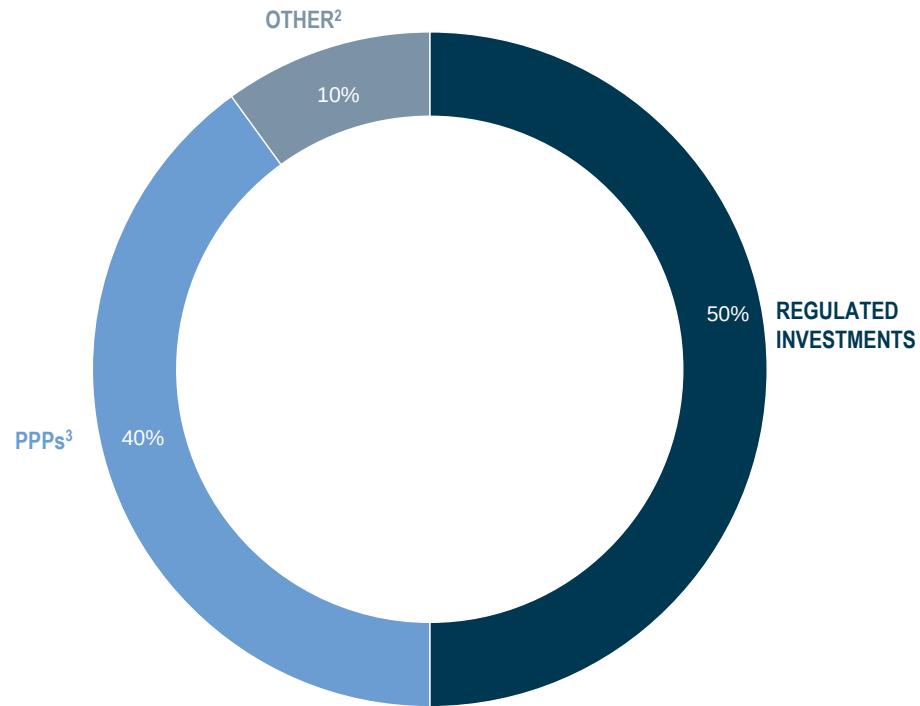
Countries with asset management presence

>140

Number of assets managed

PPP INVESTMENTS REPRESENT 40% OF INPP'S PORTFOLIO

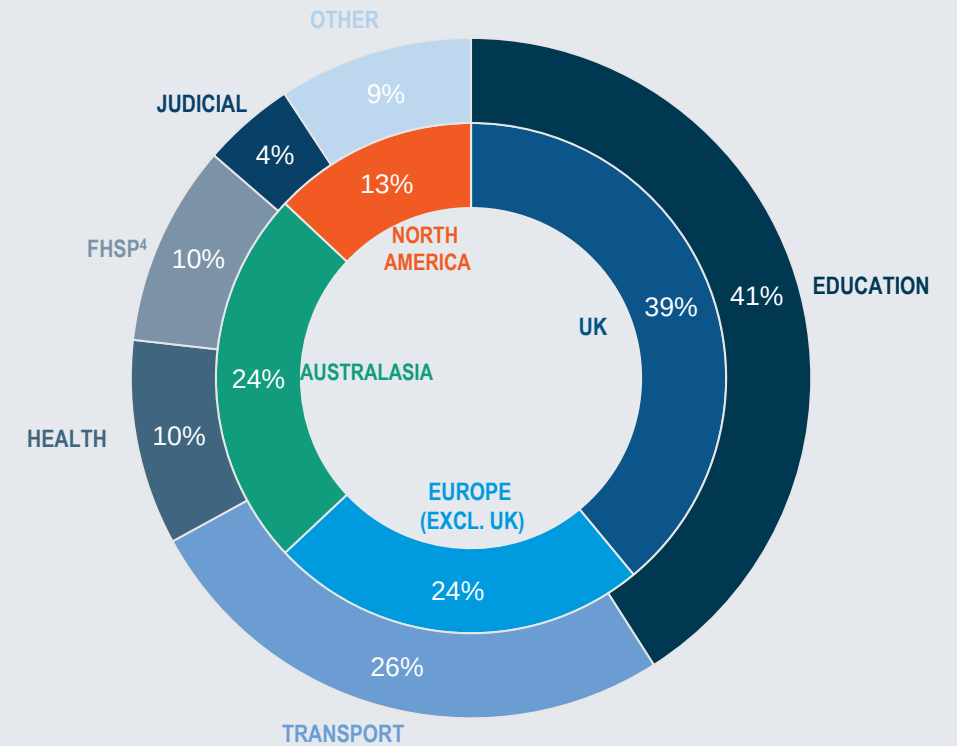
PORTFOLIO BREAKDOWN¹



1. Based on the fair value of investments as at 30 June 2023
2. Includes rolling stock leasing and operating businesses, and digital infrastructure businesses
3. PPP – Public Private Partnerships
4. FHSP – Family Housing for Service Personnel

PPP BREAKDOWN¹

INPP's 125 PPP investments are spread across nine jurisdictions and various subsectors



PPP PORTFOLIO VALUE ENHANCEMENT ACTIVITIES

AMBER ACTIVELY MANAGES THE PPP PORTFOLIO TO IDENTIFY OPPORTUNITIES TO ENHANCE INVESTOR VALUE AND TO DELIVER SAVINGS TO THE PUBLIC SECTOR THROUGH CONTRACTUAL GAIN SHARE MECHANISMS

- **Insurances**
 - Procured as a portfolio and placed in long term agreements.
 - Regularly re-tendered to ensure best value.
 - Amber reputation, risk management processes and claims history help to reduce premiums.
- **Refinancings**
 - Opportunities to refinance are under constant assessment.
 - Two delivered in 2023, pipeline includes up to four more in the next 12 months.
- **Overheads**
 - Regular re-tendering to maximise value.
 - Restructuring and / or company hibernation to reduce overheads.
- **Cash Management**
 - Operating and reserve account balances placed on short term deposit.
- **Cash Optimisation**
 - Regular assessments of working capital requirements and opportunities to optimise the distribution profile.

INSURANCE – PROJ CO

c.50%

Saving achieved on 2023 renewal

- Portfolio renewal process
- Saving relative to standalone pricing

REFINANCINGS

>10

More than 10 delivered in last five years

- Over £20m gain share payments to INPP Proj Cos

CASH MANAGEMENT

100bps

Average deposit rate increase

- Achieved through cash management processes

INSURANCE - AUTHORITY

>£5m

Saving in the last 2 years

- Returned to Authorities through risk share mechanisms.

AUDIT ENGAGEMENTS

£0.250m

Saving

- 2023 re-tender of all BSF Proj Co audits

CASH OPTIMISATION

Bi-Annual

SPV Reviews

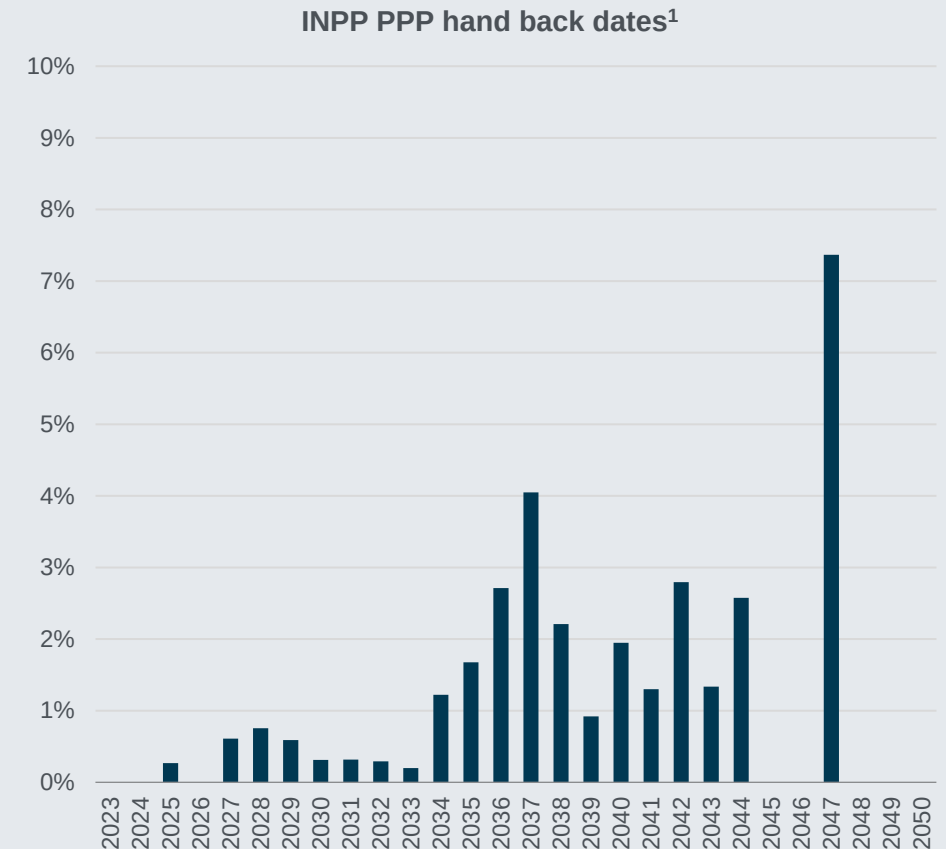
- To identify opportunities to enhance the distribution profile

PPP HAND BACK - OVERVIEW

HAND BACK IS COMING INTO SHARPER FOCUS ACROSS THE INDUSTRY AS SCHEMES START TO BE HANDED BACK TO THE PUBLIC SECTOR

- **Authority rights**
 - Survey the property to assess condition relative to hand back requirements.
 - Ability to withhold payments where remedial works are required.
- **Project company obligations**
 - Ensure compliance the with hand back requirements.
 - Facilitate the transfer of facilities management services to a new provider.
 - Facilitate the transfer of all books and records.
- **Current Areas of Focus**
 - Resourcing.
 - Capacity.
 - Expertise and knowledge.
 - Assurance.

INPP HAND BACK DATES SPREAD OVER NEXT 25 YEARS



1. Based on the fair value of investments as at 30 June 2023

PPP HAND BACK - OPPORTUNITY & GUIDING PRINCIPLES

OPPORTUNITY TO DEMONSTRATE THE POSITIVE CONTRIBUTION OF PRIVATE SECTOR INVOLVEMENT IN PUBLIC INFRASTRUCTURE BY DELIVERING AN EFFICIENT, WELL-MANAGED PROCESS

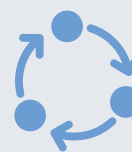
We believe a successful hand back process will be predicated on building a strong sense of collaboration through the following key principles:

UPFRONT ENGAGEMENT



Secure mutual agreement of the contractual requirements and the requisite evidence

TRANSPARENCY



Open approach to evidencing condition, maintenance and compliance

TRUST



Demonstrate robust approach to compliance to provide high levels of assurance

KNOWLEDGE SHARING



Ensure all relevant contractual documentation and history is shared between the parties

STRONG COMMUNICATION



Regular dialogue throughout the hand back process

CONSISTENCY OF RELATIONSHIPS



Where possible, all parties should retain a consistent hand back team

AMBER OVERVIEW AND UPDATE

Gavin Tait, CEO of Amber Infrastructure



ESTABLISHED TEAM

~180 professionals including specialist investment, asset and fund management



INTERNATIONAL PRESENCE

personnel and offices in 12 countries across Europe, Australia and North America



SPECIALISED FUND MANAGER

with 8 funds under management investing in infrastructure sectors of the future including transport, energy and digital infrastructure



PROVEN TRACK RECORD

of capital deployment and outperformance over 10+ years with experience across credit cycles



CULTURE OF ORIGINATION

with over 175 investments made to date. Consistent track record of sourcing primary and off-market opportunities (70% of investments)



LEADING ASSET MANAGER

with ~£5bn equity under management in the infrastructure sector across OECD jurisdictions



FULL-SERVICE APPROACH

providing the ability to manage assets in-house



PUBLIC MARKET STANDARDS

rigorous approach to reporting, disclosure, corporate governance and investor relations



AWARD WINNING APPROACH TO ESG

Amber actively integrates ESG factors into all aspects of investment, deployment and management aiming to protect and enhance value

GOVERNMENT STIMULUS AND SUPPORT FOR INFRASTRUCTURE INVESTMENT

OECD GOVERNMENTS ARE REQUIRED TO DELIVER UNPRECEDENTED SPENDING, FOCUS AND FACILITATION OF CRITICAL INFRASTRUCTURE IN RESPONSE TO DEGLOBALISATION, DECARBONISATION AND DETERIORATING INFRASTRUCTURE

INFRASTRUCTURE
“GAP” TO 2037¹

 UK	£650bn infrastructure spending budgeted over the next 5 years², the highest sustained levels in >40 years. The UK's Levelling Up Fund³ allocates significant investment to infrastructure in line with the National Infrastructure Strategy	\$148bn
 AUSTRALIA	A total of £139bn (A\$248bn)⁴ in general government funding is being spent over the current four-year budget cycle - a 10% increase on the previous cycle. Australia have published an Infrastructure Priority List for large scale infrastructure projects out to 2036⁵	\$138bn
 EU	£710bn (€820bn) Next Generation EU Recovery fund⁶ to rebuild “a greener, more digital and more resilient Europe” includes a large green infrastructure component. Global Gateway Infrastructure Strategy⁷ provides £270m (€300bn) to support private investment in infrastructure to 2027	\$554bn
 UNITED STATES	£1,300bn (US\$1,600bn) Stimulus Bills including Infrastructure Investment and Jobs Act⁸ and Inflation Reduction Act⁹ provide for expansion of transport, communications, energy, carbon and resiliency infrastructure. US Executive Order 2021: climate considerations will be an essential element of US foreign policy and national security	\$3.7tn
 Transport New mobility and logistics solutions necessitated by changing trade patterns, resiliency concerns and decarbonisation	 Energy Energy security and decarbonisation agendas require a rapid and sustained shift in energy infrastructure	 Digital connectivity Sovereign prosperity and social equality depends upon access and quality of digital connectivity. Unprecedented investment in digital assets required

Sources:

1. G20 Global Infrastructure HUB Global Infrastructure Outlook - A G20 Initiative (github.org) -Infrastructure Gap refers to the level of current planned spending compared to the required spending.
2. Transforming Infrastructure Performance: Roadmap to 2030, Infrastructure and Projects Authority, UK Government Sep 2021.
3. Levelling Up the UK, Department for Levelling Up, Housing & Communities, UK Government Feb 2022.
4. Infrastructure Partnerships Australia 2022 - Australian Infrastructure Budget Monitor 2021-22.

5. Infrastructure Priority List Feb 2021, Infrastructure Australia, Australian Government.
6. Recovery and Resilience Facility, European Commission.
7. Global Gateway, European Commission.
8. Bipartisan Infrastructure Law, The White House.
9. The Inflation Reduction Act, The White House.

RESPONSIBLE INVESTMENT TRACK RECORD

AMBER HAS EXTENSIVE EXPERIENCE WORKING WITH GOVERNMENTS TO DELIVER POSITIVE ENVIRONMENTAL AND SOCIAL OUTCOMES. HAVING LAUNCHED ITS FIRST IMPACT FUND IN 2011, AMBER HAS OVER 10 YEARS OF EXPERIENCE IN MEASURING AND REPORTING NON-FINANCIAL DATA ACROSS

Positive environmental and social outcomes from Amber-managed or advised funds



>1,500,000

Total homes passed with full fibre



>51,000

Equivalent cars off the road through GHG emissions avoided annually¹



>390 GWh

Renewable electricity generated in 2022



>230,000t

Avoided GHG emissions in 2022



>12,500

Jobs supported across Amber-managed investments



>154,000,000

Annual passenger journeys through transport investments in 2022



>3,700,000

Homes powered by renewable energy transmitted through OFTOs annually



>37,000,000 M³

Expected reduction in wastewater discharges from Thames Tideway Tunnel project

Amber's impact funds work in partnership with and report to government partners



MAYOR OF LONDON



1. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Q&A



THE ENERGY TRANSITION PATHWAY TO 2050

Opportunities and Risks
Graham Bennett



PRESENTATION OUTLINE

1

The Energy Transition Outlook to 2050

2

The Opportunity for Infrastructure

3

Points to Consider



OUTLOOK

BUILDING BLOCKS OF THE ENERGY TRANSITION

Demand:

How will energy demand evolve?

Infrastructure:

Critical to successful delivery

Supply:

A resilient low carbon energy supply

Investment:

Investment for both change and adaptation.

Government Action:

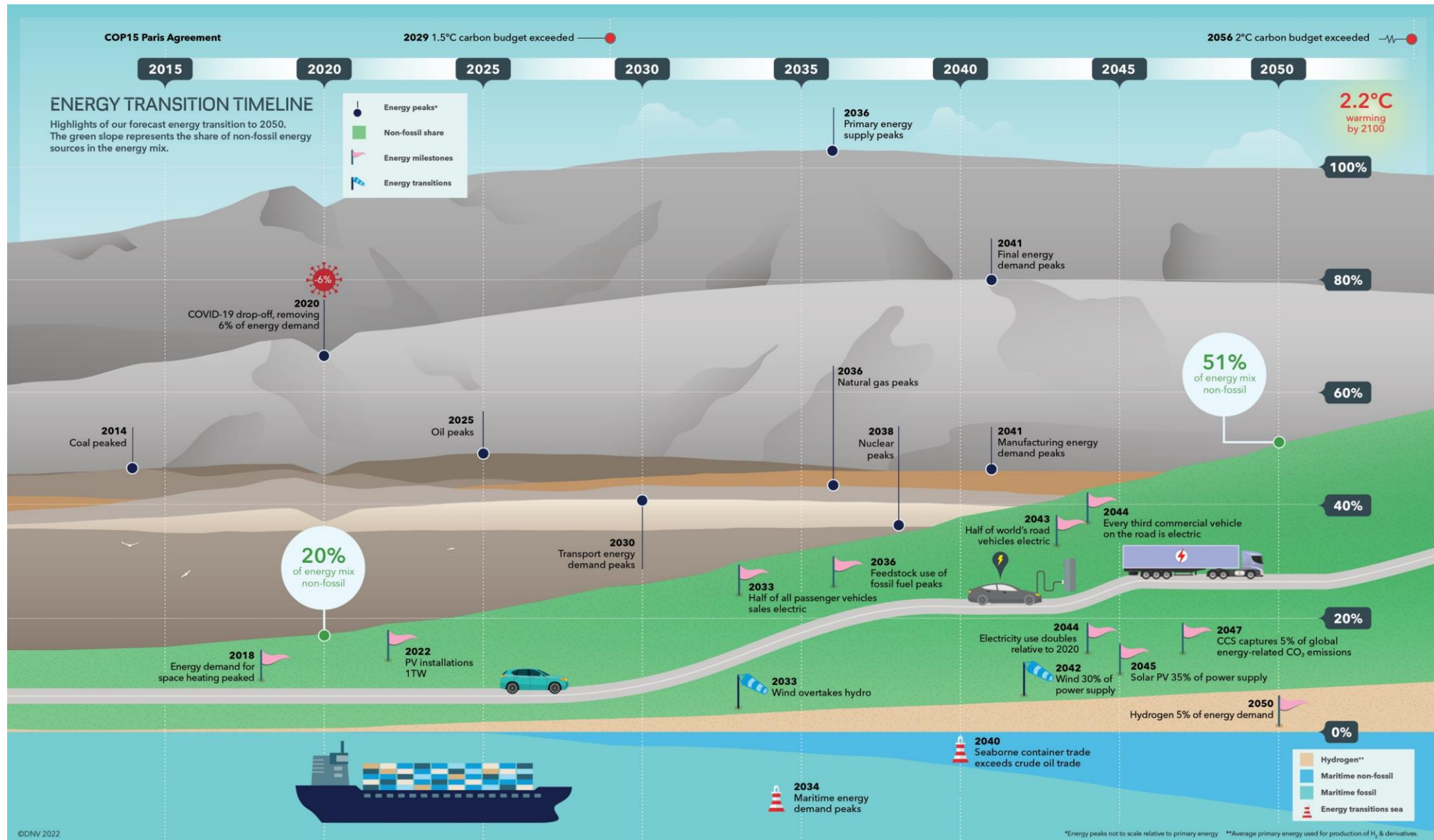
Stable and supportive policies and regulations

Consumer Behaviour:

Are we willing to accept change?



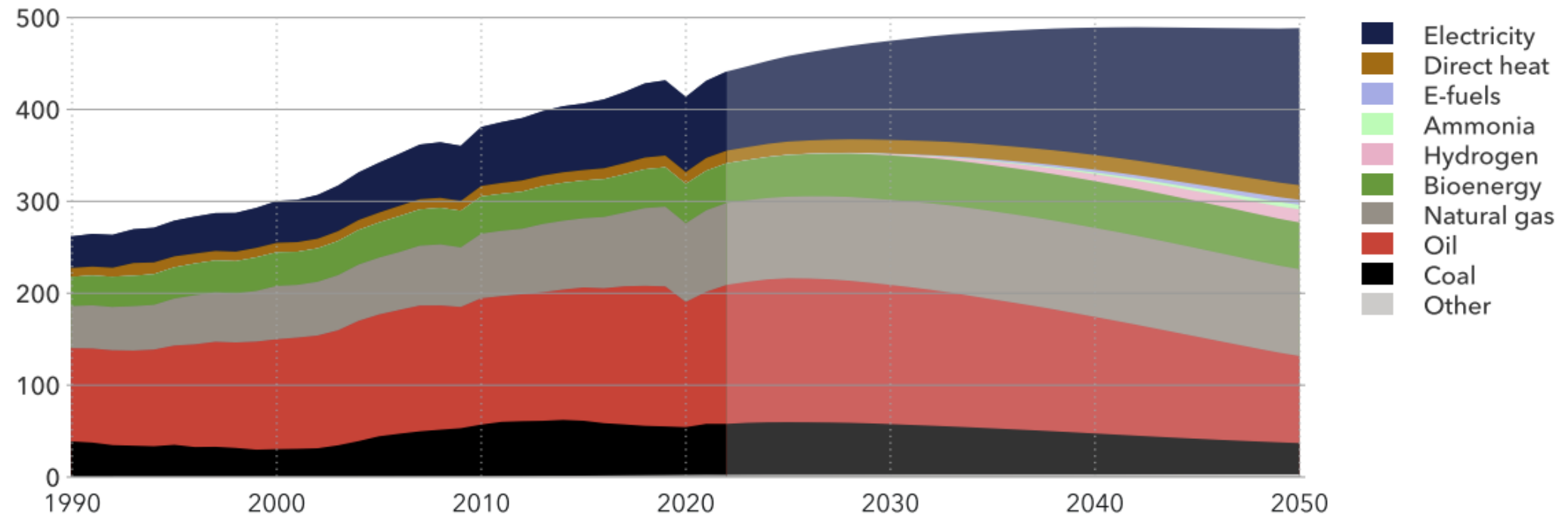
ENERGY TRANSITION OVERVIEW



GLOBAL ENERGY DEMAND PEAKS LEVELS OFF TOWARDS 2050

World final energy demand by carrier

Units: EJ/yr

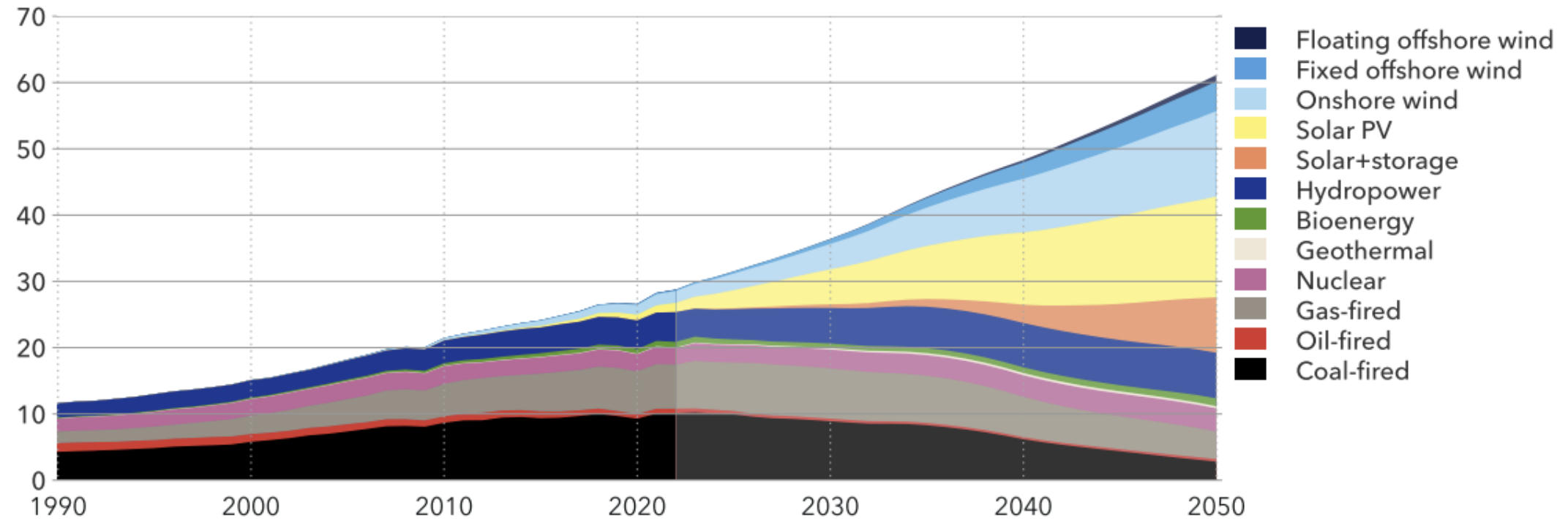


Historical data source: IEA WEB (2023)

80% OF GLOBAL GRID ELECTRICITY SUPPLY WILL COME FROM RENEWABLES AND NUCLEAR IN 2050

World grid-connected electricity generation by power station type

Units: PWh/yr



Historical data source: IEA (2023), GlobalData (2023)

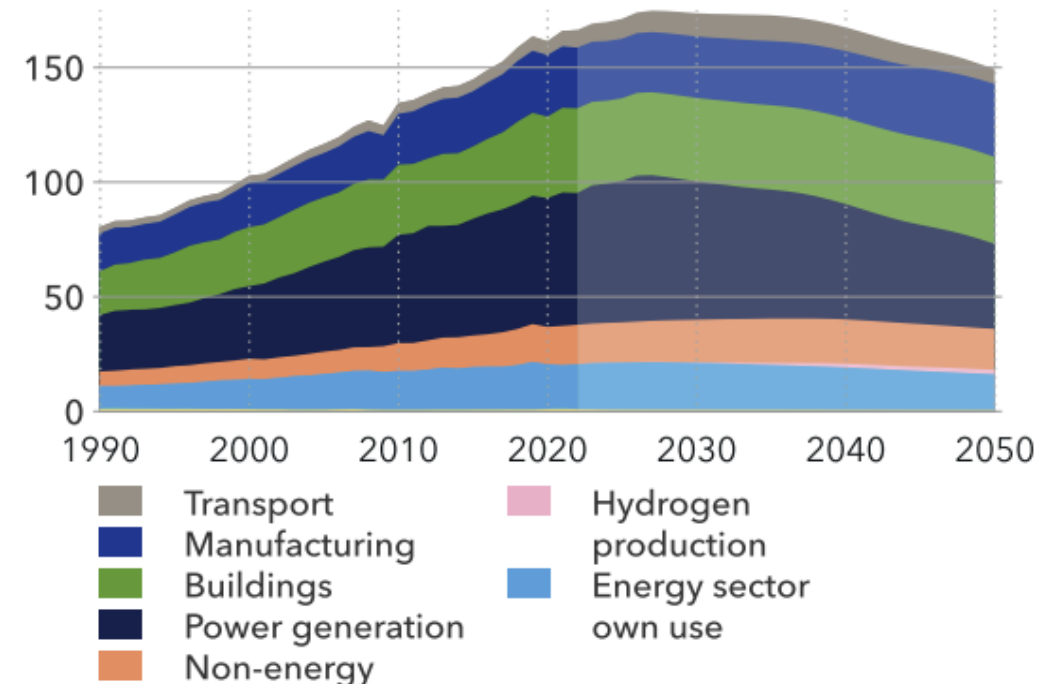
GLOBAL GAS DEMAND

KEY POINTS

- In 2022, annual global gas demand was 4,795 billion m³, 25% of global primary energy demand
- In 2050, gas will still provide 21% of global primary energy demand
- Gas demand is forecast to continue to grow until 2028, when it will plateau, then only decline slowly by 2050, when it will be 10% lower than today
- Demand will grow in manufacturing and transport, but decline in power generation, and remain static in buildings
- Production will grow fastest in Middle East & North Africa (+33%)
- Demand will grow fastest in Greater China (+28%) and India (+300%)
- LNG and pipeline transport will increase due to a shift in demand patterns between regions

World natural gas demand by sector

Units: EJ/yr



Includes natural gas liquids and biomethane. Historical data source: IEA WEB (2023)

KEY POINTS

- Despite increasing electrification and improvements in the efficiency of thermal insulation and heating/cooling equipment, global energy demand for buildings is set to grow nearly 30% over the next three decades
- In 2022, 28% of the world's energy and nearly 50% of global electricity was consumed in buildings. About three-quarters (92 EJ) of this demand was in residential buildings, and the rest (33 EJ) in commercial buildings including private and public workspaces, hotels, hospitals, schools, and other non-residential buildings.
- Total CO2 emissions from this sector amounts to 3 GtCO2, about 8% of total energy-related CO2 emissions.
- The floor area of residential buildings is expected to grow globally by nearly 50% through to 2050, while commercial floor area will more than double in line with the growth in economic activity.
- Space cooling accounted for only 6% of the energy demand of the buildings sector in 2022 but DNV predict an increase to 17% by 2050, split roughly 70:30 between residential and commercial buildings
- Regions with the fastest economic growth also happen to be those that will demand the greatest increase in cooling

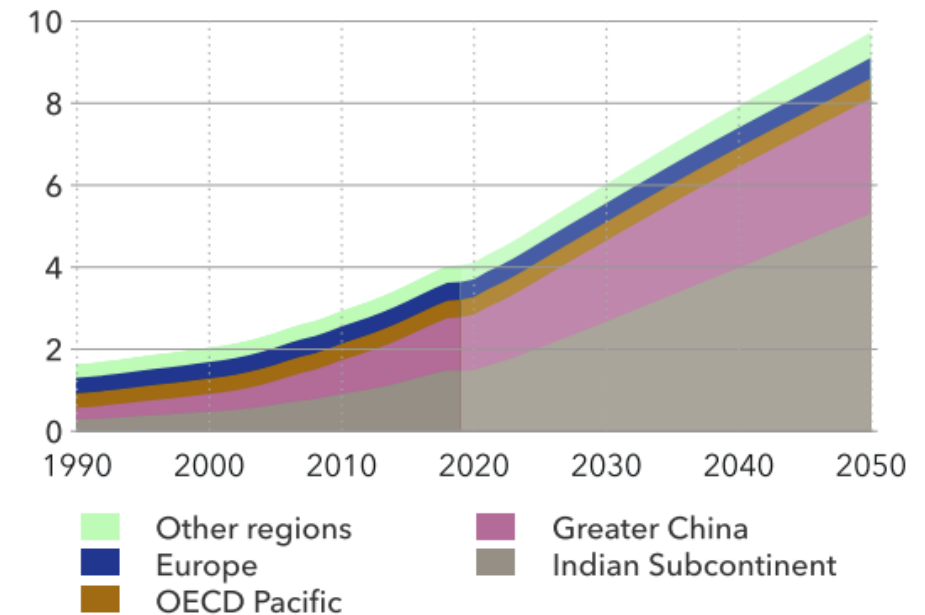


KEY POINTS

- Rail travel has the lowest energy consumption and CO2 emissions per passenger mile
- Global passenger numbers are expected to more than double (+140%) led by significant growth in demand for China and India. The Indian Subcontinent is forecast a 57% share of global rail passenger transport in 2050 with Greater China contributing 27%
- Substantial regional differences exist in rail freight growth, but rail freight is forecast to increase by 90% by 2050.
- Bio and synthetic fuels will grow beyond 2030
- Emissions reductions will be led by electrification and efficiency gains. Primarily through electrification, but also improvements in diesel and diesel electric hybrid performance

Rail passengers by region

Units: Trillion passenger-km/yr



Historical data source: IEA UIC (2019)

THE OPPORTUNITY



INTERNATIONAL
PUBLIC
PARTNERSHIPS

IMAGE

Northfleet Technology College, Kent, UK
Photo credit: Bob Wheeler Photography

IN 2050, THE ELECTRICITY SYSTEM WILL BE DRAMATICALLY DIFFERENT THAN TODAY – CONNECTIVITY WILL BE KEY



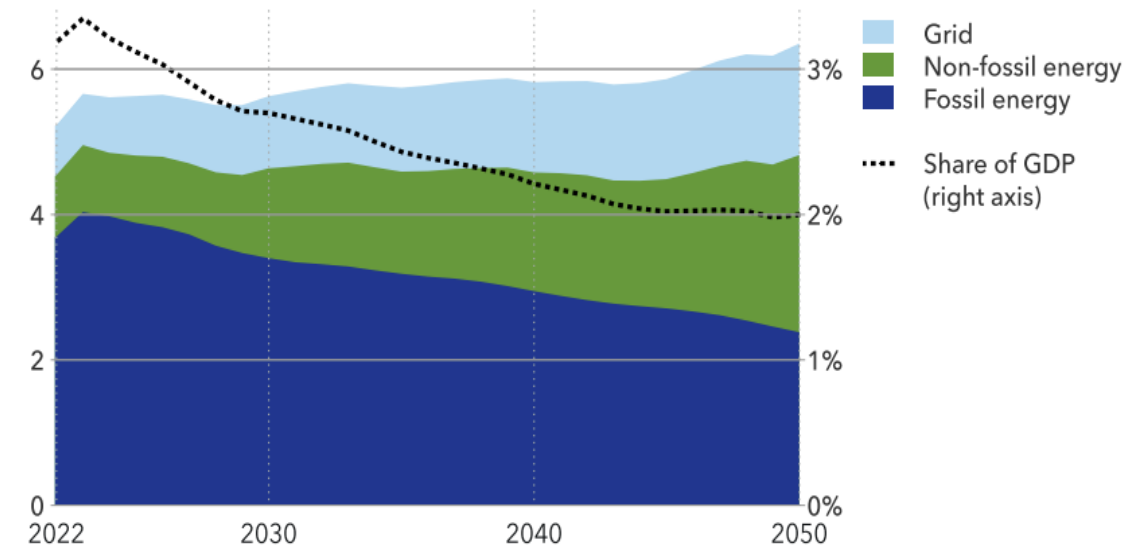
DNV ETO 2023

UPSTREAM ENERGY COSTS

- Global annual energy expenditure was USD 5.2trn in 2022
- DNV projects world energy annual expenditure to increase 22% to USD 6.4trn by 2050
- Although this is a significant increase, when taking into account the growth of GDP over the same period, it actually represents a decline in % of GDP from 3.2% to 2%
- In 2022, fossil fuel investment made up 71% of the total world energy expenditure but it is expected that this share will almost halve to 36% by 2050
- Additional transition costs will have to be borne by end-users in a more electrified energy system. These may or may not be subsidised by governments.

World energy expenditures

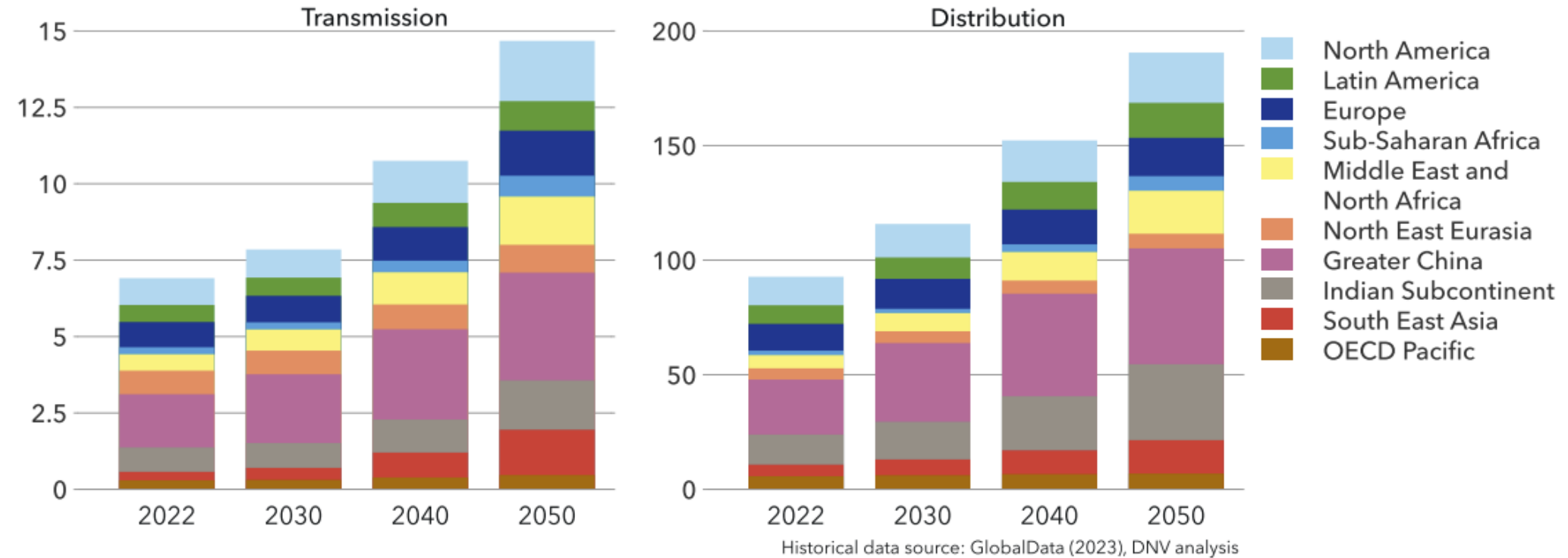
Units: Trillion USD/yr



ELECTRICAL GRID EXPANSION

Transmission and distribution power-line length by region

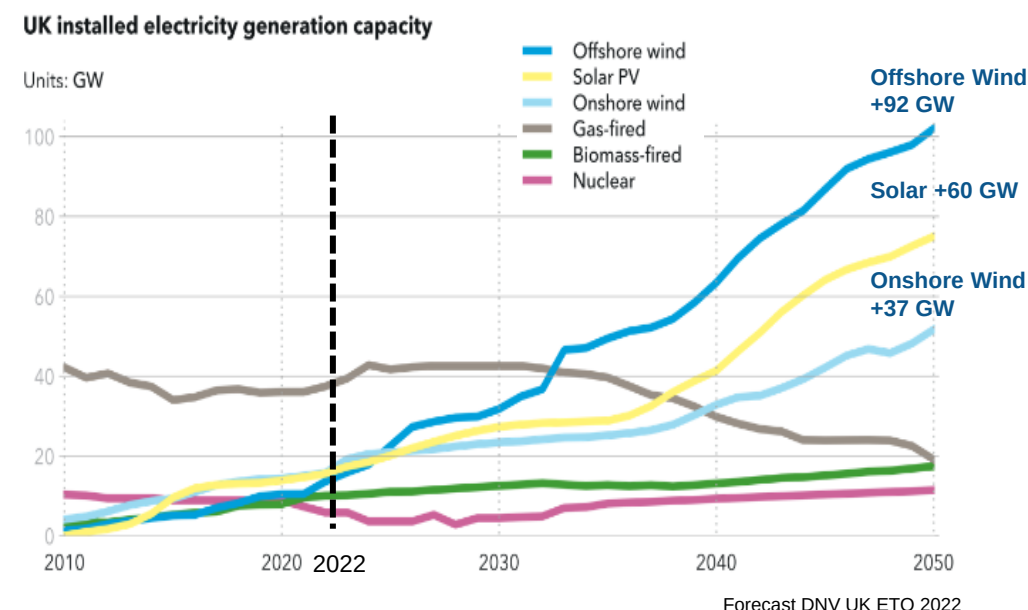
Units: Million circuit-km



THE UK WILL REQUIRE A MAJOR EXPANSION OF ELECTRICITY GENERATION & GRID INFRASTRUCTURE

KEY POINTS

- UK will require 180 GW of additional generation capacity by 2050
- 90% of new capacity will be Variable Renewables – dominated by offshore wind – both fixed and floating
- 3-fold increase in electrical grid infrastructure to handle increased throughput. Transmission network will quadruple from 38,000 km in 2021 to 155,000 km by 2050. Distribution lines will almost triple from 550,000 to 1.4 million km¹
- Grid investments in the UK have been relatively stable over the last two decades at an average of £3bn per year. Rapid grid expansion will result in an increase to £7bn per year in the 2030s and close to £10bn annually by 2050.
- Additional 190 GWh of utility-scale battery storage needed



1. Actually circuit-km.

POINTS TO CONSIDER



IMAGE
Dublin Criminal Courts, Ireland

THE GLOBAL ENERGY TRANSITION

We are not on track to meet Paris Agreement ambitions and are heading for 2.2°C warming by 2100

Geopolitical developments over the last 18 months have brought energy security into increasing focus

Electrification is increasing, but not quickly enough

Fossil fuels are still a substantial part of the energy system in 2050

The transition is affordable, and provides attractive investment opportunities

Technology obsolescence and policy uncertainty risks undermining investor confidence



UK ENERGY TRANSITION

The UK will not meet Net Zero 2050 and will fall short of its Nationally Determined Contribution commitment for 2030.

Electricity generation will shift fundamentally to variable renewables. It will be 75% of total electricity in 2050 compared to only 25% today.

Final energy demand will decline by a quarter by 2050, despite growth in population and GDP.

Decarbonising heat remains a challenge due to the complexity of technical, social and economic considerations

Infrastructure is at the core of the energy transition but is receiving insufficient attention.



THE TRANSITION WILL BRING OPPORTUNITY

THE TRANSITION TO NET ZERO WILL BRING OPPORTUNITY, BUT THERE ARE SEVERAL POINTS THAT NEED TO BE CONSIDERED

- Electricity and gas infrastructure are key enablers for delivering a resilient, low carbon energy system
- Energy production, both in the form of electrons and molecules
- Energy storage
- Climate change adaptation
- Modal shift in transport
- Synthetic/biofuels
- Energy efficiency
- Whole systems thinking
- Supply Chain
- Knowledge



PANEL DISCUSSION AND Q&A



CONTACTS



CONTACT DETAILS

AMBER FUND MANAGEMENT (INVESTMENT ADVISER)

Director, INPP: **Giles Frost**
Telephone: +44 (0)20 7939 0550
Email: Giles.Frost@amberinfrastructure.com

Senior Investment Director: **Chris Morgan**
Telephone: +44 (0)20 7939 0550
Email: Chris.Morgan@amberinfrastructure.com

Investor Relations: **Erica Sibree**
Telephone: +44 (0)20 7939 0550
Email: Erica.Sibree@amberinfrastructure.com

Head of ESG: **Daniel Watson**
Telephone: +44 (0)20 7939 0550
Email: Daniel.Watson@amberinfrastructure.com

Chief Executive Officer: **Gavin Tait**
Telephone: +44 (0)20 7939 0550
Email: Gavin.Tait@amberinfrastructure.com

Financial Controller: **Muhammad Anwer**
Telephone: +44 (0)20 7939 0550
Email: Muhhammad.Anwer@amberinfrastructure.com

FTI CONSULTING (PR & COMMUNICATIONS)

Ed Berry, Mitch Barltrop, Jenny Boyd
Telephone: +44 (0) 7703 330 199 / (0) 7807 296 032
/ (0) 7971 005 577
INPP.SC@fticonsulting.com

DEUTSCHE NUMIS (BROKER)

Corporate: **Hugh Jonathan**
Telephone: +44 (0)20 7260 1345
Email: H.jonathan@dbnumis.com

Sales: **James Glass**
Telephone: +44 (0)20 7260 1369
Email: J.Glass@dbnumis.com

Research: **Colette Ord / Andrew Rees**
Telephone: +44 (0)20 7260 1290 / 1217
Email: C.Ord@dbnumis.com / A.Rees@dbnumis.com