

gleeds

Delivering sustainable  
infrastructure in an  
uncertain world.  
How do you hold  
your nerve?

*Wednesday 8<sup>th</sup> September, 11am*



# Here with you today

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Energy Lead,  
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**PAUL ROBINSON**

Rail Lead,  
Gleeds

# Key issues tackling climate change and recovering from the pandemic...

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## NEED

- Responding to the climate crisis and meeting COP26 commitments
- Building sustainable communities
- Supporting social and economic recovery

## CHALLENGES

- Shortfall in government investment
- Wider economy
- Materials and labour issues causing cost escalation
- Affordability, practicality, deliverability of projects

## SOLUTIONS

- Better delivery through digital and data
- Long-term and integrated approach to investment
- Intelligent procurement



*Poll one*

What type of  
organisation are  
you part of?

# The need /

## Responding to the climate crisis and meeting COP26 requirements

The effects of climate change are intensifying with storms, floods and wildfires



COP21 set important targets to limit global warming



The next decade is critical to achieve 1.5°C

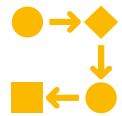


COP26 takes place in November, over 190 world leaders expected

# The need /

## Responding to the climate crisis and meeting COP26 requirements

Goals and themes established to accelerate progress and ensure decisive action is taken



Adaptation and  
resilience



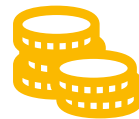
Nature based  
solutions



Energy  
transitions



Clean transport



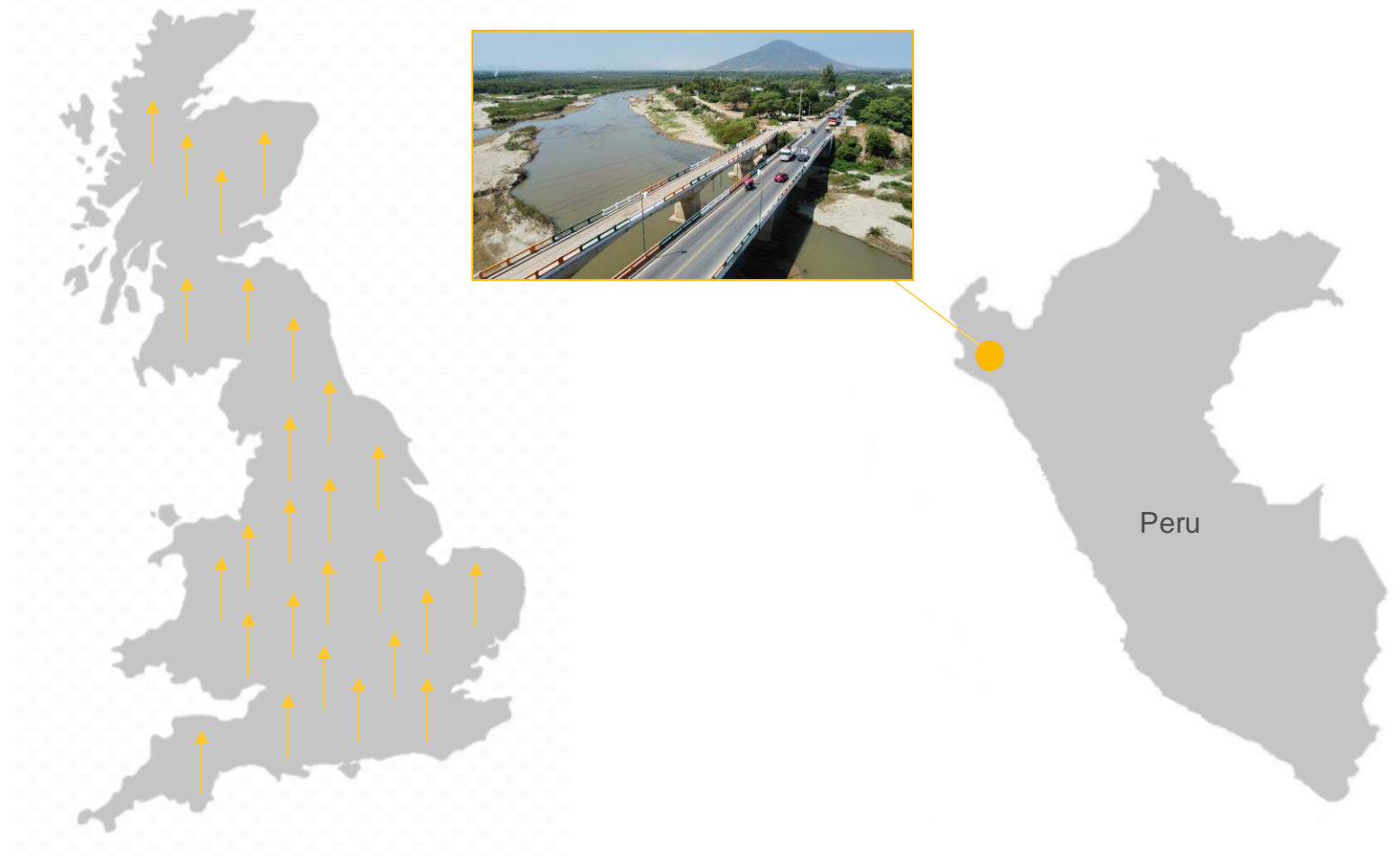
Finance

**80%**

of UK emissions  
currently come from  
infrastructure sectors

# The need / Building sustainable communities

As well as economic growth benefits, there are positives for society when investment is made in infrastructure

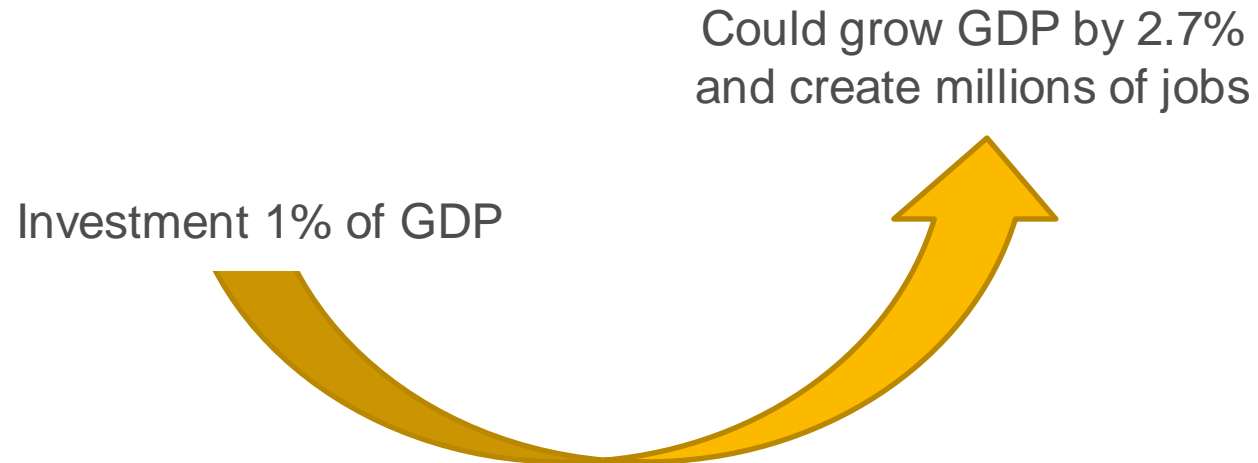




# The need /

## Supporting social and economic recovery

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IMF set out four steps for governments  
planning infrastructure investment

**#1** Maintenance

**#2** Review and reprioritise active projects

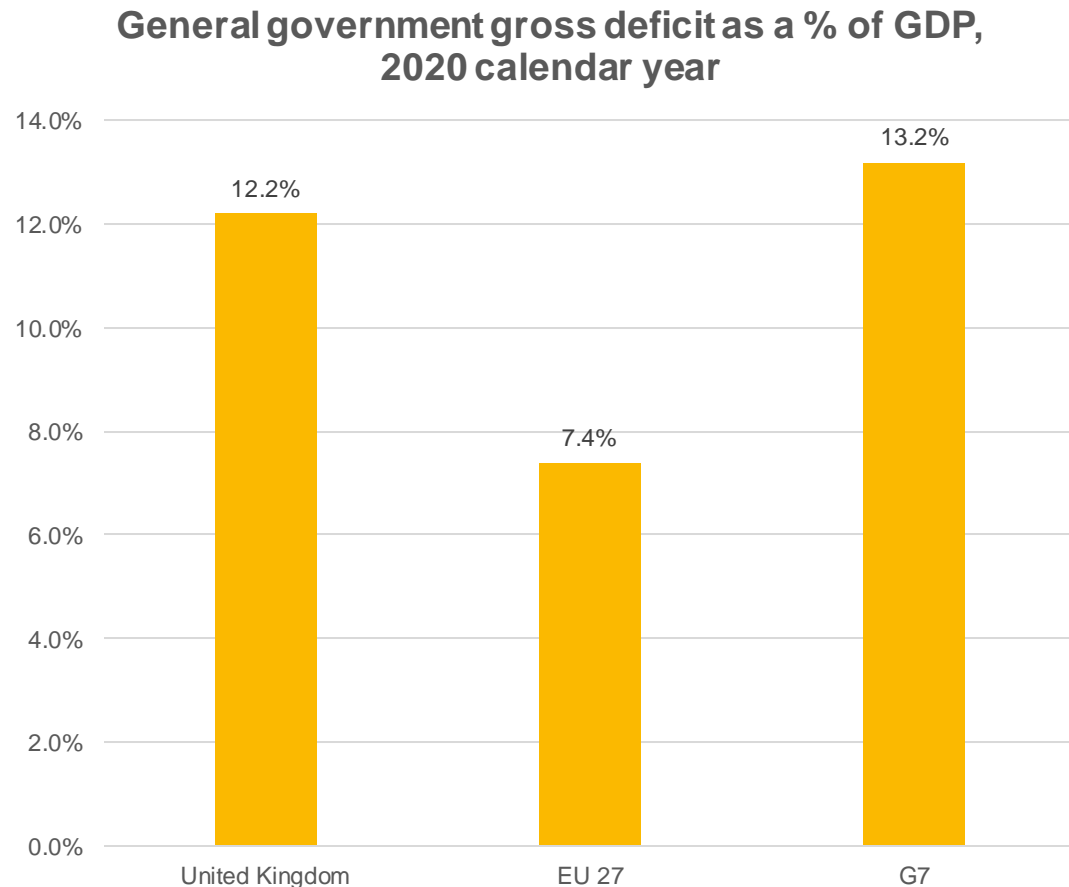
**#3** Create a pipeline of quick-delivery projects

**#4** Plan for new priorities



# The challenge /

## Government investment and wider economy threatening this



Clear responsibility to invest in infrastructure projects to help with NZC and economic recovery

- **EU** / NextGenerationEU, €800 billion
- **Canada** / The Canada Plan launched in 2016, \$180 billion for infrastructure
- **Japan** / ¥5.9 trillion for increasing infrastructure resilience and disaster management
- **U.S.** / \$1.2 trillion infrastructure bill

# The challenge /

## Materials and labour causing cost escalation

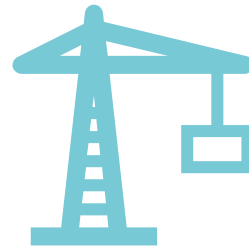
Price increase in the year to July 2021



4.6%



8.6%



64.7%

● Gravel, Sand, Clays & Kaolin

● Pre-cast concrete products

● Fabricated structural steel



38,000 vacancies



Extended delivery times

# The solution /

Enabling better delivery through digital and data

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Data analytics

AI and machine  
learning

3D printing

Digital twins



# The solution /

## The bigger picture...

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**Integrated and planned  
investment**



**Pipeline visibility and  
commitment**



**Intelligent  
procurement and risk  
management**

# Energy insights

Andy Ellis, Energy Lead

# Energy insights /

## The backdrop

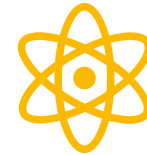
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Ambitious plans to reach net zero emissions by 2050

### Strategic energy mix



Mainly decarbonised power generation in the 2030s



Mix of technologies



Find a low-cost equilibrium

# Energy insights /

## The challenges

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Innovative solutions are necessary to take on the energy challenges



Technology innovation:  
balancing safety with  
security



Infrastructure transition  
and capacity of  
supply grid



Infrastructure for building,  
property and transport



Funding



Skills development  
and transfer



# Energy insights /

## How we get there

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Harness the  
ambition of the  
next generation

Remove  
geographical  
barriers

Be ambitious to  
improve D&I

Better use of  
digital and data  
analytics

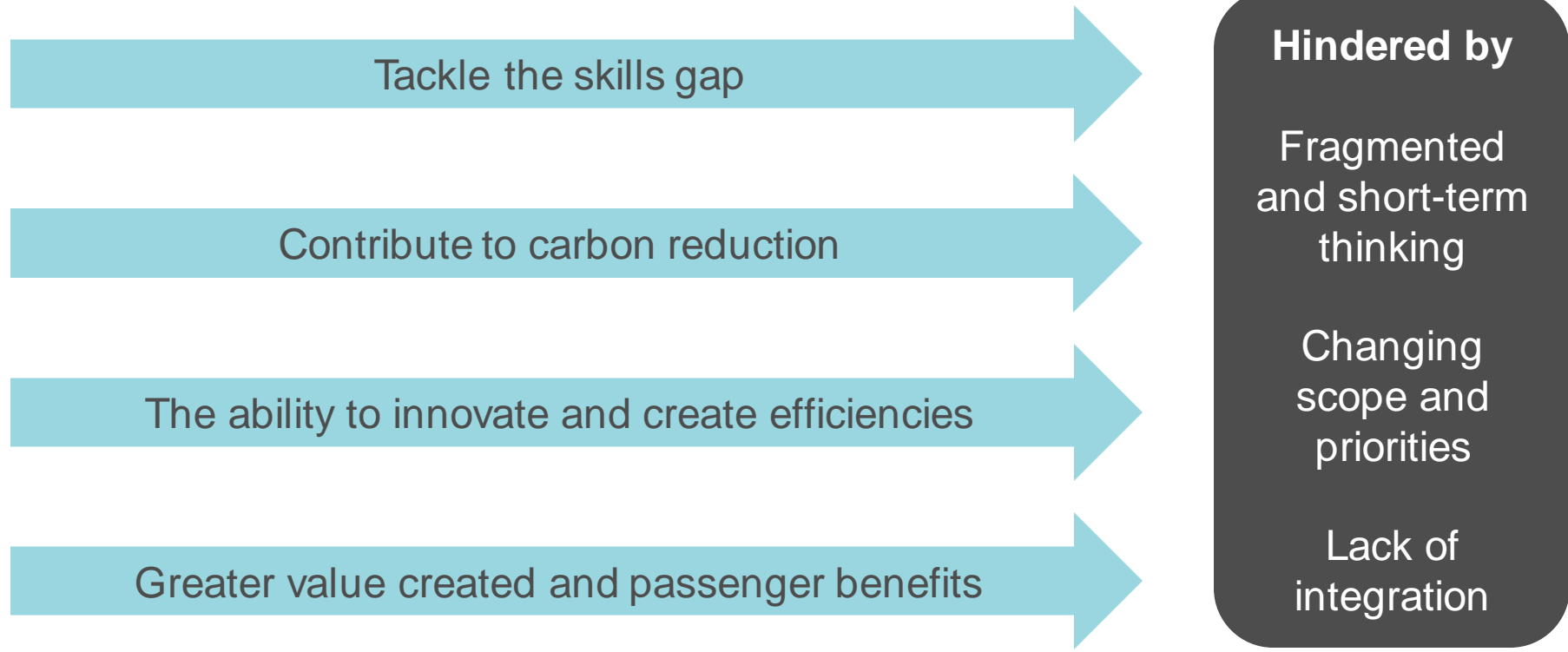
# Rail insights

Paul Robinson, Rail Lead

# Rail insights /

## How we tackle the shared challenges

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# Rail insights /

## There are headwinds



Figure 1.1: Rail passenger journeys, Great Britain, 1872 to 2020-21 (Table 1220)



Sources: National Infrastructure Commission (1872 to 1937), Department for Transport (1938 to 1985-86), and Office of Rail and Road (1986-87 to 2020-21).

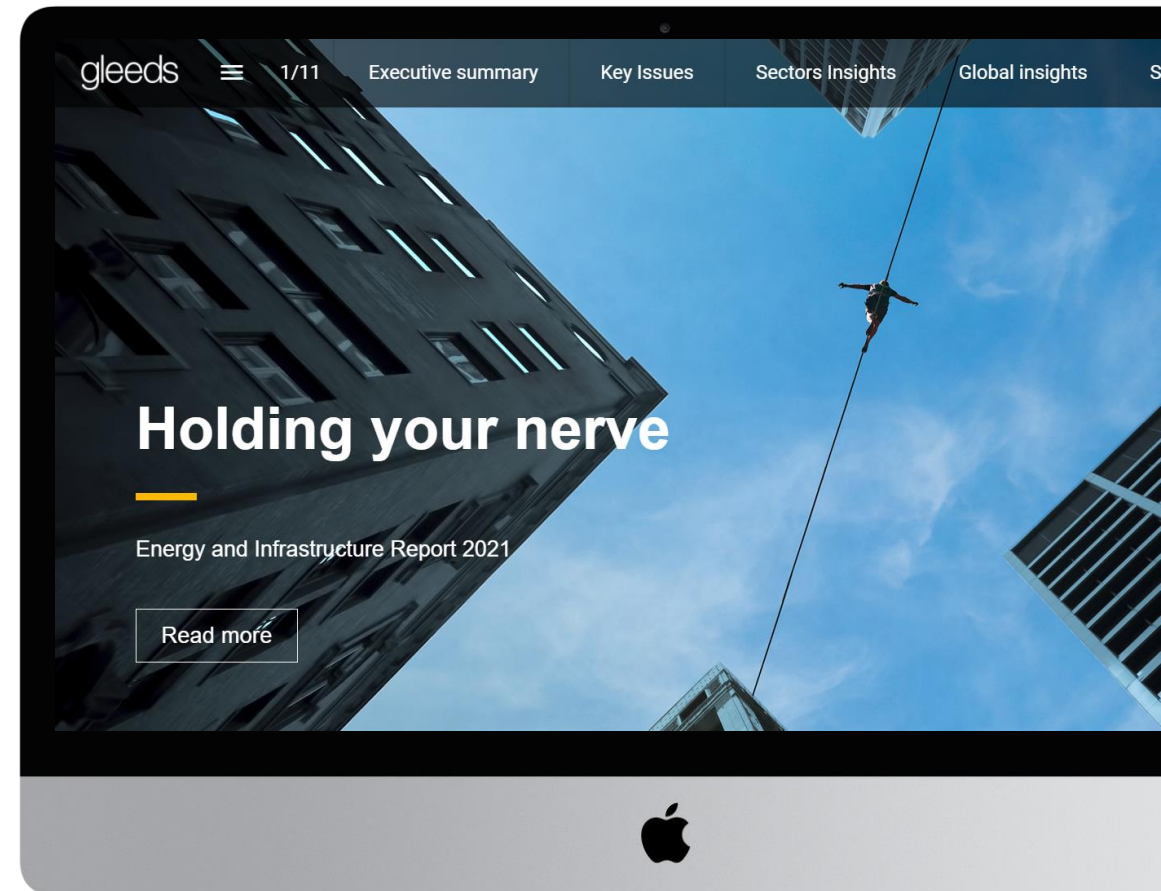
How will we ever create meaningful and sustainable change?

# Summing up /

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## Despite the challenges...

- The time is now
- We all need to *hold our nerve*
- Look out for our first energy and infrastructure report coming out next week! →



*Poll two*

What is the most important factor to help deliver long-term sustainable infrastructure?

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Thank you  
for listening

*Questions and answers*