

Public

# Gas Network Capability Needs Report

Webinar

6 February 2025





# Welcome

- Duration: 1pm-2:30pm
- Please ask questions via [slido.com](https://www.slido.com) using code: **#GNCNR24** or scan the QR code
- We will record this session
- Camera and microphone are disabled for all attendees
- You can contact the team by emailing [gwend@nationalenergyso.com](mailto:gwend@nationalenergyso.com)

**Slido: #GNCNR24**





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- Introduction
- GNCNR recap
- Resilience deep dive
- Supply and demand deep dive
- Next steps in network planning
- Q&A





# Introduction: NESO, SEP, Gas network planning

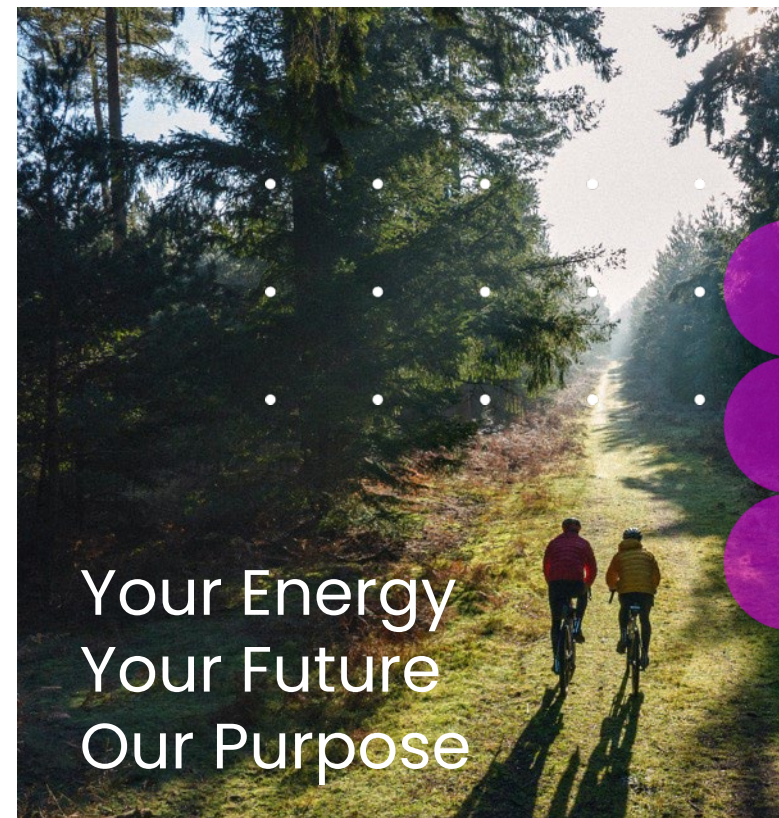
Toby Thornton

# National Energy System Operator overview

## Who we are:

The National Energy System Operator, NESO, is an independent, public corporation at the centre of the energy system taking a **whole system view** to create a world where everyone has access to **reliable, clean and affordable energy**.

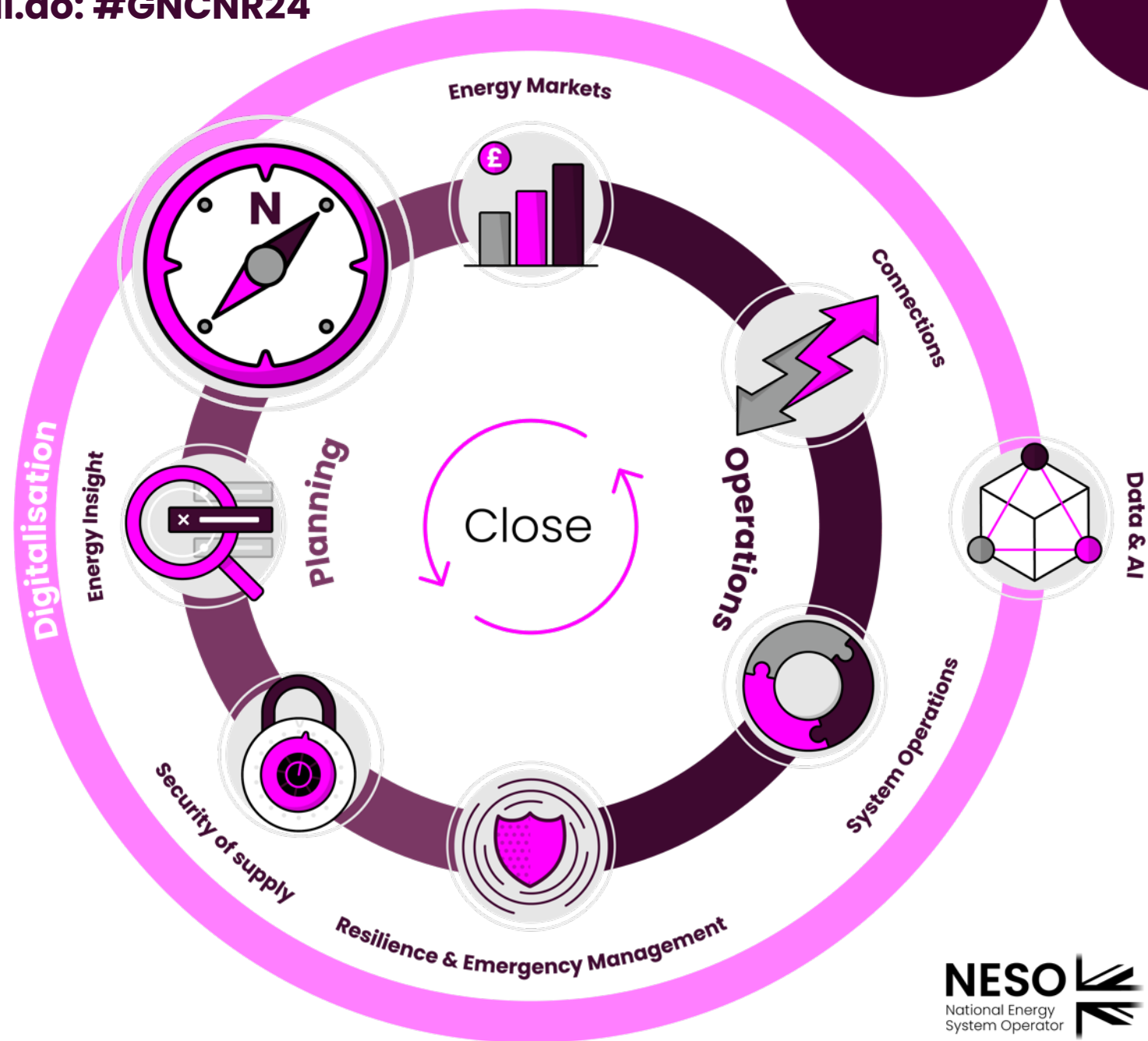
Our work will be the **catalyst for change** across the global community, forging the path to a **sustainable future for everyone**.



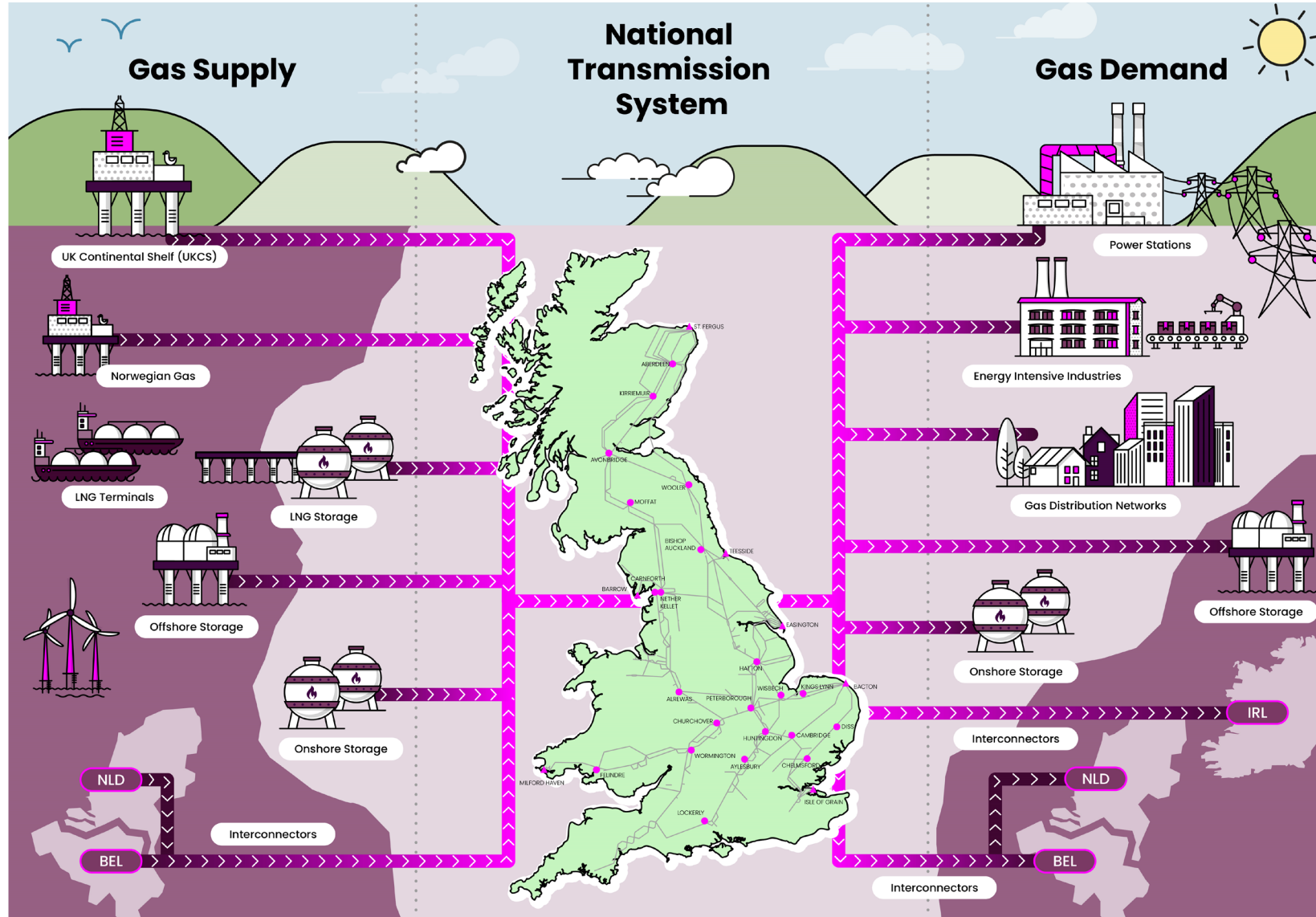
# What we do

## Strategic Planning

We take a long-term approach to planning, that identifies whole energy system needs and ensures that the system can be designed and built accordingly.

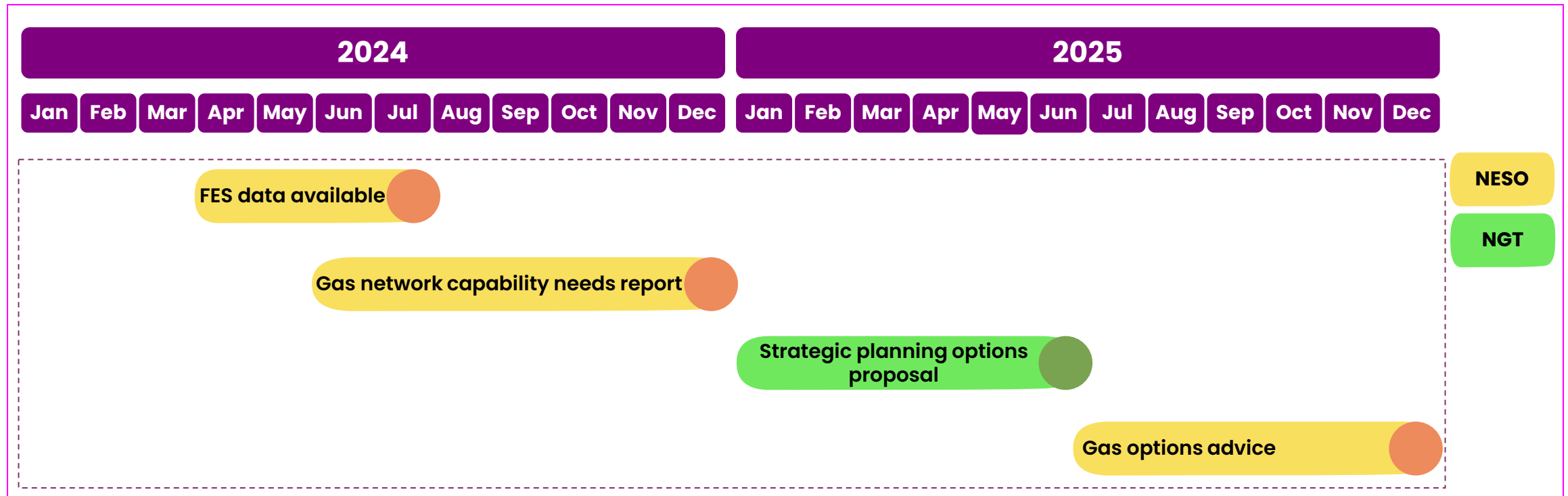


# How we fit in the gas system



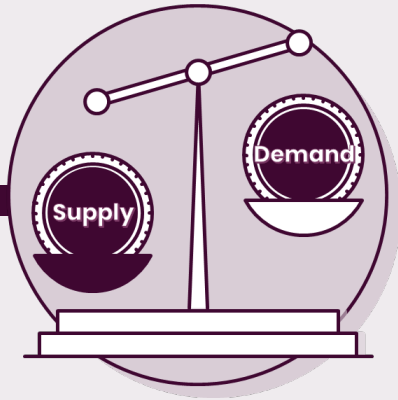
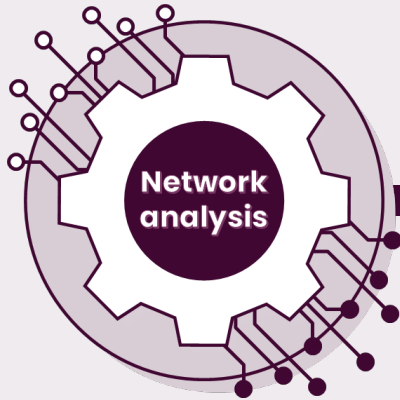
# Gas network planning cycle

- Findings are being used by National Gas Transmission (NGT) to create Strategic Planning Options Proposal
- NESO will then evaluate options in the Gas Options Advice (GOA)
- Stepping stone towards a whole system Centralised Strategic Network Plan (CSNP)

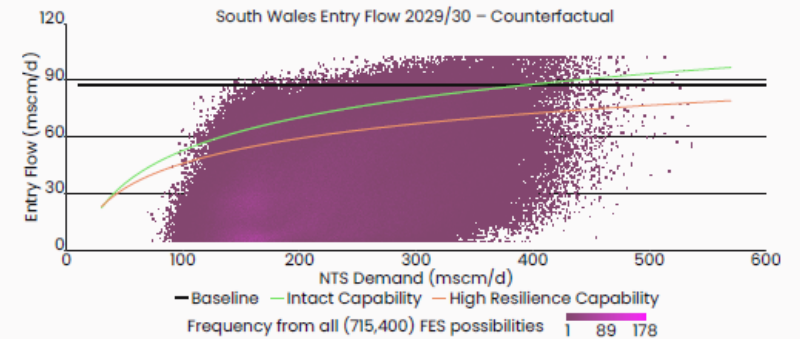
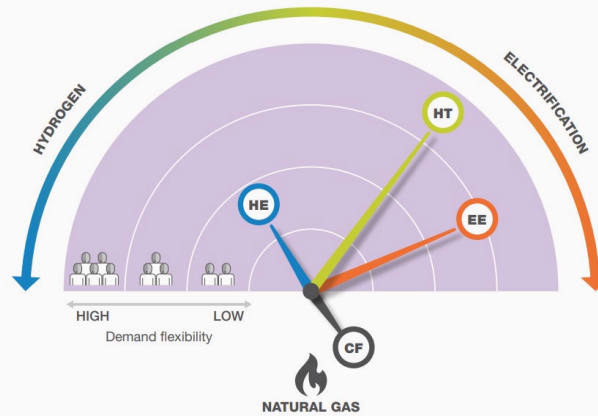
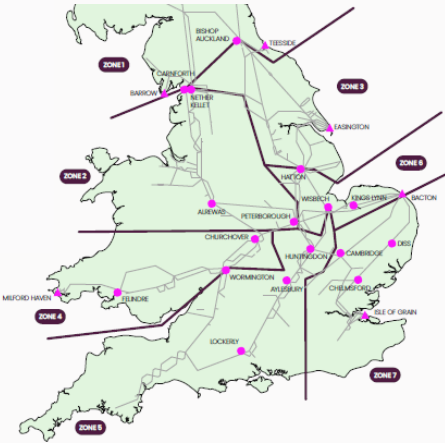




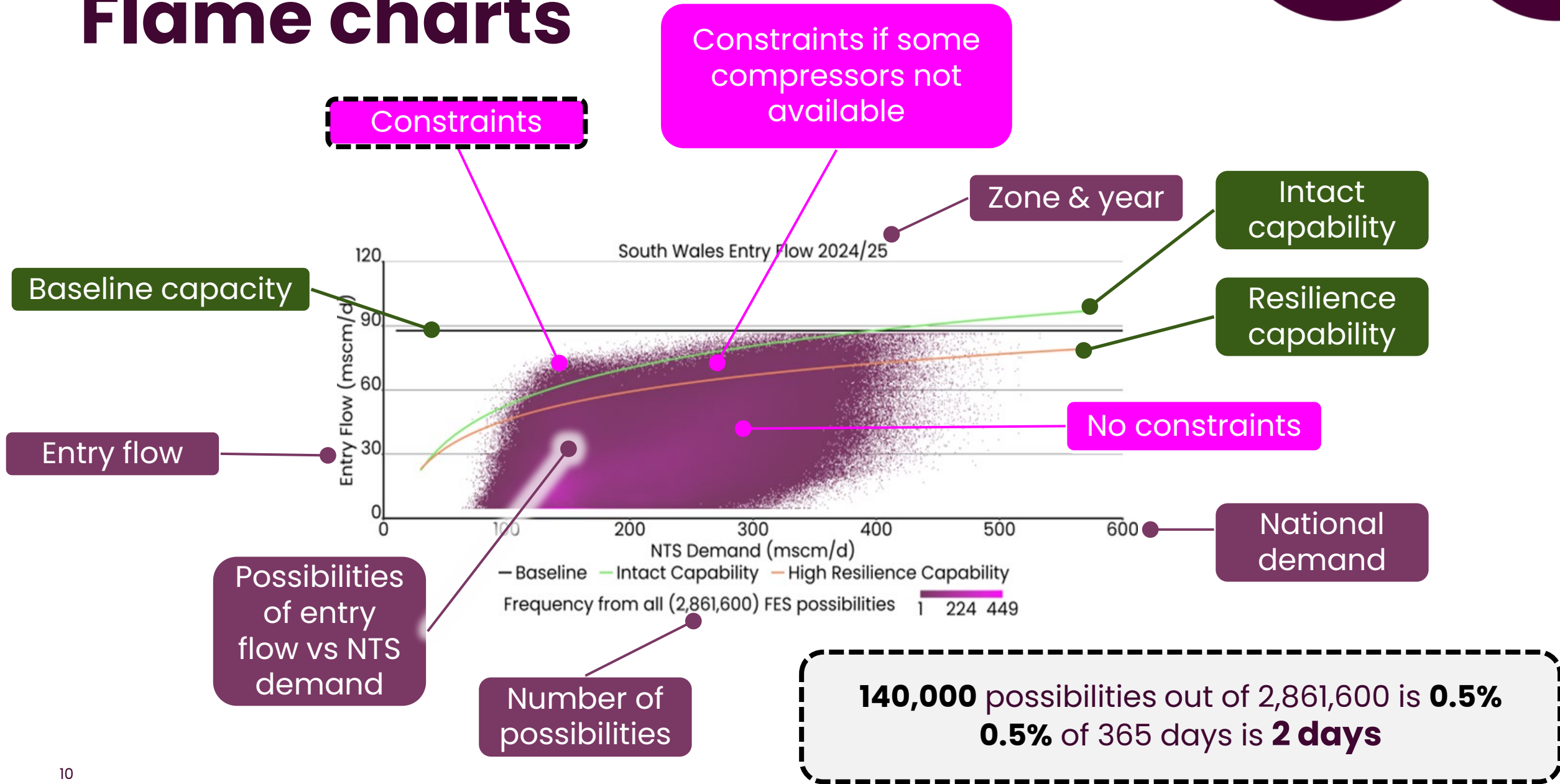
# Methodology



Pathways framework 2024

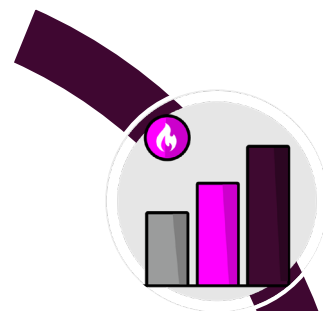


# Flame charts





# GNCNR key findings



For everywhere except for South Wales, the probability of network constraints remains very low over the next 10 years



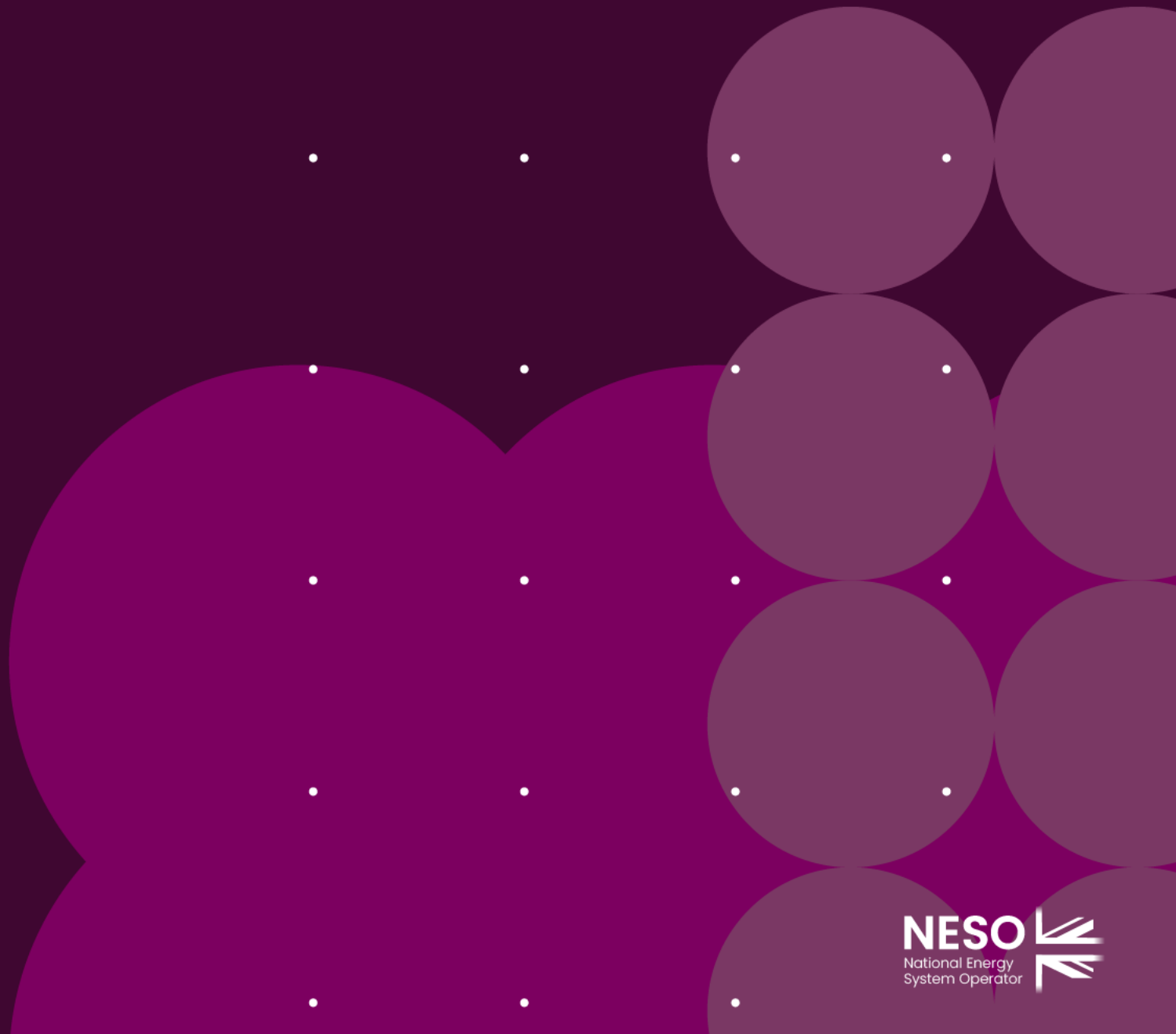
Our analysis suggests that there will be an increased probability of constraints at the Milford Haven terminal in South Wales



Beyond 2035, the energy system is faced with increasing uncertainty

# Resilience deep dive

Morgan Asare

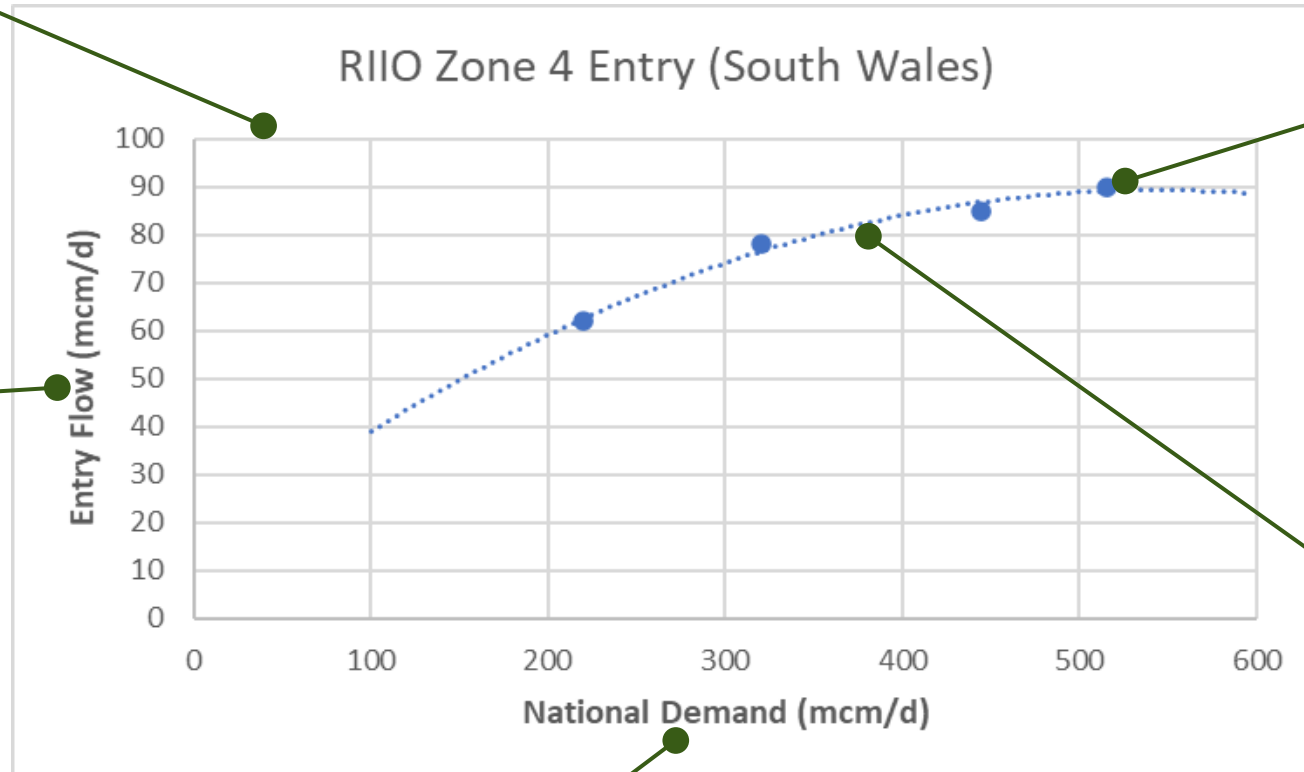




# What is capability analysis?

Example for South Wales Zone

Entry flow into South Wales Zone

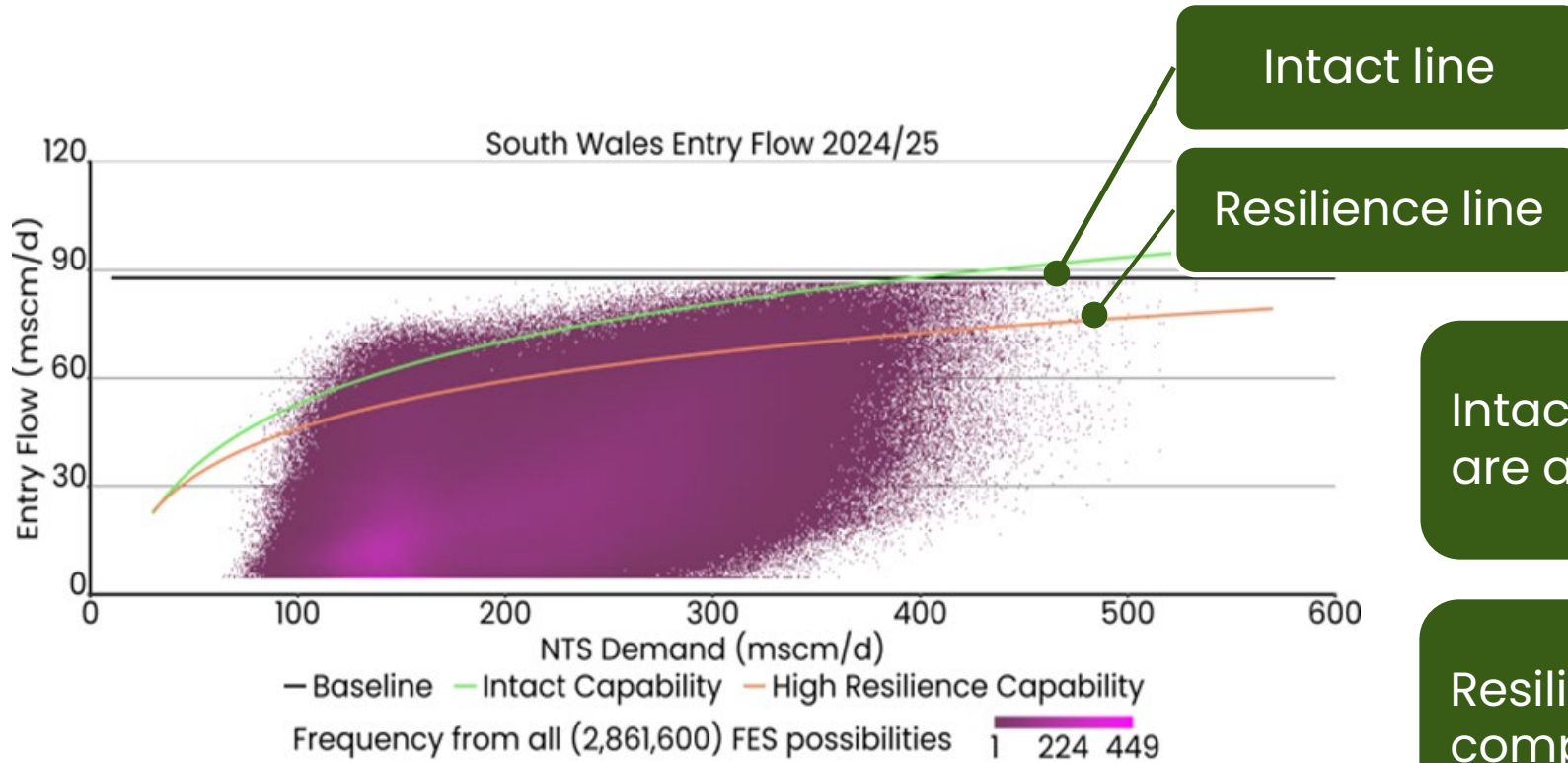


Four points of maximum capability for relevant national demand from network analysis

Trend line to show capability boundary

A range of national gas demands

# What is resilience?



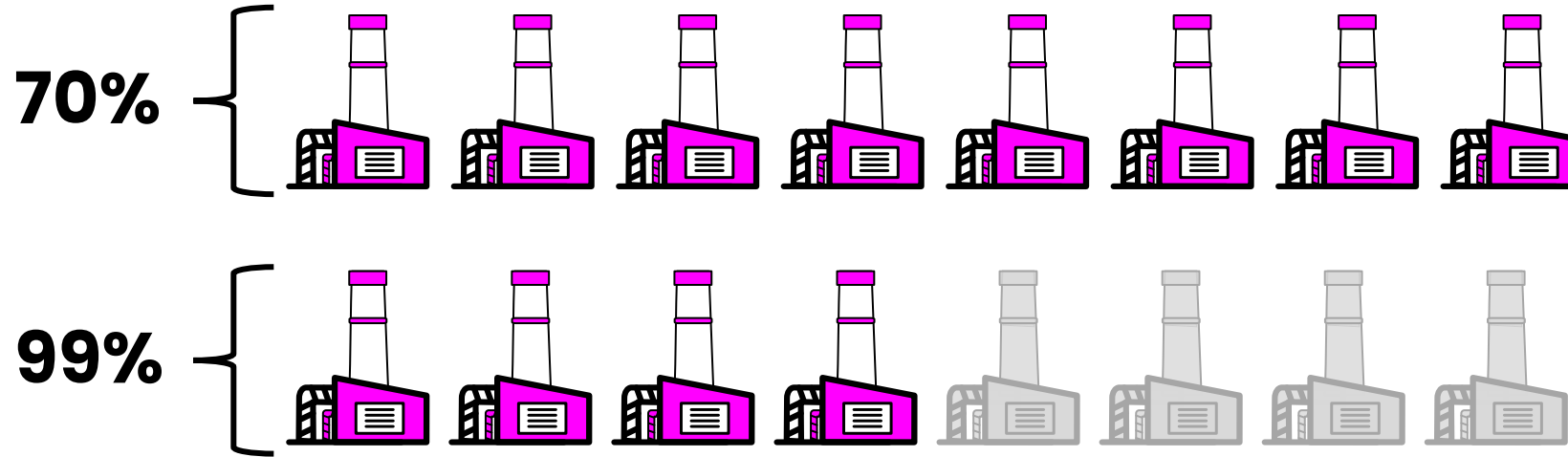
Intact assumes all compressors are available

Resilience assumes a sub-set of compressors are available



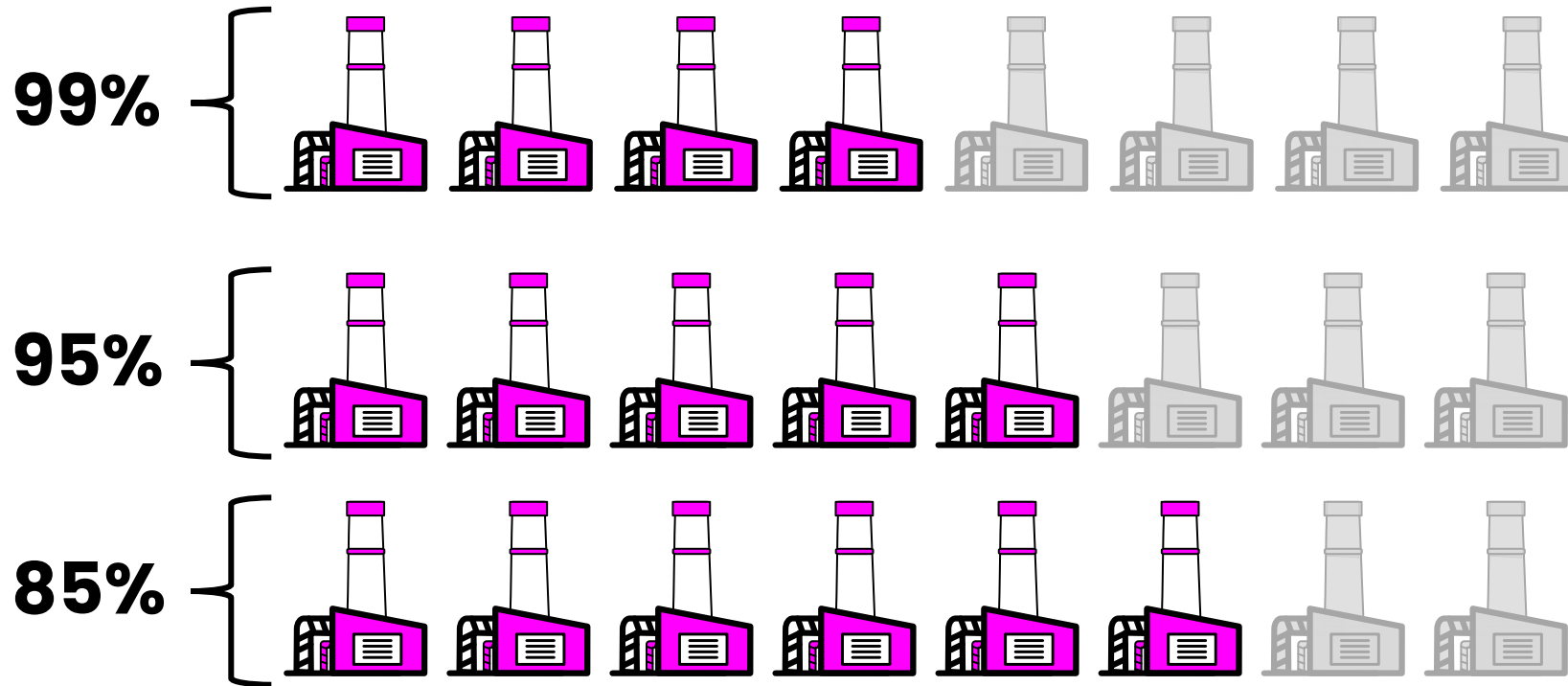
# What is resilience?

99% high resilience is the current target used in industry

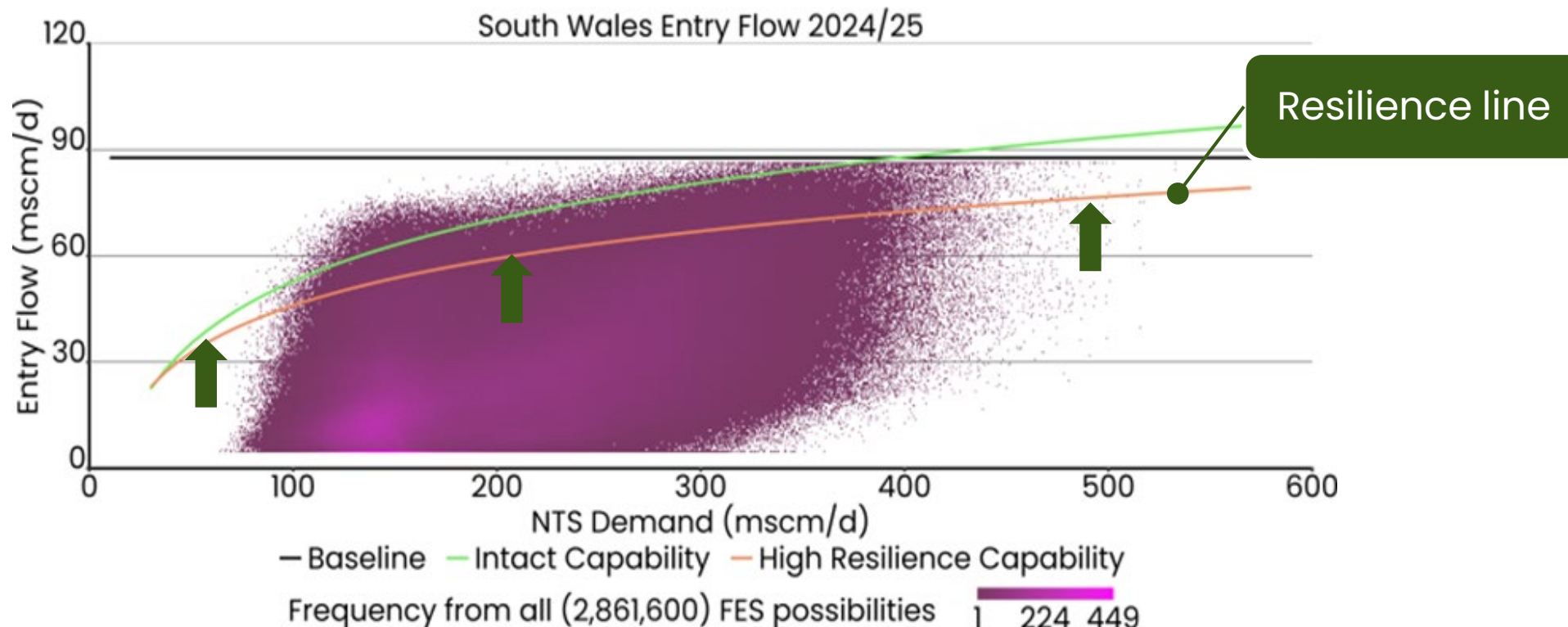


# What is resilience?

Reducing the high resilience target would increase the amount of compression available



# What is resilience?





# Supply & demand deep dive

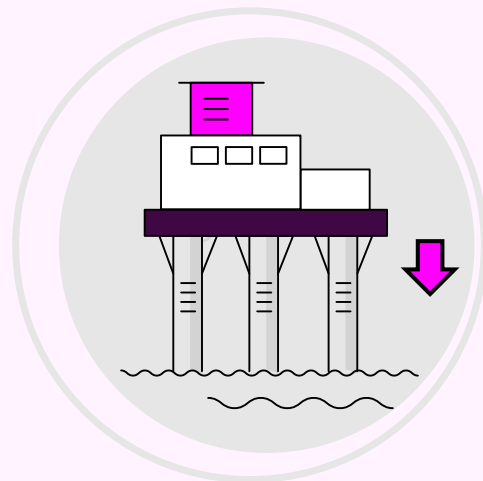
Rayhan Ahmed

# Deeper dive – supply and demand



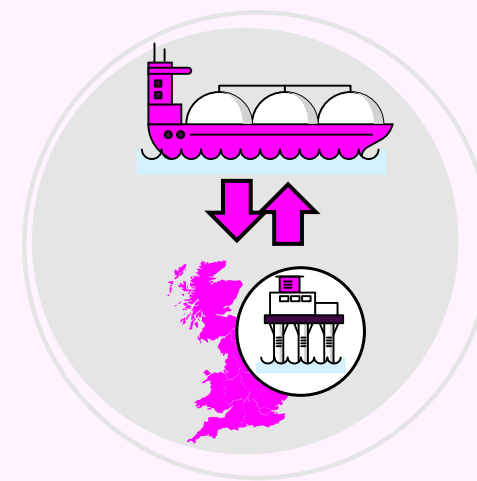
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**Decreasing gas demand  
in net zero pathways**



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**Decline of UKCS supply**

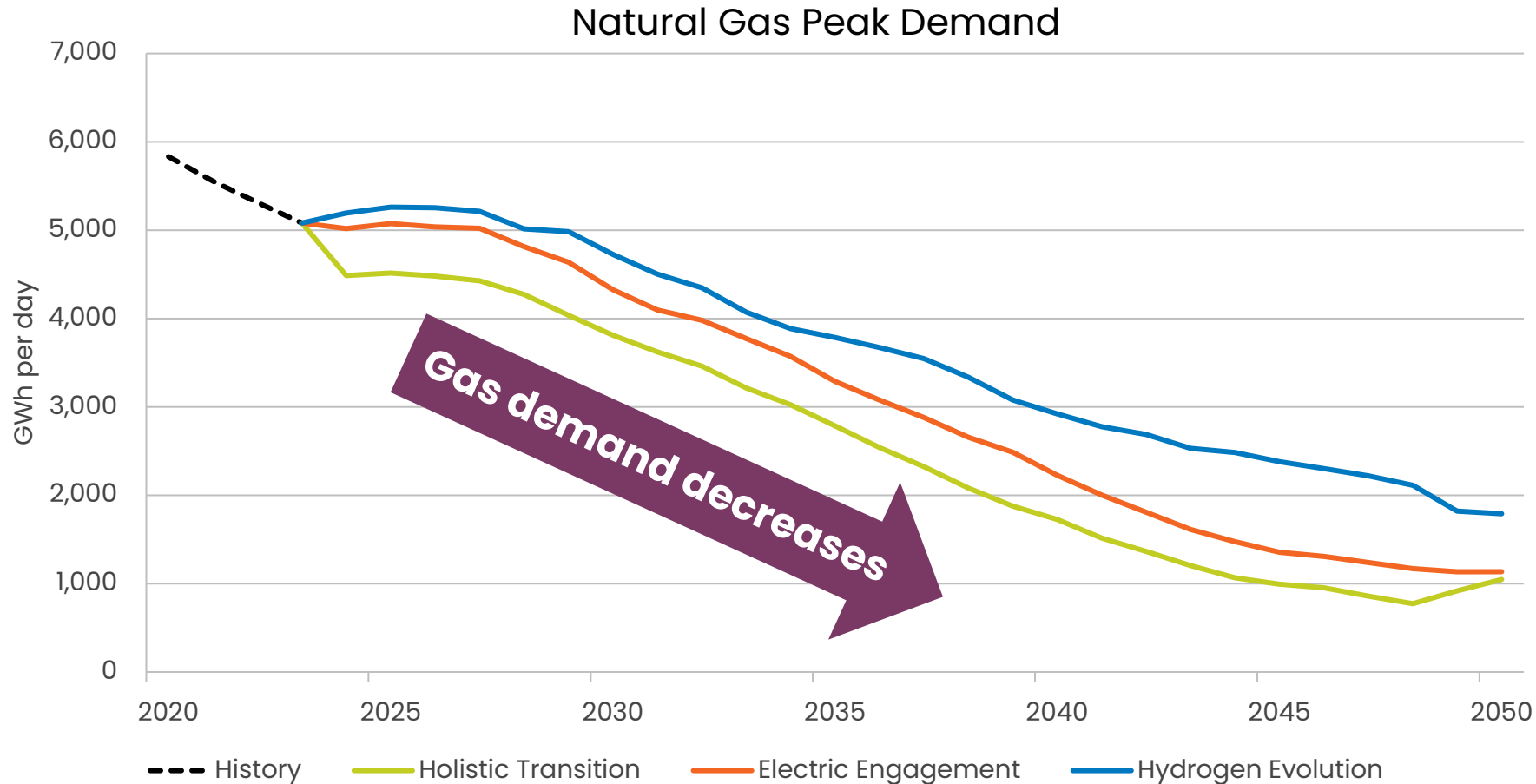


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**Variability of supply  
types – UKCS vs  
LNG/Continent**

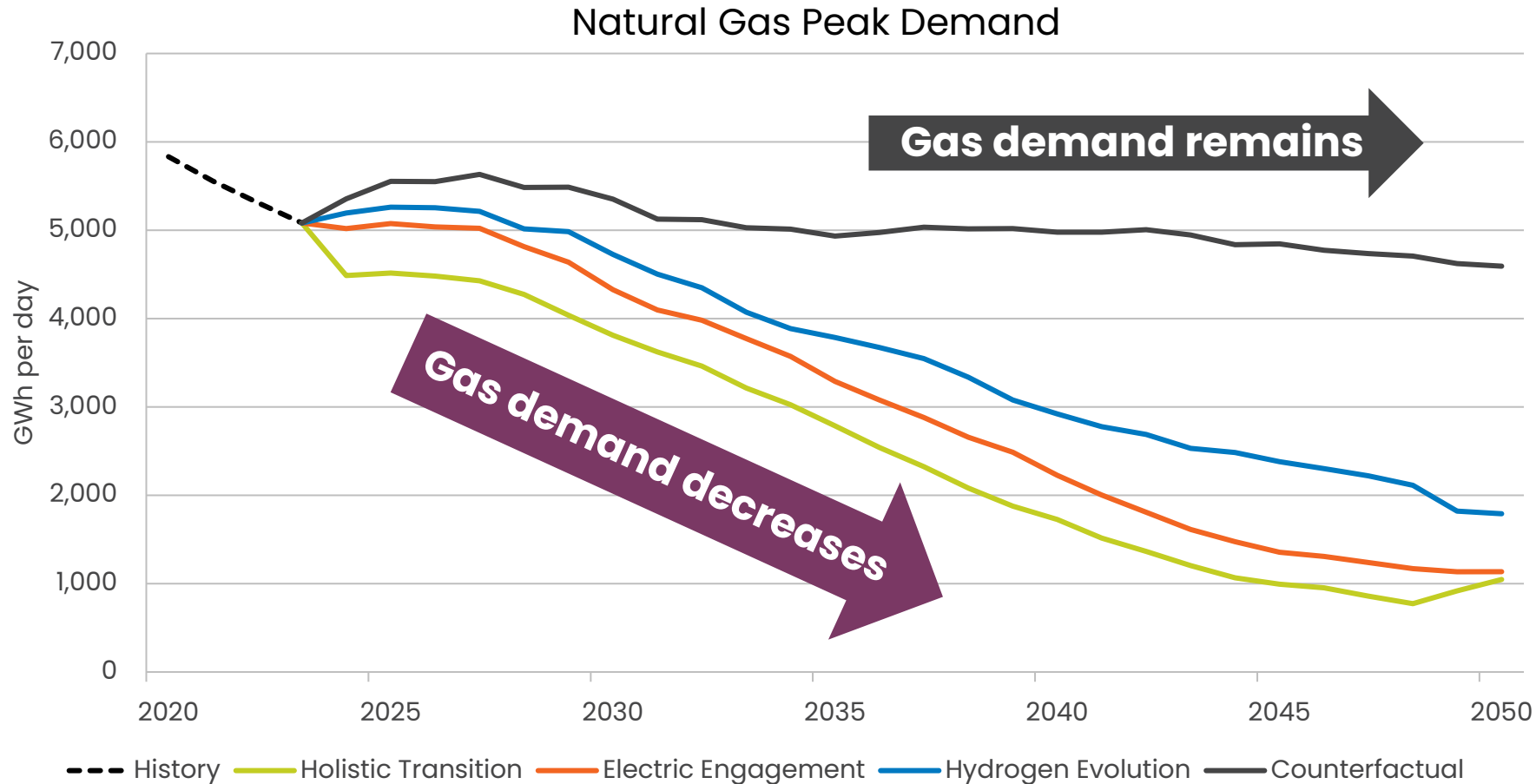
## Combined effect and impact

# Changes in gas demand: net zero pathways

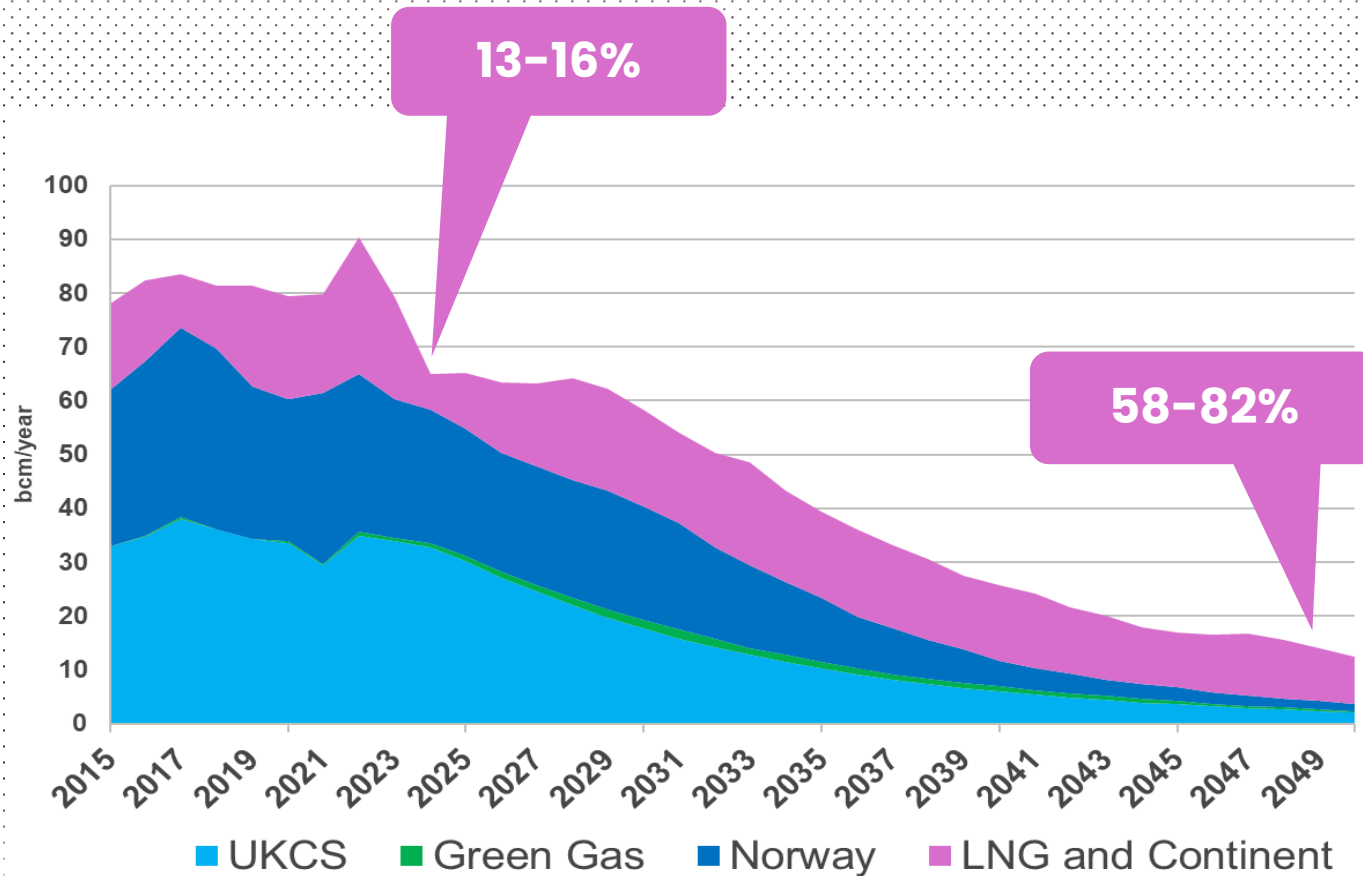




# Changes in gas demand: counterfactual

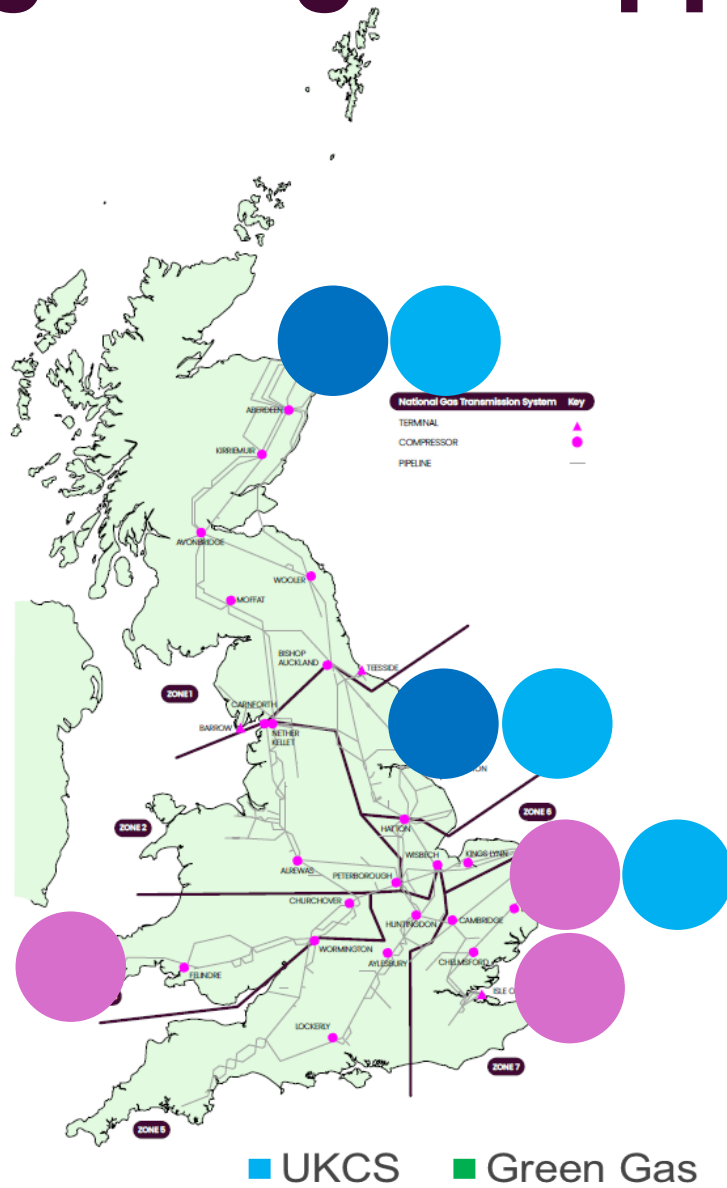


# Changes in gas supply type



**Larger proportion of demand met by LNG or Continent supply in the future**

# Changes in gas supply location



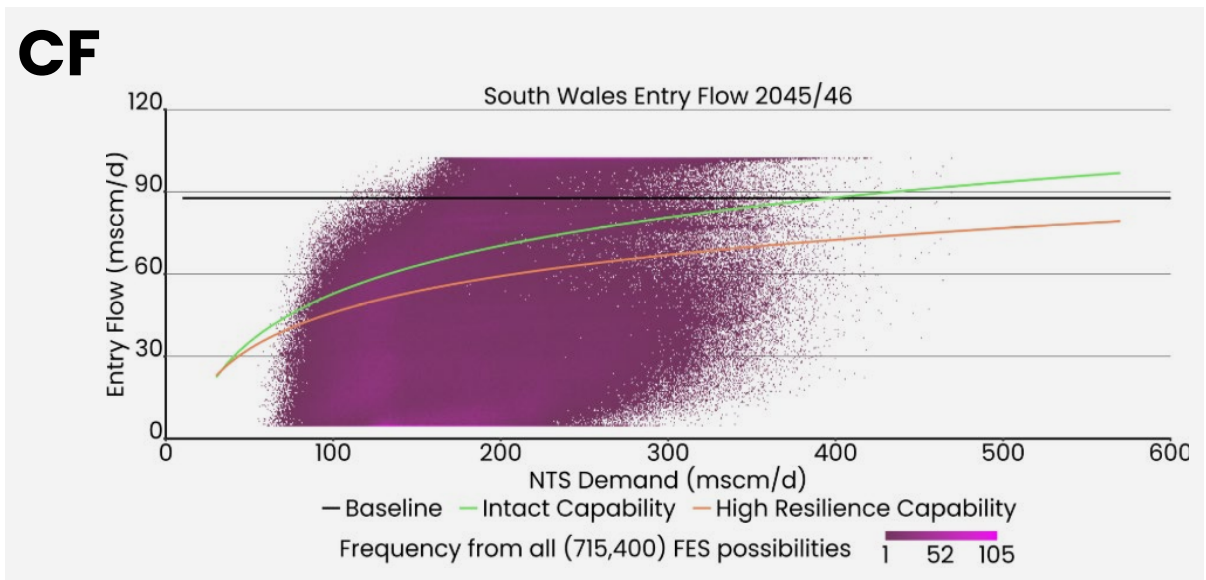
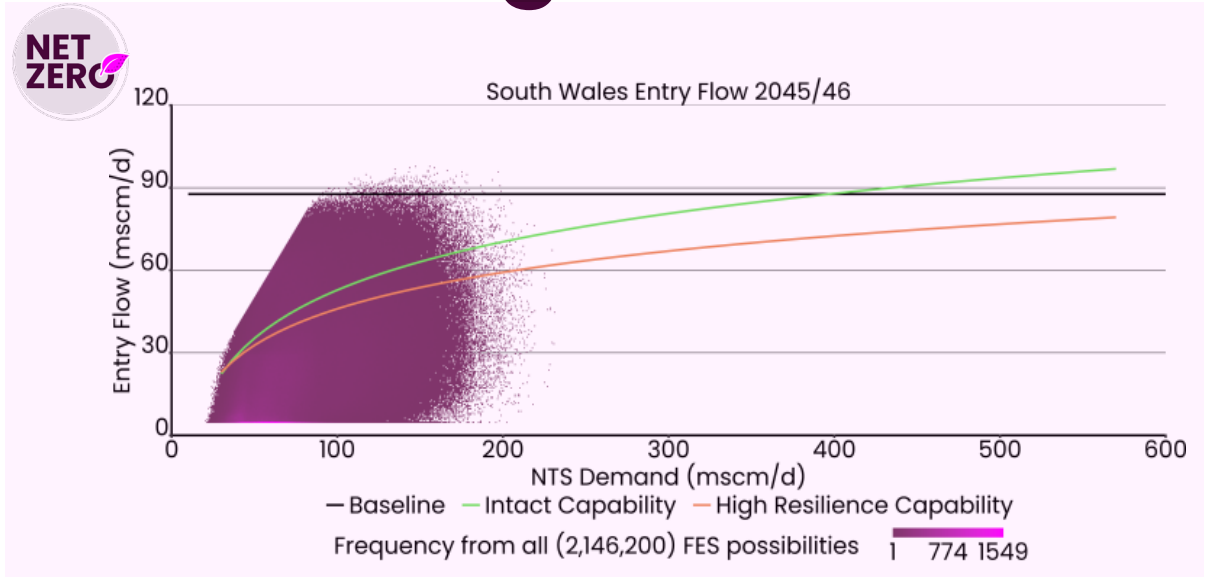
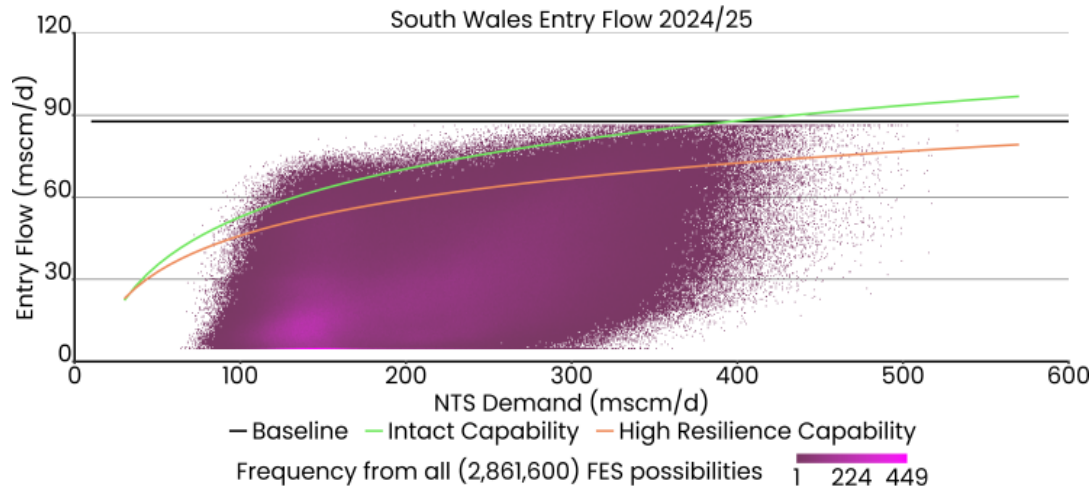
Supply in the North comes from UKCS and Norway

Majority of supply in the South comes from LNG and Continent



# Impact of supply & demand changes

## NOW



Increased likelihood of constraints in South Wales

# Next steps in network planning





Luke Cutler

# Next steps in network planning

Key:

Consultation Period

Milestone

	2024			2025				2026			
	Oct	Nov	Dec	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>National Energy System Operator</b>		Gas Network Capability Needs Report 		GOA Consultation		Gas Options Advice 		GNCNR Consultation		Gas Network Capability Needs Report 	
<b>National Gas</b>				Strategic Planning Options Proposals 							
<b>Department for Energy Security and Net Zero</b>				Hydrogen Planner Consultation							

Please note that these are indicative high-level dates and are subject to change

## Future developments

As the GNCNR 2024 is our first gas publication, we are dedicated to building on this foundation and further develop to deliver the most valuable analysis of the gas transmission network.



Review the resilience requirements



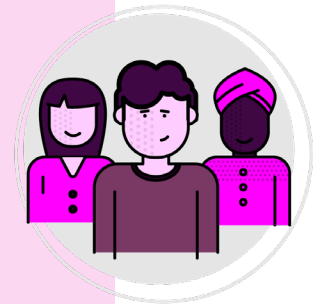
Further assessment of network capability at times of even lower national demand



Preparing for the possibility of taking on the role of hydrogen network planning

### Continued stakeholder engagement

We will continue engaging with our stakeholders throughout the development and refinement of our methodologies and analyses.





# Q&A

Please ask questions about the GNCNR via sli.do code: **#GNCNR24** or scan the QR code

We will publish an FAQ using questions asked today



# Thank you

Sli.do will be open until 5pm today

Slides and FAQ document to be published to website

If you have questions/feedback, please contact  
**[gwend@nationalenergyso.com](mailto:gwend@nationalenergyso.com)**