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Gas Option Advice

January 2026

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National Energy System Operator

Welcome

- Duration: 3:00pm – 4:00pm
- Please ask questions via MS Teams Q&A
- Camera and microphones are disabled
- We will record this session
- Contact us: **gwend@neso.energy**

Strategic Spatial Energy Planning webinar

On Friday 30th January NESO are hosting an SSEP technical webinar

Running from **10:30 to 11:45**, presenters will cover our approach to SSEP modelling including learnings, modelling outputs and the appraisal of pathways.

Such webinars are for industry experts that explore different topics and energy-types in more detail.

It follows from the previous webinar held in April 2025 that detailed how the SSEP is going to be modelled.

As with the GOA webinar, input from stakeholders significantly shapes our strategic energy plans by providing valuable data, evidence, and insights that support NESOs decision-making.

To register, please click on the link shared in the MS Teams chat, or to submit a question in advance, please contact us at: **box.ssep@neso.energy**.

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Contents

- Introduction
- GNCNR overview
- GOA overview
- GOA assessment framework
- GOA recommendation
- Q&A

Introduction

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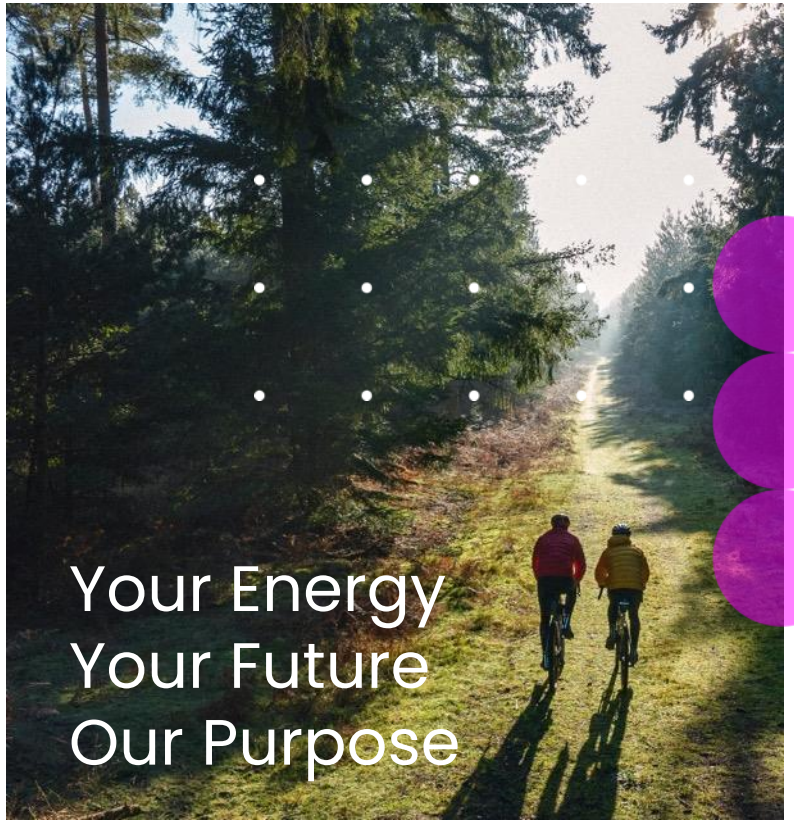
National Energy System Operator

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.



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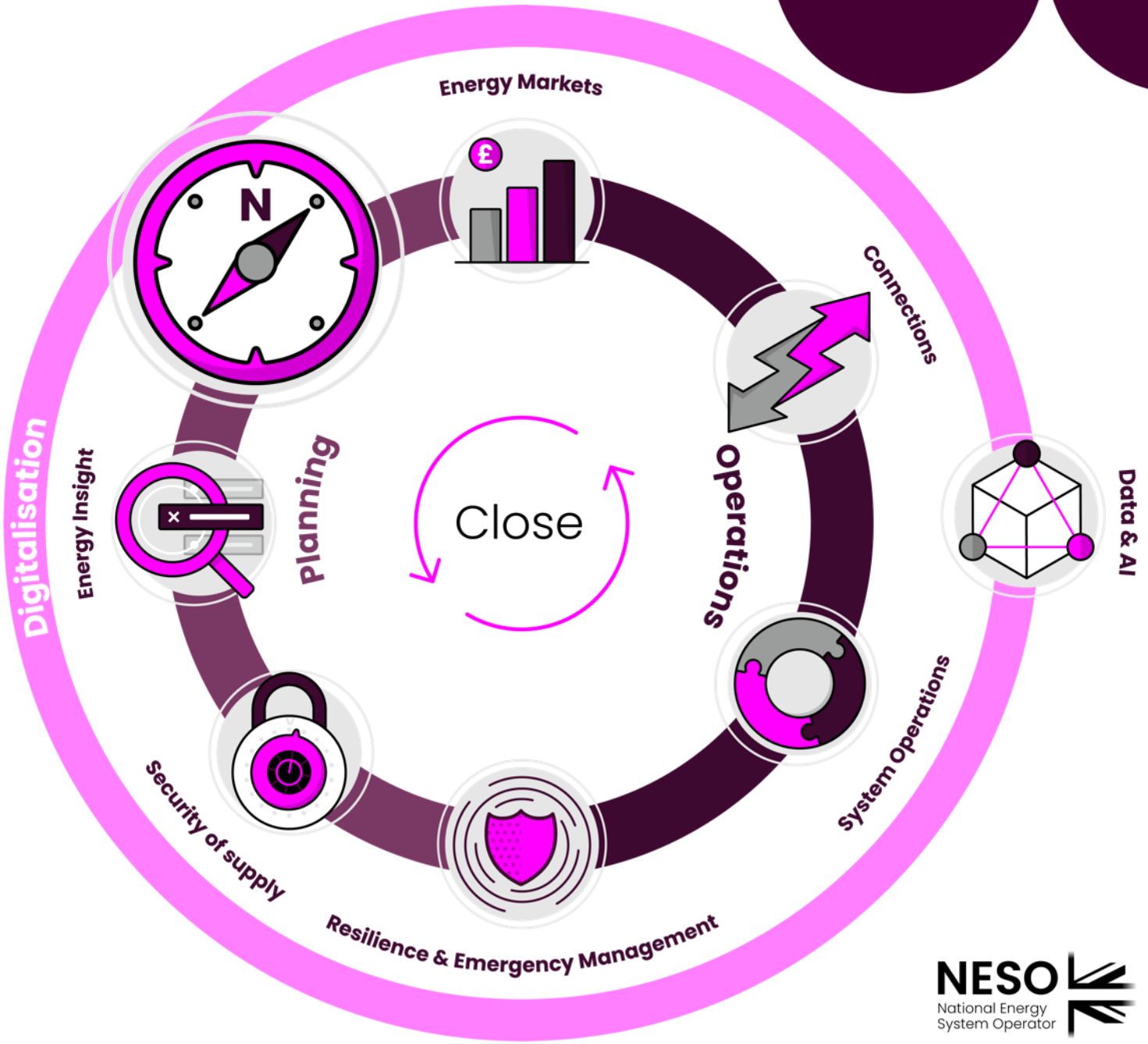
What we do

Strategic Planning

We take a long-term approach to planning, that identifies whole energy system needs and ensures that the system can be strategically planned or inform investment decisions accordingly.



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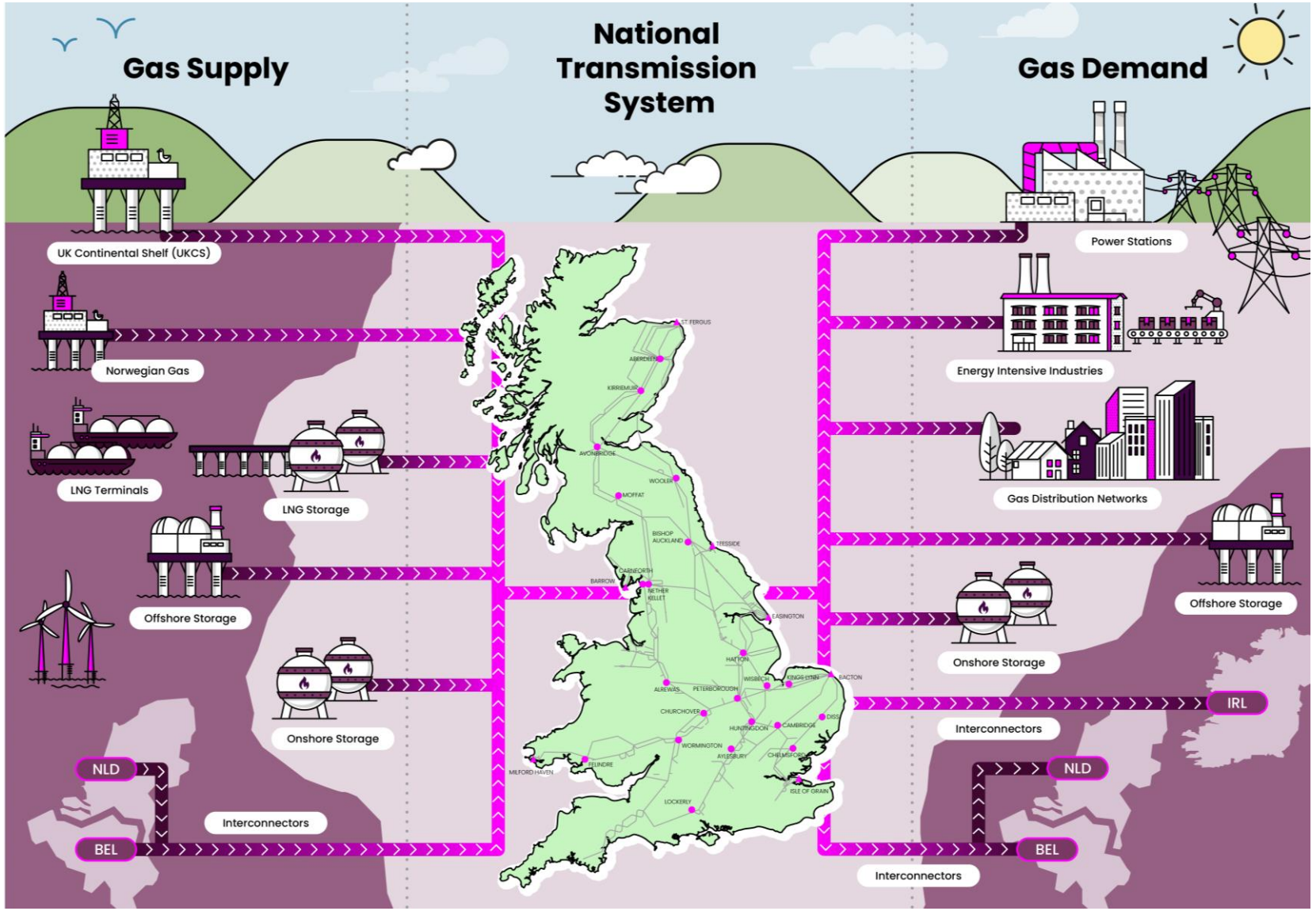
How we fit into the gas system



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Gas Network Planning Timeline

GNCR Gas Network Capability Needs Report

NESO's independent view of GB's gas transmission system, the NTS, and its capability to meet current and future network requirements.

Strategic Planning Options Proposal

national gas transmission

SPOP Strategic Planning Options Proposal

Required by NGT's Gas Transporter Licence Special Conditions, SPOP identifies the options which could meet the capability need(s) identified in the GNCNR so that NESO fulfil their obligations in the Gas Options Advice Document (GOA).

GOA Gas Options Advice

NESO's independent assessment of NGT's preferred reinforcement options for NTS; where appropriate, to present a more suitable option to Ofgem.

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Gas Network Capability Needs Report (GNCNR) overview

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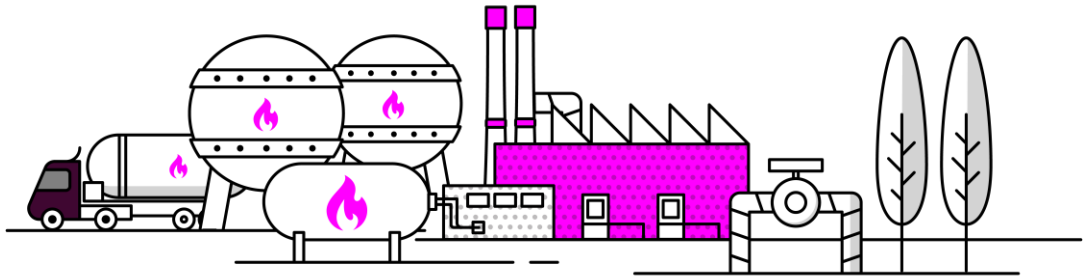
What is the GNCNR?

The Gas Network Capability Needs Report (GNCNR) report is part of a two-year cycle, evaluating the entry and exit capability needs of the National Transmission System (NTS).

A key part of NESO's role in producing the GNCNR is to conduct an unbiased evaluation of the NTS capability requirements. This then results in National Gas Transmission (NGT) recommending options to NESO and Ofgem on how to potentially resolve these.



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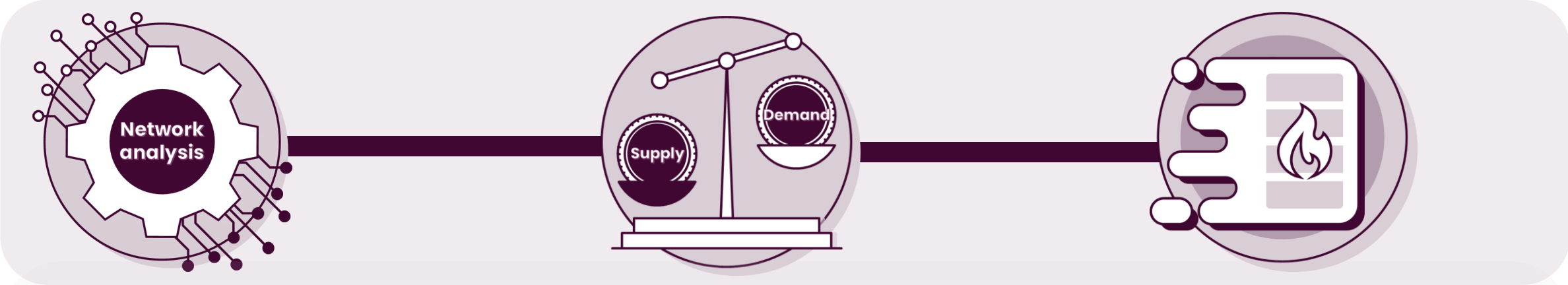
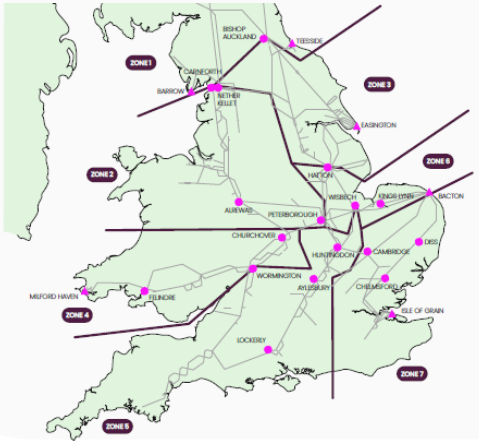
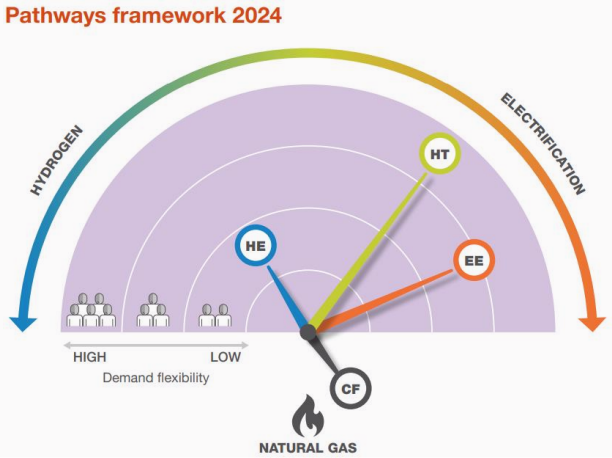
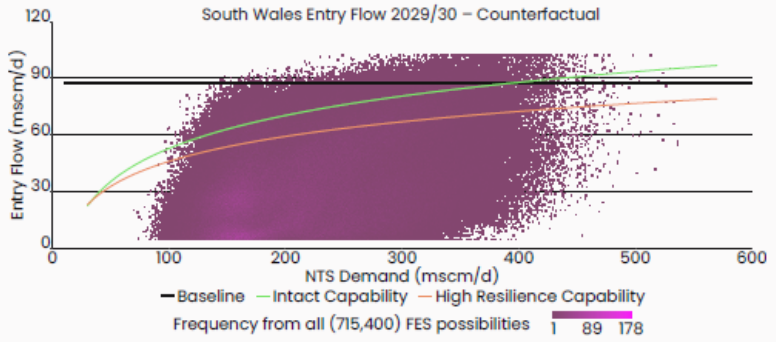
GNCNR Methodology









More information can be found here: [Gas Network Capability Needs Report (GNCNR)]

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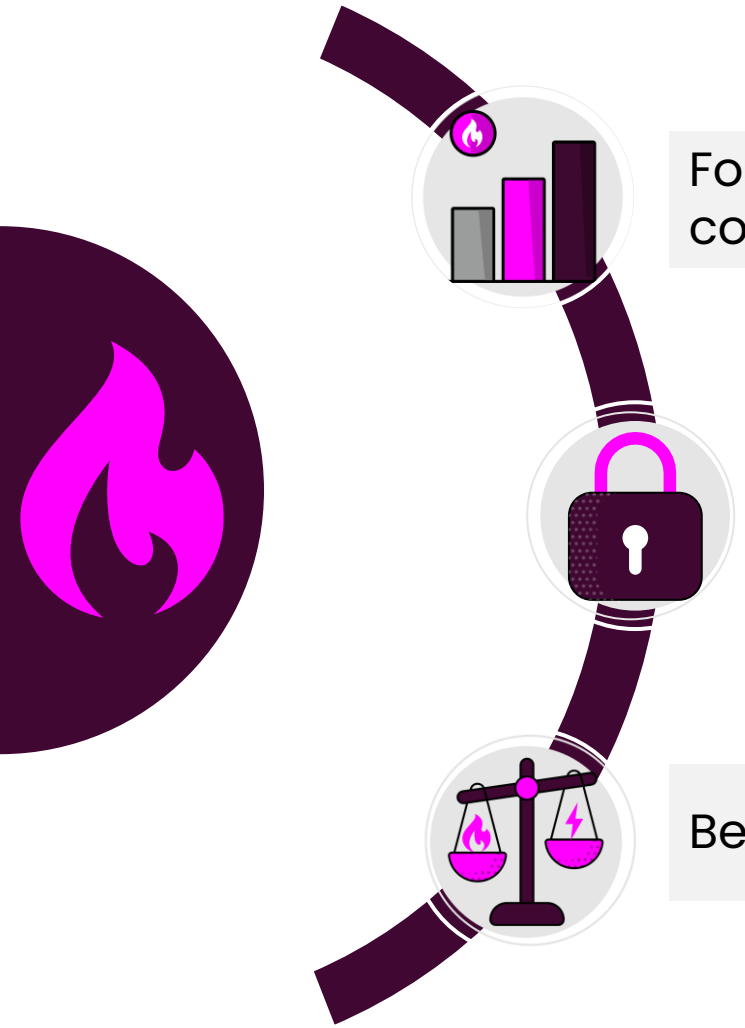
GNCNR key findings



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

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Gas Options Advice (GOA) overview

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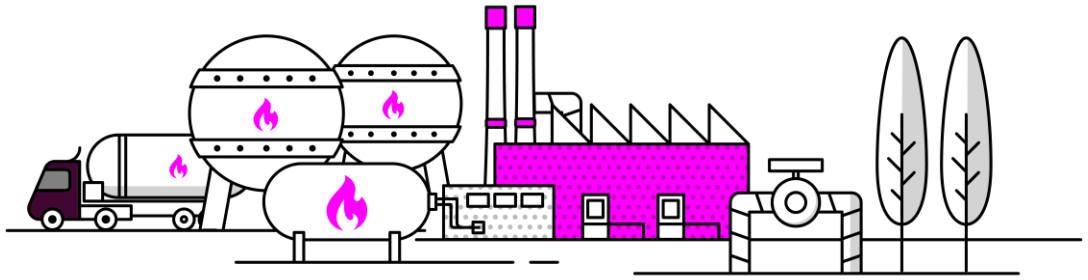
What is the GOA?

The Gas Options Advice (GOA) report is part of a two-year cycle, evaluating National Gas Transmission's (NGT) proposals to develop Great Britain's gas network and recommending preferred options to Ofgem.

A key part of NESO's role in producing the GOA is to conduct an unbiased evaluation of the options presented by National Gas to address capability shortfalls. This then results in the recommendation of a single preferred option.



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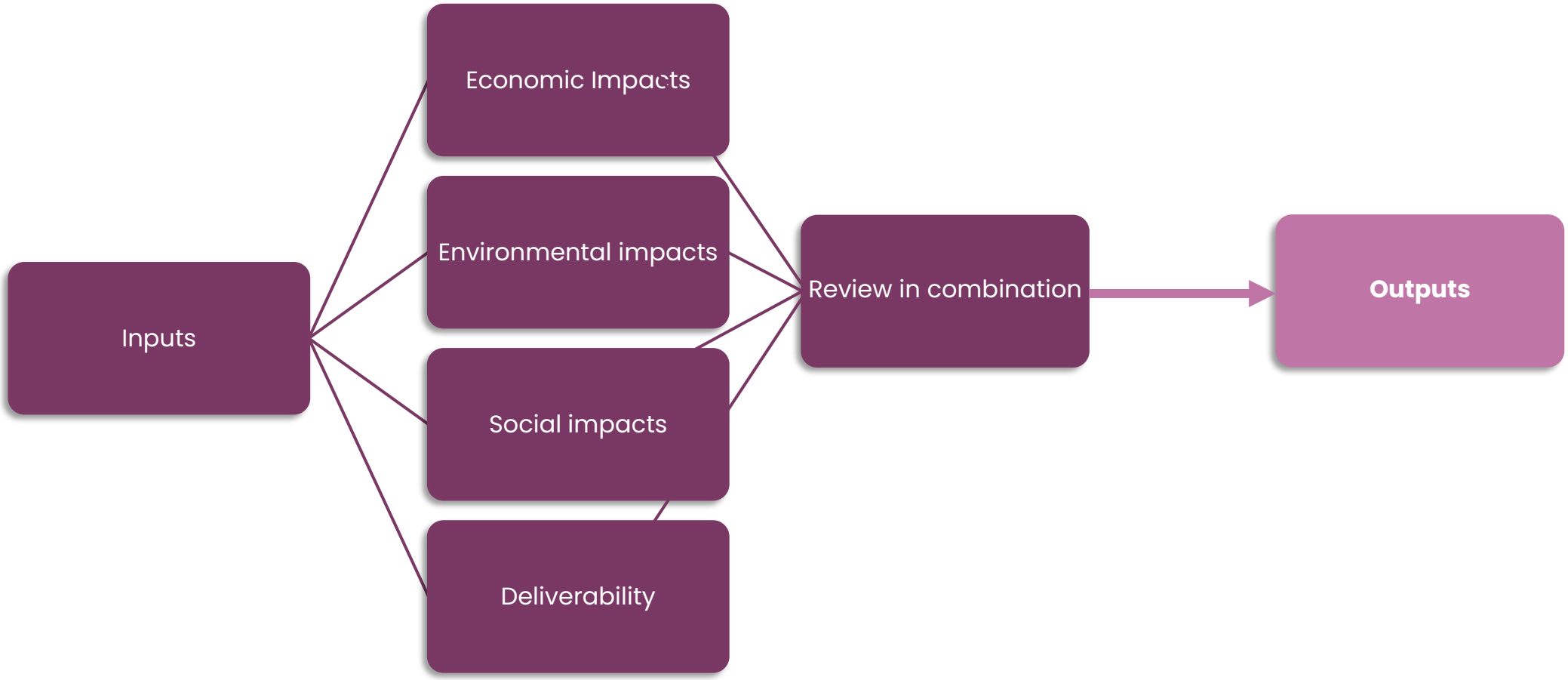
GOA Methodology



More information can be found here: [Gas Options Advice (GOA) Methodology]

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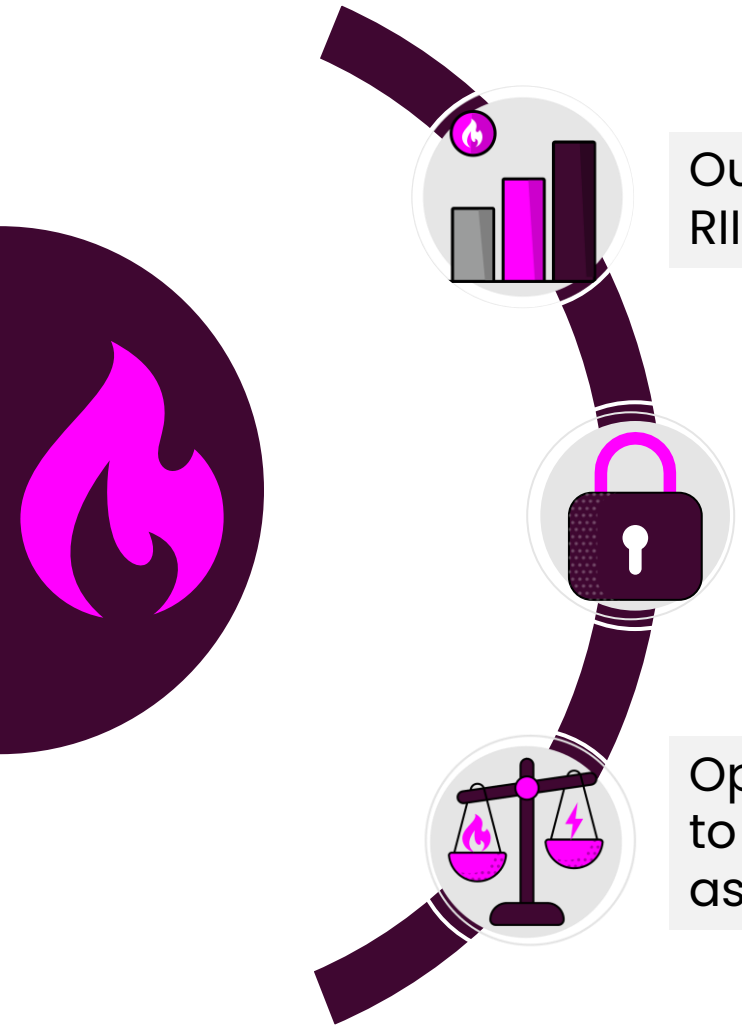
GOA key findings



Our recommendation is consistent with our advice to Ofgem on the RIIO-GT3 NGT business plan

We recommend additional investment in NTS to increase network entry capability in South Wales

Options were identified as potential mitigation measures in relation to the GSSA for South Wales, however, for the purpose of the GOA assessment these are not the preferred commercial solution

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GOA assessment framework

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Assessment Framework

ASSESSMENT CATEGORIES	DESCRIPTION	NPV OR SI&D MATRIX ASSESSMENT
Capital costs	Costs associated with the design, planning, building and decommissioning (at the end of the assumed operational life) of the investment options	NPV
Operating costs	Costs associated with the operation and maintenance of the investment options	NPV
Network constraint costs	Costs that NGT incur when gas flows on the NTS are constrained, they serve as a benchmark against the capital and operating costs in the economic assessment	NPV
Environmental impacts	Environmental cost of emissions that are incurred as part of an investment option	NPV
Social impacts	Consider to what extent can these options ensure network security of supply, promote and maintain safety for the consumer	SI&D Matrix assessment
Deliverability	Consider the likely complexity in implementing the option, together with any known challenges concerning the proposal's geographical location and whether it is reliant on unproven technology.	SI&D Matrix assessment

The net present value (NPV) assessment will consider:

- Capital costs
- Operating costs
- Network constraint costs
- Environmental impacts

The social impacts and deliverability (SI&D) matrix assessment will consider the following factors:

- Social impacts
- Deliverability

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Capital and Operational Costs

ASSESSMENT CATEGORIES	DESCRIPTION	NPV OR SI&D MATRIX ASSESSMENT
Capital costs	Costs associated with the design, planning, building and assets	NPV
Operating costs	Costs associated with the operation and maintenance of the investment options	NPV
Network constraint costs	Costs that NGT incur when gas flows on the NTS are constrained, they serve as a benchmark against the capital and operating costs in the economic assessment	NPV
Environmental impacts	Environmental cost of emissions that are incurred as part of an investment option	NPV
Social impacts	Consider to what extent can these options ensure network security of supply, promote and maintain safety for the consumer	SI&D Matrix assessment
Deliverability	Consider the likely complexity in implementing the option, together with any known challenges concerning the proposal's geographical location and whether it is reliant on unproven technology.	SI&D Matrix assessment

For each option we calculate the total cost of investment over the expected life of the related assets:

- **Capital investment** costs for designing, constructing and commissioning any new assets on the NTS
- **Capital investment** costs for removing (decommissioning) redundant assets on the NTS
- **Expenditure** associated with operating and maintaining the new or decommissioned assets

We have commissioned Jacobs to create a unit cost library to assist in asset costing calculations

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Environmental Impacts

ASSESSMENT CATEGORIES	DESCRIPTION	NPV OR SI&D MATRIX ASSESSMENT
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NESO is aligned with GB's commitment to the protection and enhancement of the environment.

- **Greenhouse gas emissions** associated social cost of greenhouse gas emissions incurred in construction and maintenance and in changes to network operation
- **NO_x emissions** associated cost of significant air pollutants

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Social impacts

ASSESSMENT CATEGORIES	DESCRIPTION	NPV OR SI&D MATRIX ASSESSMENT
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For each option we will assess the consequences of investment proposals on communities or society both the positive and negative impacts that result from these options:

- **Security of supply** assessment of the options will need to consider whether and how they deliver a safe and secure network

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Deliverability

ASSESSMENT CATEGORIES	DESCRIPTION	NPV OR SI&D MATRIX ASSESSMENT
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Deliverability	Consider the likely complexity in implementing the option, together with any known challenges concerning the proposal's geographical location and whether it is reliant on unproven technology.	SI&D Matrix assessment

For each option we will we apply a framework against each option, considering a range of factors:

- **Complexity** assessment of the options that could lead to constraints against the timeline stated in NGT SPOP
- **Geographical considerations** assessment of whether the options will be in the proximity of areas of population or sensitive areas, such as AONB[1], NSA[2] or SSSI[3]
- **Technology** assessment of the options technology being presented that could lead to further justification for safety legislation.

1. AONB: Areas of Outstanding Natural Beauty; applicable in England and Wales
2. NSA: National Scenic Areas; applicable in Scotland
3. SSSI: Site of Special Scientific Interest

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GOA recommendations

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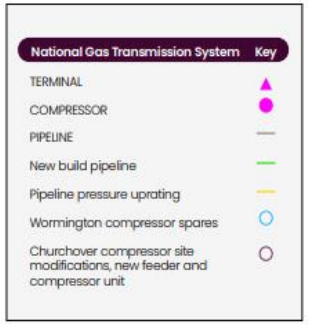
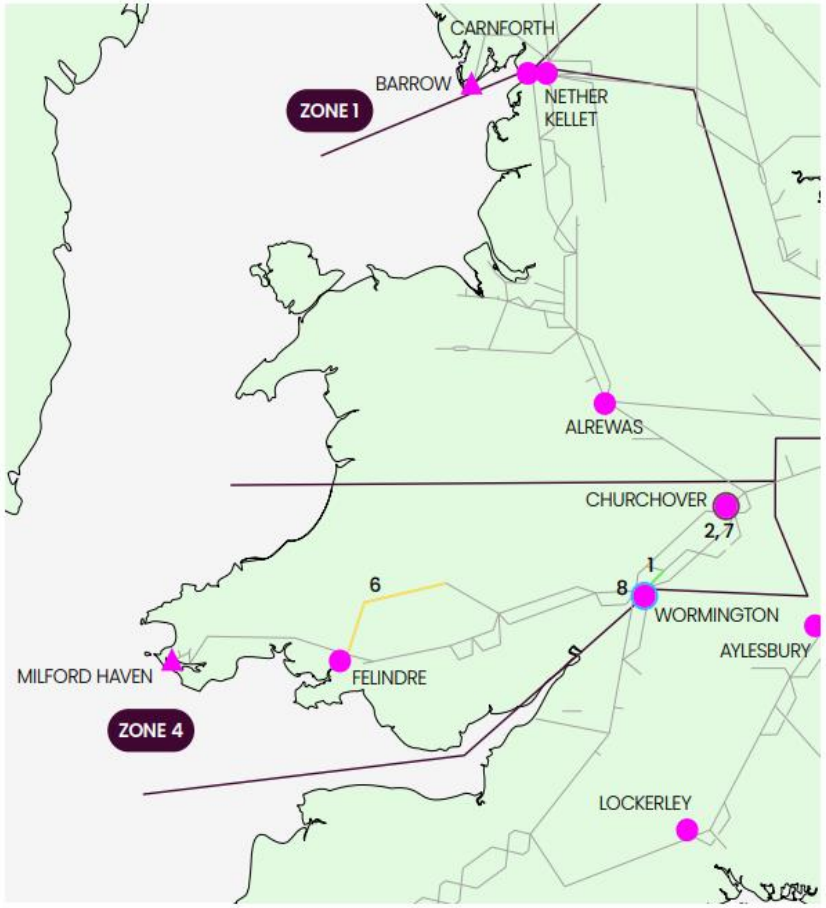
GOA recommendation

South Wales (Zone 4) map





Our recommendation to Ofgem:

- GOA option D
- Construction of 9km of 900mm pipeline between Wormington to Honeybourne AGI
- Constructing 2km of 900mm pipeline between Churchover compressor tee and multi-junction
- Feedr 28 pressure uprating to 102 barg
- Churchover compressor station modifications to allow maximum station flow of 75mcm/d
- Procuring of a spare rebuild kit at Wormington compressor station

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Economic and SI&D assessment

GOA Option	D
CapEx Cost (£m)	54
Holistic Transition NPV (£m)	604
Electric Engagement NPV (£m)	790
Hydrogen Evolution NPV (£m)	1,244
Falling Behind NPV (£m)	1,586
Complexity	Low
Geographical Considerations	Low
Technology	Low
Network Security of Supply	High

The GOA economic and SI&D matrix assessments:

- Positive NPV scoring across all FES net zero pathways and falling behind
- Low risk score for design complexity
- Low risk score for impact on geographical considerations
- Low risk score for technological maturity as all components are currently used on NTS
- High benefit for network security of supply for reduction of potential entry constraints

All options calculations are available in GOA accompanying workbook

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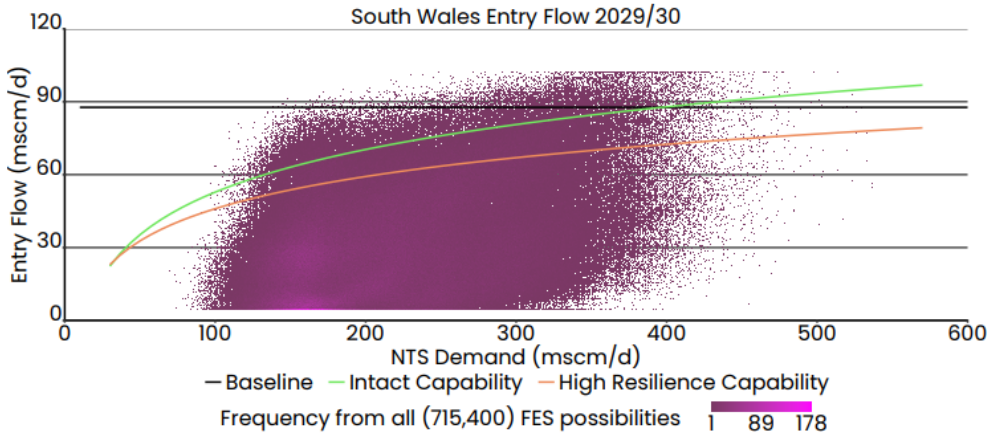
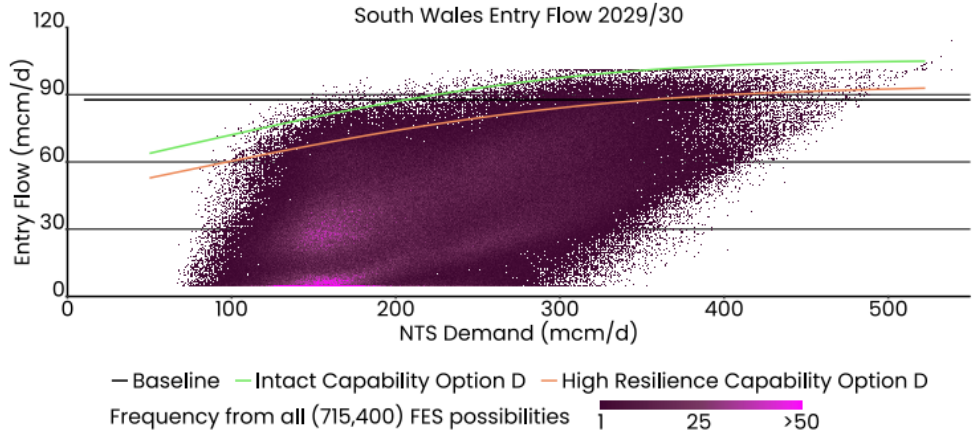
Recommendation benefits

GNCNR – Counterfactual



GOA – Falling Behind



Benefits of the recommendation

- Option D can be delivered by December 2028
- Increases in both intact and high resilience entry capability from 2029
- Reduction in potential entry constraints on NTS
- Potential to deliver gas flows above baseline (on demands of 250mcm/d and above)
- Option D supports NESO GSSA role

Option will be included in next gas network planning cycle analysis from 2029 onward

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Next steps in gas network planning

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Next steps in Gas Network Planning

As the GOA 2025 was the response to the GNCNR and SPOP, we are dedicated to building on this foundation to deliver the most valuable analysis of the gas transmission network.

- Review of our gas processes now the first two-year planning cycle has been completed
- Continued stakeholder engagement with industry
- Preparing gas network planning role for future CSNP responsibilities

Continued stakeholder engagement

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

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Q&A

Please ask questions about the GOA via MS Teams Q&A

We will publish an FAQ using questions asked today

Thank you

Slides and FAQ document to be published to website

If you have questions/feedback, please contact **gwend@neso.energy**

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