

A landscape photograph featuring snow-capped mountains under a cloudy sky. Several bright, glowing yellow lines, representing energy or data, curve across the valley floor. The lines originate from the left and curve towards the right, following the contours of the land. The overall scene is bathed in a warm, golden light, suggesting a sunrise or sunset.

**MAC Pre-read**  
**Sept 2022**

# Contents

Agenda Item	Slides	Purpose of Session
Winter Update	NA	<ul style="list-style-type: none"><li>▪ Update MAC members on the measures ESO is taking for this winter</li><li>▪ Get feedback on ESO's communication of its winter planning</li></ul>
REMA Update	3-8	<ul style="list-style-type: none"><li>▪ Update the MAC on ESO's approach to the REMA consultation response, drawing out:<ul style="list-style-type: none"><li>▪ Areas of alignment and divergence with BEIS and Ofgem long-term reform objectives</li><li>▪ ESO approach to assessing 'Investment' aspects of Market Design</li><li>▪ Areas where ESO approach has changed since the last phase</li></ul></li><li>▪ Understand members' views on REMA and particularly some of the recent suggestions on short term fixes to wholesale markets</li></ul>
Future System Operator (FSO)	9 - 15	<ul style="list-style-type: none"><li>▪ Update members on the progress of the FSO programme</li><li>▪ Discuss the future role of the FSO and of the MAC</li></ul>
Provider Capability Project Scope	See PDF	<ul style="list-style-type: none"><li>▪ ESO will give a brief update on the project it is launching to better understand the technical and commercial characteristics of new providers trading in its markets</li></ul>

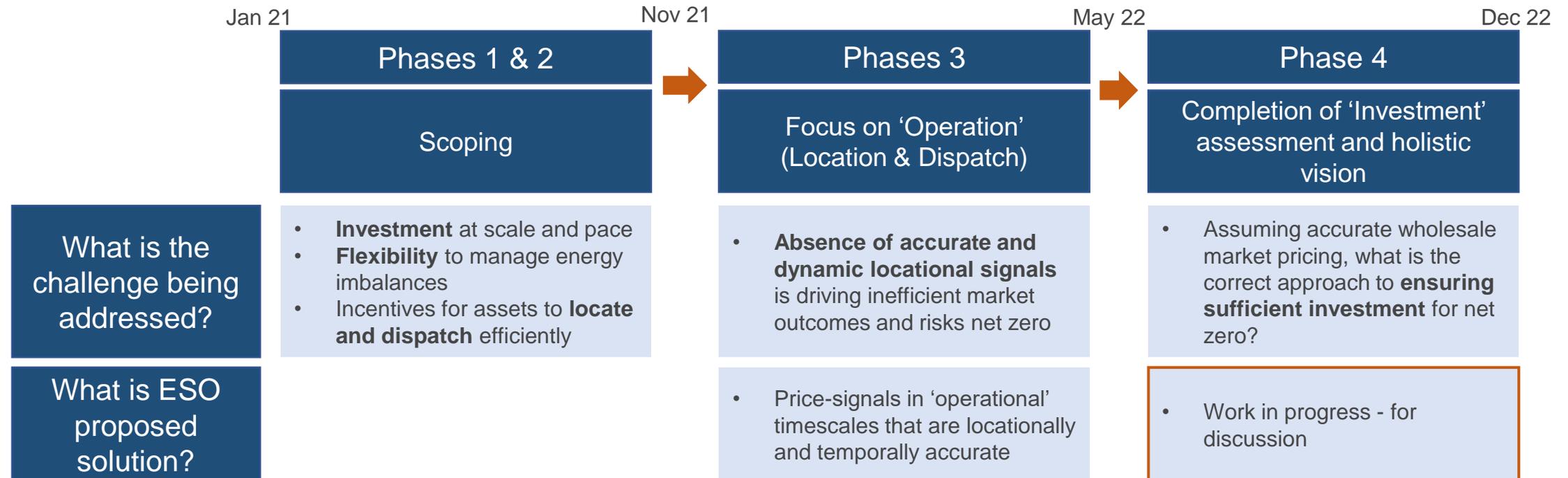


# REMA Update

# Recap of ESO Net Zero Market Reform programme and interactions with BEIS' REMA consultation:

- ESO completed its assessment of 'Operation' aspects of market design in May, concluding that nodal pricing and central dispatch is the optimal solution for addressing GB's growing need for dynamic locational signals in operational timeframes
- We are now undertaking the assessment of the 'Investment' market design elements, considering designs for Low Carbon Support, Flexibility and Capacity Adequacy
- In parallel, ESO is developing its response to BEIS' REMA consultation, which will build on the work done throughout the Net Zero Market Reform programme

## Evolution of ESO Net Zero Market Reform Programme To Date



# Comparison of Vision/Objectives/Outcomes/Assessment Criteria

	BEIS	Ofgem	ESO										
<b>Principal objective(s) – REMA/Energy system for Net Zero</b>	Full decarbonisation of the electricity system by 2035, subject to security of supply, and cost effective for consumers	Protect interests of GB energy consumers both now and in future	Full decarbonisation of the electricity system by 2035, and of the economy by 2050, which is reliable, affordable and fair for all										
<b>Outcomes that need to be achieved</b>	<ul style="list-style-type: none"> <li>• Step change in the rate of deployment of low carbon technologies, and reduce dependence on fossil fuelled generation</li> <li>• Provide right signals for flex across system</li> <li>• Facilitate consumers to take greater control of their electricity use through improved price signals, whilst ensuring fair outcomes</li> <li>• Optimise assets at local, regional, national levels</li> <li>• Ensure system security at all times</li> </ul>	Ensuring positive outcomes for consumers - address: <ul style="list-style-type: none"> <li>• high costs and bills;</li> <li>• fuel poverty and vulnerability;</li> <li>• empowerment with protections;</li> <li>• retail mkt resilience to WM</li> </ul>	<ul style="list-style-type: none"> <li>• Right network development</li> <li>• Right resource mix</li> <li>• Ensure operability</li> <li>• Consumers at heart</li> <li>• Smart, flex, digitalisation, data</li> <li>○ Incentivise assets to locate and dispatch where minimise whole system costs</li> <li>○ Manage dramatic energy imbalances with flex and firm tech across supply and demand</li> <li>○ Invest at unprecedented scale and pace</li> </ul>										
<b>Assessment criteria</b>	Accelerate low carbon technologies Flex signals Consumer choice Optimise assets Ensure security  Note: In contrast to ESO, BEIS have opted not to include the trilemma objectives in their assessment criteria. Also no sequencing in assessment.	NA	<ul style="list-style-type: none"> <li>- ESO objectives embedded in 10 assessment criteria</li> <li>- Re-labelled 'security of supply' to 'energy security and system operability'</li> <li>- Have introduced sub-criteria for each of the 10 criteria to improve transparency on trade-offs</li> </ul>										
			<table border="0"> <tr> <td>1. Decarbonisation</td> <td>6. Investor confidence</td> </tr> <tr> <td>2. Full chain flexibility</td> <td>7. Value of money</td> </tr> <tr> <td>3. Consumer fairness</td> <td>8. Competition</td> </tr> <tr> <td>4. Whole system</td> <td>9. Deliverability</td> </tr> <tr> <td>5. Energy security and operability</td> <td>10. Adaptability</td> </tr> </table>	1. Decarbonisation	6. Investor confidence	2. Full chain flexibility	7. Value of money	3. Consumer fairness	8. Competition	4. Whole system	9. Deliverability	5. Energy security and operability	10. Adaptability
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Sources: REMA Consultation document, July 2022; Net Zero Britain: developing an energy system fit for the future (8 July 2022)

# ESO narrative on Net Zero Market Reform as part of the bigger picture

## What has changed and needs to be taken into account?

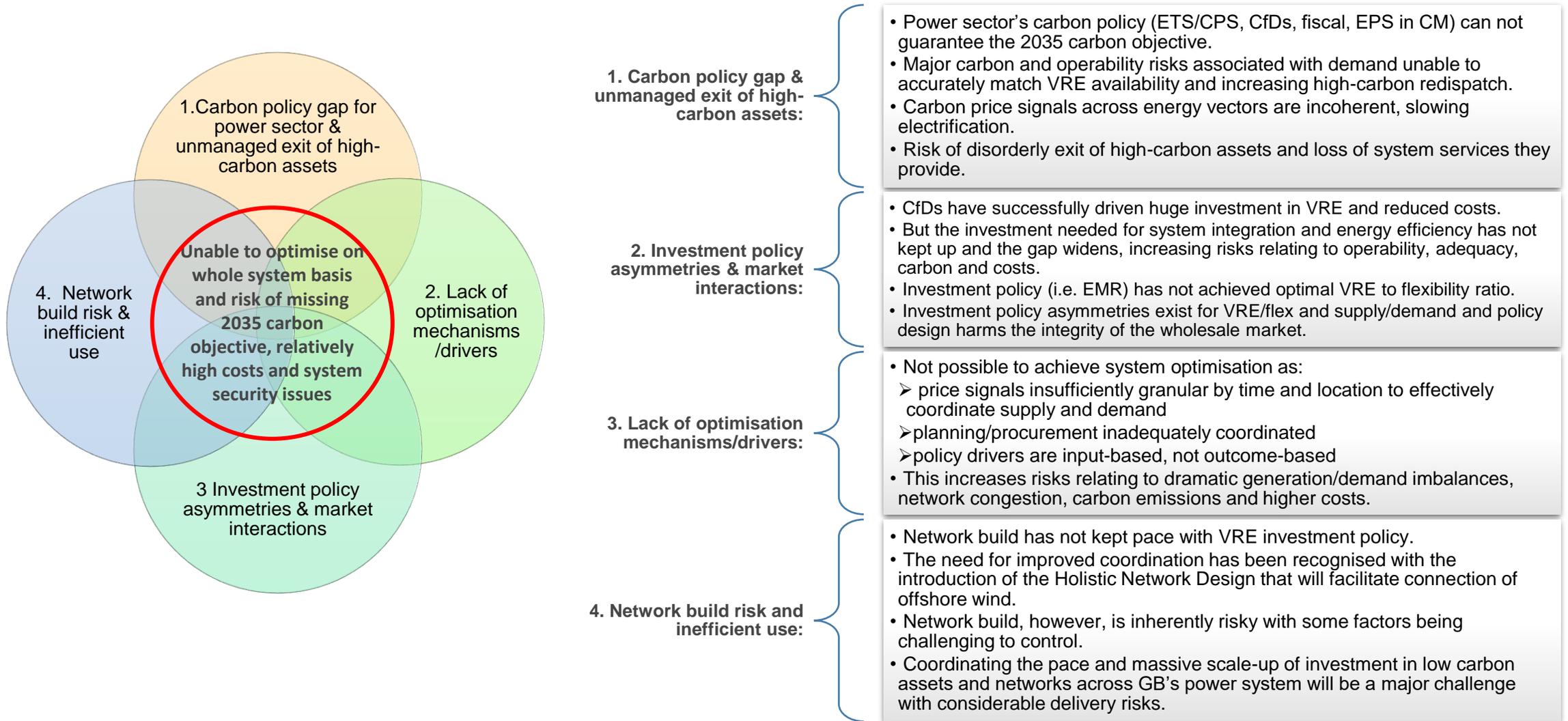
- Gas price and cost of living crisis, need for short-term action
- Publication of REMA consultation and new ideas e.g. bifurcated markets
- Industry's concerns with central dispatch and locational energy pricing

## Our approach:

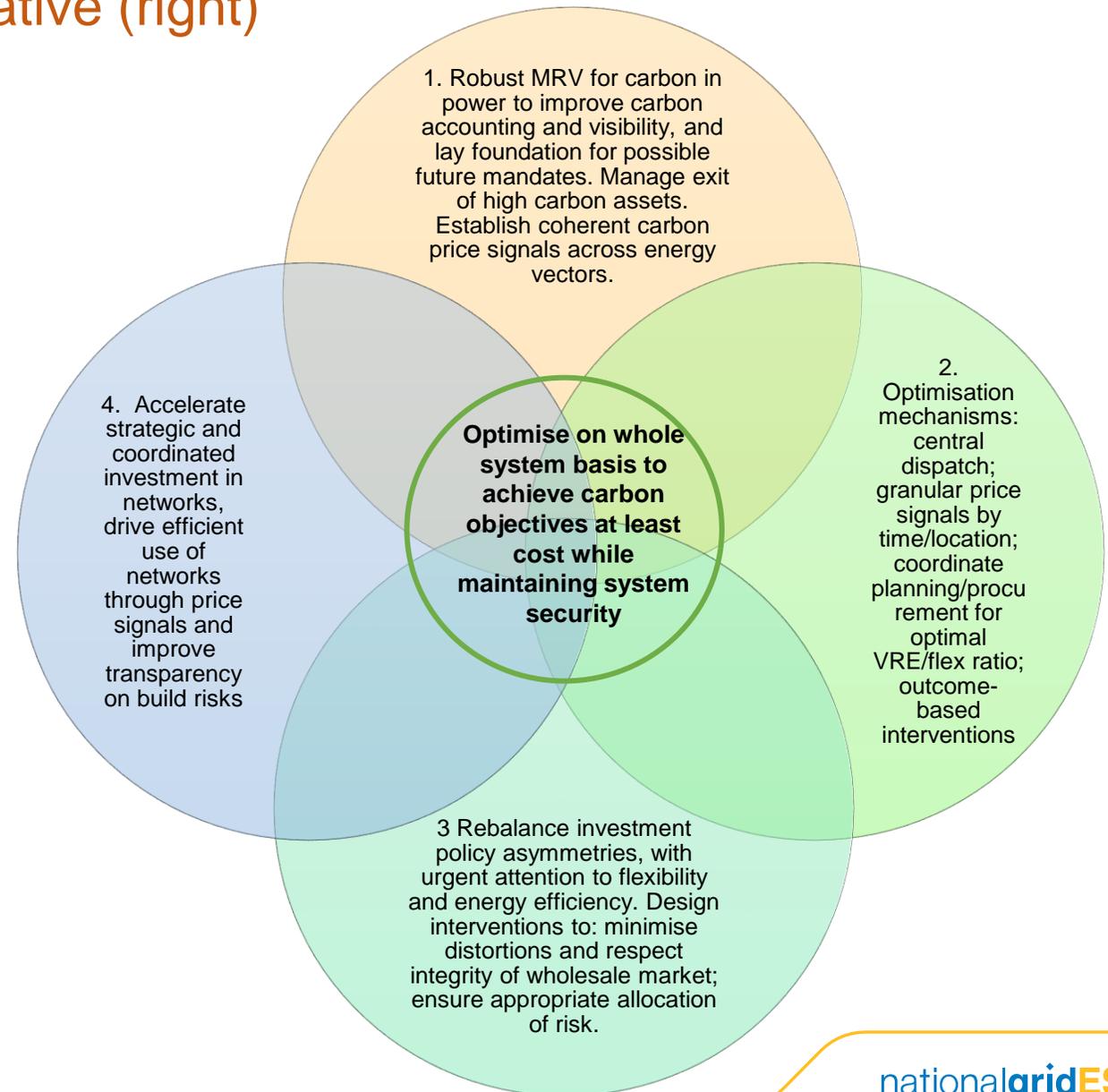
- Short term actions are needed to address extraordinary prices and high inframarginal rent but short-term interventions shouldn't hamper the long-term pathway (ideally align)
- ESO's Net Zero Market Reform programme is exploring **holistically** the changes to current GB electricity market design that will be required to provide an **enduring foundation for long-term net zero market design that can achieve net zero by 2050 and optimal societal outcomes.**
- NGENSO is **fully committed** to delivering a zero-carbon electricity system by 2035.
- As the system operator, **NGESO's primary responsibility is to ensure that the zero-carbon electricity system is operable, secure and cost-efficient.**
- We need a rapid step up in investment in low carbon capacity, **rebalancing the VRE/flexibility ratio** if we are to have any chance of meeting the 2035 target.
- NGENSO is concerned that current investment conditions (including wholesale market design) are **exacerbating the operability challenge** and creating unnecessary cost to consumers.
- We must look beyond 2035 to a **new equilibrium for a fully decarbonised economy post 2050.** Solutions must therefore be based on the latter, as a starting point, with **carefully designed transitional arrangements** that take us there from where we are today. Otherwise, an incremental approach **risks path dependency and lock-in** (making it harder for more fundamental reforms later), while the system security and cost challenges currently observed will simply **re-emerge, repeat and become even greater** in later years as we further decarbonize the energy system.

# Roots and risks of current arrangements

Analysis separates role of carbon policy and de-risking financing support

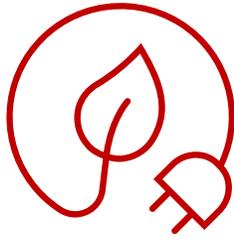


# Evaluation process for NZMR assessment (left) and direction of travel with solutions narrative (right)



# 1. FSO programme progress to date

# What do we mean by a Future System Operator



An **independent** organisation with a mandate to deliver **net zero system operation**, with enhanced **data and digital capability**



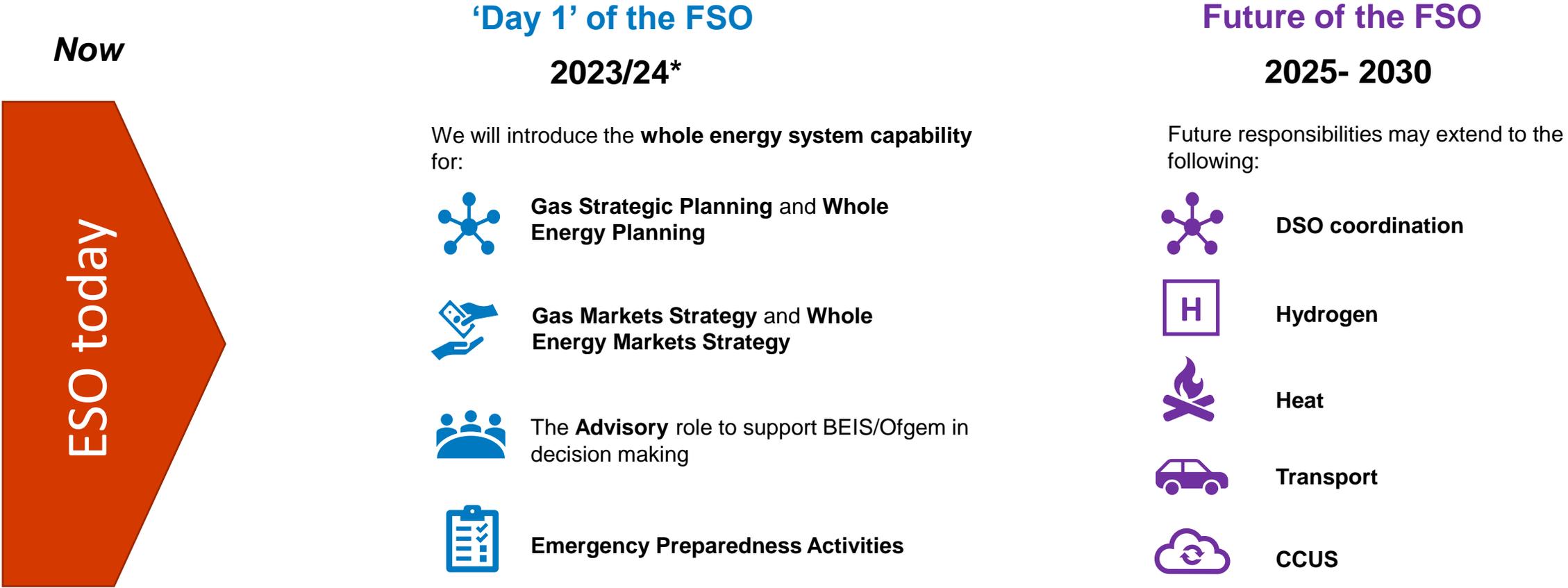
Act with a **whole energy system view**, bringing parties together to support **optimised decision-making and action** in the decarbonisation of power, heat and transport



Working with policy makers and regulators, and advising more broadly across the energy sector, to **unlock value and accelerate the net zero transition**

# The role of the FSO will evolve over time

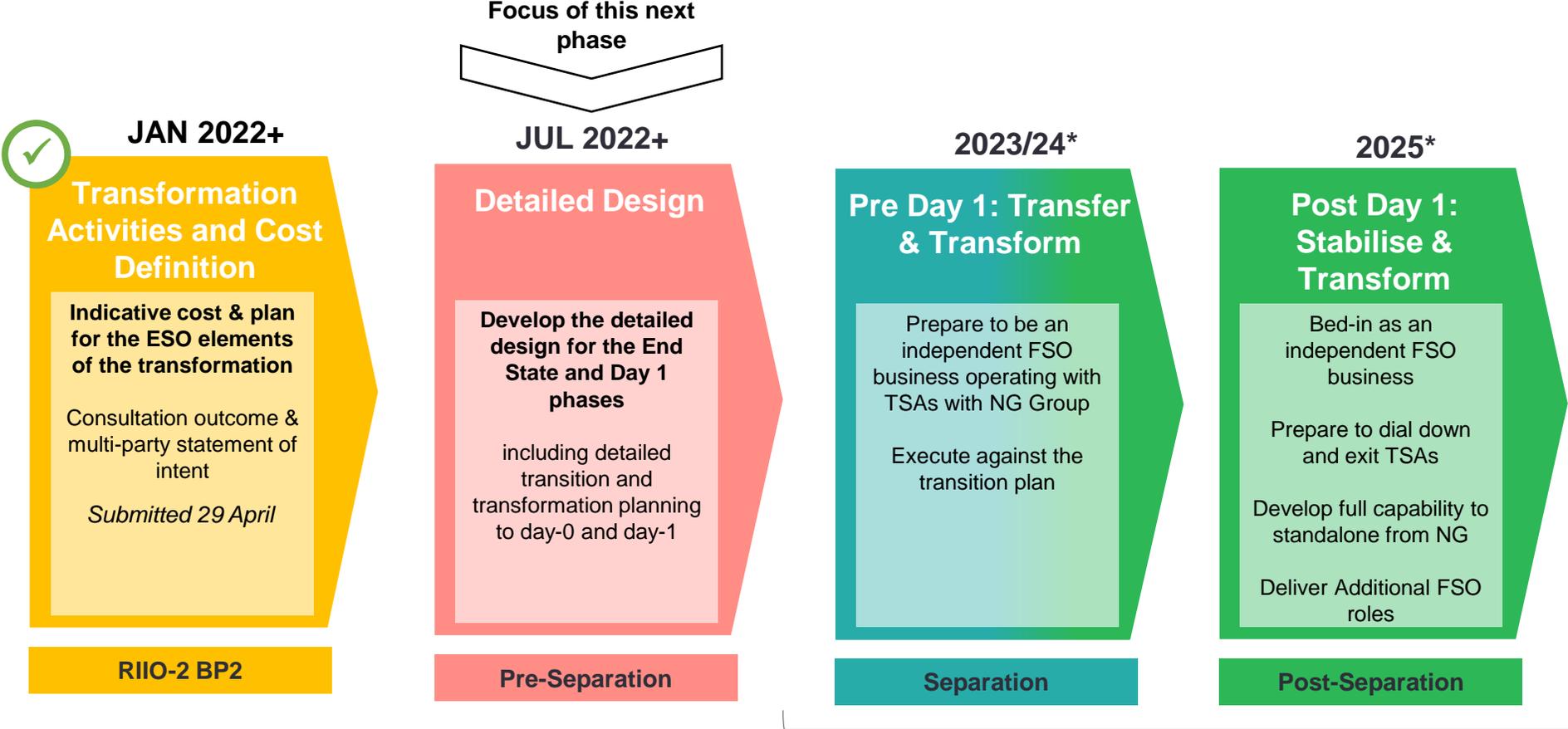
The FSO is about the creation of an expert and impartial body with duties to facilitate net zero whilst also maintaining resilient and affordable whole energy system



\* Illustrative - subject to confirmation

# We are currently in the detailed design phase

Following the completion of our blueprint phase, we have fully started the next phase of Detailed Design which will run until mid-November



\*indicative dates

# Transition & Transformation Plan – ESO to FSO

Indicative timeline

April 2022

October 2022

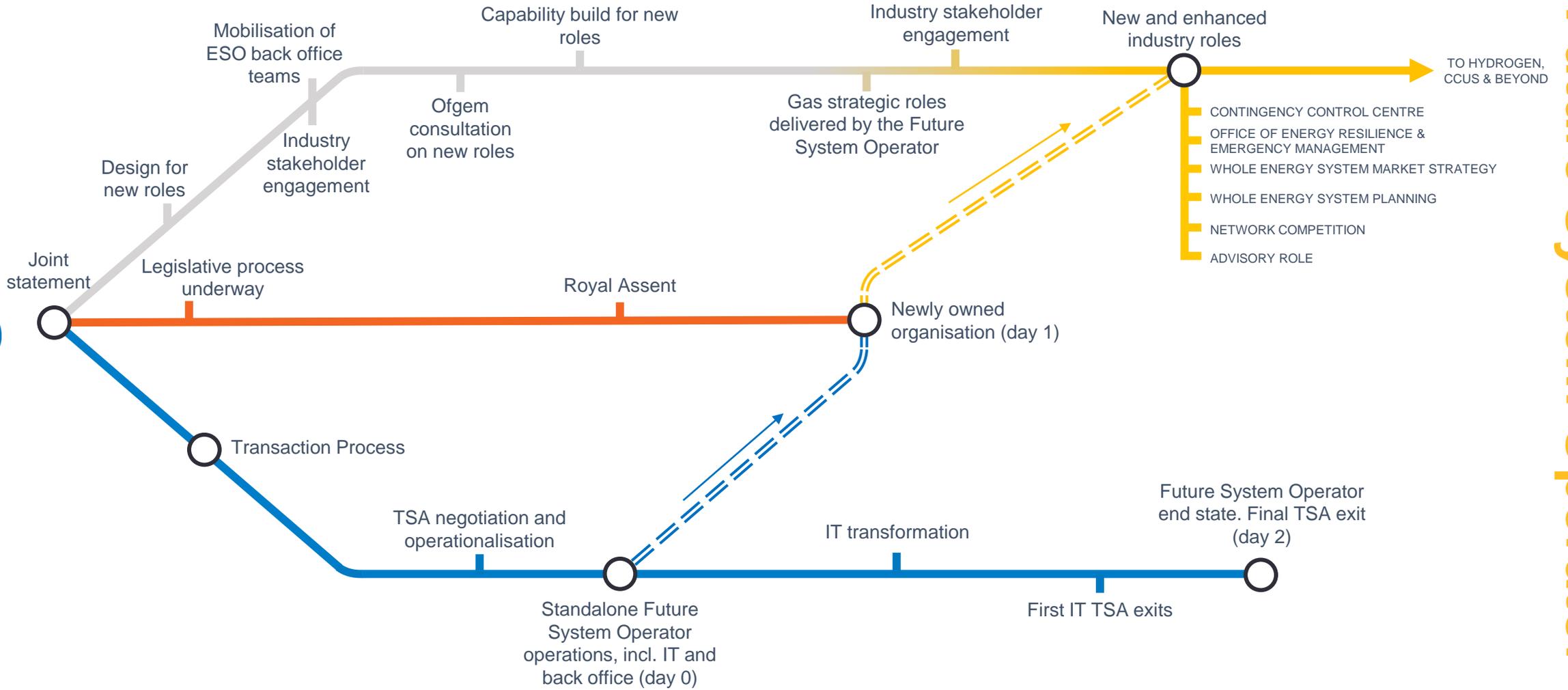
April 2023

Day 1

Day 2

nationalgridESO

Future System Operator



KEY: — — Future System Operator — Ownership model — Relationship with National Grid plc

## Discussion points for the MAC

- Feedback on FSO programme to date
- What are the key risks / challenges for the FSO?
- What are the key roles the FSO should undertake?
- Where can the FSO add most value?
- What role can the MAC play in shaping the FSO?
- Do the Terms of Reference and attendees need to evolve to support FSO?