



# Beyond borders

Unlocking the power of UK-EU  
offshore wind coordination

December 2024

Prepared on behalf of:



# Introduction to the Baringa report from Breakthrough Energy

**The North Sea is one of the world's most promising regions for offshore wind, which provides the opportunity for the European Union and the United Kingdom to meet shared energy and climate challenges through collaboration. However, realising the full potential of this opportunity requires addressing significant barriers that currently hinder effective cooperation.**

The rapprochement between the UK and the EU provides a window of opportunity to harness the benefits of a realignment between the UK and the EU to meet ambitious decarbonisation targets – working collaboratively to accelerate deployment efforts in the North Sea.

This report focuses on identifying and addressing inefficiencies and barriers to deployment that have emerged in the post-Brexit landscape. These include suboptimal trading arrangements, stalled progress under the Trade and Cooperation Agreement (TCA), the erosion of coordination between network operators, and divergent processes in planning and supply chain procurement.

The consequences of these barriers are leading to missed opportunities for material project cost savings, delays in project delivery, and fragmented efforts to capitalise on the region's vast offshore wind potential. All of these issues lead to higher costs for consumers and impact economic growth and productivity. By addressing these issues, policymakers can unlock substantial benefits for UK and EU citizens and business.

This report provides a comprehensive analysis of these barriers and offers recommendations to address them. It emphasises the need for renewed dialogue and the alignment of regulatory and policy frameworks to support cooperation. Only through such efforts can the EU and the UK fully leverage the strategic advantages that the North Sea offers, achieving the shared goals of energy security, decarbonisation and affordability.

We hope this report serves as a foundation for decisive action, inspiring the collaborative spirit needed to enable the North Sea to be a global energy powerhouse.



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*Director, Breakthrough Energy Europe*

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# Coordination between the UK and the EU presents our best chance of delivering our national and collective offshore wind ambitions at pace



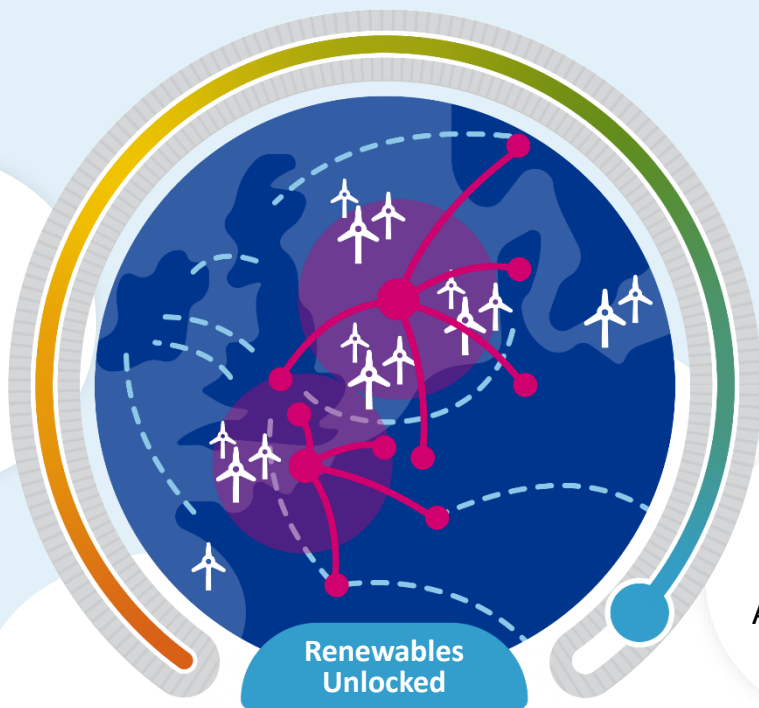
## Going further for less

Coordination smooths the path to EU & UK net zero delivery with up to 16% lower investment costs



**€44bn**

Annual consumer savings from lower electricity costs (by 2040)



## Energy security and independence

Reducing natural gas imports by the equivalent of 6.5 million homes each year



**>250m tons CO<sub>2</sub>**

Avoided between 2030-50

## What policy steps do we need to take to unlock the benefits of coordination

SHORT TERM

LONG TERM

### Address trade barriers

Action plan for after TCA

GB re-enters EU market coupling

### Join cooperation networks

UK Membership NSEC,  
IC developers participate in ENTSO-E

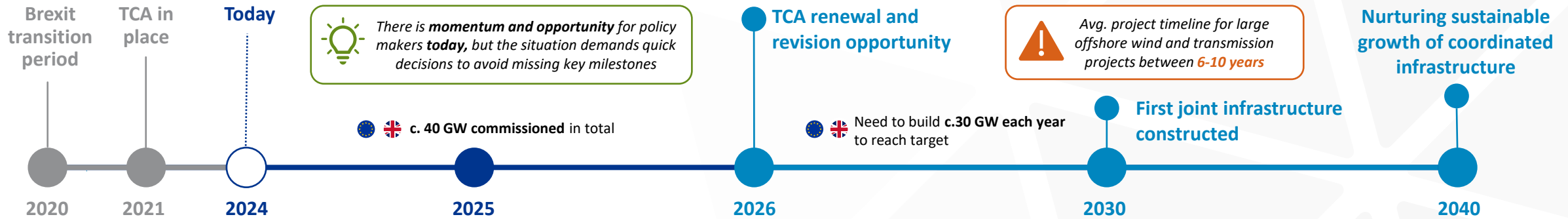
### Link the ETS

Recognition of UK carbon price for CBAM

### Industry vision

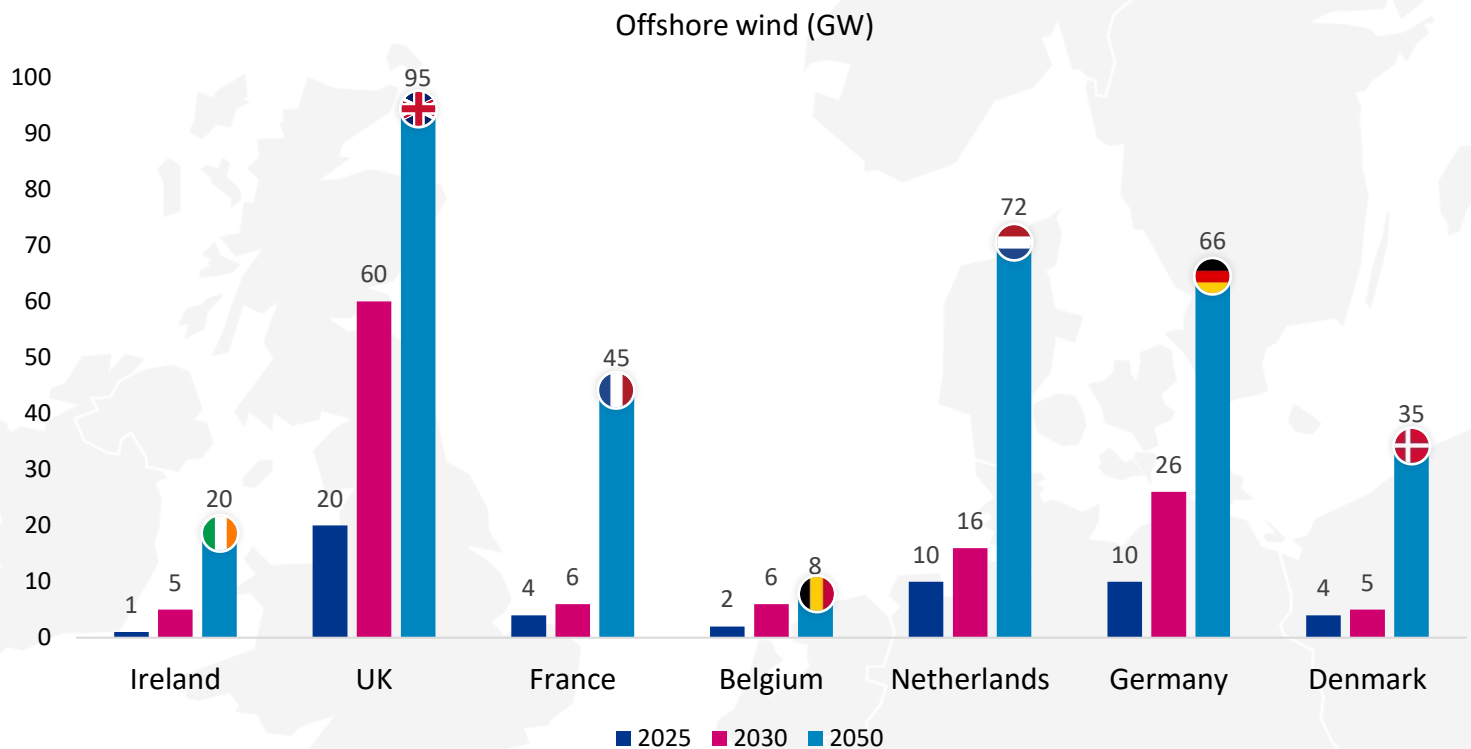
Targeted procurement and supply chain

# Action is needed now to address existing barriers between the EU-UK and create an environment that enables achieving net zero ambitions in the long-term

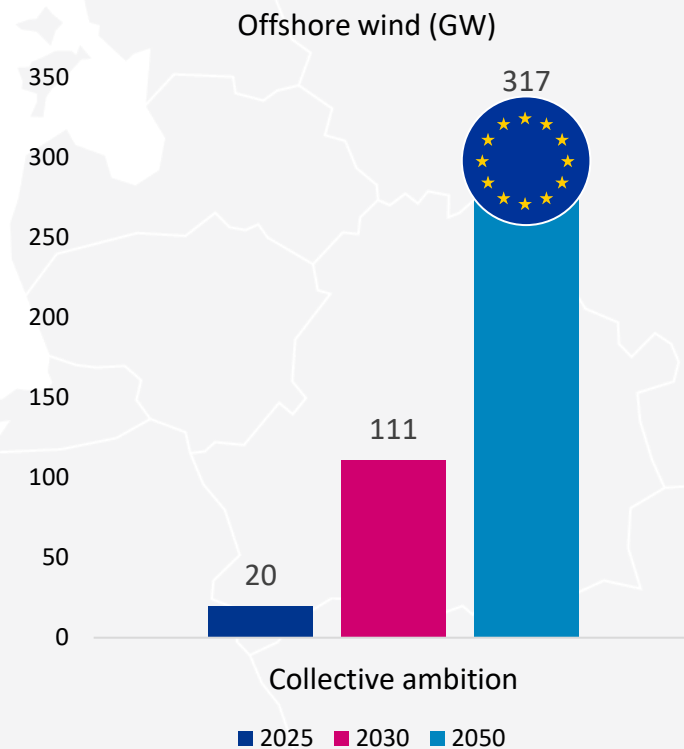


Category	Recommendation 1	Recommendation 2	Recommendation 3	Recommendation 4
<b>Governance</b>	Utilise learnings from the Specialised Committee on Energy (TCA) for an enduring policy and regulatory platform for UK-EU cooperation	Create a cooperation platform between UK and the EU-TSOs, revisiting UK System Operator's ENTSO-E membership	Re-instate UK's membership in the North Sea Energy Cooperation, to supersede/strengthen beyond the current MoU	Revise regulation to facilitate risk transfer and financing, supporting offshore infrastructure growth
<b>Coordination</b>	Develop a vision for an agreement to supersede the TCA's initial term to provide long-term legal certainty	Promote an action plan, with timelines and responsibilities for the introduction of technical procedures under the TCA	Prioritise targeted coordination on planning and consenting to accelerate development timelines	Design coordinated supply chain procurement and create a supply chain vision for the North Sea
<b>Market and trading</b>	Develop a methodology to link UK ETS to EU ETS to avoid trade distortions	Recognition of the UK carbon price as an equivalent to the CBAM rebates further removing trade friction	Implement price coupling with EU joining Single Day-Ahead Coupling through receiving a 3rd country inclusion service	

# The EU and UK set ambitious targets for offshore wind to facilitate the energy transition and meet net zero targets – there is a significant investment challenge



Comparison of the expected capacity of offshore wind in 2025 to Government ambition in 2030 and 2050 reveals the significance of the investment gap we face in offshore wind infrastructure across Europe



Aggregated across the EU, this presents a stark investment need over the next 5 years and then sustained out to 2050

Sources: [UK Government](#), [Ostend Declaration](#), [Recharge news](#), ENTSO-E, European Commission

# Collective and coordinated action could help bridge the investment gap, however, this is limited by the current lack of coordination between the UK and EU

There is an opportunity to maximise value in the North Sea through coordination but barriers remain...

## Barrier 1

Current **inefficient trading arrangements** between the UK-EU.

Significant issues implementing a post-Brexit efficient coupling arrangement.

## Barrier 2

**Limited progress** under the Trade Cooperation Agreement. Timelines are significantly overdue. TCA's initial term ceases in 2026.

## Barrier 3

**Loss of coordination** at a working level between the TSOs and DSOs as well as at a policy making / institutional level (such as between regulators). The MoUs are not translating to actionable commitments.

## Barrier 4

Divergent processes in planning, consenting and supply chain procurement.  
Low **political appetite** for large scale coordination without understanding the collective, and individual, benefits to the UK and the EU.

## Implication 1

Increased system costs, higher costs for consumers and a reduction in social welfare. Estimates are €500-560m per annum in generation costs.<sup>1</sup>

## Implication 2

Investment and regulatory uncertainty, particularly for infrastructure investments that have long asset lives, leading to a higher cost of transition.<sup>2</sup>

## Implication 3

Renewable and climate targets at risk, missing national government and collective EU targets.

## Implication 4

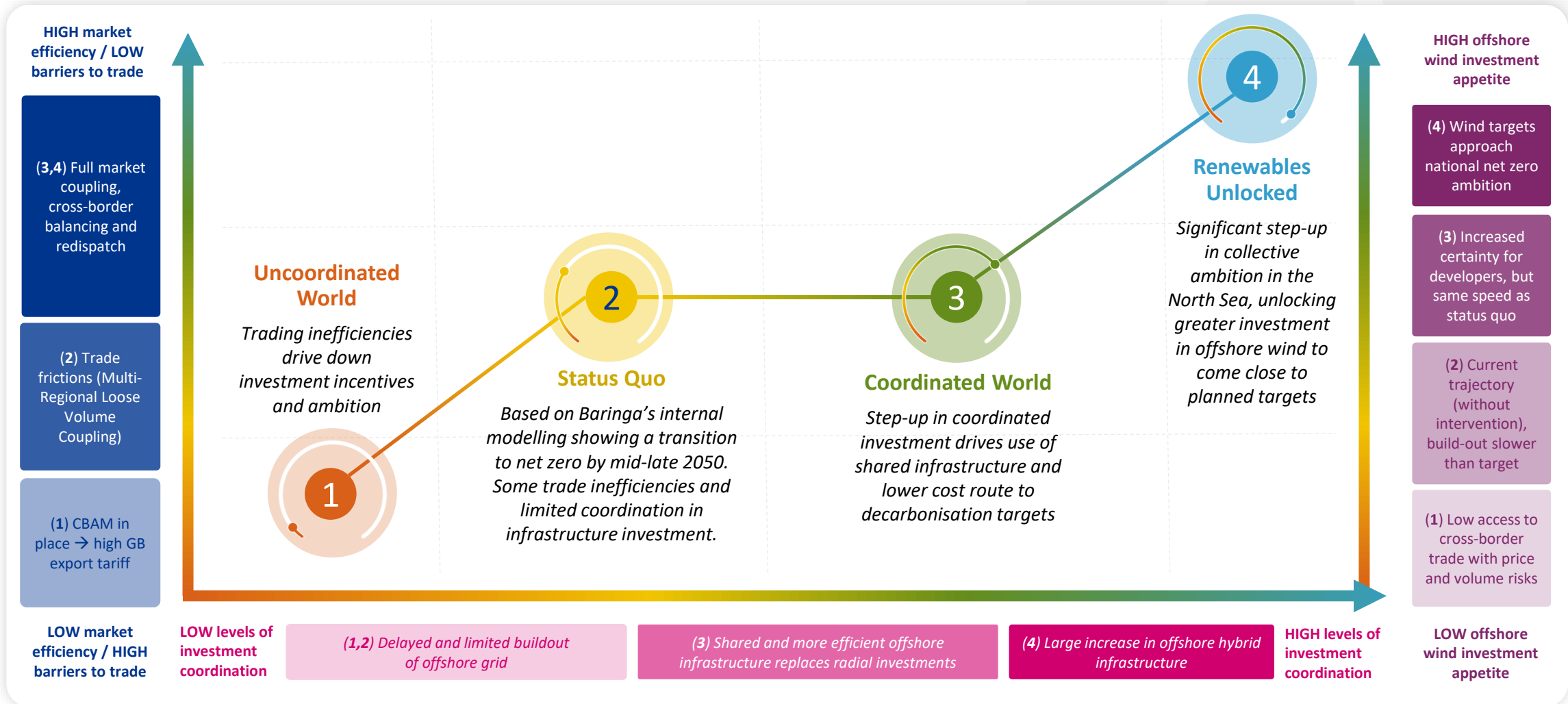
Reduced interoperability, limited investment in manufacturing capacity and higher likelihood of operational curtailment and slower investment.

The barriers have significant implications for both the EU and the UK

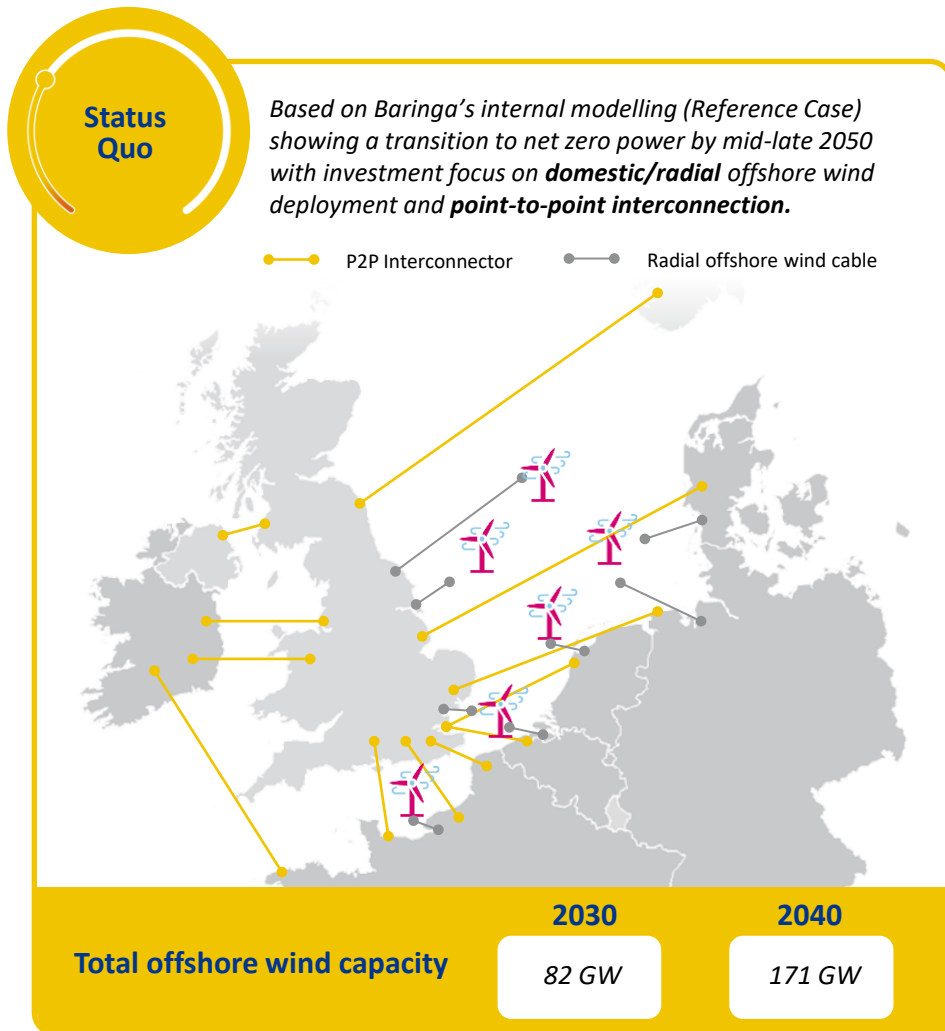
1. Elecxit: the Cost of Bilaterally Uncoupling British-EU Electricity Trade, EPRG Working group. Available here: [eprg-wp1916.pdf \(cam.ac.uk\)](#) and National Grid, submission to UK parliament. Available here: [EUE0079 - Evidence on Leaving the EU: implications for UK energy policy \(parliament.uk\)](#)

2. A broad coalition of energy associations and TSOs also supports this premise that limited price coupling and regulatory uncertainty is likely to make investment less attractive ([Joint Letter](#))

# We have used these dimensions to develop four states of the world that form the basis of the economic assessment of opportunity in the North Sea



# Exploring the impact and potential value of offshore grid and offshore wind coordination potential in the North Sea



We adapt our modelling approach to show greater levels of coordination between the UK and EU Member States in the Coordinated world.

**Market efficiency**

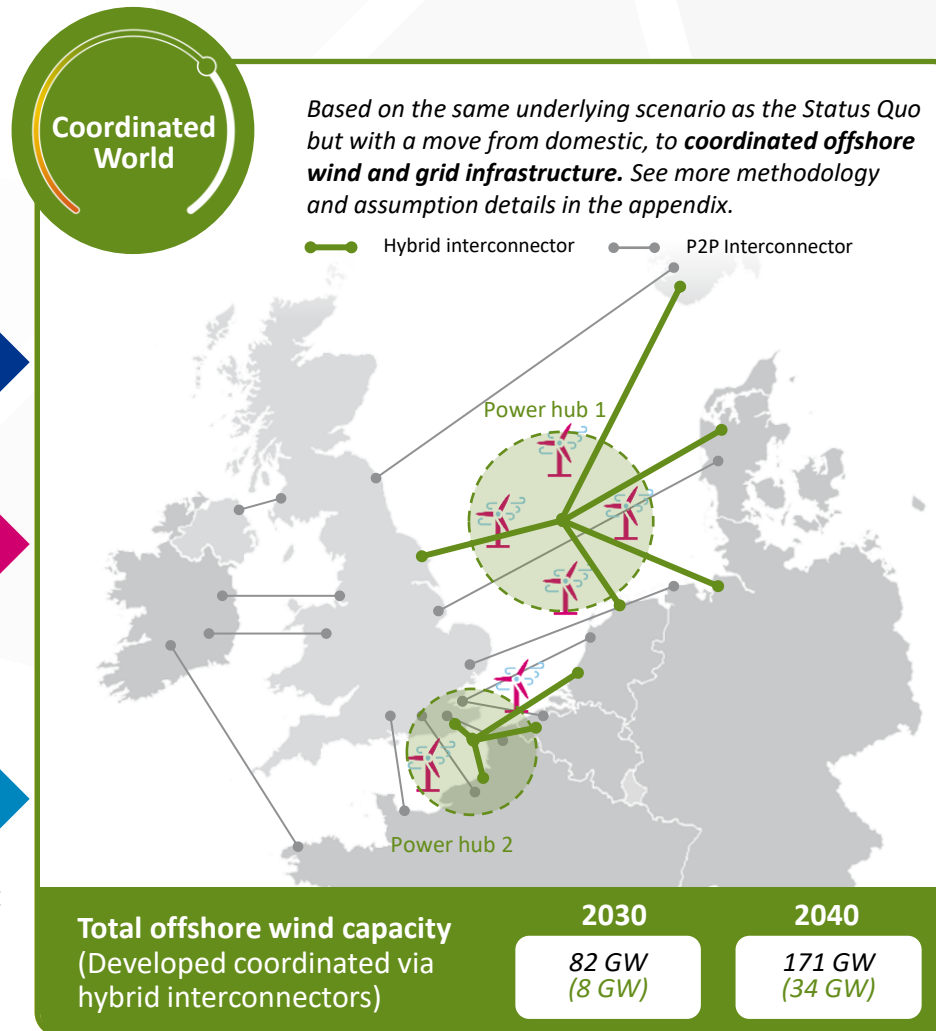
Removal in any residual trading inefficiency

**Investment coordination**

Development of 2 large Offshore Hybrid Assets connecting GB, NO, DK, DE, NL and GB, NL, BE, FR

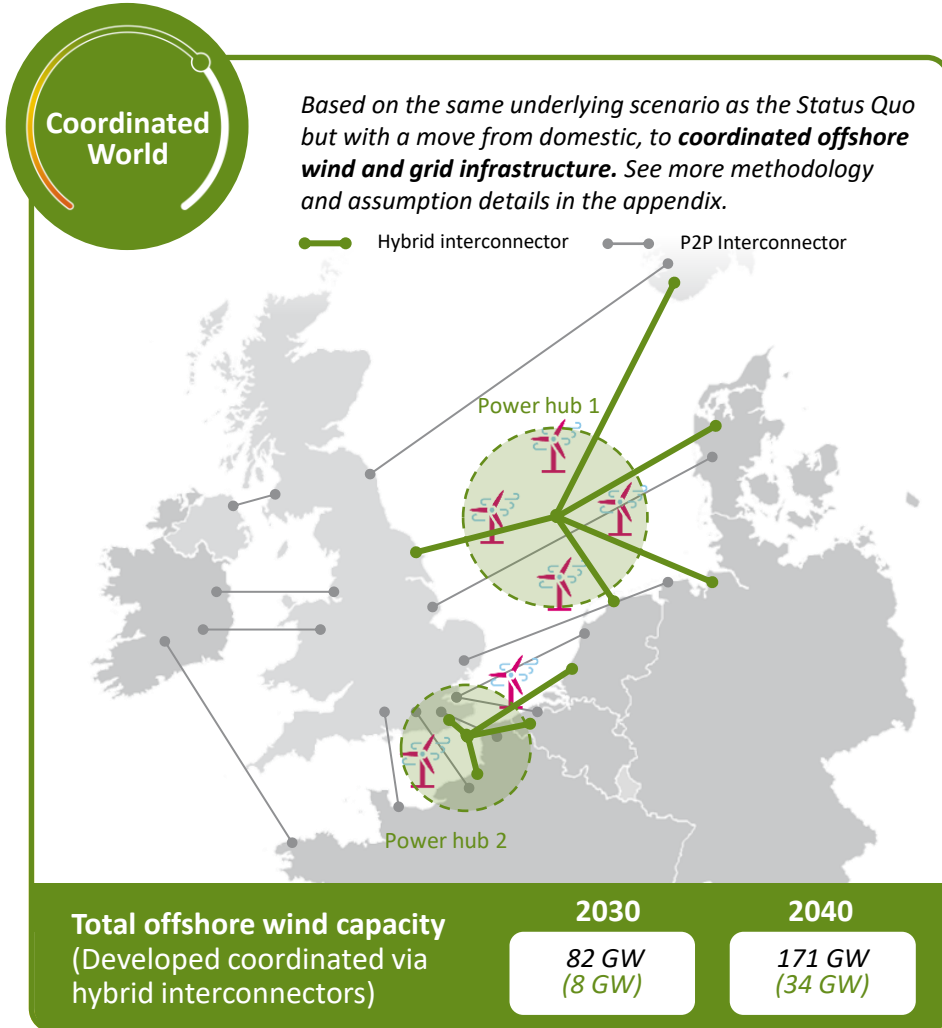
**Offshore wind**

Same total level of offshore wind development but transfer of 8GW from domestic investment to coordinated investment





# We stretch this approach to show the potential value that could be achieved if coordination unlocks investment far beyond current investment trajectories



We showcase a state of the world where greater coordination unlocks higher renewable potential across the North Sea.

Market efficiency

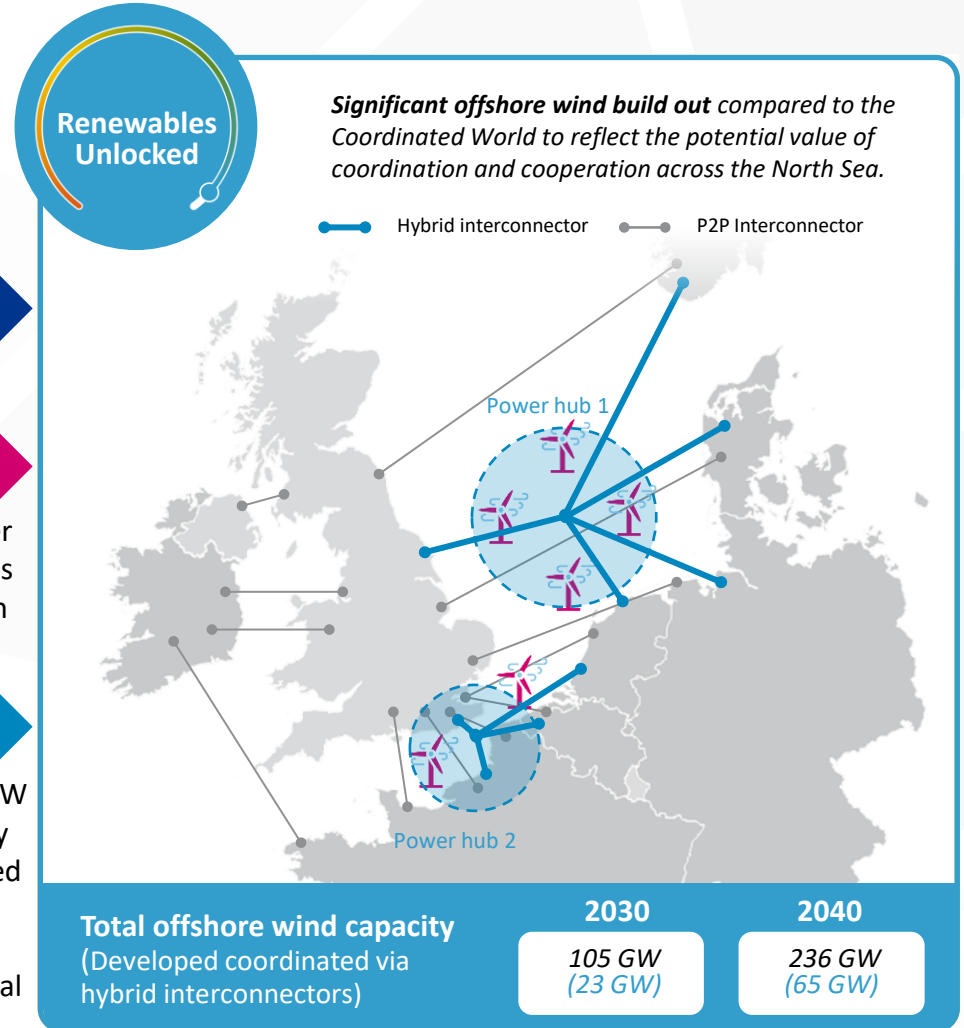
No market frictions

Investment coordination

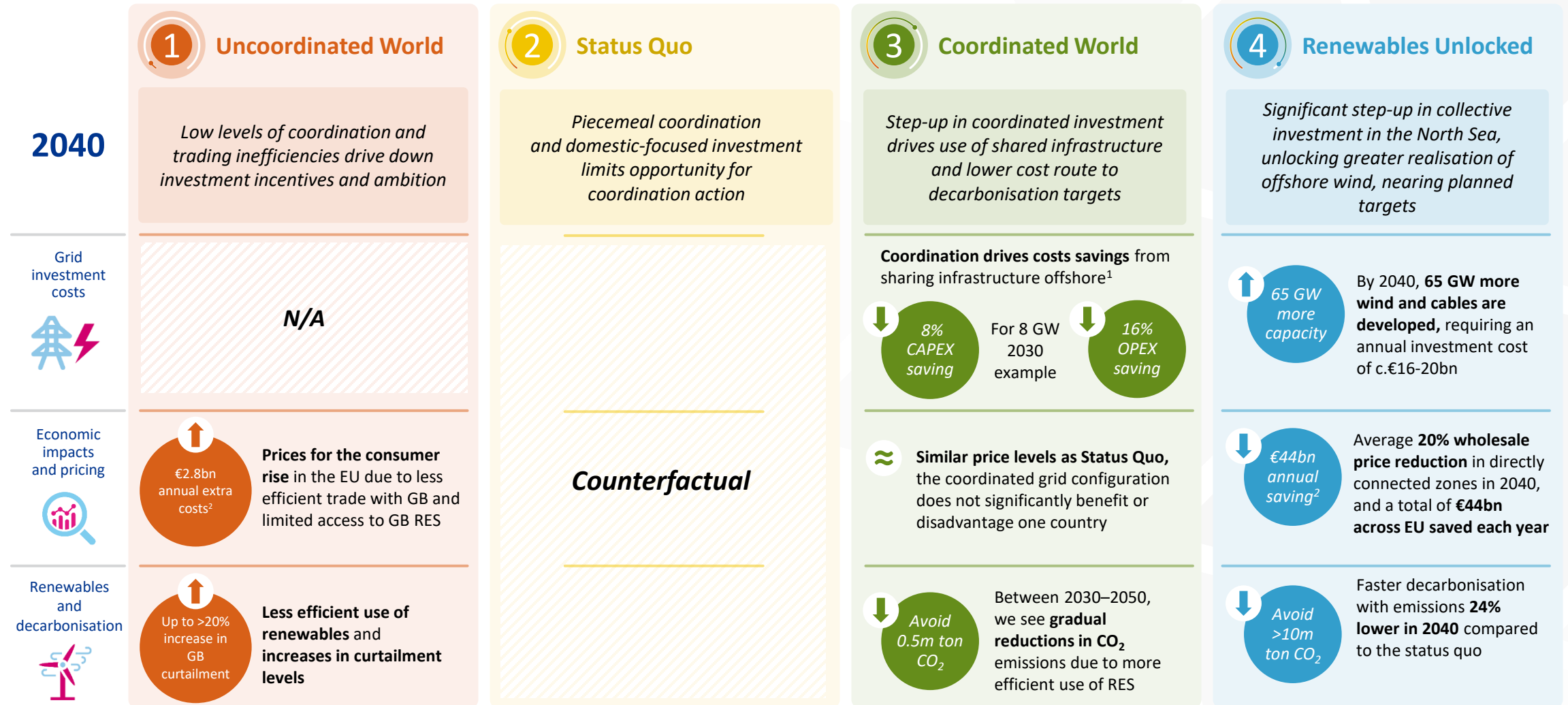
We develop the same number of coordinated network assets but with greater transmission and offshore wind capacity

Offshore wind

We assume an additional 65GW of offshore wind unlocked by 2040 as a result of coordinated offshore wind ambition and sharing of resources, within bounds of theoretical potential and targets



# We can see how increasing coordination and cooperation could drive cost savings, market economic benefits and decarbonisation benefits across the EU



<sup>1</sup> Based on example delivery of 8 GW of offshore wind through coordinated hybrid infrastructure by 2030

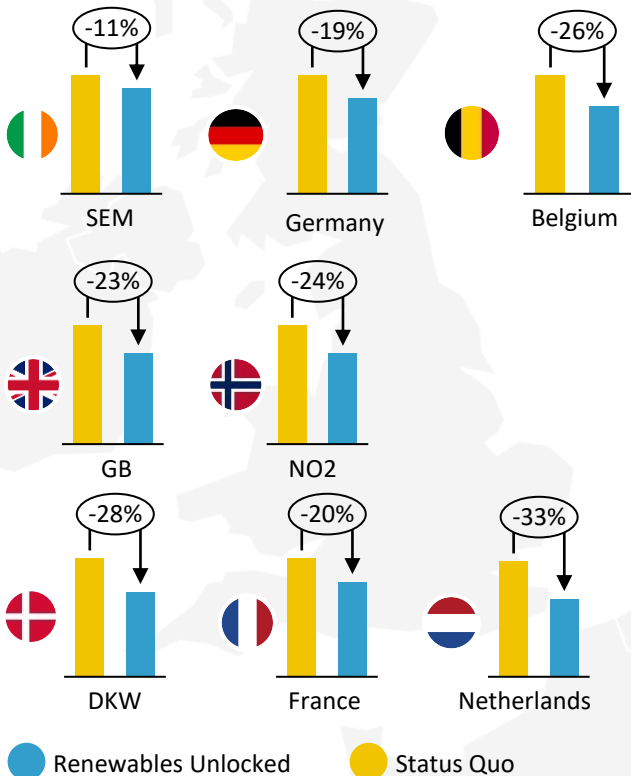
<sup>2</sup> Annual savings/costs, Reference year 2040 used. Savings calculated based on wholesale price reduction x Demand. Societal costs from CfDs, PPAs or other contracts not taken into account

# By 2040, cooperation could lead to 20% lower wholesale electricity prices on average across countries, reductions in infrastructure costs and in emissions costs

## Consumer price savings

### Annual GB connected zones impact (2040):

- **€44bn** of consumer cost savings
- **11.6 million tonnes CO<sub>2</sub>** avoided



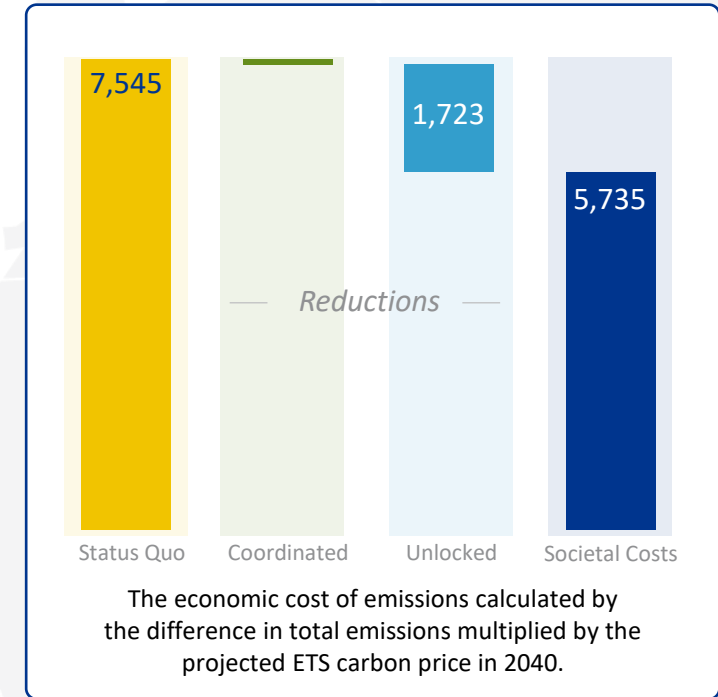
## Infrastructure cost savings

2040 Infrastructure cost savings (real 2024)  
(Coordinated World vs. Status Quo)

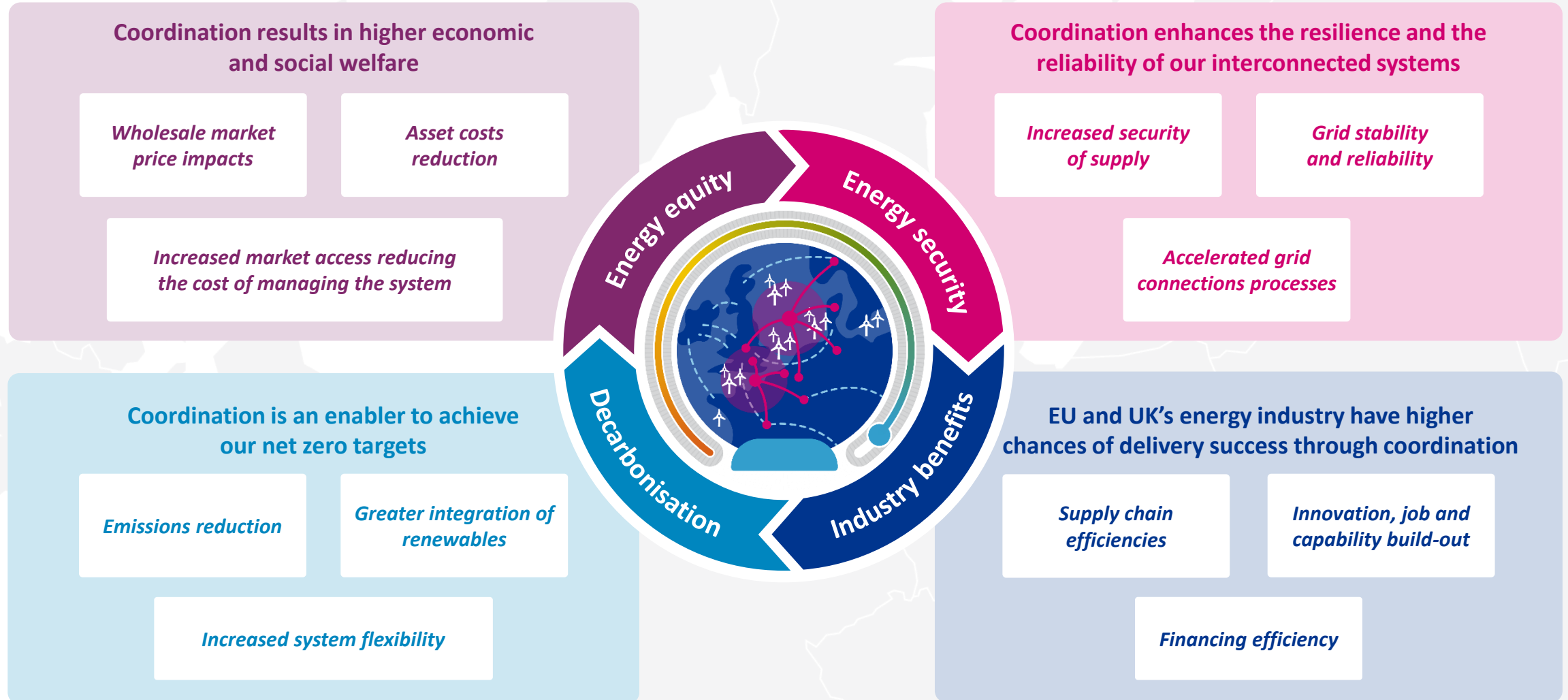


## Carbon emissions reductions

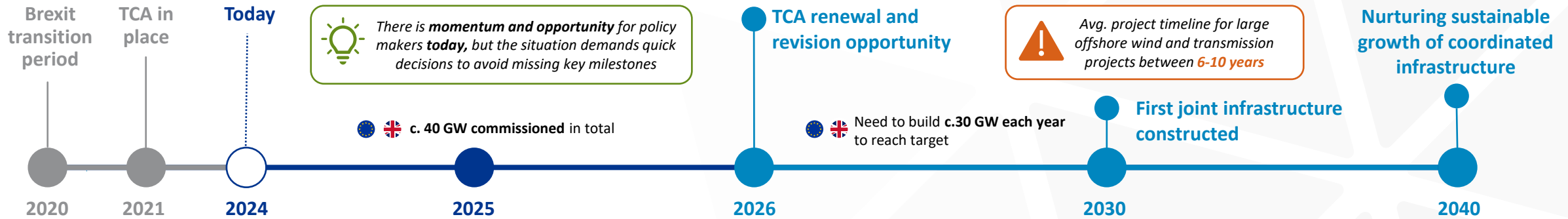
2040 Annual Societal Costs from emissions  
(m€, real 2024)



# The value of coordination and cooperation goes beyond the economic benefits and includes value from flexibility, security of supply and the supply chain



# Action is needed now to address existing barriers between the EU-UK and create an environment that enables achieving net zero ambitions in the long-term



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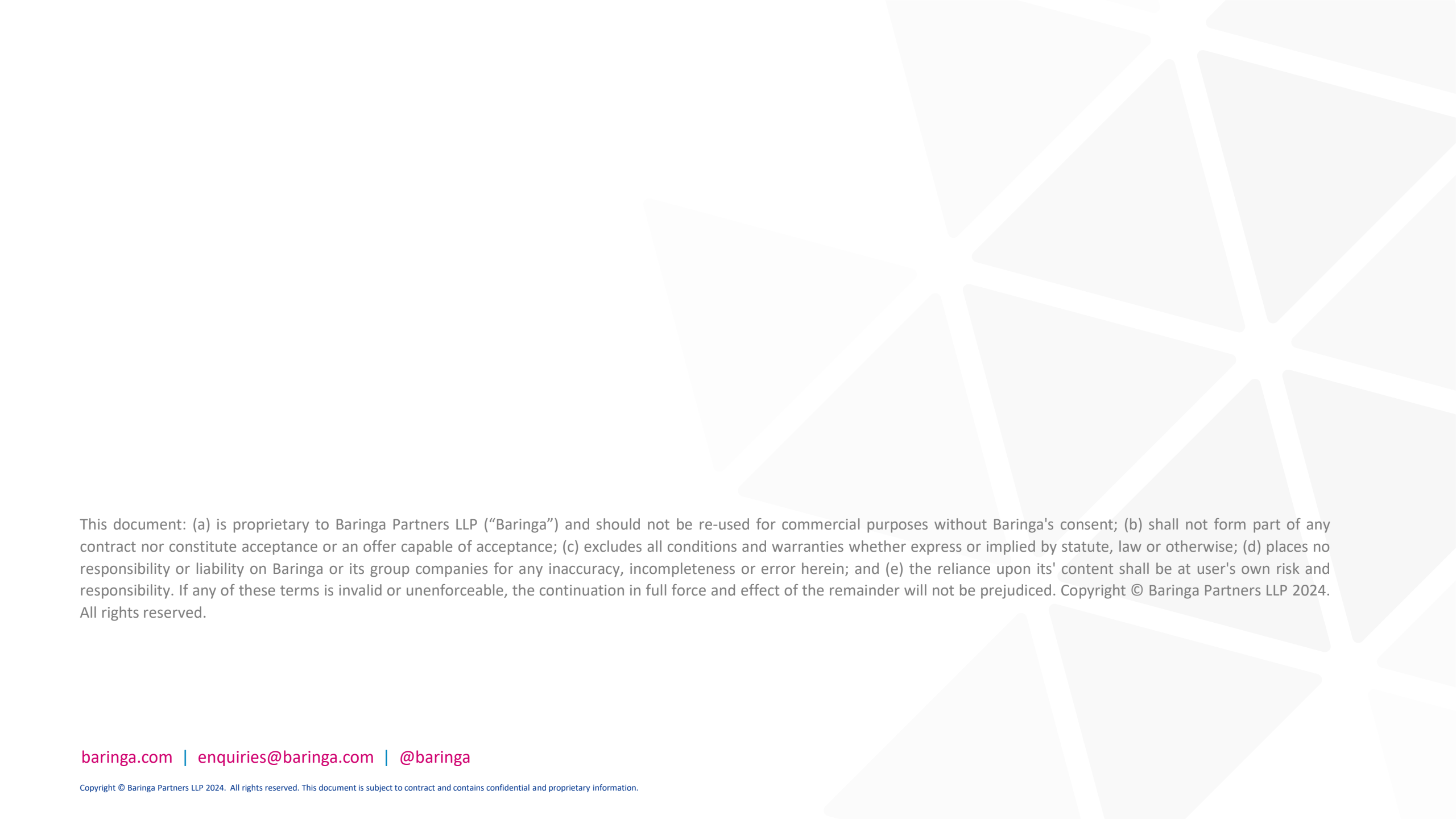


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