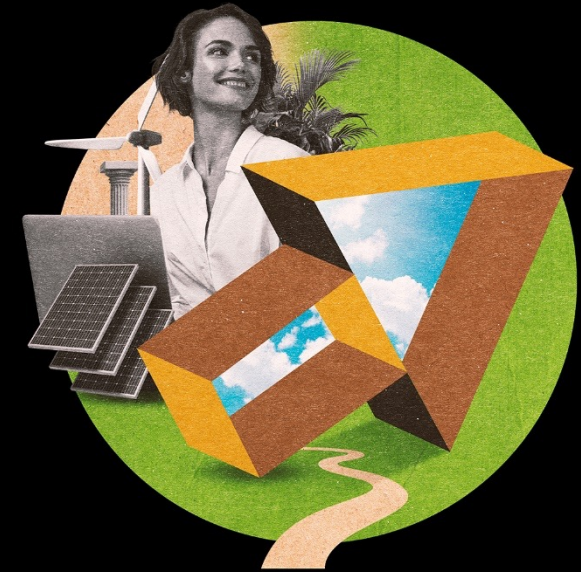




Turbocharging the UK's Economy in Pursuit of Net Zero

An exclusive, interactive day of learning and debate, where the UK's leaders in business, the public sector, academia and politics will collaborate to drive UK economic growth through sustainability and climate action.

Breakout group conversations are focused on tangible growth opportunities for the UK. This document provides a briefing on the growth opportunity you will be exploring in the breakout out group you have been assigned to during the 13:30 to 15:15 slot.



Investment in large scale infrastructure to support the net zero transition

- Investors are increasingly seeking large-scale investments **that offer stable and secure returns over the long term.** Net zero infrastructure projects align with this demand, making them attractive investment opportunities.
- Large-scale net zero energy infrastructure, such as wind, solar and nuclear have proven to be sound investment opportunities. In addition, emerging technologies like hydrogen and carbon capture, utilisation, and storage (CCUS) present **new investment opportunities.** The production/capture as well as transportation and storage of these molecules are gaining momentum and is scaling up with policy support.
- There is a **trade-off** between typical returns from traditional infrastructure investments like oil and gas and the long-term growth potential of renewables and emerging technologies which has a different risk and return profile.
- Financing mechanisms, such as the Regulated Asset Base (RAB) model, are becoming increasingly important for funding transportation and storage infrastructure. These mechanisms and regulatory support provide stability and attract investors by offering predictable revenue streams.
- Delivering modern, reliable, and clean infrastructure can both drive economic growth and deliver on the UK's net zero targets.
- Investment in net zero infrastructure can drive regional development and address **regional inequalities.** Strategically locating projects in areas that have potential and would benefit from levelling up, such as Scotland, Yorkshire, Humber, and Northeast England, will help promote economic growth and improve infrastructure and services in those regions.
- By 2030, the hydrogen sector has the potential to create **9,000 jobs and attract £4 billion** of private investment. National deployment of CCUS could support £1.6 billion in direct GVA and 18,000 direct jobs annually by 2030.
- The development of large-scale net zero infrastructure requires a **robust supply chain.** This creates opportunities for local businesses and suppliers to participate in the supply chain, fostering growth and supporting the domestic economy.

In your breakout group you will...

- **Discuss the size of this opportunity** for the UK with a cross-industry group of leaders
- **Consider the barriers** that are currently getting in the way of the UK realising this opportunity
- **Explore the levers** that breakout group participants could pull to overcome these barriers
- **Identify opportunities** to work together with other breakout group participants to accelerate progress



Large-scale infrastructure investment plays a vital role in achieving the net zero goals and offers significant potential.

However, to overcome the challenges associated with developing and deploying such infrastructure, a collaborative effort from all stakeholders is essential. This includes identifying investment opportunities, addressing barriers that hinder investments in critical transition areas, and implementing effective government mechanisms and policies to instil investor confidence.

To drive the transition towards a sustainable future, it is crucial to align infrastructure investment with the government's ambition and priorities. By addressing barriers, implementing effective policies, and fostering collaboration, we can unlock the full potential of net zero infrastructure investment to deliver growth for the UK economy.

Barriers to large-scale infrastructure investment for the net-zero transition

Bankability

Barrier: Bankability is a critical risk factor in attracting investments for large-scale infrastructure projects. Investors need assurance that these projects are commercially viable and can generate stable returns. Well-established infrastructure like wind and solar have lower bankability risks due to their proven track record and established revenue streams. However, challenges may still arise in areas such as project due diligence and regulatory compliance. Emerging technologies like hydrogen and CCUS face higher bankability risks due to their lack of clear offtake market, early-stage development and lack of scale. The innovative nature of these projects introduces uncertainties, making it challenging to assess commercial viability and potential returns. Additionally, the complexity of project due diligence, including technical feasibility and regulatory compliance, can pose additional bankability challenges.

Possible solutions: To enhance bankability, stakeholders can leverage government support, foster public-private partnerships, and explore revenue sources beyond traditional project financing. This includes tapping into voluntary carbon markets and green product premiums.

Technology risk

Barrier: Technology risk presents distinct challenges for both matured technologies like wind and solar, as well as emerging technologies like Hydrogen and CCUS. For matured technologies, this risk is relatively lower due to their proven track record and established performance. However, challenges may still arise such as operational reliability, maintenance, and long-term performance degradation. On the other hand, emerging technologies face higher technology risks due to their early-stage development and limited deployment. Uncertainties surround the scalability, cost-effectiveness, and long-term viability of these technologies, and the establishment of a robust supply chain to support their deployment at scale makes it riskier.

Possible solutions: Mitigating technology risks requires robust research and development efforts, pilot projects, and collaboration between industry and academia to demonstrate feasibility and commercial viability of these technologies. Additionally, supportive policies, and regulatory frameworks can help mitigate technology risks and provide the necessary confidence for investors to commit to large-scale net zero infrastructure projects.

System planning

Barrier: A significant barrier to investment in large-scale net zero infrastructure is the lack of a whole-system approach and collaboration among stakeholders. Uncertainties in future energy demand patterns and market dynamics, along with challenges in securing a reliable and cost-effective supply chain and skills base, hinder investment in these projects. It also prevents the co-location of various technologies behind existing grid connections, which could expedite the development of new renewable generation capacity and increase system flexibility. The lack of clarity regarding the direction of new technologies like hydrogen and CCUS, as well as the overall whole-system approach, increases the risk of stranded assets for investors in capital-intensive projects. This uncertainty hampers reaching Final Investment Decision (FID) and poses challenges for long-term viability.

Possible solutions: Implementing policies and regulations that incentivise collaboration, streamline permitting processes, and provide clear guidelines can facilitate progress and overcome this barrier.

Policy uncertainty

Barrier: Net-zero technologies often face challenges in competing in private market or technology / commodity they are trying to replace. For instance, the cost difference between green, clean hydrogen and grey, dirty hydrogen can hinder the adoption of the cleaner alternative. As a result, the successful rollout of net-zero technologies often relies on government support, at least initially, to bridge the financial gap. Clarity in policies surrounding these technologies, as well as broader policies, is crucial to attract private capital and facilitate their deployment. However, when such clarity is lacking, it becomes a significant issue. This issue is further compounded by macroeconomic factors such as high interest rates, which can deter investment decisions.

Possible solutions: Fostering collaboration among industry stakeholders, policymakers, and financial institutions is important to develop strategies that create a supportive investment environment. Providing clear and stable regulatory frameworks, incentivising innovation, and promoting long-term planning can further enhance confidence and attract investment in these sectors.

In room facilitators:

Sponsor: Jessica Hodges, Partner - Investment Management ESG Lead

SME: Euan Fenton, Financial Advisory, Government and Infrastructure

SME: Alexandre Tresgallo, Financial Advisory, Corporate Finance

Insights Lead: Thuy Vo, Audit and Assurance, Financial Services

Additional Resources:

[Distribution grid investment to power the energy transition](#), Deloitte 2023

[Carbon Capture and Storage, Seeking a bankable business model](#), Deloitte 2023

[Hydrogen – Making it happen](#), Deloitte 2023