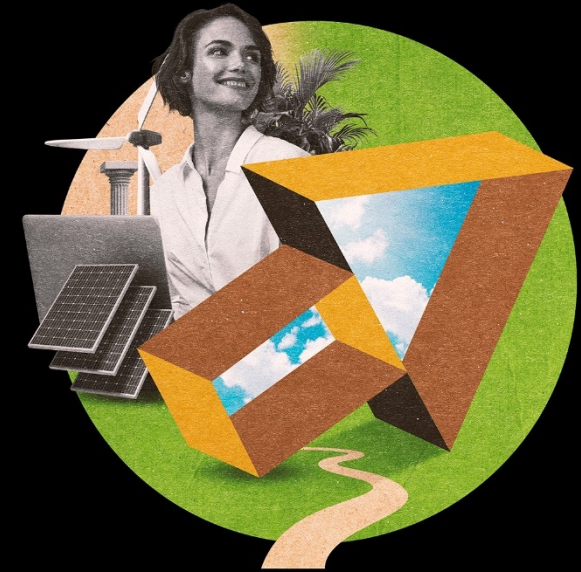


Turbocharging the UK's Economy in Pursuit of Net Zero

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 group you have been assigned to during the 13:30 to 15:15 slot.



Accelerate the take up of rooftop solar plus storage solutions on commercial and residential buildings

- Solar energy is the **fastest to deploy** and one of the **cheapest** on a levelised cost basis. It can also help advance the UK net zero commitment and improve energy security.
- The UK government has set a target to **install 70 GW of solar capacity by 2035**. To achieve this, an additional 55 GW of new capacity needs to be added to the existing 15 GW capacity. This requires deploying **4.3 GW of new capacity per year over the next 11 years** - a scale of deployment that has not been seen before. To manage intermittency, battery storage solutions will be needed alongside solar deployment.
- Installing rooftop solar on commercial, public and residential buildings can be a fast and effective way for the UK to increase solar capacity. Currently approximately **5 GW** of rooftop solar capacity is installed in England.
- Existing commercial warehouses alone have the potential to accommodate solar capacity of approximately **25 GW**. In addition, solar panels on new buildings and surface areas such as car parks could increase this potential to **40-50 GW in England by 2035**, which could account for most of the required capacity additions to meet the 70 GW target.
- Realising this potential would create significant benefits for businesses (such as reduced electricity costs and improved resilience) and for the UK economy (such as creating jobs and attracting investment).
- Solar PV can **reduce annual electricity costs** – for warehouses this could reach **40%-80%** – and **protect occupiers against future electricity price rises**. Covering just 5% of suitable roof space on commercial buildings with solar installations across the UK could result in **annual energy cost savings of £12.6bn for businesses**. Adding storage solutions could offer further cost savings. Currently, about 1.2m homes in the UK benefit from solar systems, but only **just over 10,000** have home battery storage, which on average can help them save **around £227 a year** on electricity bills.
- The industry could support **60,000 jobs in the UK** by 2035 with an increased demand for **solar installers** as well as project developers, site planners, surveyors, design and electrical engineers, and maintenance specialists.

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



The biggest **barriers** to the deployment of solar rooftops include upfront cost/access to finance, regulation, grid access and skills shortage.

Continued government financial and regulatory support and improving grid access can support homeowners, businesses and the public and third sectors to invest in rooftop solar.

Investment in training programmes, enforcing a standardised solar accreditation and encouraging more players to enter the solar installation and supply market could manage skill barriers.

Barriers to the take up of rooftop solar plus storage solutions

Costs/finance

Although solar PV costs have decreased over the years, high initial investment costs can still be a barrier for homeowners and small businesses to install solar rooftop systems plus storage solutions. The payback period on solar can be lengthy – between six to ten years, depending on the size and type of installation, and the electricity price.

- Energy demand in the warehousing sector per unit floor area can be low. This can limit the size of solar panel installations that are economically viable, leading to the potential under utilisation of the available roof area.
- Government support is needed to improve access to finance for homeowners and businesses to increase solar deployment in the UK. This includes the need for an improved Green Homes Grant, green mortgages, VAT discount on household battery storage or the extension of capital allowances to cover solar and energy storage equipment beyond the First Year Allowance. Innovative business models could also help businesses and homeowners create smart grids that enable optimal energy usage and allow the sale of energy and energy services to the grid and other energy users.

Grid

Securing grid access for solar rooftop installations can be a lengthy process, with some businesses facing wait times up to 10-15 years due to lack of grid connectivity. This is because in certain areas of the UK existing grid infrastructure is not equipped to handle additional electricity supply.

- Large and complex commercial installations may also find it necessary to upgrade the grid connection infrastructure, which adds to the time and complexity of installation. If the solar panel owner is required to share the cost of upgrading the grid connection, it can reduce their overall return on investment.
- Growing electrification across the UK economy is expected to increase grid constraints, leading to further delays in securing grid access. The lack of data on solar energy generation – due to metering data being subject to GDPR rules – makes it difficult for network operators to anticipate future demand and proactively invest in grid infrastructure upgrades.

Regulation

Homeowners and businesses no longer require planning permission to install solar panels on flat roofs. However, compliance with building and safety regulations both for solar panels and storage solutions, registering the installation with the distribution network owner and meeting the Smart Export Guarantee requirements can be complex and lengthy. Owners of listed buildings or buildings within conservations areas still need planning permission to install solar panels.

- Going forward, the Future Homes Standard for domestic scale solar and the Future Buildings Standard for commercial scale solar need to ensure that these buildings come with solar as standard.

Skills

Expanding the UK's rooftop solar and storage capacity will require an increase in the skilled workforce to install solar rooftop infrastructure. By 2035, the solar industry alone is expected to support around 60,000 jobs in the UK, up from around 7,000 in 2020, which highlights a significant increase in demand for expertise in the sector across the whole lifecycle of projects.

- In particular, maintenance of solar rooftop installations requires dedicated resources and expertise.
- Installing battery solutions also needs the installers to have necessary qualifications and undergo specialised training for each brand and product. As a result, the number of solar panel and storage solution installers is limited, and their geographical coverage is inconsistent.

The fact that installation companies are often small, young, family-owned businesses is a particular challenge for the sector. Scaling these to help deliver the target UK solar capacity while also improving career paths, training and developing skills in these businesses is likely to be difficult.

In room facilitators:

Sponsor: Daniel Grosvenor, Partner - *Industry Sector Leader, Power, Utilities & Renewables*

SME: Maggie Xue, Director - *Financial Advisory, Government & Infrastructure*

SME: Melvyn Oben, *Financial Advisory*

Insights Lead: Pablo Romero Minguéz, *Financial Advisory*

Additional Resources:

[Unique European Rooftop Solar Tool](#), Deloitte 2021