



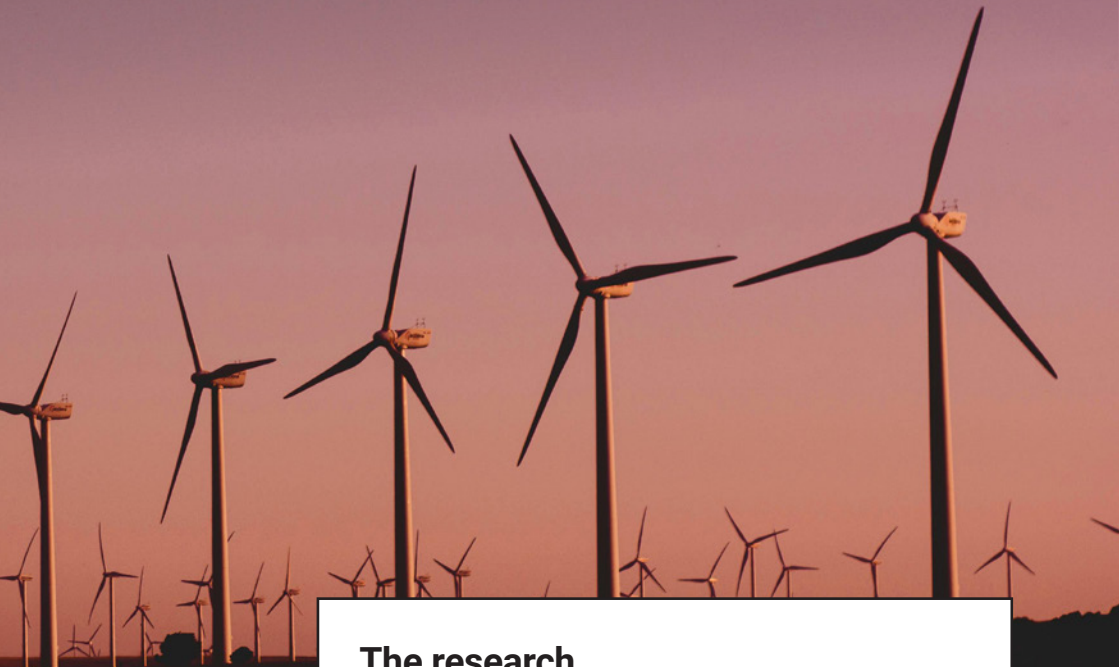
THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE

Super-charging green growth in the UK



The challenge

What opportunities are there for green, sustainable growth in the UK and how can they be seized?



The research

LSE experts worked with industry and analysed economic activity to show how, with more targeted investment, by driving greater productivity in firms and jobs, and through better designed regulation and taxes, policymakers can create environmentally sustainable growth.

The solutions

LSE's Centre for Economic Performance (CEP) has pinpointed 6 priorities for investment for the UK to meet its 2050 net zero target – electric vehicles; clean energy generation; sustainably heating homes; removing carbon dioxide emissions; decarbonising industry; and greener farming.

Research from **LSE's International Growth Centre (IGC)** shows how technological, organisational, social and political innovations mean productivity and living standards can rise without damaging the environment. For example, moving workers from more to less polluting industries has become easier as new technologies make retraining and upskilling more efficient.

Analysis from Esin Serin at **LSE's Grantham Research Institute on Climate Change and the Environment (GRI)** shows that the UK has a comparative advantage in key green technologies, namely tidal stream energy, offshore wind, Carbon Capture Usage and Storage (CCUS) and advanced nuclear power generation. An industrial strategy focused on these strengths would help the UK maximise the benefits of these technologies at home, develop new job-creating supply chains and export expertise and products abroad.

Carbon Capture Usage and Storage is technology that stops carbon emissions created by industrial activity from entering the atmosphere.

It can make a significant contribution to sustainable growth, especially considering the preservation of jobs – potentially up to 53,000 by 2030 in energy-intensive industries - and the benefits from an emerging UK CCUS supply chains tapping into export markets.

A paper by **CEP** academics concludes that a fiscally constrained government can still propel the green transition. It sets out how policymakers can, for example, pinpoint which part of an industrial supply chain should be targeted for electrification.

Overall, the evidence shows that consistent policymaking and a long-term institutional and regulatory framework, underpinned by multi-year funding, is needed. This will encourage coordination across local and national levels on the entire portfolio of net zero solutions and technologies which, in turn, will drive growth.

Read more

[Boosting Growth and Productivity in the UK Through Investments in the Sustainable Economy \(2024\)](#)

[Harnessing the UK's strengths for green growth - Grantham Research Institute on climate change and the environment \(lse.ac.uk\) \(2024\)](#)

[Transition to green technology along the supply chain paper \(2024\)](#)

[IGC White Paper: Innovation, Growth, and the Environment \(2023\)](#)

The challenge

Can we quantify the costs and benefits of super-charging green growth?



The research

Over three years the [Economy 2030 Inquiry](#), a collaboration between the Resolution Foundation and LSE, has mapped out the challenges facing the UK economy and how policymakers can overcome them. They examined what the transition to net zero will mean for GDP, what the risks are for the labour market and beyond. Further work has revealed how clean-energy developments can catalyse innovation advancements and investment to boost regional growth.

The solutions

Recent research by **Esin Serin** and colleagues shows the transition to a “green” economy can drive innovation, competitiveness and productivity. The UK is well-placed to lead in building knowledge networks and supply chains for some technologies. However, to do so, policymakers should not just increase annual public investment by about 1% of GDP but also create policies that crowd in private investment, drive innovation and boost economic efficiency.

Dr Tom Smith and others have shown that governments that enable the rapid development of zero and low-carbon power will attract private investment. An immediate opportunity comes from “hyperscalers” like Google, Amazon and Microsoft, who need green energy for

the data centres that support the latest AI models. Success here could create a **positive loop** of investment that leads to a competitive advantage, although the UK’s skills offer must improve to accommodate this change.

Analysis shows that the transition to net zero isn’t necessarily going to increase or decrease GDP, but instead change how it is spent: £1.4trn will be spent by 2050 on renewing and replacing infrastructure rather than expanding it. The research shows that - given limits to fiscal resources - support and investment from government should be focused on areas where the UK already has a comparative advantage or where national security demands it.

Read more

[Boosting Growth and Productivity in the UK Through Investments in the Sustainable Economy \(2024\)](#)

[The Economy 2030 Inquiry](#)

[Greening AI: A Policy Agend for the Artificial Intelligence and Energy Evolutions \(2024\)](#)

The challenge

What effects will green growth, the transition to net zero, and the rise of new technology such as AI, have on jobs and the labour market. What can be done to mitigate worries?

The solutions

A joint survey by the **CEP** and the **CBI** analysed how firms which are responding to net-zero targets are using Artificial Intelligence and the impact it is already having on their businesses. They found that around 20% were using AI in core business functions like administration or management. IT, Marketing and Sales businesses were above average with 48% of firms using, trialling or planning to use it, while transport, logistics and facilities maintenance had the lowest uptake so far.

LSE's Grantham Institute built on this work by studying job ad data in the United States. They found that low-carbon jobs have higher skill requirements than others, especially across technical and managerial skills, though their wage

The research

LSE experts have worked with industry to understand how AI is being used to aid the green transition, while others have analysed job vacancies over 10 years to uncover the effect green growth is having on the labour market, showing where the most at risk jobs are in the UK.

premium is declining. Based on the data the authors suggested that a low-carbon transition entails significant investment to help workers retrain for low-carbon jobs. There may also be earning losses for those who lose jobs in high-carbon sectors. Therefore, urgent skills investment is needed, including directing resources to precisely assess what skills are required and where.

Finally, the **Economy 2030 inquiry** shows that the UK is least likely to suffer major disruption from transitioning, compared to other advanced economies. For example, 24% of what the inquiry calls "brown" (i.e. heavily polluting) jobs are held by HGV drivers, but it is their vehicles that need to change, not the drivers.

Read more

[The Economy 2030 Inquiry](#)

[What an LSE-CBI survey found about AI adoption in UK firms \(2024\)](#)

[Who's fit for the low-carbon transition? Emerging skills and wage gaps in job ad data \(2022\)](#)

The challenge

**How can new environmental policies and practices for managing land contribute to the move towards to net zero?
What can the government do to support this?**

The research

Dr Leo Mercer in the Grantham Institute examined the current policies, technical considerations and political debates to set out what contribution, if any, rewilded land can make to supporting the decarbonisation of land use.

The solutions

One of **Dr Mercer's** main findings is that we need to get better at tracking and measuring the impact of changing the way we use land.



To do this, the Government should increase the level of detail in the existing Greenhouse Gas Inventory. They should also clarify to landowners what tools are appropriate for determining natural capital baselines and consider nominating or creating an organisation to capture and manage carbon and greenhouse gas flux data (and wider socioeconomic and ecological data) from nature restoration projects.

Crucially, the research shows that government needs to ensure that access to rewilding incentives is fair and supports a just transition in rural communities, including recognising the importance of continued food production.

Read more

[Exploring the carbon sequestration potential of rewilding in the UK: policy and data needs to support net zero \(2023\)](#)



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE

LSE Public Affairs

For more information on any of the work in this booklet, or to link up with world-leading researchers across areas from economic growth to health and wellbeing, and from climate change to law, please get in touch.

Greg Taylor

Head of Public Affairs

+44 (0)20 7107 5428

G.Taylor1@lse.ac.uk

Megan Marsh

Senior Public Affairs Officer

m.marsh@lse.ac.uk

Anthony Ashurst

London Communications Co-ordinator

a.ashurst@lse.ac.uk

lse.ac.uk/staff/divisions/communications-division/public-affairs-team



Scan the QR code to access the research mentioned in this handout.

For LSE Blogs, including on British politics and business, see

blogs.lse.ac.uk

For a full list of events on campus, including our public lecture programme, see

lse.ac.uk/events