



Powering prosperity

How electrification can strengthen the UK's economy, resilience and energy security

Summary

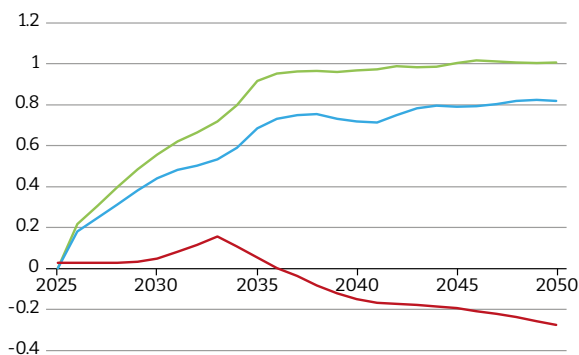
- The UK faces increasing geopolitical and economic uncertainty, driven by volatile energy markets, supply chain disruptions and continued dependence on imported fuels.
- Electrification can improve productivity and competitiveness through greater energy efficiency, while strengthening energy security by increasing reliance on domestically generated electricity.
- This report uses Cambridge Econometrics modelling to assess how different development pathways could affect the UK's economy, resilience and environmental outcomes.

The results are clear: electrification strengthens the UK economy and enhances energy security.

When compared against the current policies scenario (x-axis), the electrification-led pathway delivers the strongest economic performance. Sustained investment in domestic infrastructure and low carbon technologies boosts productivity, innovation and employment across the economy.

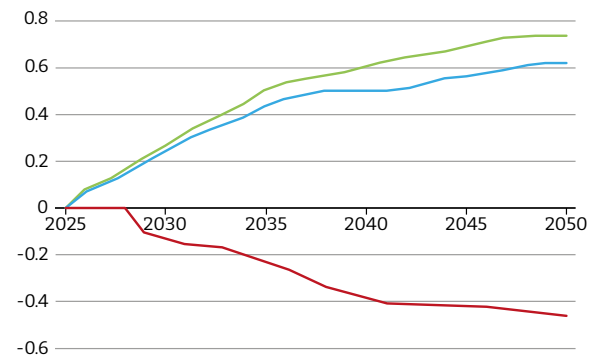
GDP

(high fossil fuel prices, % difference from baseline)



Employment

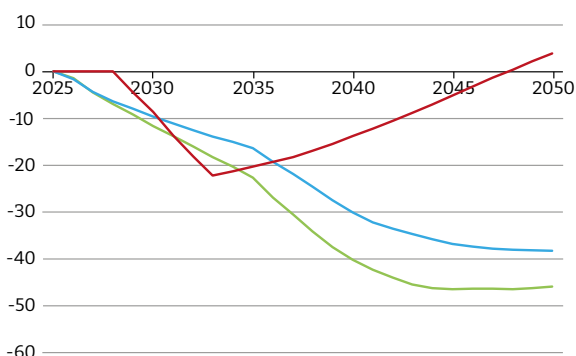
(high fossil fuel prices, % difference from baseline)



Electrification will reduce import dependency (below left), limiting exposure to global shocks and energy price spikes. This translates into lower and more stable energy expenditure for households and businesses (below right), reduced inflationary pressures and a more predictable environment for investment.

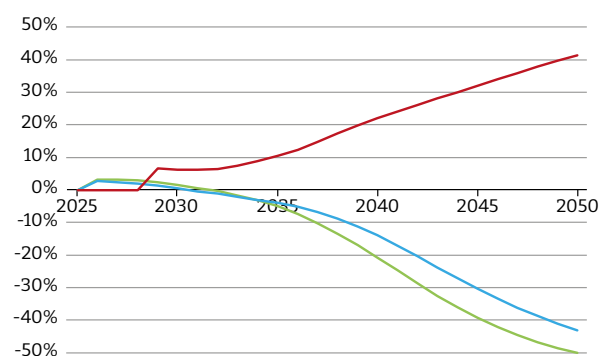
Energy imports in monetary terms

(high fossil fuel prices, % difference from baseline)



Energy expenditure

(high fossil fuel prices, % difference from baseline)



Summary of barriers to electrification and priority actions

Despite these advantages, electrification in the UK remains limited. The report examines the barriers and provides recommendations for business and policymakers on how to address them (for detailed recommendations, please refer to the full report).

- 1 Electricity remains significantly more expensive than gas in the UK:** This weakens the financial case for electrification despite the efficiency advantages of many electric technologies.

Priority business actions	Priority policy actions
Invest in onsite generation, storage and energy management systems Use flexible demand and smart energy optimisation Explore renewable power purchase agreements (PPAs), private networks and microgrids	Rebalance levies and taxes away from electricity Reform electricity pricing and taxation to incentivise electrification Enable flexible tariffs and smarter pricing structures

- 2 Upfront investment and infrastructure costs:** Electrification often requires significant upfront investment in technologies and enabling infrastructure, such as building upgrades and electrical connections.

Use innovative financing and risk-sharing models Pilot scalable solutions and improve investment data Develop leasing and service-based business models	Expand access to low-cost finance and guarantees Use public finance to crowd in private investment Support UK supply chains and targeted fiscal incentives
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- 3 Grid readiness, planning and investment signals:** Electricity networks and planning systems are not yet fully aligned with future electrification demand, creating delays and uncertainty for projects.

Provide clear long-term demand signals Participate in regional and national system planning Invest in flexibility, storage and smart systems	Accelerate planning and grid connection reforms Enable anticipatory network investment Align infrastructure planning with industrial strategy
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- 4 Access to finance and insurance:** Emerging electrified technologies have limited track record and so are often perceived as higher risk by lenders and insurers, increasing financing and insurance costs.

Aggregate projects to improve financing conditions Generate performance data to reduce perceived risk Use third-party financing and energy-as-a-service models	Expand guarantees and public co-investment Improve access to performance and risk data Support insurance frameworks for new technologies
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- 5 Skills, awareness and trust:** Limited awareness, skills shortages and inconsistent information continue to slow adoption of electric technologies

Invest in workforce skills and customer advice Improve co-ordination across supply chains Provide clearer information on costs and performance	Expand training and accreditation schemes Strengthen trusted advice services Support digitalisation and data-sharing frameworks
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- 6 Industrial competitiveness and sector-specific constraints:** Some industrial sectors face additional barriers linked to global competition, continuous energy needs or access to key material inputs.

Invest in process innovation and flexibility Strengthen low carbon product value propositions Collaborate to secure critical supply chains	Create lead markets for low carbon products Protect competitiveness through the carbon border adjustment mechanism (CBAM) and transition support Provide long-term industrial policy certainty
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Key take-away: Electrification is a pathway to a stronger, more resilient UK economy. With the right actions, the UK is well placed to capture these benefits and position itself competitively in an increasingly electrified global economy. The evidence shows that faster, more coordinated electrification can deliver significant and lasting economic benefits, while delays risk higher energy costs, continued exposure to global volatility, and missed opportunities for growth and industrial leadership.

For more information, please read the full report on CISL's website - <https://bit.ly/4uuqPxy>

