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Green Industrial Futures Centre for Doctoral Training

Green Industrial Futures: Strategies and Solutions

Panel Reflections

Key Messages from the Panel

- Clearer policy direction is needed to give industry the confidence to invest and plan effectively. Without long-term clarity, businesses hesitate to commit capital, slowing innovation and deployment.
- Electricity costs must be reduced to ensure electrification is not only clean but commercially viable for UK industries. High energy prices risk undermining competitiveness and delaying net-zero transition efforts.
- Tackling the skills shortage is essential, without the right workforce, progress will stall.
- Collaboration across sectors including government, industry and academia is needed to align efforts and accelerate progress. Coordinated strategies and shared knowledge will help overcome obstacles and drive more effective action.

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Green Industrial Futures: Strategies and Solutions

Electrification

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Conference 2025

Green Industrial Futures: Strategies and Solutions

Gridlock *or Greenlight? The Future of Industrial Electrification in the UK*

Gridlock or Greenlight?
The Future of Industrial Electrification in the UK

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Jane Dawson
Head of External Affairs at Electrical Contractors' Association

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Head of Net Zero at Climate Change Committee

Min Guan
Head of Systems Insights at Energy Transitions Commission

Chris Williams
Director of Sustainable Industries and Commissioner at Electrify Britain

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Industrial Decarbonisation Frontiers Report

Electrification

Key Findings

- Electrification is a technically and economically viable solution for many industrial processes – particularly at smaller, dispersed sites or less energy-intense industrial sectors.
- Using surplus power generated on-site can offer substantial savings over exporting to the grid or relying on technological combinations such as batteries, renewable power and green hydrogen.
- Integrated modelling and scenario-based planning tools are crucial in enabling industry to make informed decisions on the optimal decarbonisation pathways, balancing carbon reductions, costs, and infrastructure constraints.
- Barriers to the acceleration of industrial electrification include grid capacity constraints, misaligned infrastructure timelines, high electricity costs, insufficient investment support, policy uncertainty, data availability, and workforce shortages

Recommendations for industry

- Systematically assess all decarbonisation options: Use decision-support tools to evaluate a range of technologies and choose the most effective and cost-efficient pathway.
- Measure energy use: Collecting detailed data on heating, cooling and energy patterns is integral in assessing the value of electrification against other decarbonisation options.
- Collaborate locally : Work with local partners to support shared infrastructure, align strategies, and reduce implementation costs.
- Invest in skills and training: Invest skills development to ensure staff are equipped to implement and manage electrification technologies.
- Explore value from exporting power: Generating electricity on-site can provide cost-effective power for electrified processes, as well a financial opportunity to sell surplus to the grid.

Recommendations for Policymakers

- Provide long-term policy certainty: Clear, consistent policy direction is needed to encourage positive investment decisions in electrification.
- Plan electricity infrastructure reinforcement: Provide certainty that grid connections and local capacity requirements will be available for industrial sites within reasonable timelines.
- Offer financial support: Provide support to reduce the high capital and operational costs of electrification and address the disparity between electricity and gas prices in the UK.
- Invest in skills development: Work with the private sector to build the workforce needed for a net zero industrial future.
- Support innovation: Fund research, development and demonstration programmes for electrification of industrial processes, as well as the development of systems integration tools