IDRIC

Green Industrial Futures Centre for Doctoral Training

Conference 2025

Green Industrial Futures: Strategies and Solutions

Advancing the transition to net zero industry

Prof. Mercedes Maroto-Valer

Advancing the transition to net zero industry

IDRIC

National & international strategic engagement

- Policy Engagement
- Research & Innovation
- Skills & Leadership
- Knowledge Exchange

Green Industrial Futures, Realised.

Green Industrial Futures Centre for Doctoral Training

Research, innovation & talent pipeline

- Research Projects
- Whole-system training
- Net zero leadership
- Industry collaboration

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Green Industrial Futures Realised.

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The UK Industrial Decarbonisation Research and Innovation Centre

UKRI Engineering and Physical Sciences Research Council

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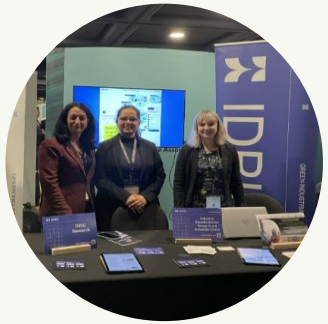
UK Research and Innovation

Championing the Industrial Decarbonisation Community

Annual Conferences

Industry Conferences and Panels



Policymakers and Parliament

Early Career Events and VIP Visits

Cluster Roadshows and Webinars

International Engagement, KE and COP

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Scope and Outcomes

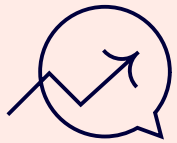
100
Research Projects

46
Research Institutions

243
Co-delivery Partners

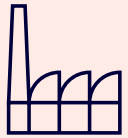
More effective industry engagement

- **£24M+** further funding secured for industry-embedded research
- Strong community, **2500+** IDRIC event registrations



Decarbonisation solutions de-risked

- **60+** new prototypes, tools models to date
- **230+** industry-focused project outputs published to date



Increased skills and diverse worksforce

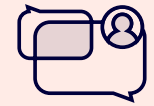
- **10** industry secondments & **9** ECR training events
- Close relationships with **45** skills organisations

More effective policy & regulation

- **42** policy recommendations
- **8** policy events with **70+** policy organisations

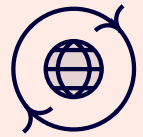
Better informed and engaged public

- **4.2K** subscribers and followes & **48K** web users
- **6** community engagement toolkits



Impact outwith clusters

- Working with 6 new clusters and LIPDs
- **22+** countries engaged with IDRIC



Net Zero Industry Visualisation Tool

- **General Public** – "how do the building blocks of a sustainable industrial future fit together?"
- **Young people and people re-skilling** – enabling research into a wide range of jobs and career pathways; hear from people from diverse backgrounds talk about their career journey
- **Industry Stakeholders** – access research and innovation driving a sustainable industrial future

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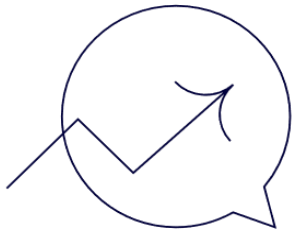
- **2.8K** views across all audiences since launch in November 2024
- **5** outreach events at high/secondary schools since launch

Industrial Decarbonisation Frontiers Report Series

14 reports bringing together IDRIC's key research findings, and making recommendations to industry and policymakers to support their net zero transition

- CCS: Carbon capture
- CCS: CO_2 transport & storage
- Carbon dioxide removal technologies
- Hydrogen: generation
- Hydrogen: transport & storage
- Industrial heat and energy efficiency
- Electrification
- Life cycle assessment (LCA)
- Circular economy
- Policy and governance
- Green finance and economic considerations
- Public perceptions and just transition
- Workforce for net zero: skills, planning and EDI
- Systems planning and decision-making tools



Panel discussions today:
Electrification and Hydrogen

Visit our exhibit stand

Research and Innovation Agenda *for Net Zero Industries*

Upcoming IDRIC publication

- Synthesis of collective insights on the key research and innovation needs, barriers and priorities that need to be addressed to accelerate progress toward net zero.
- The R&I Agenda draws on extensive documented conversations with our stakeholders between 2021 and 2025.

Research & Innovation Priorities

- Technology
- Environment & sustainability
- Society & economy

Enablers

- Knowledge exchange and working together
- Policy & regulation
- Skills

Workshops

Co-developing a **new chapter** on funding support and structures required to deliver research and innovation

11.15am & 1.15pm

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Next critical steps in industrial decarbonisation

Green Industrial Futures Realised.

Maintaining IDRIC's unifying voice and convening role across the sector

Short term – 2025:

- Frontiers Reports Series
- Research & Innovation Agenda for Net Zero Industries
- Project-specific funding from external source
- Welcome proposals from partners

Short/medium term – 2025 and beyond:

- Developing a pipeline of projects
- Maturing cluster and wider partnerships
- Policy, skills and knowledge exchange

Green Industrial Futures
Centre for Doctoral Training

Centre for Doctoral Training in Green Industrial Futures

UKRI Engineering and Physical Sciences Research Council

Green Industrial Futures
Centre for Doctoral Training

Who we are

CDT-GIF is an EPSRC-funded **doctoral training centre** that supports PhD students undertaking research projects that drive forward innovation in industrial decarbonisation.

Our studentships combine:

1. Four year industry-led research projects
2. Advanced training in systematic net zero considerations for industry
3. Developing talent through professional opportunities

Prof Mercedes Maroto-Valer (CCUS, Heriot-Watt)
Prof John Andresen (H_2 & systems, Heriot-Watt)
Prof Yannis Hardalupas (H_2 & fuels, Imperial)
Prof Paul Fennell (CCUS, Imperial)
Dr Karen Finney (CCUS, Sheffield)
Prof Samuel Krevor (CCUS, Imperial)
Prof Lin Ma (BECCS & fuels, Sheffield)
Prof Marcelle McManus (LCA & systems, Bath)
Prof Linda Newnes (LCA & systems, Bath)
Prof Mohamed Pourkashanian (H_2 & SAFs, Sheffield)
Dr Mijndert van der Spek (CO_2 removals, Heriot-Watt)
Prof Lorraine Whitmarsh (Behavioural change, Bath)

Our partners

HERIOT WATT UNIVERSITY

University of Sheffield Energy Institute

IMPERIAL

UNIVERSITY OF BATH

1. Research projects

Students develop significant depth of expertise on innovative, industry-led research projects based at one of the four universities that will address challenges in:

- ✓ Carbon capture, utilisation & storage
- ✓ Green hydrogen & sustainable fuels
- ✓ Energy processes, systems integration & resource efficiency
- ✓ CO_2 removal technology
- ✓ Integrated theme: socio-behavioural change, policy & regulation and net zero economics

bp
BritishSugar
Calix
SIEMENS
TÜV SÜD
SP ENERGY NETWORKS
Department for Energy Security & Net Zero
IFRF
UK Atomic Energy Authority
centrica
ceres POWER
drax
Green Lizard Technologies
BASF
CRH
Cyfoeth Naturiol Cymru Natural Resources Wales
ADAPTAVATE
SSE
VPIImmingham
Shell
TOYOTA
RWE
mpa

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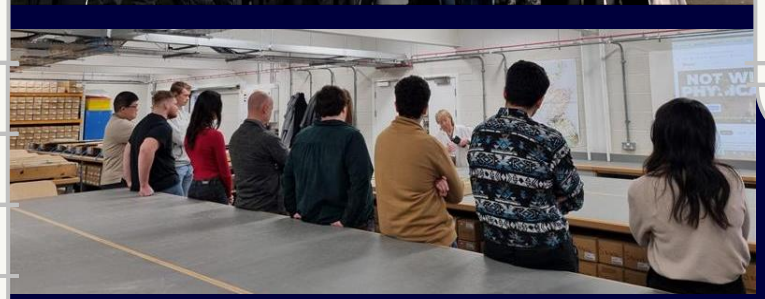
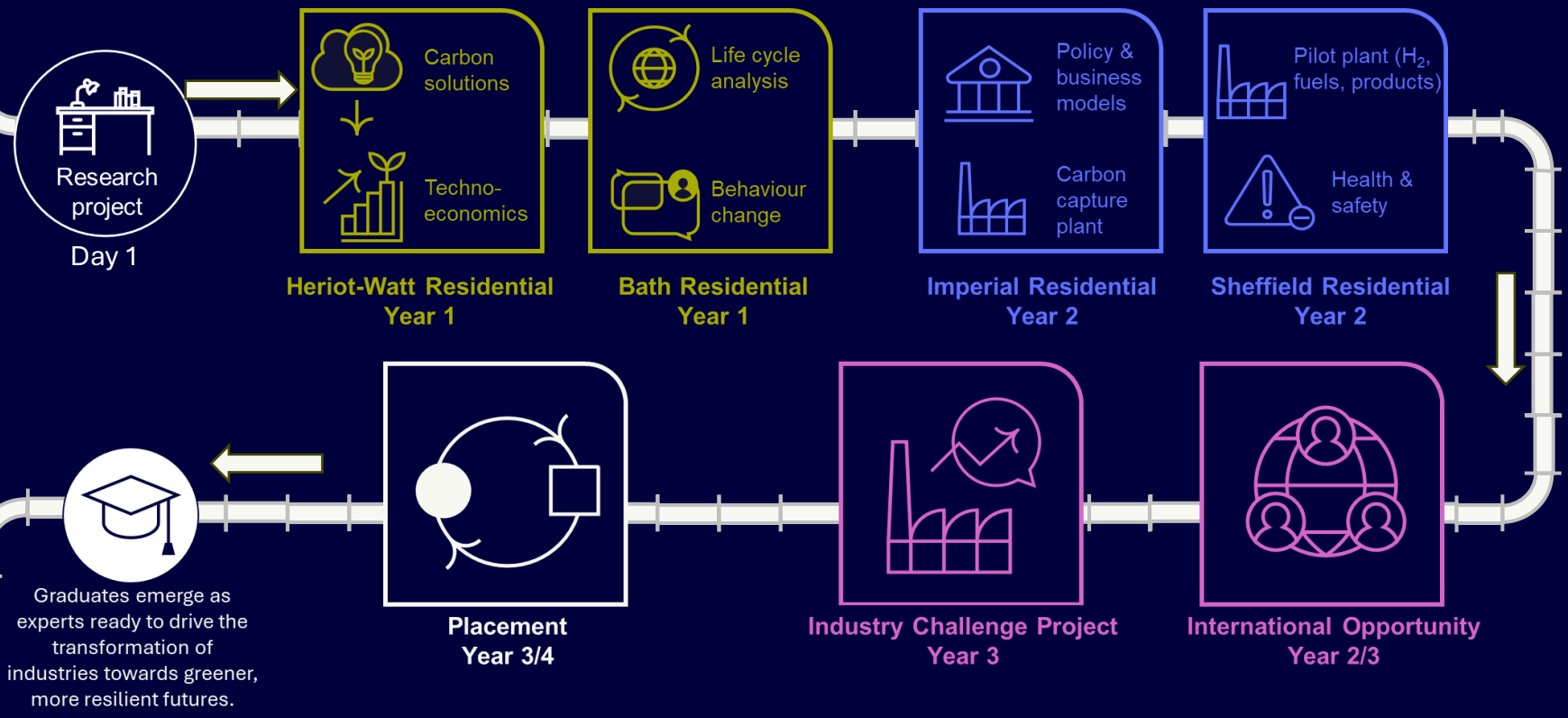
2. Whole system training programme

UKRI Engineering and Physical Sciences Research Council

- ✓ Training programme runs concurrently with research project to maximise research time and provide flexibility for students.
- ✓ Whole system training that contextualises technologies within the real-world industrial system.
- ✓ Understand the key drivers and barriers to scaling technologies and supply chains.





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3. Net Zero Leadership Programme

Partner placements

Student placements hosted by industry, governmental or third sector organisations for up to 3 months.

Professional Skills

A range of professional skills courses are available, e.g. IP, Presentation, Impact, Data management & Entrepreneurism

International Opportunities

Opportunity to visit world leading facilities to provide global stakeholder engagement experience.

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Solutions to emerging challenges

"The emphasis on interdisciplinarity was a real draw to see not only the technological side but the social & behavioural side, coming together to work on the challenge of net zero"

Jainaba Conteh

Advancing low carbon fuel infrastructure: A quantitative whole system approach to enable sustainable energy solutions and mobility

Sponsored by Centrica

Michal Ciesielka

Developing non-critical raw materials-based electrocatalysts for green hydrogen generation from wastewater

Sponsored by EPSRC

Michael Ownsworth

Post-combustion CO_2 capture solvents: addressing the knowledge gap with long-term testing

Sponsored by SSE Thermal

"A really interesting, valuable and fulfilling residential that covered lots of different perspectives. I enjoyed it immensely!"

Iliana Dimitrova

Flashback in hydrogen-fuelled gas turbine combustors

Sponsored by Siemens

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CDT-GIF Partnership Opportunities

Partner Option 1

Supporting a four-year studentship*

*50% of studentship cost matched by UKRI.

Establish industry-led research projects that address your organisation's R&D needs, as well as supporting the talent pipeline.

Open now for projects

Call for Cohort 3 projects OPEN.
Deadline: 1st Sept 2025

Visit our exhibit stand

Partner Option 2

Host a work placement

Host a CDT-GIF student working on a discrete shorter project (1-3 months) and support their development.

Partner Option 3

Training partner / provider

Get in touch if you are a training provider or can offer site visit / webinar.

UKRI Engineering and Physical Sciences Research Council

Future Look • Next Steps

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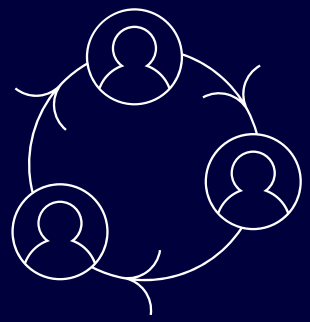
National & International Strategic Engagement



- Pipeline of projects
- Cluster and wider partnerships
- KE, Policy & Skills

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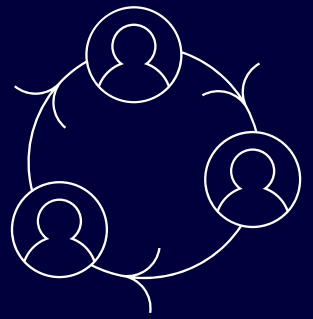
Research, innovation & talent pipeline



- Studentships
- Work placements
- Training partnerships