Cohort 3 project details for recruitment

CDT-GIF are seeking projects and supervisors for our third cohort of studentships that will start in October 2026. We have provided more information about CDT-GIF, our expectations of projects and selection/recruitment timelines below. Please get in contact with the CDT-GIF team if you have any questions: cdtgreenindustrialfutures@hw.ac.uk

Frequently Asked Questions

1. General information

1.1 What is CDT-GIF?

The CDT-GIF is an EPSRC doctoral training centre that supports PhD students to undertake pioneering research projects that will drive forward research and innovation in industrial decarbonisation. The centre supports a skills & talent pipeline that will develop the next generation of global leaders to lead the net zero transition in industry. The CDT-GIF was funded by EPSRC in 2024 to fund five cohorts with the first cohort of students starting in October 2024. The CDT-GIF integrates over £18m of UKRI (EPSRC), university and industry investment.

1.2 Who are the university partners?

Students will be based at one of the four university's leading the CDT-GIF: Heriot-Watt University, Imperial, University of Bath and University of Sheffield.

1.3 What is the duration of CDT-GIF studentships?

CDT-GIF studentships are 48 months. They are longer than a 'standard' PhD (typically 3 or 3.5 years) to allow for the taught programme (approx. 6 months). Unlike some CDTs that have a Masters year followed by a three year PhD project, the CDT-GIF training programme runs concurrently with the research project as a series of residentials throughout Years 1-3. This allows students to start their research project on Day 1, maximising the time for research and providing flexibility for students.

1.4 What is the research scope of CDT-GIF?

Projects are categorised into five research themes (see below). For more details of what is in scope, please refer to industry prospectus or contact the Co-Director within your university.

- Carbon capture, utilisation and storage
- Scaling up hydrogen systems and sustainable fuels
- Systems integration, including life-cycle analysis, energy & resource efficiency and management, circular economy
- Carbon dioxide removals
- Integration of technologies into the industrial system, e.g. social considerations, policy & regulation, economics/business, energy security

1.5 What does the CDT-GIF taught programme involve?

The taught programme is divided into three elements: (1) residentials, (2) academic portfolio and (3) professional development opportunities. The residentials aim to contextualise technologies within the real-world system, considering the interdisciplinarity of industrial decarbonisation. Students will learn about the key drivers and barriers to scaling these technologies and supply chains. These courses are delivered at biannual residentials based at each of the four universities. The residentials courses include:

- **Heriot-Watt Residential (November, Year 1).** Introduction to industrial decarbonisation, carbon solution technologies, technoeconomics.
- **Bath Residential (March, Year 1)**. Life cycle analysis, interdisciplinarity and behavioural/social change.
- **Sheffield Residential (October, Year 2)**. Pilot plant operation, health and safety.
- **Imperial Residential (March, Year 2)**. Policy & regulation, business models and pilot plant operation.
- **Industry Challenge Project (Year 3)**. Visit to an industrial cluster, plus sandpit challenge set by local industry.

The academic portfolio consists of: (1) attending the online Frontiers Forum, bringing the students together fortnightly to discuss topical issues, invited speakers and skills training, (2) presenting a research poster (Year 1) and oral presentation (Year 2). Professional development opportunities will also be offered throughout the programme. This includes skills training workshops/ webinars, opportunity to visit international facilities and work placements.

1.6 Is the taught programme accredited?

Yes, the taught programme is accredited by Heriot-Watt. Each residential is formally assessed and marks are awarded and recorded on Heriot-Watt's systems. Students must pass the taught programme to continue as part of the CDT (>50%). The programme consists of up to 120 credits.

1.7 How many studentships are funded per cohort?

In each cohort, the CDT-GIF can support up to 20 students divided across the four university partners. There is some flexibility between cohorts, i.e. if a university under- or over-recruit then it can be balanced out in subsequent cohorts.

1.8 How are studentships funded?

Projects are funded via a combination of EPSRC (CDT-GIF), university and industry funding. The distribution is typically decided by the Co-Director for each university for each cohort.

1.9 What does the funding cover?

CDT-GIF projects are fully-funded. This includes an annual, tax-free stipend (aligned to UKRI stipend rates), home tuition fees and a Research and Training Support Grant (RTSG) of £3,000 per year. The RTSG should be used for travel to/from residentials, conference attendance & research related training courses, travel & subsistence (incl. work placements) for other research activities, research costs & consumables.

1.10 Can international students be funded?

As a stipulation from our funder (EPSRC), CDT-GIF are unable to cover international fees for overseas students. It is, therefore, at the discretion of each university partner how many international students they will accept/waive the international fees. However, it is also worth noting that the CDT-GIF is subjected to a 30% cap on international students by UKRI.

1.11 What staff work on the CDT-GIF?

There is a central team based at Heriot-Watt, including Centre Manager (Clare Howard), Training Programme Manager (Charlotte McLean, currently on maternity leave) and Administrator (Jennifer Graham). Each university also has a part-time coordinator: Sophia Coe (UoBath) and Lisa Bushby (Imperial College London). At UoSheffield, one of the academics is the coordinator, Karen Finney.

1.12 How is the CDT-GIF managed?

The Management board meet monthly and consist of the CDT-GIF Director (Prof. Mercedes Maroto-Valer, Chair), Co-Directors (Prof. John Andresen, Prof. Marcelle McManus, Prof. Paul Fennell, Prof. Mohamed Pourkashanian), the Centre Manager and Programme Manager. Arising student concerns, operational decisions and strategic foresighting are discussed.

2. Call for studentships (Cohort 3)

2.1 What type of projects are CDT-GIF seeking?

CDT-GIF is seeking challenging and original research projects co-created with collaborators that align to our five themes. Scope of each research theme is provided below with a list of current projects in Cohort 1 & 2.

Current projects (Cohort 1 & 2):

- Post-combustion CO_2 capture solvents: addressing the knowledge gap with long-term testing
- Next-generation solvents for post-combustion carbon capture
- Zero emissions steel technology
- Development of generalised multi-well CO_2 storage proxy models for saline aquifers and depleted gas reservoirs in CCUS networks
- Global CO_2 storage capacity: modelling limitations of geography and injectivity
- Sustainable production of chemicals and aviation fuels
- Developing non-critical raw materials-based electrocatalysts for green hydrogen generation from wastewater
- Hydrogen combustion in gas turbines
- Development of electrocatalysts and membrane electrode assembly for energy conversion and storage.
- Highly efficient electrocatalytic reduction of nitric oxides from flue gases for ammonia production
- Bipolar membrane zero-gap electrolyzer for co_2 reduction to sustainable fuels and chemicals
- Digital twin for decarbonising industry using hydrogen and low-carbon energy vectors
- Advancing low carbon fuel infrastructure: A quantitative whole system approach to enable sustainable energy solutions and mobility
- Life cycle assessment of future low carbon, circular industrial products
- Manufacturing functional ceramics for energy applications using low energy sintering methods
- The integration of greenhouse gas removals (GGRS) in the UK ETS.
- Integration of DAC into industrial clusters and renewable energy systems
- Could in service life concrete carbonation lead to negative emissions?
- Engaging marginalised communities in energy developments
- Scaling industrial decarbonisation with data and finance
- Understanding user needs for the adoption of hydrogen energy products.
- Public perceptions of carbon capture & storage (CCS)

2.2 How are we onboarding industry partners?

We strongly encourage submitting projects that have an industry, third sector or government partner. These projects will be given priority (although must meet other criteria, e.g. in scope, balance with other CDT-GIF projects). It is the responsibility of the prospective supervisor to seek industry partnership through their own networks. We have provided a partner prospectus that can be sent to potential partners. If valuable, one of our CDT-GIF central team can also attend any meetings to provide additional information to help with this process.

As a centre we will also be reaching out to a number of potential partners. If any are interested in developing a collaboration, then we will be in contact with our Co-Directors to advise of potential supervisors to match the partner to. Once matched, project partner and supervisor can co-create a research project with mutual interest and submit to the online form.

2.3 How much is the industry contribution?

To co-sponsor a project, we ask our industry partners to contribute 50% of the studentship costs (e.g. stipend, fees and RTSG). For Cohort 3, the cost of a studentship is approximately £129k for UoB, UoS and HWU, and £150k for Imperial (to account for the higher costs of living and higher university fees). Therefore, we ask industry partners to contribute **£65k per project (UoB, UoS, HWU) and £75k per project (Imperial).** This support is matched by the CDT-GIF through EPSRC funding. The CDT-GIF also provide the funding to deliver the training programme for each student (~£12k). **In summary, over £77k government funding per project to support their company's research and innovation needs.** Industry sponsorship can be paid annually or as an upfront cost.

2.4 My partner is an SME so this cost is too high. Is there an option for SME partners?

We can offer reduced rates for SMEs, e.g. 25% of studentship costs. Definition of an SME follows the UK Government guidance.

2.5 Are there any other ways that industry/third sector organisations can support?

We are also offering an alternative way to partner with the CDT-GIF via hosting a student work placement. This could be a placement for up to 3 months, whereby the student is hosted by the organisation and works on a discrete shorter project. If the placement is >1 month full-time then we ask the partner to contribute towards the stipend costs for this time (e.g. a 3 month placement is approximately £5k) as the student will need to suspend their studies to undertake the placement.

2.6 What information do I need to submit from the project partner?

We need the following information from the project partner for the project submission:

- Project partner organisation
- Project partner contact (name and email)
- Project partner contribution (£)
- A supporting document that confirms partner contribution (e.g. letter or formal email from partner). This should include partner contribution to studentship (£) and whether a student work placement has been discussed/agreed.
- Whether there will be a project partner supervisor?

2.7 What about legal agreements/ confidentiality arrangements / IP considerations with the partner?

If the project is selected, we ask that you liaise with your university legal team to establish a contract between your university, the project partner and (once recruited) the student. This will

cover arrangements for IP, confidentiality, data management and contractual obligations. The CDT-GIF can offer support/template where required.

2.8 What is the deadline for submissions?

The call for submitting projects will be open from 12th June until the 1st September 2025.

2.9 How are projects reviewed and selected?

The proposed projects will be reviewed and selected by CDT Academic Oversight Committee (comprised of our co-investigators and chaired by UoBath Co-Director, Prof. Marcelle McManus) in mid-late September. Projects will be selected based on thematic balance, balance with previous cohort projects, supervisor balance and level of engagement of industry.

2.10 When will I hear whether the project has been selected?

We will inform all prospective supervisors by the end of September 2025.

2.11 When do the CDT-GIF intend to start recruitment for projects?

Recruitment will start in mid-October. The CDT-GIF will fund one advert on FindaPhD per project and we will advertise on our website. It is the responsibility of supervisors to distribute adverts to their internal and external networks to attract students. We will also request a 1 minute advert video from the supervisor (e.g. the supervisor talking over a powerpoint slide). Projects will only be available for home students in the first instance.

2.12 How will students apply?

Students will apply via an online form via the CDT-GIF website.

2.13 What are the entry requirements for the CDT-GIF?

As a minimum we require candidates to have a First-class or 2:1 MEng or and MSc with merit (over 60%) in a relevant area i.e. Chemical Engineering, Process Engineering, Chemistry, Materials Science, Geoscience etc. Candidates for socio-politico-economic research topics will also be considered with a relevant MA. Applicants who have a First-class BSc/BEng (Hons) and can demonstrate significant relevant industry/research experience may also be considered.

2.14 Who can I contact for additional information?

For general enquiries, please contact **cdtgreenindustrialfutures@hw.ac.uk** or contact the CDT Co-Director/coordinator based in each university:

- Heriot Watt – Clare Howard (CDT Manager)
- University of Bath - Sophia Coe (CDT Bath coordinator)
- Imperial – Lisa Bushby (CDT Imperial coordinator)
- University of Sheffield - Dr Karen Finney (CDT Sheffield coordinator)

2.15 What information do we request in the online form?

Primary Supervisor	
Primary Supervisor email	
Co-Supervisor	
Co-Supervisor emails	
University	
University Department	
Project title	
Project Description *(please note this will be used for advertising purposes if project selected)*	
Project partner organisation	
Project partner contact (name)	
Project partner contact (email)	
Project partner contribution (£)	
Please upload supporting document that confirms partner contribution (e.g. letter or formal email from partner). This should include partner contribution to studentship (£), whether a student work placement has been discussed/agreed and whether there will be a project partner supervisor.	
Application criteria Give details of academic background/experience required.	
Subject areas	
Primary supervisor experience	*The CDT-GIF wants to support a diverse supervisor pool and allow opportunities for new supervisors. Please state your level of supervisory experience.* ☐ I have extensive experience of supervising PhD students (>5 students). ☐ I have experience of supervising PhD students (<5 PhD students) I have not supervised a PhD student before
What supervisor courses would be useful:	*The CDT-GIF will support supervisors throughout the programme, including providing training in relevant areas. To enable us to develop a tailored supervisor training programme please state what courses would be of value.* ☐ Supervisor expectations / Effective supervision (or equivalent) ☐ Equality, Diversity and Inclusion ☐ Responsible Research and Innovation

	☐ Trusted Research and Innovation ☐ Embedding environmental sustainability into research ☐ Other