



centre for postdoctoral
development in

**infrastructure
cities and energy**

The Problem Space

- Progress towards net zero will require advances in technology and innovation, investment, and a **skilled workforce**.
- Existing discussions *and* policy documents:
 - focus on the **technical and installer** workforce,
 - omit the higher-level skills e.g. researchers, specialists, managers and leaders.
- Industry need for **leadership and innovation** roles.
- Are PhDs and postdocs properly prepared for these roles?

Background – C-DICE Grand Challenge

The C-DICE Grand Challenge in December 2023 set out to investigate:

- The skills requirements of industry for the net zero transition,
- How our highly skilled PhD and postdoc community can support these requirements,
- Whether changes are needed in PhD and postdoc development to help support the industry demands for skills.

Process

The C-DICE Grand Challenge in December 2023 gathered and processed the views of representatives from:

- Industry,
- Academia,
- Funders,
- Government.

Results – The Challenges

12 challenges identified.

Ranked in priority order
by participants.

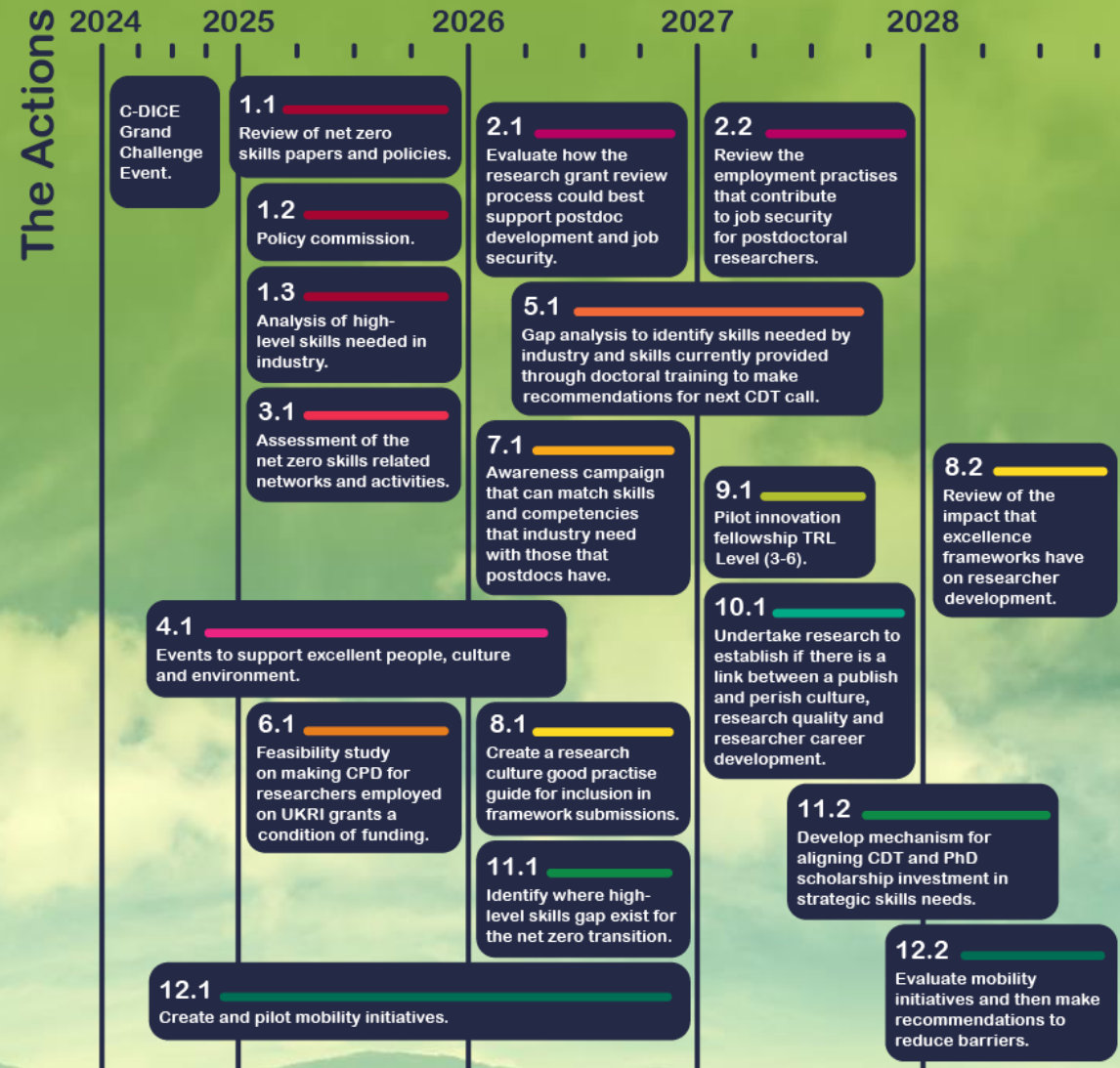
The Challenges

- 1.0. Papers and policies relating to net zero skills do not cover all of the skills value chain, up to and beyond doctoral level.
- 2.0. Precarious nature of grant funded research careers contributes to the loss of high-level talent and skills, and the lack of joined-up thinking.
- 3.0. Industry professionals lack communication and sharing best practice between industry, academia and others in relation to skills needs.
- 4.0. Lack of clarity on what an excellent people, culture and environment looks like, and how to achieve and monitor progress towards this.
- 5.0. PhD qualification does not fully equip researchers with “business” skills for successful careers in industry, limiting intersectoral mobility.
- 6.0. Grant criteria and awards do not mandate professional development for the postdoctoral researchers they support, making this a lesser priority.
- 7.0. Industry professionals lack awareness of the skills and competencies of postdoctoral researchers.
- 8.0. The excellence frameworks such as KEF/TEF/REF drive university strategies but can create barriers to research culture change.
- 9.0. Lack of funding addressing Technology Readiness Levels 3-6, limits highly-skilled researchers with the capability to drive innovation and scale-up.
- 10.0. “Publish or perish” culture in academia shifts focus from the benefits of broader postdoctoral contributions and their development.
- 11.0. Current process for selecting Centres of Doctoral Training (CDT) for training does not account for high-level skills gaps in industry.
- 12.0. Red tape creates barriers to mobility/cross collaboration between academic and industrial sectors.

The Roadmap

Each challenge is broken down into individual tasks.

Tasks are arranged over 5 years to manage interdependencies and existing timelines e.g. REF, CDT funding call.



Next Steps

- Roadmap Event in London on 12 November,
 - Panel discussions with industry and skills professionals,
 - Special guests from UKRI, NCUB, Innovate UK, Vitae, industry and postdoc organisations.
- Download your copy, register for the event, and find out more:





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