



APPG on diversity & inclusion – call for evidence on equity in the STEM workforce

29 January 2021

The Centre for Research into Energy Demand Solutions (CREDS) responds to consultations and calls for evidence from government, agencies and businesses, providing insight and expertise to decision-makers. CREDS was established in 2018 with a vision to make the UK a leader in understanding the changes in energy demand needed for the transition to a secure and affordable zero-carbon energy system. Working with researchers, businesses and policymakers, our work addresses a broad range of issues. CREDS is funded by EPSRC and ESRC.

www.creds.ac.uk

This response was created for the All-Party Parliamentary Group on Diversity and Inclusion in STEM inquiry into equity in the STEM workforce. The consultation ran from 10 November 2020 to 29 January 2021.

This response was written on behalf of CREDS by Dr. Sarah Higginson (CREDS Knowledge Exchange Manager, Research) and Kay Jenkinson (CREDS Knowledge Exchange Manager, Policy).

Introduction

CREDS is funded by the Engineering and Physical Sciences Research Council (EPSRC) and the Economic and Social Research Council (ESRC), both part of UK Research and Innovation (UKRI). Following from [UKRI's commitment to Equality, Diversity and Inclusion \(EDI\)](#), these issues have been taken seriously in CREDS from the beginning. The [CREDS EDI strategy](#) was developed within the first six months of the centre, in collaboration with CREDS staff. It is closely linked to our work to support and develop [Early Career Researchers \(ECRs\)](#). The [CREDS EDI Annual Report](#), reporting progress on the EDI plan, was published in 2020. This was followed by a survey of all CREDS staff, inviting their responses on recruitment and the lived experience of EDI issues within CREDS. The results of this survey are being analysed and inform what is submitted here. The full report will be written up and published on our website in due course.

CREDS' director convenes the EDI working group, and the group's advice and recommendations influence the way CREDS works. The director writes to the institutions involved in CREDS (~20 of them) at least once a year on EDI issues and EDI is a standing item in our CREDS consortium meetings (~140 people). Looking forward, our EDI work will be the subject of a focused month of action in 2021. We are currently recruiting for a dedicated EDI post (20%FTE) and scoping a Racial Justice research strategy that will inform our future work. After Covid-19, we look forward to scaling up our [programme for international visitors](#) once again, which we hope will further diversify our perspectives on energy demand research.

The evidence that follows is structured around the inquiry questions. Note that CREDS is an interdisciplinary research programme and research staff are drawn mainly from STEM subjects but also from the social sciences. Our data does not differentiate by discipline.

Responses to questions

1. What are the demographics of STEM workers in your organisation or sector? Are there gaps in the quality of evidence, monitoring or reporting?

We cannot comment on the sector overall. However, in relation to gaps in the quality of evidence, monitoring or reporting, we have encountered the following.

- Despite the fairly large size of our consortium, we have had to limit our collection of data such as ethnicity, neurodiversity and disability: apart from the sensitivities in requesting this information, our cohort is small and may reveal the identity of individuals. This creates obvious reporting challenges. We have reported on gender as a 'visible' protected characteristic but this is increasingly challenging.
- We feel that there is a need for guidance and examples on how to report in this area. For example, it has not been obvious to us against whom we might appropriately compare

ourselves when monitoring EDI data. The most obvious comparators might be UKRI (in relation to funding we have distributed) or UK Higher Education staff data, but we are aware they too have work to do to improve EDI.

- In terms of our research on energy demand (and we suspect this applies widely across disciplines), what data is collected requires consideration in relation to racial justice.
 - ◆ Certain basic demographic data are routinely collected about human participants in research studies, such as age and gender. They are also often used as a consideration in sample selection. This means that questions such as the generalisability of findings to certain populations can be considered, as well as the ways in which findings might differ between population groups. However, except in studies with a focus on race and ethnicity, data on these factors are rarely captured and considered in energy research. The possible implication of this is that differing energy-relevant experiences between people of different racial and ethnic identities remain invisible.
 - ◆ The issue of when and how best to collect such data (and/or consider them in questions such as sampling and recruitment) is not straightforward and requires consideration by researchers on a case-by-case basis. There are both general ethical questions to think about, and specific data protection ones as racial/ethnic origin is classed as special category data under GDPR. Nevertheless, better awareness of the issues at stake could help ensure that research (even where not directed specifically at racial injustice) is able to recognise and respond to relevant challenges. There could be value in activities including: synthesising existing guidance relating to the inclusion of race/ethnicity data in research; developing relevant training; developing light-touch guidance and/or policy in this area that could be used as a template by other research centres.
- 2. **Where is the inequity across the different protected characteristics and how are different communities impacted across different: STEM disciplines or sectors/subsectors; types of organisation (e.g. private, public, non-profit); type of STEM activity (e.g. academic research, education, engagement, commercial, funding); job levels and/or qualification**

The [CREDS EDI Annual Report](#) focused on progress on the EDI plan and was followed by a survey of CREDS staff on recruitment and the lived experience of EDI issues within CREDS. The data below derives mainly from these two documents.

- We have a long way to go in addressing the gender balance in our area of research. Seventy percent of staff in CREDS are male.
 - ◆ 60% of those who consider themselves to be 'senior' are men and 40% women.
 - ◆ The gender balance in those who consider themselves to be 'junior' is more balanced: 50% men, 45% women and 5% who prefer to self-describe.

- For those **recruited** to researcher positions in the first 18 months of CREDS, the M/F split of applications was 74%/26% and of appointments was 80%/20%.
- For non-researcher positions (i.e. administrative support and knowledge exchange roles), the number of recruitments was smaller and the gender balance was reversed. The M/F split of applications was 37%/63% and of appointments was 0%/100%.
- The M/F split of appointments for staff redeployed onto CREDS was 61/39%. These are predominantly researcher posts.
 - ◆ The high proportion of **redeployed** staff in CREDS is interesting, since EDI aspects of recruitment generally focus on competitive recruitment.
 - ◆ Redeployment should not necessarily be considered negatively, as it is a key part of mitigating the precarious nature of research employment, especially amongst early career researchers (ECRs), who tend to be more diverse.

In October 2019, we launched our [ECR Flexible Fund Call](#). [Eight proposals](#) were funded and a [comprehensive evaluation](#) of the programme was carried out, assessing how it was run, considering the innovative ways in which ECRs were supported and monitoring EDI.

- The call performed well in terms of EDI. A significant number of awardees and applicants have caring responsibilities and only about a third have a permanent academic post.
- In terms of gender, ethnicity and disability, the CREDS call performed slightly better than ESRC and significantly better than EPSRC, though this is partly a function of ECRs being a more junior, and therefore generally more diverse, group.
- We have a number of recommendations in relation to diversity.
 - ◆ We propose that publicly-funded research programmes should all have mechanisms in place to monitor and increase the diversity of applicants.
 - ◆ Monitoring the diversity of reviewers, panels, applicants and awardees of funding programmes is also important.
 - ◆ Attending to the language of calls to eradicate gendered or otherwise biased language and paying attention to interdisciplinarity can also contribute to increasing diversity.
- We compared our findings on ethnicity and disability with figures from overall UKRI applicants.
 - ◆ CREDS respondents appeared to be more diverse, with 27% applicants identified as non-white (11% undisclosed) compared to 14% for applicants to UKRI funding, and 83% stating they had no disability compared to over 90% for applications to UKRI.
 - ◆ More analysis of the gender, ethnicity and disability data is available in [the evaluation report](#) on the CREDS website.

3. Where are there evidenced best practice inclusive behaviours and policies within different organisations, subsectors, sector or countries on: recruitment; retention.

The [CREDS EDI strategy](#), developed in April 2019 and informing the work reported here, is an undoubted example of good practice.

- The strategy governs the work of CREDS' EDI group and covers: recruitment e.g. gender and diversity ratios, bullying and harassment, flexible working, career progression; and communication e.g. publication author diversity. The aim of the strategy is "to foster an inclusive culture within the Centre, which promotes equality, values diversity and maintains a working and social environment in which the rights and dignity of all our staff, students, partners and stakeholders are respected."
- The strategy informs our procedural work, from monitoring the makeup of every funding call, speaker or recruitment panel we compile, to informing the content of our regular consortium meetings. Here we have talked about bullying, unconscious bias and surveyed the ~140 members of the consortium on recruitment and their experience of EDI in CREDS. Outputs from this survey will inform our next EDI annual report.

As outlined above, our EDI work has also driven our substantial [commitment to early career researchers \(ECRs\)](#), who are a more diverse group than senior researchers.

- The [eight successful PIs](#) from our ECR funding call (63% women, 75% white, 38% with a caring responsibility, 38% with a permanent post) should expect their careers to be enhanced in a number of ways: a successful application for funding, project leadership experience, collaboration and building networks with the CREDS consortium and more publications.
- The call itself was innovative in the way it supported ECRs during the application process and in that it offered a combination of written feedback and mentoring calls to all applicants, successful or otherwise.

We have also offered additional support to the ECRs within CREDS with an ongoing programme of [capacity-building and funding support](#).

The EDI strategy was followed by the [CREDS EDI Annual Report](#), describing the activities of the EDI working group and feedback from a questionnaire sent to all the institutions then involved in CREDS. We have undertaken to write to all our institutions at least annually in an attempt to embed best practice.

Key pieces of work, such as our EDI strategy and annual report, have been shared with other organisations such as UKRI, the UK Energy Research Centre (UKERC) and the Energy Resilience and Built Environment (ERBE) Doctoral Training Centre, and have directly influenced their policies and practice.

Within CREDS, we are trying to address the inequities we have identified with commitments to work in ways that encourage participation by a more diverse group of staff, such as inviting ECRs to present, and monitoring all our work for balance (funding panels, speaker programmes, blog contributions, etc.).

Though our international visitors programme, we have accepted six visitors from six countries (Japan, Switzerland, Germany, Pakistan, Israel and The Netherlands), two of whom are men and four women. Although the programme has been working well via online collaborations, we look forward to in-person visits in the UK once travel restrictions ease. We hope this will continue to diversify our perspectives on energy demand research.

4. Are there policies or activities undertaken by the UK Government, or its agencies, that advance or inhibit equity and inclusive cultures within the STEM workforce? Where could policy change or sector action lead to addressing the equity of opportunity within the UK's STEM workforce?

We are grateful to UKRI's [commitment to EDI](#) and to EPSRC and ESRC for supporting a strong EDI workstream in CREDS' original research proposal. We believe that across the STEM research community, there will be opportunities for sharing, learning and developing a more equal and diverse workforce.

Alongside further work to promote EDI good practice in academic institutions, we propose that UKRI consider requiring large research programmes to include dedicated EDI staff to advise on different ways of working to advance diversity.

5. What are the impacts of Covid-19 on equity for STEM workers (including job and income security, contract type, etc) in the short and medium term? Which communities, groups, organisations or sectors are being most impacted?

Covid-19 has certainly delayed CREDS' work. One likely outcome is that we will seek a 'no-cost' extension to our programme. However, no cost extensions are not always good for ECRs, or those on fixed term contracts, as the lack of additional/ new funding can mean that these people lose their jobs.

In our CREDS EDI survey, 36.5% of people reported that Covid-19 had affected their work 'quite substantially' (13.5% selected 'other'). There is some evidence that Covid-19 has disproportionately affected women, who most often have caring responsibilities, which has been more widely reported in the media, as reflected in [this blog](#) which suggests publications from women decreased over the first lockdown.

Covid-19 has also significantly slowed down some research functions, such as ethics approvals, contractual arrangements, finance and other centrally/ institutionally supported services. Staff have also been furloughed and off sick with Covid-19 and other related conditions such as stress.

Staff centrally funded by universities can be furloughed, but those funded by grants on fixed-term contracts cannot. This is causing significant uncertainty where researchers have had to postpone work (e.g. fieldwork interviews) but risk running out of contract before their research can be completed.

CREDS does not fund PhD students but we are aware of issues affecting these researchers in the energy demand community. At the end of 2020, UKRI informed PhD students they were unlikely to get an extension due to Covid-19 disrupting their plans. This is a diverse group and their ability to weather this will influence who graduates and, in time, who is recruited into academia. It is most likely that the impact of this decision will unduly influence more disadvantaged students, who are usually from more diverse backgrounds. Specific ways in which this affected energy demand PhD students included the following.

- Isolation – doing a PhD can be a lonely experience anyway – motivation and good mental health are more difficult if the students cannot see their supervisor, colleagues and friends.
- Those doing empirical work and who therefore had their fieldwork cancelled were more disrupted than those who were doing methodologies such as modelling which did not rely on collecting primary data. Fortunately, in our case, social fieldwork was easier to move online. Those conducting technical fieldwork requiring access to buildings may have been more adversely affected.
- Financial – students' PhDs got delayed and they were worried about projects overrunning and running out of money – but we have managed to give most of them a funded extension which helps with this one.

6. What are the implications and opportunities of new policies and employer action in the next 5-10 years following Covid-19 and Brexit? What will the future impacts be for communities, groups, organisations or sectors?

CREDS is a UK funded programme for work conducted in the UK and so the impact of Brexit is less severe. However, we are aware that there will be pressure on university and research funding, and are concerned that EDI provision could be at risk if it is seen as 'nice to have' rather than a critical, core activity.