technopolis group

November 2025

REF 2029 People, Culture and Environment indicators

Final report

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Technopolis and Vitae with contributions from:

the Association of Research Managers and Administrators (ARMA)
the UK Reproducibility Network (UKRN)
the Future Leaders Fellows Development Network (FLFDN)
the National Association of Disabled Staff Networks (NADSN)
the Black Female Academics Network (BFAN)
the National Co-ordinating Centre for Public (NCCPE)
Dr Elizabeth Gadd
Professor James Wilsdon
Professor Stephen Curry

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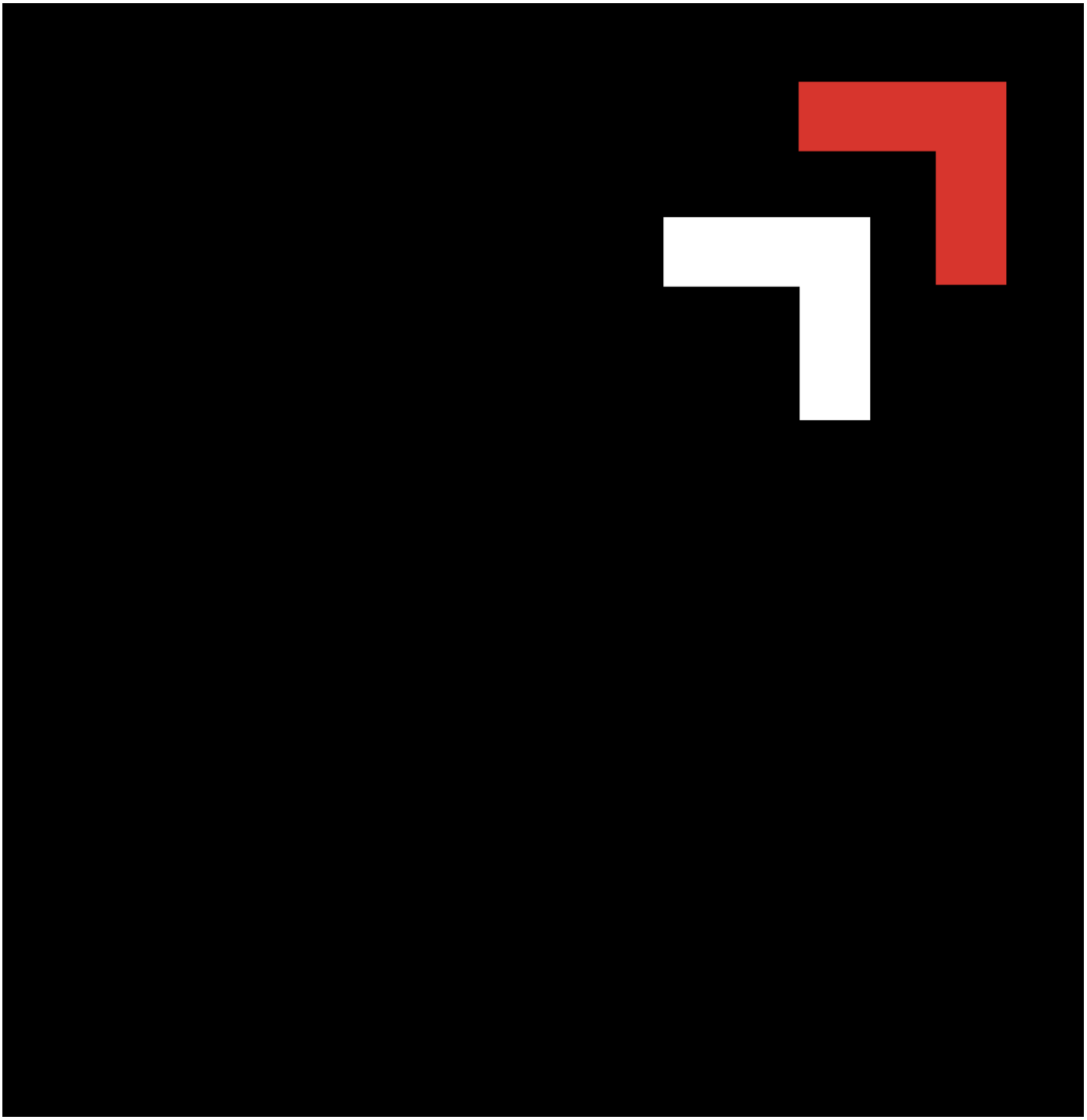

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1 Introduction

1.1 This report

This report presents findings of the PCE indicators project, which was to:

- develop a set of indicators that may be used by institutions to evidence PCE
- produce a draft submission template for PCE
- put forward recommendations on their use to the joint funding bodies

The work was carried out by Technopolis, and Vitae in consultation with several community partners - the Association of Research Managers and Administrators (ARMA); the UK Reproducibility Network (UKRN); the Future Leaders Fellows Development Network (FLFDN); the National Association of Disabled Staff Networks (NADSN); the Black Female Academics Network (BFAN) and the National Co-ordinating Centre for Public Engagement (NCCPE) and with the authors of The Harnessing the Metric Tide, Elizabeth Gadd, James Wilsdon, and Stephen Curry.

The project implemented a co-creation approach, including a sector-wide exercise to create a widely supported yet practicable approach to assessing institutions' stewardship of research culture. Desk research outlined a provisional list of elements of research culture and environment and an initial long list of sample indicators. These were discussed through the sector engagement divided into two iterative phases, allowing definitions and indicators to be co-developed with the sector. A survey provided additional opportunities for the sector to engage, asking similar questions to those in the scoping workshops. Through an iterative process of testing and refinement, sector engagement resulted in a list of indicators. This was also discussed with the PCE pilot panel members, who provided feedback on the proposal, which was incorporated into the final version that was further tested and refined through the REF PCE pilot exercise.

This report presents:

- An overview of the project approach and iterative sector engagement carried out throughout May – October 2024 to co-design People, Culture and Environment (PCE) indicators
- A summary of desk research findings which informed the sector consultation
- A summary of findings, building on sector consultation in relation to the importance of research culture and environment, the purpose of assessing PCE in REF, the elements of research culture and environment that should be prioritised for inclusion and how these might be evidenced
- PCE excellence enablers framework and indicators
- Submission template and assessment criteria provided for the REF PCE pilot

2 An overview of the project approach and iterative sector engagement

The project methodology builds on a co-creation approach, including a sector-wide exercise to create a widely supported yet practicable approach to assessing institutions' stewardship of research culture. The importance of the research culture to research excellence and the need for robust assessment in REF 2029 demands an approach that places researchers and research institutions at the centre of the development process. Co-production with the sector – rather than any top-down design process – was critical to the project's ability to develop a value-adding scheme and gain sector engagement. The approach builds on the following tasks (each explained in more detail in sections 2.1.-2.4.):

- Co-design and desk research to develop a sector engagement plan and initial input for discussion (long list of options to evidence PCE). This task was completed in March 2024 and the results were presented to the REF Steering Group. The findings of the desk research informed the sector consultation (e.g., specific indicators were discussed at the workshops). Findings of desk research are presented in Section 3
- An initial (Phase 1) and further (Phase 2) round of consultation and co-production with the sector to develop, test, refine and enhance assessment options (more detail in section 2.1.)
- PCE pilot panel workshop to consider the proposals made as regards the preferred indicators and assessment methodology (more detail in section 2.2.)
- Analysis and synthesis of feedback and development of PCE template and list of indicators for the PCE pilot (more details in section 2.3.)

2.1 Approach to desk research

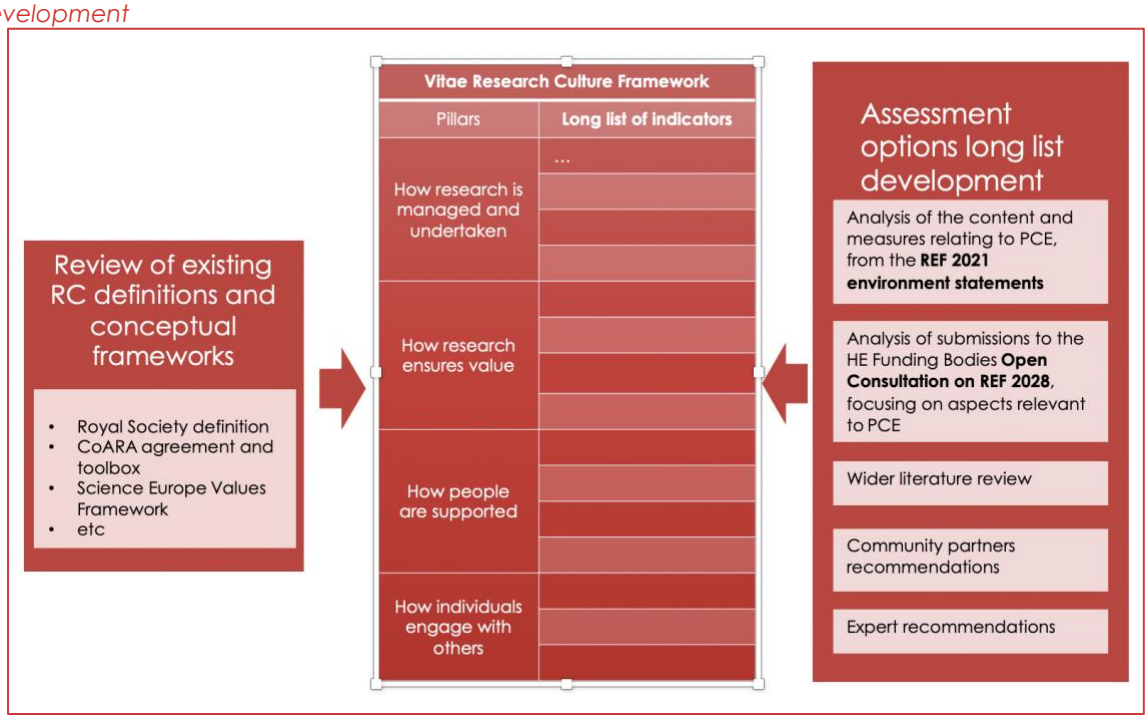
Various stakeholder reports, Future Research Assessment Programme evaluations, and submissions to HE Funding Bodies, open consultation on PCE element, all include suggestions on potential PCE indicators. The objective of this work was to collect and systemise available suggestions on evidence and indicators for assessing research culture, to serve as input to the first phase of the sector consultation commencing in April 2024.

Figure 1 shows the overall approach to desk research and development of the long list of options to evidence PCE. The work is structured around the research culture framework developed as a result of UK Research and Innovation (UKRI) commissioned work to the Careers Research and Advisory Centre (CRAC) – Vitae, Shift Learning, and the UK Reproducibility Network (UKRN) (Shift Insight et al, 2024).

The UKRI commissioned work brought together different perspectives, existing definitions, and conceptual frameworks of a research culture into a holistic behaviours and values framework. Thus, the work on preparing the long list of options to evidence PCE is rooted in stakeholder-informed views as to what is valued about research culture as presented in the framework. This allows for assessment of what matters and not what we might already have data for, or what is already being assessed. **The framework identifies the behaviours and values that underpin:**

- How research is managed and undertaken
- How research ensures value
- How people are supported
- How individuals engage with others

Figure 1 Approach to desk research for PCE assessment framework and assessment options development



The desk research took the next step of mapping and populating the research culture framework's four pillars with a long list of options to measure and evidence the behaviours and values identified within the research culture framework. The main sources reviewed and summarised in this report are listed in the box on the right in Figure 1. We reviewed 150 submissions to the Research England Open Consultation, five summary notes from Research England Open sessions, a sample of submissions to REF 2021 and all FRAP evaluations.

We shared the long list of options to evidence PCE with the project community partners and The Metric Tide Revisited authors for feedback and additional inputs. All community partners and experts provided feedback on whether the specific dimensions of the research culture framework are in the scope of the assessment in REF and the long list of indicators. Partners also made suggestions on additional indicators. We incorporated the feedback into the long list presented in Section 5 of this report. The feedback was used to make the following adjustments:

- Make some of the options more specific (e.g., providing examples of what should be assessed)
- For the indicators focusing on the inputs (provision of policies, processes, guidance, training) add a requirement to also evidence the monitoring efforts to establish the effectiveness through the monitoring activities
- Further elaborate difficulties linked to preparing evidence for some of the indicators (e.g., difficult to present in succinct narrative), fair assessment (unclear what 'good' means)
- Specify the assessment at UoA or institution level and acknowledge relevance and potential differences across disciplines
- Specify potential overlap with other initiatives (e.g., KEF) or other elements of REF (e.g. impact)

Several items were removed from the long list because of the overall agreement in the provided feedback about the lack of value of these items. Often this was because the suggested evidence was considered to be the minimum level of activity and was not

considered as something that should be incentivised. The list of removed items and reasons for removal is provided in Appendix D.

A few items were added:

- use of contributor roles taxonomy (to represent the roles typically played by contributors to research outputs)
- provision of research leave (in addition to the indicator of research leave taken)
- engagement with open peer review
- proportion of staff who take a minimum of 10 days of CPD pro rata per year
- existence of a whistleblowing policy

The feedback identified some gaps which should be discussed during the sector engagement workshops:

- evidence to illustrate active promotion of sustainability
- support for interdisciplinary work - how well does the institutions succeed in overcoming disciplinary/departmental barriers
- how meaningful engagement with stakeholders is planned, supported, and achieved
- participatory research, collaborative research, public engagement and outreach
- evidence to demonstrate policies around due diligence for research partnerships
- details of researcher training programmes and/or funding to support individual researcher development needs
- performance dimension on effective leadership and management should consider evidence that covers not only line management but also senior management

In the desk research findings Section 3, we present assessment options/indicators identified for each of the four framework pillars. Each section lists the values/behaviours to encourage, a summary overview of how the particular pillar could be assessed and challenges, followed by a list of indicators.

2.2 Sector engagement

The purpose of the sector engagement was to co-develop a list of indicators that can be used in the assessment of the People, Culture and Environment (PCE) element of REF 2029. Through an iterative process of testing and refinement, it resulted in a list of indicators (presented in Section 5) that were further tested and refined through the REF PCE pilot exercise.

The overarching aims of the sector engagement were to:

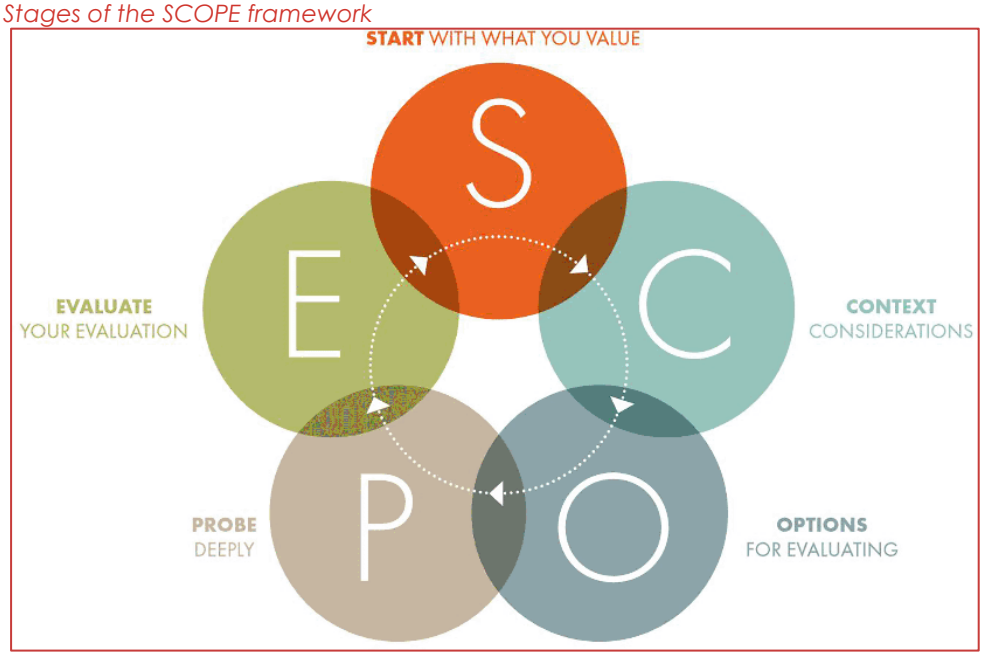
1. Ensure that the process for the development of REF PCE is inclusive, transparent, and equitable.
2. Develop a shared understanding of the elements of people, culture and environment that should and can be assessed in REF PCE.
3. Ensure that the indicators for PCE are clearly defined, appropriate, and robust.
4. Build confidence in the assessment of REF PCE across a wide range of stakeholders.

The approach to sector consultation draws on the three main principles of the INORMS SCOPE Framework for responsible research evaluation[1]:

1. Evaluate only where necessary.
   Evaluation is not always the right strategy. When it comes to incentivising behaviours, for example, it may be more fruitful to enable them rather than to evaluate them.
2. Evaluate with the evaluated.
   Evaluation should be co-designed and co-interpreted by the communities being evaluated.
3. Draw on evaluation expertise.
   We should apply the same rigour to our evaluations that we apply to our academic research.

The indicator development also adhered to the five stages of the SCOPE framework illustrated in Figure 2.

Figure 2 Stages of the SCOPE framework



Source: Himanen L, Conte E, Gauffriau M *et al.* The SCOPE framework – implementing ideals of responsible research assessment [version 2; peer review: 2 approved]. *F1000Research* 2024, 12:1241

The sector engagement was divided into two iterative phases, allowing definitions and indicators to be co-developed with the sector. Time was built in for consideration and reflection, including on what the sector values, the purpose of evaluation, and for probing potential indicators for unintended consequences.

The activities were underpinned by desk research which outlined a provisional list of elements of research culture and environment and an initial long-list of sample indicators from a) submissions to the December 2023 consultation on REF PCE and b) existing research projects

[1] Himanen L, Conte E, Gauffriau M *et al.* The SCOPE framework – implementing ideals of responsible research assessment [version 2; peer review: 2 approved]. *F1000Research* 2024, 12:1241

and policy documents, and refined in collaboration with project partners and external expert advisors.

Phase 1 (May-July), 2024

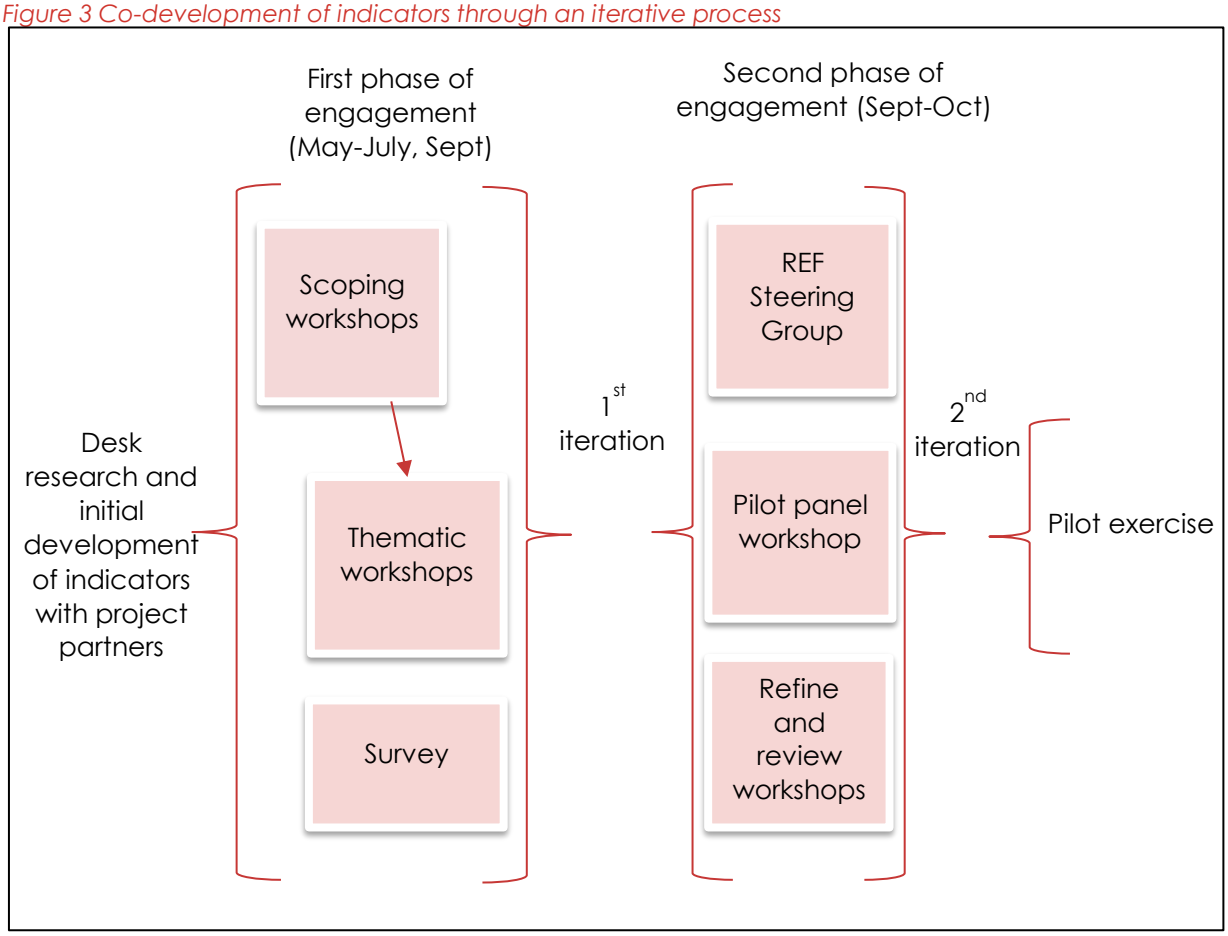
Initial scoping workshops explored what aspects of PCE should be evaluated, what the sector wants the indicators to do, the availability and quality of data, and any context-specific considerations. After a brief period of reflection, a series of thematic workshops probed more deeply into different aspects of PCE, allowing different stakeholders to collectively test the reliability and robustness of an initial long list of indicators. A survey provided additional opportunities for the sector to engage, asking similar questions to those posed in the scoping workshops.

Phase 2 (September-October), 2024

The draft PCE templates and draft list of indicators were tested and refined with the sector in two further workshops: one with representatives from the 30 PCE pilot institutions and another open to the wider sector. REF Steering Group also organised a workshop with other UK funders to explore how the initial proposal fits into the context of broader sector initiatives in this area. In the refine and review workshops, participants probed the templates and indicators for unintended consequences, gaming, discriminatory efforts, and comments on the cost and feasibility of data collection.

Based on the feedback collected in Phase 2, the project team produced another iteration of the indicators and templates presented in Section 5. This informed the REF PCE pilot exercise run by Research England.

Figure 3 Co-development of indicators through an iterative process



The following sections provide further details on each of the sector engagement elements.

2.2.1 *Sector engagement workshops*

The sector engagement involved a wide range of stakeholders in the development and iteration of the indicators. This included: role-holders at all career stages and in a range of research and research-enabling roles (e.g. technicians, librarians, research professionals); institutions that reflect the breadth of missions, sizes, resources, disciplinary and geographical contexts; cross-sector networks and interest groups that bring expertise on different aspects of research culture and research assessment, and represent different communities.

There were nearly 1600 expressions of interest submitted for the workshops. Across workshops 1-13 (those open to the sector, excluding the final workshop with pilot institutions), there were 502 attendees. 458 attendees were from higher education institutions, with attendees from 137 different institutions. There were 44 attendees from the wider R&I sector.

The sector engagement was implemented in partnership with a range of sector organisations and networks that bring a range of perspectives and expertise on different aspects of research culture and environment. Each workshop was co-facilitated by Vitae, Technopolis, and those community partners who represent relevant constituencies: ARMA, UKRN, FLFDN, NADSN, BFAN and NCCPE. All partners were involved in the interpretation of the findings, iteration of indicators, and the development of recommendations.

Expert insights and perspectives supported discussions with the sector, with the authors of The Metric Tide Revisited, Elizabeth Gadd, James Wilsdon, and Stephen Curry, as well as representatives from the REF Steering Group and international FRAP Advisory Group, providing

contextual information and guidance on what good indicators look like and what kinds of recommendations are actionable.

2.2.2 *Survey*

The People, Culture and Environment Indicators Survey was facilitated in order to provide an additional channel for the sector representatives to provide feedback and views in the indicator co-design process. Individuals from all levels of academia (and beyond) were encouraged to take part. The survey was launched on the 24th of June 2024 and closed on the 9th of September. The survey was distributed via an open link which was circulated and promoted through the websites of the project partners and Research England. The total number of responses to the survey was 1,464, although we noted a declining number of responses by question. The final non-open question gathered 764 responses.

We note that the representativeness of our pool of respondents against the higher education population in the UK is imperfect. Compared to data obtained from HESA, (as usual in surveys) women were overly represented in the survey (accounting for 61% of respondents compared to 48 % according to HESA) relative to the share of men in higher education. Our population was also more likely to report a disability along the HESA disability categories relative to the data on disabilities obtained from HESA (28% reporting some kind of disability relative to 7% of academic staff doing the same based on HESA). Similarly, British nationals were over-represented in the survey (accounting for 83% of the surveyed population compared to 67% based on HESA staff data 2022-23). Benchmarking against the ONS Annual Population Survey, survey respondents were more likely to report belonging to a sexual minority (76% reported identifying as heterosexual compared to 96% in the 2022 Annual Population Survey by the ONS). Professors are significantly over-represented in the survey, as a proportion of academic staff. When benchmarking the responses for subjects aligned with REF panels, the responses demonstrate a good spread across the main panels.

In terms of ethnicity, we found Black and Asian respondents underrepresented in the PCE survey compared to HESA Staff Data 2022-23 (accounting for 2.6% and 4.1% compared to 3.4% and 13.1% respectively). White respondents, those of mixed ethnicities and those reporting 'Other' ethnicity were, in turn, overrepresented. A full analysis of the representativeness is found in Appendix C. We sought to study within-group responses to identify meaningful differences in responding behaviour based on demographic differences.

2.3 Consultation with the pilot panel

The project team organised a workshop with the PCE pilot panel co-chairs and presented the PCE enablers framework, indicators, evidence options, templates and assessment criteria. Pilot panel members provided feedback on the proposal, which was incorporated into the final version in Section 5.

2.4 Synthesis and analysis

Synthesis and analysis of the sector engagement outputs started in parallel with the engagement activities and included a range of tools and approaches:

- the schedule for the stakeholder consultation was such that it allowed for consideration and reflection followed by a new iteration of indicators before proceeding with the steps of the consultation (e.g., a brief reflection period after initial scoping workshops)
- the analysis and synthesis process included dropping some of the suggested indicator options due to feedback highlighting very high gaming risks or inappropriateness for assessing relevant PCE elements

- considering the feedback, other discussed indicators were re-formulated and rather used as an evidence option. Several discussed indicators were merged into more comprehensive items to ensure the overall framework is simple and comprehensive and allows flexibility
- sector consultation identified several principles that should guide the development of the indicators. These were used alongside the feedback from the sector on specific indicators and are outlined in Table 1.

As a result of this iterative process, the initial long list of options to evidence PCE (presented in the project Desk research report) was narrowed and detailed (in terms of evidence specifications) and is presented in Section 5.

Table 1 Principles for indicator development

- ***Clarity***
  Indicators should be clearly defined, with precise wording that avoids ambiguity. Terms like 'active' or 'working towards' should be avoided unless clearly explained to ensure that the expectations are well understood by institutions.
- ***Inclusivity***
  Indicators should use inclusive language, ensuring they are relevant to different roles, career stages, and disciplines, and across the protected characteristics.
- ***Breadth***
  Indicators must be broad enough to ensure that institutions are not restricted in their interpretation, allowing for creative interpretations tailored to their unique needs. If too prescriptive, indicators may risk stifling innovation.
- ***Adaptability***
  Indicators must be adaptable to institutions of different sizes and resources, allowing smaller institutions to demonstrate progress without being disproportionately burdened.
- ***Financial resources***
  Indicators should not be seen to be a measure of the financial resources of an institution. The indicators should recognise how resources are strategically deployed and used to grow opportunities and make progress.
- ***Action and process focused***
  Indicators should focus on effectiveness and outcomes rather than inputs.
- ***Avoiding box-ticking***
  Indicators should discourage a compliance-driven, box-ticking approach. Institutions should be encouraged to engage meaningfully, showing depth and reflection in their submissions, and using a combination of qualitative and quantitative evidence.
- ***Monitoring and accountability***
  Indicators should allow institutions to be able to track their progress over time, identifying areas for improvement, and continually adjusting their approach based on evidence and outcomes for subsequent REF cycles.
- ***Sustainability***
  Indicators should be worded in ways that mitigate the tendency to implement short-term measures for REF purposes, but instead for part of long-term strategies.

- ***Duplication***
  Indicators should minimise burden by avoiding asking institutions to duplicate reporting, and should allow institutions to link to other reporting, as far as possible.

3 Summary of desk research findings

3.1 Overall observations and challenges for the development of assessment options

The interconnectedness of research and different elements of research culture is such that, inevitably, there is some overlap within the research culture framework, especially when considering how the different pillars of the framework can be evidenced. For example, framework pillars focusing on how people are supported and how individuals engage with others can likely be evidenced and assessed with similar approaches and indicators of performance in these areas. There is also some overlap in considering research leadership at a more strategic and management level in Pillar 1 and research leadership in a more people-oriented sense in performance and line management in Pillar 4. Accordingly, some options overlap and are suggested for more than one pillar.

As evident from the long list, many PCE elements are not easily measured with quantitative metrics. Only a few items in the long list are purely quantitative. Thus, **many of the long-listed items can potentially serve as elaborated guidance or form a structured and specified questionnaire as part of the submission statement of the PCE template.**

The long list includes many options and is a collection of everything suggested in various sources. During the consultation process, the list went through a significant refinement, and focused on fewer options.

Several items require evidence on desirable performance but it is unclear what 'good' means and how panels would interpret data (e.g., what is good staff diversity, what is a good percentage of staff with permanent contracts). One response received from our community partners suggested that an overarching statement on what the panels value as 'high-quality' in PCE would support institutions. Furthermore, institutions might need to explain contextual information like their age, size, mission, identify their challenges, reflect on progress and outline the actions they are taking to continue to develop in order to provide the panel with necessary information to judge the quality of an institution's PCE within their specific context.

Evidence can be classified as input, process or outcome evidence. Each description reflects whether the evidence is on inputs/processes (e.g., policies, guidelines, principles, etc.) or outputs (actual change in practice as measured by specific evidence). Where possible, we note whether the evidence applies to UoA-level submissions, institution-level submissions, or both.

Most items on the list are input evidence demonstrating subscription to specific concordats, existence of specific strategies, statements, processes, etc. These create a foundational set of basic rules and resources. However, often these items say little about how good the rules and resources actually are, whether they get used and change anything for good.

The next set is process evidence and illustrates how the processes and resources are actually implemented, whether the right people are involved, whether the people are happy with the processes and to what extent processes actually get enforced and respected. These items add more evidence. However, these indicators are also limited and often difficult to assess comparatively.

Finally, there is also outcome evidence and a few outcome indicators (e.g., gender ratios) that more often are quantifiable and demonstrate actual performance. However, for many research culture elements, these indicators would have to rely on staff feedback in the form of surveys which is a complicated measure in the context of research assessment.

One way to provide evidence of causality and evolution, is for the PCE submission to identify input-process-outcome chains where possible. This might allow evidencing 'distance travelled' - improvements on an outcome indicator could be attributed to actions (inputs and processes).

The following sections of this document are structured around the four research culture framework pillars, listing the potential evidence for each of the pillars.

3.2 Evidence to demonstrate how research is managed and undertaken

The research culture pillar, focusing on how research is managed and undertaken consists of three key performance dimensions:

- Effective research governance and management
- Achieving the highest levels of research integrity
- Actively promoting sustainability

The three parts of Pillar 1 each pertain to quite different elements of the wider PCE landscape, and very different types of evidence need to be used in each.

The first part of this pillar is about management, strategy and governance and how transparently and effectively these are undertaken. These are all very broad concepts so the potential range of evidence to choose from is extensive. At the same time, each possible indicator captures only a small part and may not be applicable in many cases. This applies especially to 'input' or 'process' indicators (provision of training and guidance, publication and explanation of processes, inclusion processes for decision-making, etc). In terms of outcome, concepts such as transparency, competence, effectiveness largely rely on perception and may mean different things in different institutional or disciplinary contexts. These may therefore require staff surveys or other ways of ascertaining whether any number of input and process indicators are actually achieving the desired outcomes.

The second part of this pillar is broadly about research ethics, integrity and conduct. These are very well established elements in the research landscape, with ethical approval committees and guidelines part and parcel of the research process. Institutions as a norm also have formalised ways of handling misconduct, while research integrity also breaks down into several widely recognised components (e.g. around data/code availability, author and funder acknowledgement, etc). These may be combined to produce an array of relevant input and process indicators. However, these merely create a 'floor' of basic and essentially good practice. Identifying suitable indicators pertaining to how these basic processes actually are used is challenging. Many stakeholders have warned of the dangers of using 'negative' indicators here, i.e. numbers of misconduct cases or similar: turning such instances into metrics in any form risks creating hazards and unintended consequences (e.g. incentives not to flag instances of misconduct) so particular care is needed here.

While these aspects pertain to the entire research process from planning to dissemination of findings, many of the indicators we found in this domain specifically relate to characteristics of publications. This notably includes the presence in published outputs of author contribution statements, funder acknowledgment, ethics approval statements and reference to availability of data and codes. For the most part, these are all simple yes/no (or included/not included) indicators rather than indicators involving a scale.

Both the reviewed literature and several PCE stakeholder consultation responses therefore suggest that a whole suite of such evidence could be uncoupled from the PCE element of the REF and instead be added as mandatory characteristics for any outputs submitted for REF.

The third part of this pillar is about sustainability, access and physical environment. Even more so than the management/strategy/governance element of this pillar, the concepts cited here

are extremely broad and may include a wide array of evidence. Notably, much of the subject-matter of this part of pillar 1 falls outside of the R&I field: it includes elements such as financial efficiency or access, appropriateness and safety of workplaces. These elements in particular may therefore benefit from input from experts and organisations involved in these fields (e.g. HSE, FCA).

Overall, the scope to satisfactorily cover the breadth of the components on this pillar with quantitative indicators is limited. Those indicators that can be defined are also typically simple yes/no indicators rather than indicators on a numerical or 'sliding' scale. We do however note that many existing accreditation schemes are pertinent to large parts of this pillar (including Excellence in HR, Athena Swan, Investors in people and many others).

Much of the research integrity part of this pillar may be better placed in the outputs/quality element of the REF, which might involve rules whereby all outputs submitted to REF need to conform to a range of standards, instead of having these as a separate PCE indicator.

The following sections present a definition for each of the performance dimensions and specific elements of it, followed by a list of potential indicators. The final section presents overarching indicators that can serve to evidence performance across all pillar dimensions.

3.2.1 Effective research governance and management

Definition of the scope of the performance dimension: the standards, structures and policies to ensure good research practice, integrity and equity.

Specific elements of the performance dimension:

- Mechanisms to ensure transparent, accountable governance
- Implementing effective policies and processes
- Providing open, competent and effective research leadership
- Providing appropriate, safe and accessible workspaces

Potential evidence	Brief description
Provision of training, guidance and support to assessment panels, juries, committees and other decision-making bodies (on mitigating unconscious bias, EDI, ableism, assessment committee behaviours, etc.) and monitoring of the effectiveness of these measures	Input indicator. Helps ensure decision-makers are better able to be transparent and accountable. This indicator could be used at institutional and UoA level. Could simply involve presenting evidence of existence of training schemes and guidance notes, or include numbers or proportions of decision-body staff who have had training. This indicator would likely be biased toward larger UoA submissions, who would have more capacity and resources for providing such training.
Presence of communications (incl. webinars, published web pages) explaining aspects such as conflict-of-interest regulations, right-to-reply procedures, consultation standards and other	Input/process indicator. Does not monitor adherence to processes, need also to account for accessibility and coherence of the processes in place. Would involve evidence of the noted webinars/web pages. This indicator could be used at institutional and UoA level. Information to present this might be lengthy and difficult to present in a succinct statement.

Potential evidence	Brief description
aspects relating to decision-making processes	Difficult for fair assessment as it is hard to establish what accounts for good performance (quantity, quality, what is good quantity and quality, etc.). Could also be seen as a basic requirement that HEIs fulfil and is out of scope for assessment in REF.
Use of 360-degree appraisals and monitoring of the effectiveness	Input indicator. This indicator could form part of the accountability aspect and could be used at institutional and UoA level. Could be limited to evidence that 360 feedback exists or could be turned into a scale highlighting varying extents of 360 feedback (e.g., proportion of leadership staff who receive such feedback, extent to which it is binding, etc.) Use of a specific style of appraisal may limit the capacity of HEIs to innovate and develop new best practice.
Number and share of all research active staff that attended research leadership courses	Process indicator to evidence approach to effective research leadership. The indicator would not cover the extent to which training is effective. This indicator may benefit from being split into 'all research staff' and 'institutional management staff', to distinguish between leadership skills at the top and leadership skills more generally. This would also serve as a basis for use at both institution and UoA level. Indicator requires a specific definition of the courses that would be in scope which is not straightforward and could be manipulated.
Demonstration of clear strategic direction relevant and appropriate to the overall focus, size and specialism(s) of the institution, with coherent plans towards their achievement. May include focus more aimed towards the HEI's local area or wider region as well as a more international outlook in terms of partnerships and activities	Qualitative/narrative based evidence that can be part of the PCE statement template but is of a forward-looking nature. May need to be attached to subsequent evidence of carrying out the strategy. Critically, evidence for this indicator could include the strategy itself as well as prior consultations that explain the strategic priorities, thereby highlighting coherence between the reality of the institution and the selected strategic priorities. It may also exemplify openness depending on the nature of prior consultation. This indicator is likely only to be realistic at institution level as UoAs may not always have their own strategy as such.
Corrective actions	Indicator to demonstrate provision of appropriate, safe and accessible workspaces. From a range of standard health & safety markers, corrective actions seem to take greatest account of institutional and context diversity and shows commitment and processes for change are actually being used rather than looking at absolute levels of accessibility/safety features. The underlying assumption here is that the presence of corrective actions around health and safety implies a proactive ethos on the part of the institution, regardless of its starting position (which may for instance be determined by inherent problems of old buildings). However, this indicator may be problematic for institutions with highly modernised buildings and minimal or no H&S concerns. May exist at Institutional and UoA levels. In particular, certain academic disciplines may have quite specific H&S considerations that may not exist in others.

Potential evidence	Brief description
	Need to specify the domains in which corrective actions can be evidenced. May be difficult to articulate/ quantify; may be sensitive or confidential.
Awards around disability access, e.g. any of the Disability Smart awards or promotion of Disability Rights UK Leadership Programme	Highlights critical elements of accessibility as defined by organisations who specialise in this matter. This area may benefit from further consultation around which types of awards are the most useful indicator as this aspect goes beyond HE. Example of awards: https://businessdisabilityforum.org.uk/award-2024-categories-and-criteria/ If no award made, describe a plan to apply for an award. Applicable only at institutional level.
Key sources	
• REF 2028 open consultation submissions • Indicator used in REF 2021 submissions guidance • COARA agreement • Russell Group PCE toolkit • REF2021 institutional level statement analysis • Several guidance pages on health and safety and disability access (e.g., Business Disability Forum, Astutis) • Community partners and experts' feedback	

3.2.2 Achieving the highest levels of research integrity

Definition of the scope of the component: undertaking research with integrity, honesty and rigour to ensure confidence in the methods and results

Specific elements of the performance dimension:

- Upholding the highest standards of rigour and integrity
- Being accountable for all aspects of the research process
- Being transparent and honest about all aspects of the research process

Potential evidence	Brief description
Inclusion in all research outputs of: • ethical approval statement • conflict of interest statement • author contribution statement • data availability statement (incl. data location, repositories and code availability if applicable)	Though technically a combination of several indicators, this 'checklist' captures several core elements of research integrity and transparency. This is a rare case of a robust output/outcome indicator in that it demonstrates adherence to a range of principles. At the same time, this indicator merely demonstrates a basic 'floor' or minimal compliance. However, its use would likely serve to minimise non-compliance across the research system. This indicator could be used at institutional and UoA level, though this may be duplicative.

Potential evidence	Brief description
	As noted elsewhere, this checklist (or modifications thereof) could usefully be cut from REF PCE and instead simply mandated for all REF outputs. Important to be aware that ethics approval, COI, author contribution and data availability are not needed for some outputs (e.g., single-authored SHAPE monographs). Requires defining which outputs these expectations apply to. Unless automated, it has the potential to add significant administrative burden.
Resources and mechanisms for supporting the reproducibility of research as appropriate to the research focus of the HEI	Input measure. Examples could include: • Membership of the UK Reproducibility Network (UKRN) • Papers published to increase awareness of reproducibility • Published papers reproducing previous research findings • Formal support and endorsement of reproducible practices through the provision of funding, dedicated staff, and other support measures Reproducibility is just one element of research integrity but reproducibility is an issue in some research fields so this indicator is worth considering. It may not be relevant to all fields so this would likely be UoA only. It is an input indicator so it would say nothing about how/whether these mechanisms actually get used or to what effect. Level of funding, staff and other resources could be an additional measure, as could be number of papers on reproducing findings. However, these would need to be adjusted for institution/UoA size and potentially other contextual factors. Concerns about how this would be measured and assessed. If sub-indicators such as funding dedicated to this are also used it biases against smaller UoA submissions.
Presence, oversight and resources for ethics committees and ethics approval processes	This indicator would capture basic commitment to research ethics. This is likely already standard at all HEIs so it merely provides a 'floor'. May be an institutional or UoA indicator, depending on the level at which ethics approval processes are situated.
Good research governance	Input evidence likely to be part of the narrative statement demonstrated by a narrative outline of guidelines, policies, schemes in place to ensure good research governance (e.g., research governance committee dedicated to overseeing research practices; good research practice policy; conformity of measures with Concordat to Support Research Integrity; projects needing to receive approval by a research ethics committee before being undertaken; international projects requiring additional approval from partner organisations). This checklist captures a range of basic inputs (likely all at institution-level) and would ensure a basic 'floor' of good practice.

Potential evidence	Brief description
	Clear guidance needed about what is expected in the narrative outline.
Existence of research integrity training, mentoring and other forms of self-learning and monitoring of the effectiveness of these measures	Provision of good research practices training for research students and staff; requirements for staff and research students to undertake training; templates and support to help researchers follow good research practices (e.g., templates for research protocols aligned with regulatory frameworks). Evidence could include references to documentation demonstrating the existence of training and templates, but could also require attendance figures or evidence pertaining to what proportion of staff and research students have attended training. May work at institution or UoA level. This evidence type could potentially bias against smaller UoAs with less resources.
Key sources	
• REF 2028 open consultation submissions • Indicator used in REF 2021 submissions guidance • Indicator used in REF 2021 submissions • Dimensions trust markers • Russell Group PCE toolkit • Community partners and experts' feedback	

3.2.3 *Actively promoting sustainability*

Definition of the scope of the component: minimising the impact of research on environmental, social and economic resources

Specific elements of the performance dimension:

- Using sustainable approaches to research
- Effective use of resources to make the research system accessible to all
- Ensuring the efficient use of finances, resources and infrastructure
- Investing appropriately in talent and sustainable employment
- Considering the impact of research on the environment and people

This element is not particularly discussed in the reviewed material except for one submission to the open consultation and no suggestions on how to evidence are made. Community partners and experts' feedback suggests that sector is already actively promoting sustainability. Sector consultation needs to explore whether this element is in scope for the assessment in REF and how. Signing the upcoming Concordat for Environmental Sustainability of Research and Innovation Practice might be one option.

3.3 Evidence to demonstrate how research ensures value

The research culture pillar focusing on how research ensures value consists of three key performance dimensions:

- Taking an open approach to research
- Communicating research
- Realising impact

This research culture pillar focuses on the public value of research and innovation. This covers conducting research in an open, accessible and collaborative way. Working with non-academic partners, including businesses, and co-creating with research users are also important elements of this dimension of the pillar. This pillar also focuses on communicating research in an accessible and inclusive way, including through new technologies and in new spaces. Where relevant to the primary concerns of the REF (quality and impact), communications activity is likely to be captured as part of impact case studies therefore stakeholder consultation needs to discuss whether this should be included as a topic in the PCE.

Another core component of this research culture pillar is realising impact. It emphasises mobilising research to provide benefits for communities, society, culture and the economy. In addition to translating research into industry contexts, it also concerns the role that research plays in shaping policy and driving innovation. Finally, it addresses the link between research, teaching and skills development.

The desk research demonstrates that there are potentially a number of quantitative metrics, focusing primarily on outputs, that could be adopted as indicators for this research culture pillar. The data for many of these measures is already collected, on either a national or HEI level. Initiatives like KEF apply to a subset of UK HEIs only, and therefore use of such metrics does not reduce the burden on those HEIs who do not participate in such initiatives. It is important to be mindful of concerns in the sector around the use of metrics, including their fairness and openness to gaming.

There are also a number of evidence options linked to this pillar that are more qualitative (e.g., in relation to compliance with concordats), but which could be assessed systematically and in a focused way. Potentially, there are also narrative indicators that could be used to describe inputs, such as support, training and facilities, which contribute to research culture, but these present challenges in terms of measurability and comparability.

The sources of evidence that include suggestions on indicators for this pillar include: responses to the open consultation on REF2029, recent literature on research culture and research metrics (including a mix of academic literature and grey literature), REF 2021 guidance and submissions, and KEF2023 metrics.

The following sections present a definition for each of the performance dimensions and specific elements of it, followed by a list of potential indicators. The final section presents overarching indicators that can serve to evidence performance across all pillar dimensions.

3.3.1 Taking an open approach to research

Definition of the scope of the component: undertaking research that is openly accessible, collaborative and increases research integrity bringing public value and innovation.

Specific elements of the performance dimension:

- Supporting open, collaborative, interdisciplinary and team science approaches to research
- Ensuring research is understandable, explainable, reproducible and accessible
- Engaging and partnering with potential beneficiaries
- Co-creating and learning with research users and society
- Being open, agile and responsive to new technologies and research approaches

Potential evidence	**Brief description**
Co-authored research outputs with non-academic partners as a share of total outputs	This is a quantitative output indicator, which links to collaboration with external partners. This data is currently collected for the KEF and is provided by Elsevier, direct to Research England. KEF applies to a subset of UK HEIs only. The use of bibliometric data would incentivise journal article submission which the exercise is keen to avoid. This indicator is of relevance to a limited number of disciplines / UoAs. Should be recognised that the simple inclusion of a non-academic partner on an output author list is not evidence of equitable co-production in research. The inclusion of an indicator like this could have negative consequences on co-production, as it may encourage the addition of non-academic partners to outputs where there has not been true co-productive efforts.
Co-authored research outputs, within and/or across disciplines, as share of total outputs	This is a quantitative output indicator, which links to collaboration and interdisciplinarity. It would probably rely on data being collected centrally (e.g. by Elsevier). Co-authorship is more common in certain disciplines than others. Moreover, co-authorship is not the same as collaboration. Not all collaborations result in published outputs. Collaboration exists in a range of research activities, including conferences or workshops, and extends outside of academia. The use of bibliometric data would incentivise journal article submission which the exercise is keen to avoid. Concerns about being gamed through excessive use of 'gift authorships' to give the appearance of collaboration. Better situated at UoA level given differences in authorship practices across disciplines, e.g. UoAs with higher proportions of monographs would likely see lower levels of co-authorship and should not be penalised for this.
Research networks, centres, groups, events that support collaboration within and across disciplines	This input indicator would potentially combine a qualitative narrative with some quantitative measures, to be determined by the HEIs themselves based on their research priorities and size. HEIs have readily accessible data on research centres and groups. However, information on activities within networks etc. may not be gathered systematically at present. There is also some potential to (loosely) link groups and research outputs, if memberships are recorded on a Research Information Management System (e.g. Elsevier's Pure system). Networks, groups, centres etc. are not clearly defined entities and it would be difficult to assess this unless greater clarity is given on what they constitute.
Compliant / working towards compliance with the Guiding Principles of the	The Knowledge Exchange Concordat focuses on 8 Guiding Principles, which cover a wide range of areas relating to Knowledge Exchange (KE). The concordat is designed to help HEIs to clarify and accurately represent their approach to KE. It also aims to provide indicators to help identify

Potential evidence	Brief description
Knowledge Exchange Concordat	improvements in KE performance. Participation is currently not mandatory, but Research England expects all HEIs in receipt of HEI to commit to the concordat. 136 HEIs are already signatories. Potentially, HEIs can still show compliance without being signatories. Conversely, being a signatory does not guarantee full compliance. Overlap with KEF. KEF applies to a subset of UK HEIs only.
Contribution to collaborative research (Cash) as proportion of public funding	This quantitative process indicator measures how much public funding is going towards collaborative research. This metric is already used in the KEF as an indicator for Research Partnerships. It is based on data from the HE-BCI survey and would, therefore, not create a significant burden for HEIs. However, the significant overlap with the KEF may be seen as an issue. KEF applies to a subset of UK HEIs only. Need to ascertain how universities can check/collate this data.
Number of formalised partnerships with external organisations which lead to the production of research outputs and duration of these partnerships	This quantitative indicator aims to measure collaboration beyond co-authorship and the sustainability of partnerships. However, the indicator may prove challenging to for HEIs to address. The HE-BCI survey collects data on the number of contracts that HEIs have with companies and non-commercial organisations to deliver consultancy, research, or facilities and equipment related services. However, the survey does not track whether these partnerships result in research outputs, focusing instead on the value of these contracts. Moreover, it does not capture other types of partnerships/relationships between HEIs and external organisations. Need to clearly define what 'formalised' means. It would be difficult for HEIs to collect data on outputs which resulted from partnerships.
Training, support and facilities for entrepreneurship and commercialisation	This indicator focuses on inputs that facilitate entrepreneurship and commercialisation linked to research. It would potentially combine a qualitative narrative with some quantitative measures, to be determined by the HEIs themselves based on their strategic priorities. It could include physical facilities such as incubators and hubs, as well as training and support provided to staff at all career stages (not just ECRs). Comparisons between HEIs have the potential to be problematic, especially given differing resource levels, but clustering may be possible. Likely covered in the narrative statement accompanying approaches to impact.
Contributions to the development of new research tools, technologies and methodologies	This is a qualitative indicator but could potentially be supported by quantitative data. It is based on the UKRI R4RI, which is designed to encourage the development of a reflective narrative, steering away from metrics. However, given that it will primarily involve the development of a narrative, there is a risk that it could become unfocused and not fully evidenced. The expectations around impact in this area are likely to vary across UoAs.
Infrastructure, staff resource and support for the use of new technologies in research	This qualitative input indicator focuses on inputs and mechanisms within HEIs. New technologies can support and enhance research across a range of disciplines, not just science and technology. It would also allow for recognition of staff in technical roles. However, it potentially favours wealthier institutions who can spend more money on hardware, software and specialist staff. Requires further definition to avoid becoming a long list of equipment and facilities benefiting large institutions.

Potential evidence	Brief description
Policies and guidance for the ethical, responsible and transparent use of new technologies (including AI and Machine Learning)	This is input/process indicator which relates to new technologies, new research approaches and research integrity. HEIs have developed policies quickly, often in response to concerns about potential negative impacts of new technologies, and these may need further refinement. Moreover, some policies seem to focus more on undergraduate students rather than staff/research. Given the fast-moving pace of certain technologies and, in particular, debates on AI and Machine Learning it may be difficult to judge an HEIs' current position based on a snapshot of a particular moment in time captured in the REF submission. Need to define 'new technologies' and be clear about expectations and maturity levels. Difficult to realistically compare and contrast across institutions of different sizes and specialisation.

Key sources

- REF 2028 open consultation submissions
- Indicators used in REF 2021 submissions guidance
- Indicators used in KEF 2023
- Stephen Curry, Elizabeth Gadd, James Wilsdon (2022) Harnessing the Metric Tide
- PathOS Open Science Indicator Handbook (2024)
- Shift Insight, UK Reproducibility Network & Vitae (2024) Research Culture Initiatives in the UK
- UKRI Resumé for Research and Innovation (R4RI) guidance and template
- The Royal Society (2017) Research Culture: Embedding inclusive excellence
- Knowledge Exchange Concordat
- Community partners and experts' feedback

3.3.2 Communicating research

Definition of the scope of the component: Making research and knowledge available and accessible to all.

Specific elements of the performance dimension:

- Connecting with others in accessible and inclusive language and media
- Inspiring curiosity and learning
- Sharing research, data and other outputs openly
- Acknowledging and building on the research and knowledge creation of others
- Open to new forms of communication methods and spaces

Potential evidence	Brief description
Incentivisation and support for stakeholder	This narrative process indicator concerns working with the potential beneficiaries of research, but focuses on mechanisms and inputs. While it is important for researchers to engage with stakeholders, stakeholder

engagement and co-creation	engagement is not always meaningful. Highly relevant to subjects like health science and social sciences, but not relevant to all disciplines/projects. Funding for this activity may come from grants rather than HEIs. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. Difficult to assess. Stakeholder participation was included as an additional data point of the Impact element in REF 2021 and there is potential for duplication if that practice continues.
Number of outreach activities that build on research activity	HEIs are likely to already track outreach activities for other reporting (e.g. OfS Access and Participation Plans). Definitions of what constitutes "outreach" may vary and this indicator could potentially cover activities beyond WPA activity, such as community outreach and public engagement etc. There may also be challenges around identifying which outreach activities are linked to research and using raw numbers is problematic. This indicator may be enriched by inclusion of high-quality outreach activity examples. However, there is a risk that it could become too expansive. Moreover, this indicator may be seen as extending beyond the scope of the REF and creating duplication of effort.
Key sources	
• REF 2028 open consultation submissions • REF 2029 PCE engagement roundtables • Indicators used in REF 2021 submissions guidance • PathOS Open Science Indicator Handbook (2024 • Shift Insight, UK Reproducibility Network & Vitae (2024) Research Culture Initiatives in the UK • Amanda Blatch-Jones, Kay Lakin & Sarah Thomas (2024) A scoping review on what constitutes a good research culture • Community partners and experts' feedback	

3.3.3 Realising impact

Definition of the scope of the component: The translation of research into value for communities, society, culture and economy.

Specific elements of the performance dimension:

- Understanding what value and impact means for different stakeholders
- Advancing discovery and driving innovation
- Capable of translation and innovation
- Contributing to knowledge creation and teaching
- Informing policy and practice
- Developing a highly-skilled and engaged workforce

Potential evidence	**Brief description of the indicator**

Licensing and other IP income as proportion of research income	This indicator relates to innovation and research translation. This specific metric is already used in the KEF, with data collected through the HE-BCI survey. This and other IP/spinoff related metrics, potentially suggest a narrow view of innovation. Arguably, some qualitative contextualisation would be needed. Given its use in the KEF there may be concerns about creating too much overlap between the KEF and the REF. Similarly, the measure might be better placed in Impact element of REF. Established research intensive HEIs with a long track record will automatically have a higher value than other institutions. More applicable to some UoAs than others.
Estimated current turnover of all active firms per spin-out surviving at least 3 years	See above. No guaranteed link with research. The measure might be better placed in Impact element of REF.
Average external investment per spin-out surviving at least 3 years	See above. No guaranteed link with research. The measure might be better placed in Impact element of REF.
Count of citations in policy documents	This indicator links to impact on policy. Collecting data for this metric may be challenging. Various databases (e.g. Altmetric, Scopus, Overton) include policy citations. Generating data on an HEI level would be resource-intensive, even for HEIs with well-resourced data teams, and arguably disproportionate to the significance of the indicator. The measure might be better placed in Impact element of REF.
Proportion of research active staff who are external examiners	This indicator relates to knowledge contribution and teaching beyond researchers' own HEIs (e.g. reviewers for funding agencies or examiners for PhD). Collecting this data should not be overly onerous because HEIs typically maintain registers of the external examining commitments of academic staff, in order to ensure there are no issues with conflicts of interest etc.
HESA data on graduate outcomes	This indicator concerns the role that research plays in developing a highly-skilled workforce. However, relies on some problematic assumptions and is likely to be seen as beyond the scope of the REF. Crucially, there is not a proven causal link between research-led teaching and employability. Moreover, not all undergraduate teaching is research-led. More generally, the potential shortcomings of the HESA data (and similar datasets on graduate employment) and what it tells us have been widely debated. There is also a timeline issue because HESA data is available roughly 18 months after a cohort graduates.
Key sources	
• REF 2028 open consultation submissions • Indicators used in KEF 2023 • Harnessing the Metric Tide, 2022 • PathOS Open Science Indicator Handbook (2024) • Shift Insight, UK Reproducibility Network & Vitae (2024) Research Culture Initiatives in the UK • Community partners and experts' feedback	

3.3.4 Overarching evidence of performance across the pillar dimensions

Potential evidence	Brief description of the indicator
Research outputs published Open Access as a share of total outputs	The open access policy for REF 2029 has yet to be confirmed and UKRI are currently conducting a consultation on the REF open access policy. At present, the final peer-reviewed versions of journal articles and conference papers (in publications with an ISSN) have to be deposited in an open access repository to be eligible for the REF. Although not all REFable outputs (e.g. monographs, artistic outputs) need to be made open access. This means that HEIs are already accustomed to monitoring which outputs are open access. There are potential issues relating to differences between disciplines and this measure would likely be lower for UoAs where alternative outputs are prevalent. Consequently, there is also a risk of disincentivising certain types of output.
Compliant / working towards compliance with the Concordat on Open Research Data at an institution level	This was a suggested strategy indicator in REF 2021. The Concordat on Open Research aims to make data collected and generated by researchers available for use by others wherever possible. It is structured around 10 principles. This indicator is relatively simple for HEIs to address because it does not require significant data collection and complying with the principles is not dependent on financial resource. It also avoids issues around collecting more granular data and problems with relevance of Open data to certain disciplines/projects.
Policies and support for the adoption of open/FAIR data practices	Input indicator on whether the HEIs have clear and consistent policies concerning open/FAIR (findable, accessible, interoperable, and reusable) data. It should be straightforward for HEIs to evidence this. If this indicator includes support for adoption of Open/FAIR data policies this could include digital infrastructure. financial support for open access publication and staff support (e.g., through information services). Smaller HEIs may lack resources to provide the same levels of support as larger/wealthier HEIs. Consequently, making direct comparisons between HEIs may prove problematic. This indicator also overlaps with the Concordat on Open Research Data indicator. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement.
Number and proportion of research-active staff that routinely deposit data in open access repositories in a form that allows basic verification and reuse	Gathering the data for this quantitative indicator may be difficult. Potentially, it would need to be collected through a survey, which raises associated issues around reliability of data. Also, the feasibility of sharing data varies significantly between disciplines and projects. This figure would probably be low for certain UoAs. There is also no baseline, so it would be difficult to judge "excellence". Difficult to obtain data as researchers rarely inform central administration about this.
Availability of open research data training, support and/or facilities	A qualitative indicator which could help to capture how HEI's policies and infrastructure support researchers to engage with open research data approaches. It would also encourage acknowledgment of the roles of staff such as librarians, data specialists, technicians and research managers. However, it does not measure specific outputs. This indicator would perhaps need to be developed to ensure robust evidence is provided. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement.

Use of contributor roles taxonomy	Use of contributor roles taxonomy (for example, CRediT). Use of taxonomy including roles that can be used to represent the roles typically played by contributors to research outputs.
Key sources	
• REF 2028 open consultation submissions • Indicators used in REF 2021 submissions guidance • Concordat on Open Research Data • PathOS Open Science Indicator Handbook (2024) • Community partners and experts' feedback	

3.4 Evidence to demonstrate how people are supported

The research culture pillar focusing on how people are supported consists of four key performance dimensions:

- Employment and conditions
- Recognition and assessment
- Embedding professional and career development
- Ensuring inclusive and healthy working environments

This research culture framework pillar focuses on how people conducting and supporting research are supported in the environments in which they operate. This covers employment conditions to ensure that recruitment, employment, and progression are equitable and transparent and consider a diverse research workforce. The pillar also emphasises the need to provide appropriate remuneration and employment benefits, healthy working conditions, and flexibility based on ongoing needs. Additionally, this pillar integrates the need to recognise wider contributions to research (e.g., that of technicians). These elements of the pillar are best covered with various indicators.

We found fewer indicators and mostly qualitative/narrative, based on pillar elements such as appropriate qualitative and quantitative assessment methods, actions to support continued professional development and address development needs at all career stages and acknowledge the role of mentors and role models. Finally, this research culture pillar emphasises the need for accessible and inclusive research environments, psychological safety and good mental health, which is linked to balanced and achievable workloads and includes no tolerance for bullying and harassment. This element is also mostly evidenced with qualitative/narrative indicators which could be assessed systematically.

The desk research reveals that overall, there is a good number of suggestions on indicators/proxies for evidencing elements of this research culture pillar, especially employment conditions. Although, some of the pillar elements, for example, wellbeing at work or use of diverse approaches in research are broad concepts and identifying suitable indicators pertaining to how these elements function is challenging. The design of the assessment and selection of specific indicators has to consider that many long-listed indicators are potentially problematic. The key problems include the risk of gaming (for surveys), lack of comparability, not being collected at all institutions, and presenting a potentially high burden for HEIs in collecting and providing the evidence.

Most indicators for this pillar are focused on inputs or processes – the existence of policies, guidance, processes and training. Fewer indicators capture whether the inputs and processes achieve change. The outcomes – the actual experiences of the people are often based on perceptions (e.g., through staff surveys). Few indicators such as, for example, gender and ethnicity pay gap fully illustrate progress made.

Several indicators suggested in REF 2021 guidance thematically are linked with this pillar and are included in the long list. National or institution-level staff surveys can potentially be used to evidence performance, and many existing accreditation schemes are pertinent to large parts of this pillar. Preliminary evidence from REF 2021 submissions also provides some insights on what is that institutions can report to illustrate performance in supporting people.

The following sections present a definition for each of the performance dimensions and specific elements of it, followed by a list of potential indicators. The final section presents overarching indicators that can serve to evidence performance across all pillar dimensions.

3.4.1 Employment and conditions

Definition of the scope of the component: the recruitment, employment and progression of a diverse research workforce

Specific elements of the performance dimension:

- Providing transparent, equitable and competency-based recruitment and recognition, recognising diversity
- Providing structured and varied progression routes
- Providing appropriate remuneration and employment benefits
- Ensuring healthy working conditions, accommodations and flexibility based on ongoing needs
- Recognising wider contributions to research within job descriptions, workload models and progression criteria
- Valuing the full range of experiences, skills and contributions of all who contribute to the research endeavour
- Acknowledging and mitigating effects of career breaks and other disruptions, and inequalities

Potential evidence	Brief description of the indicator
Diversity data on returned staff stratified by grade	Outcome indicator to demonstrate the recruitment and employment of a diverse research workforce at institutional level. Need to define/be more precise about what is a good diversity or ask for progress since the last REF or in the last five years. Used in REF 2021 guidance suggesting to provide: • percentage of eligible staff FTE and/or submitted staff FTE returned as white, black, Chinese, Asian, other/mixed or unknown at institution level • percentage of eligible staff FTE and/or submitted staff FTE returned with no known disability, disability declared or unknown at institution level • percentage of eligible staff FTE and/or submitted staff FTE returned as male, female or other at institution level

Potential evidence	Brief description of the indicator
	• percentage of submitted staff FTE defined as early career researchers at institution level Narrative statement could qualify what strategies are in place to address any underrepresentation.
Active policy to encourage applications of under-represented groups to leadership positions	Input indicator demonstrated by a narrative outline of guidelines, policies, schemes in place to encourage applications of under-represented groups to leadership positions. Can be used both at institution and UoA level. The indicator is suggested in some literature items (e.g., UKRN 2022, Sugimoto, 2023).
Policy to ensure transparency in promotion processes and outcomes	Input indicator demonstrated by a narrative outline of guidelines, policies, procedures, schemes in place to ensure transparency in promotion processes and outcomes. Can be used both at institution and UoA level. The indicator is suggested in some literature items (e.g., UKRN 2022, Sugimoto, 2023).
Percentage of promotion success per under-represented groups	Data on the percentage of promotion success per under-represented groups can be used as an outcome indicator to evidence inclusive and competency-based recognition. Can be used both at institution and UoA level. The indicator is suggested in a few Research England REF 2029 PCE open consultation responses and some literature items (e.g., UKRN 2022).
Increase in the proportion of academic promotions to Grades 9 and 10 by researchers with protected characteristics that have previously been under-represented	A variation of the above indicator. These grades will not mean much in some HEIs. A better definition will need to be found.
Use of a portfolio approach to test competencies or progression in different domains relevant to the researcher's role	Input indicator demonstrated by a narrative outline of guidelines, policies, procedures, schemes, approaches to use diverse portfolio of researchers' outputs and achievements to make promotion decisions. Can be used both at institution and UoA level. The indicator is suggested in COARA toolbox and Research England REF 2029 PCE open consultation responses.
Athena Swan Charter award	The Athena Swan Charter is a framework which is used across the globe to support and transform gender equality within higher education and research. Can be used as an input indicator to evidence institution and UoA level commitment to gender equality support and progression. Engagement with this will vary between institutions based on their shape, size and resourcing capacity and the indicator needs to be optional. Allow HEIs to state where they are in the application process where an award is under renewal or has not yet been made, or if they choose not to apply then what are they doing instead.

Potential evidence	Brief description of the indicator
	This indicator was included in REF 2021 institution level guidance for submissions, suggested in the COARA toolbox and several responses to Research England REF 2029 PCE open consultation.
Race Equality Charter award	Advance HE's Race Equality Charter helps institutions in their work to identify and address the barriers facing Black, Asian and minority ethnic staff and students, while also providing a framework for action and improvement. There are currently 101 Race Equality Charter members, holding 45 awards between them. Can be used as an input indicator to evidence institution and UoA level commitment to race equality support and progression. An award assessment panel evaluates applications to the charter. Engagement with this will vary between institutions based on their shape, size and resourcing capacity and the indicator needs to be optional. Allow HEIs to state where they are in the application process where an award is under renewal or has not yet been made, or if they choose not to apply then what are they doing instead. This indicator was included in REF 2021 institution level guidance for submissions, suggested in the COARA toolbox and several responses to Research England REF 2029 PCE open consultation.
Recognising the contribution of professional services roles	Policies and practices in place that recognise and attribute contributions of staff with professional services roles (e.g., recognition on research outputs, grant applications). Can be used as an input indicator to evidence institution and UoA level commitment to recognising contribution of technicians. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation and Technician roundtable on REF28 PCE element summary.
Technician Commitment signatory	The Commitment aims to ensure visibility, recognition, career development and sustainability for technicians working in higher education and research, across all disciplines. Universities and research institutes are invited to become signatories of the Technician Commitment and pledge action to tackle the key challenges affecting their technical staff. Currently 110 organisations have signed and support the Commitment. Can be used as input indicator to evidence institution and UoA level commitment to recognising contribution of technicians. Engagement with this will vary between institutions based on their shape, size and resourcing capacity and the indicator needs to be optional. Allow HEIs to state where they are in the application process where an award is under renewal or has not yet been made, or if they choose not to apply then what are they doing instead. Only applicable in STEM subjects. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation.
Training to recruitment, promotion and tenure committees on implicit bias	Policies, procedures and support in place to provide training to recruitment, promotion and tenure committees on implicit bias and monitoring of the effectiveness of these measures. Can be used as input indicator to evidence institution and UoA level commitment to fair recruitment and promotion processes.

Potential evidence	Brief description of the indicator
	The indicator is suggested in some literature items (e.g., Sugimoto, 2023) and a few responses to Research England REF 2029 PCE open consultation.
Evidence of recruitment and promotion criteria that recognise industry and knowledge exchange (KE) experience	This indicator would highlight an element of research system access and potentially help remove barriers for those with partially non-academic experience. This is input indicator and would be evidenced through reference to such rules existing (at institutional or UoA level).
Average (mean and median) institutional gender, ethnicity and disability pay gap for academic and professional services staff stratified by grade	Can be used as a mandatory output indicator to evidence institution level performance in ensuring appropriate and fair renumeration. Note lack of gender pay gap legislation in Northern Ireland. It is measured by universities, but different to rest of UK. This indicator (only gender) was included in REF 2021 institution level guidance for submissions. We have added ethnicity pay gap. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation.
Percentage of staff on permanent (open-ended) /fixed-term/ atypical contracts	Can be used as a mandatory output indicator to evidence institution level performance in ensuring healthy working conditions. Need to define/be more precise about what is good and/or ask for progress since the last REF or in the last five years. This indicator was included in REF 2021 institution level guidance for submissions. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation.
Provision of research leave	Policies on provision of research leave. Can be used as input indicator to evidence institution and UoA level policies in ensuring healthy working conditions.
Research leave taken (sabbaticals)	Can be used as output indicator to evidence institution and UoA level performance in ensuring healthy working conditions. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation and several literature items (e.g., Metric Tide, 2022).
Strategically timed leave	Policies on strategically timed leave (e.g., post maternity/parental leave, post-bereavement, major illness, disability leave separate from sick leave, etc.). Can be used as input indicator to evidence institution and UoA level policies in ensuring healthy working conditions. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation and some literature items (e.g., Sugimoto, 2023).
Uptake of strategically timed leave	Data on the uptake of strategically timed leave (e.g., post maternity/parental leave, post-bereavement, major illness, etc.). Can be used as output indicator to evidence institution and UoA level performance in ensuring healthy working conditions. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation and some literature items (e.g., Sugimoto, 2023).

Potential evidence	Brief description of the indicator
Provision of flexible working agreements in place	Policies, procedures and support in place to provide flexible working agreements (e.g., working from home, flexible hours, etc.) to accommodate diverse needs and create healthy working conditions. Can be used as input indicator to evidence institution level policies to ensure healthy working conditions. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation and some literature items (e.g., Sugimoto, 2023).
Uptake of the flexible working	Data on the uptake of flexible working opportunities (e.g., working from home, flexible hours, etc.). Can be used as output indicator to evidence institution level performance in ensuring healthy working conditions. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation and some literature items (e.g., Sugimoto, 2023).
Doctoral student support	Policies and procedures to provide support to doctoral students (e.g., monitoring and support, documented supervisory meetings requirements, training to enable progression to diverse employment, etc.) Can be used as input indicator to evidence institution and UoA level performance in ensuring healthy working conditions and career progression for ECR. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation and some literature items.
ECR support	Policies and procedures to provide support to ECR (e.g., ECR support groups and mentoring, awards and funding for ECR support, adapted teaching workload, etc.) Can be used as input indicator to evidence institution and UoA level performance in ensuring healthy working conditions and career progression for ECR. This indicator will require definition of an ECR researcher. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation and some literature items.
Key sources	
• REF 2028 open consultation submissions • Indicators used in REF 2021 submissions guidance • Wider literature items • Community partners and experts' feedback	

3.4.2 Recognition and assessment

Definition of the scope of the component: Broadening what is recognised and valued as contributing to the research endeavour

Specific elements of the performance dimension:

- Valuing research wherever it is undertaken
- Broadening the concept of excellence within the research system

- Using appropriate qualitative and quantitative assessment methods
- Valuing diverse approaches, methods and contributions
- Recognising and valuing the diverse range of competencies needed for the research endeavour
- Valuing failure and risk-taking as a healthy possibility of research

Potential evidence	**Brief description**
Commitment to responsible assessment initiatives	Commitment to responsible use of metrics evidenced by signing the San Francisco Declaration on Research Assessment (DORA), Leiden Manifesto or being member of the Coalition for Advancing Research Assessment (CoARA) and evidence of implementation of responsible research assessment practices that broadly conform to responsible assessment initiatives. Can be used as input evidence of institution level commitment to responsible assessment. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. This indicator was suggested in REF 2021 guidance.
Use narrative CVs or other innovative approaches in internal processes	Policies, procedures and support in place to encourage the use of narrative CVs or other innovative approaches in internal processes to enable diverse contributions and career paths. Can be used as input indicator to evidence institution and UoA level performance in broadening what is recognised and valued. The indicator is suggested in some literature items (e.g., UKRN, 2022).
Recognise and reward academic citizenship contributions	Policies and practices in place that recognise and reward academic citizenship contributions (activities additional to 'normal' teaching and research, e.g., peer review, serving on review, recruitment or promotion panels, editorial roles, mentoring, etc.). Can be used as input/process indicator to evidence institution and UoA level performance in broadening what is recognised and valued. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. The indicator is suggested in some literature items (e.g., UKRN, 2022, Metric Tide Revisited) and a few submissions to Research England open consultation.
Proportion of research-active staff who have undertaken peer review activities	This quantitative indicator links to collaboration and research integrity. Peer review is seen as a fundamental practice of academic citizenship, but is not always rewarded or recognised. While there are some databases that collect data relating to peer review, there does not appear to be a comprehensive data source. This would mean that HEIs would have to collect this data themselves, adding to their administrative burden unless already recorded. If used, requires further clarity on definition. Level/quantity of peer review can be discipline / UoA specific and is less applicable to some. This indicator would be resource intensive to track.
Engagement with open peer review	Recognition and assessment policies, processes or guidelines that encourage and support engagement with open peer review, for example, consider taking option to make author identity known, consider publishing in journals that support open review models.

Potential evidence	Brief description
Key sources	
• REF 2028 open consultation submissions • Indicator used in REF 2021 submissions guidance • UKRN, 2022 • Metric Tide, 2022 • Community partners and experts' feedback	

3.4.3 Embedding professional and career development

Definition of the scope of the component: Integrating professional and career development into all career stages

Specific elements of the performance dimension:

- Valuing continued professional development
- Addressing development needs at all career stages
- Providing a wide range of professional and career development opportunities
- Engaging in regular career development reviews
- Enabling access to inspiring mentors and role models
- Recognising and awareness of diverse career opportunities

Potential evidence	Brief description
Career pathways framework	Existence of career pathways frameworks, including for specialist technical and research support staff that outlines the principles for managing the career. Will need to be defined. Can be used as input/process evidence of institution and UoA level approach to supporting career development. Associated outcome evidence could be uptake of development opportunities and qualitative examples, staff career progression, progress against RD concordat action plan highlights. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. The indicator is suggested in a few submissions to Research England open consultation.
Peer-to-peer mentoring	Policies and practices in place to ensure availability of mentoring for all staff. Depending on needs, targeted mentoring for specific groups (e.g., ECR). There is potentially a large amount of mentoring that occurs within HEIs that is not part of a formalised process. Will need to be defined. Can be used as input/process evidence of institution and UoA level approach to support for career development.

Potential evidence	Brief description
	Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. Risks the formalisation of processes that rely on informality to succeed and on the creation of additional burdens through formalisation. This indicator was used in REF 2021 submissions and is mentioned in various wider literature sources.
Uptake of mentoring	Number or percentage of staff engaging with mentoring schemes. Can be used as output indicator to evidence institution and UoA level performance in supporting career development. Difficult to track and monitor, especially informal mentoring. The indicator is suggested in a few submissions to Research England open consultation and various literature items.
Careers guidance to doctoral students and postgraduate research students	Policies and practices in place to raise awareness and support for careers outside academia and provision of career guidance; dedicated staff resource to support implementation and evidence of implementation. Can be used as input/process evidence of institution and UoA level approach to support for career development. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. The indicator is suggested in a few submissions to Research England open consultation and REF 2021 submissions.
Proportion of staff who take a minimum of 10 days of CPD pro rata per year	Outcome indicator to evidence of the uptake of provided opportunities and support for researchers to engage in a minimum of 10 days professional development as referenced in the Concordat to Support the Career Development of Researchers. Indicator suggested as part of community partners' feedback.
Key sources	
• REF 2028 open consultation submissions • Indicators used in REF 2021 submissions • Community partners and experts' feedback	

3.4.4 Ensuring inclusive and healthy working environments

Definition of the scope of the component: Environments where all individuals are free to be themselves, included, feel well supported and confident to express their views

Specific elements of the performance dimension:

- Ensuring the research environment is accessible, inclusive and equitable for all
- Embracing and valuing diversity
- Fostering psychological safety
- Zero tolerance of and taking action against bullying and harassment

- Supporting good mental health and wellbeing
- Promoting balanced, flexible and achievable workloads

Potential evidence	Brief description of the indicator
Approach to addressing gender disparities, disability or religion-based needs and biases against minorities	Policies, practices, schemes, resources in place specifically to address the needs and disadvantages in some groups. Implementation plans for longer-term changes showing that a HEI is in the process of developing / addressing cultural issues. This should provide an overview of the institutional robustness of efforts to promote inclusiveness and accessibility. Reviewing data on uptake can also give insight on the promotion and perceived usefulness of the resources among staff. Can be used as input/process evidence of institution and UoA level approach to inclusivity and diversity. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. The indicator is suggested in some literature items (e.g., Sugimoto, 2023)
External accreditations	External recognitions, like the Athena Swan Charter, Advance HE's Race Equality Charter, Disability Confident Employer and Stonewall Top 100 Employers lists are widely recognised resources and accreditations for addressing institutional barriers faced by women, ethnic minorities, people with disabilities and the LGBTQ+ community respectively. For instance, 14 UK HEIs were listed in the Stonewall Top 100 Employers list in 2023. Can be used as input indicator to evidence institution and UoA level commitment to equality support and progression. For most of these accreditations, award assessment panels evaluate applications to the charters/awards. External benchmarks can have variable quality. Some are more demanding but there is also some concern about the quality of assessment they entail. Some of these accreditations were included in REF 2021 institution level guidance for submissions, are suggested in the COARA toolbox, several responses to Research England REF 2029 PCE open consultation and wider literature.
Policies and approaches to handle harassment and bullying	A narrative-based input/process indicator wherein HEIs have an opportunity to outline their policies and approaches for reporting channels, monitoring and support for victims of bullying and harassment, protections against retaliation where reports of the former have been made, as well as sanctions for perpetrators. Challenging to fairly assess because of the lack of agreement as to what good looks like. Very context specific. Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. The indicator is suggested in several responses to Research England REF 2029 PCE open consultation, REF 2021 submissions and literature items (e.g., Metric Tide, 2022)
Existence of a whistleblowing policy	A narrative-based input indicator wherein HEIs have an opportunity to outline their policies and approaches towards whistleblowing Can potentially form part of the PCE template questionnaire and be presented as part of the narrative statement. Indicator suggested as part of community partners' feedback.
Key sources	

- Research England REF 2029 PCE open consultation
- Metric Tide report
- COARA toolbox
- Indicators used in REF 2021 submissions
- Community partners and experts' feedback

3.4.5 Overarching evidence on the performance across the pillar dimensions

Some potential indicators are overarching and can be used to evidence the performance across several or even all pillar dimensions. These indicators are listed in the following table.

Potential evidence	**Brief description of the indicator**
(Achieved) HR Excellence in Research Award at institutional level	The European Commission recognises with the 'HR Excellence in Research Award' the institutions which make progress in aligning their human resources policies to the 40 principles of the Charter & Code, based on a customized action plan/HR strategy. Application is assessed by international peer reviewers. Can be used as input indicator to evidence institution level performance in ensuring good human resources management specifically in research. Securing the award includes costs and some UK HEIs have withdrawn as the award is no longer required for EU funding. The award partly overlaps with Researcher Development concordat. Perhaps the Concordat should be used instead. This indicator was included in REF 2021 institution level guidance for submissions, suggested in the COARA toolbox and several responses to Research England REF 2029 PCE open consultation. According to EURAXESS data, 90 UK HEIs have received the award.
Data from benchmarked national surveys	Data from national surveys (e.g., CEDARS or Postgraduate Research Experience Survey) can be used as an optional outcome indicator to evidence performance on several Pillar elements, for example, to assess research staff wellbeing and contentment, staff perceptions on whether diverse approaches, contributions are valued, appropriateness of workloads, experiences of postgraduate researchers, etc. National surveys are less likely prone to gaming. Not all institutions are covered. For example, in 2023 only 66 HEIs took part in CEDARS survey. Membership is low cost, but may still be a barrier to entry. Obtaining survey data from a window of several years (as opposed to the latest round of data collection) may help avoid gaming, but also support measuring HEIs' progress over time (rather than obtaining a cross-country snapshot), as hoped in several open consultation responses. This indicator was included in REF 2021 institution and UoA guidance for submissions and suggested in several responses to Research England REF 2029 PCE open consultation.
Data from internal staff surveys	Data from HEIs internal surveys can be used as optional outcome indicator to evidence performance on several Pillar elements, for example, to assess research staff wellbeing and contentment, staff perceptions on whether diverse approaches, contributions are valued, appropriateness of workloads, etc. According to anecdotal evidence, HEIs internal staff surveys can be influenced by actors seeking to maximise benefits from certain survey outcomes. Surveys

Potential evidence	Brief description of the indicator
	are vulnerable to gaming. This is likely to increase if survey data are linked to funding. A review of the survey questionnaires may be useful in ascertaining what is not there; whether key elements are overlooked in internal assessments. Huge variety in what is asked in staff surveys, by who, and when and also robustness of the data. This indicator is suggested in several responses to Research England REF 2029 PCE open consultation and various literature sources.
Key sources	
• Research England REF 2029 PCE open consultation • Indicators used in REF 2021 submissions guidance • COARA toolbox • Metric Tide report • Community partners and experts' feedback	

3.5 Evidence to demonstrate how individuals engage with others

The research culture pillar focusing on how individuals engage with others consists of three key performance dimensions:

- Providing effective leadership and management
- Empowering individuals
- Building collegiality

This pillar concerns the relationships between individuals, primarily within institutions. A key component focuses on how management and leadership support research staff to thrive in their careers. Consequently, there are overlaps with aspects of Pillar 1, which focus on research governance and management. Relatedly, the pillar considers the relationship between management, culture and professional/career development and the extent to which individuals feel empowered. Finally, this pillar addresses the creation and development of supportive and diverse communities. Many of the elements nested under that dimension are also addressed in Pillar 3. Consequently, there are aspects of this Pillar that are already addressed through indicators linked to other Pillars.

The majority of evidence linked to this pillar is qualitative and would require a narrative response. With the exception of an overarching indicator concerning compliance with the Researcher Development Concordat, which is clearly delineated, there are potential issues with ensuring narratives responses remain focused and well-evidenced. Moreover, there is a question of how to assess these responses and how to judge what is "good" or "excellent" for a particular indicator, especially given variations in context.

There are a couple of indicators, such as staff hours spent on continuous professional development (CPD) or percentages of staff completing training, that could include quantitative data, but data collection concerning these areas may be inconsistent across HEIs. Introducing indicators which require additional data collection and analysis would add to the administrative burden on institutions.

Another potential challenge concerns who are providing data and analysing the data for these indicators. Given that managers, at both institutional and department level, are likely to oversee data collection and analysis, it seems likely that reporting will focus on favourable elements and may not reflect the opinion or lived realities of staff. Given the nature of the REF, it is clear that there are incentives to do this. On the other hand, data collected from staff through surveys or other mechanisms, may also be prone to bias and other issues, meaning that it cannot be compared across HEIs.

The literature that forms the basis for these indicators includes "Harnessing the Metric Tide" and reports produced by/for Wellcome, URKI and the Russell Group, which build on qualitative and quantitative evidence from researchers. The Concordat for Researcher Development is not only presented as a standalone indicator, elements of the concordat have provided specific indicators relevant to this Pillar. There was less coverage of the areas addressed by this Pillar in the REF 2028 consultation responses.

The following sections present a definition for each of the performance dimensions and specific elements of it, followed by a list of potential indicators. The final section presents overarching indicators that can serve to evidence performance across all pillar dimensions.

3.5.1 Providing effective leadership and management

Definition of the scope of the component: the performance and line management of individuals

Specific elements of the performance dimension:

- Providing responsive and empathetic line management
- Providing honest and constructive feedback
- Valuing and responding to differences in supporting others
- Effective performance management
- Being effective role models and mentors

Potential evidence	Brief description of the indicator
Staff survey data on responsive and empathetic line management	This would involve a certain degree of subjective opinion, especially with regards to empathy. The data generated might not be comparable across HEIs and might be gamed if linked to REF. Surveys are resources intensive, further increasing burden on HEIs, and may not be representative.
Staff survey data on honest and constructive feedback	While it is possible to offer a fairly objective account of the mechanisms used at an institution level to provide staff with feedback, asking staff to judge whether feedback is honest and constructive will be more opinion-led and subjective. The data generated might not be comparable across HEIs and might be gamed if linked to REF. Surveys are resources intensive, further increasing burden on HEIs, and may not be representative.
Leaders and managers receive training and guidance on how to deliver feedback	This should be straightforward for HEIs to evidence. At minimum, it would require evidence of policies and/or provision of training. Ideally, it would also include quantitative data on uptake (e.g. xx% of managers completed training on xx)

Potential evidence	Brief description of the indicator
Share of research active staff who completed an annual staff appraisal or equivalent review	It seems probable that HEIs collect this data. Despite many HEIs having appraisal or staff review processes, data collected by Wellcome suggests that many researchers feel they do not receive constructive feedback from their managers and many report not having annual appraisals. However, some academic staff may be less keen on this approach to performance management and, therefore, question its prominence in the REF. These data are collected for Athena Swan and REC applications so may be readily available.
Constructive feedback is delivered effectively, through appropriate mechanisms	HEIs should be able to outline their processes for providing feedback to staff, including their staff appraisal/review processes and promotion processes.
Managers are required to have relevant training and expertise to ensure they understand the roles they manage	This indicator relates to effective performance management. However, it is not something that can be easily measured and may not be covered directly by institutional policy. This may be challenging to evaluate on an institution level. Even within departments or disciplines there will be issues relating to resource levels etc. Might include also data on the percentage of training completion. Would be difficult to evidence given diversity of needs and roles. Training does not necessarily link to good management.
Key sources	
• Stephen Curry, Elizabeth Gadd, James Wilsdon (2022) Harnessing the Metric Tide • Shift Learning & Wellcome (2020) What Research Think About the Culture They Work In • UKRI (2022) Research Culture: A Technician Lens • Russell Group (2021) Research Culture and Environment Toolkit • Community partners and experts' feedback	

3.5.2 Empowering individuals

Definition of the scope of the component: Individuals having ownership and responsibility for their own careers

Specific elements of the performance dimension:

- Clear lines of responsibility, accountability and autonomy
- Recognising motivations and ambitions, and facilitating professional visibility
- Encouraging a culture of reflection and learning from experience
- Enabling creativity and encouraging innovative, imaginative, entrepreneurial mindset
- Generating confidence to speak out without repercussions
- Encouraging all to invest in their continuing professional development

Potential evidence	Brief description
Staff induction processes ensure that researchers are aware of policies and practices relevant to their role	This qualitative indicator focuses on the onboarding of new staff and creates a focus to discussion of how staff are made aware of policies etc. It is part of the Researcher Development Concordat. While it is relatively straightforward for HEIs to report on inputs (processes and policies), it would be more challenging to demonstrate that these inputs result in greater awareness amongst staff. Instead, this would likely remain an assumption. Difficult to assess awareness.
Researchers have formal opportunities to provide input into organisational policy and decision-making	This qualitative indictor focuses on the extent to which researchers can speak out and contribute to institutional policy. HEIs have a variety of governance structures and decision-making cultures, which have evolved over time and are shaped by institutions priorities and overall mission. Consequently, making comparisons across HEIs and agreeing exactly what constitutes a "good" or "excellent" approach may be challenging. But there is likely to be a broad consensus that allowing staff to provide input into decision-making is an important element of research culture.
ECRs and MCRs are given opportunities for visibility, leadership and decision making, both at department and institution level	This qualitative indicator is one of the recommendations made in the Russell Group's Research and Environment toolkit. The Toolkit notes that all staff should feel listed to at work, but that there are particular benefits for ECRs. It would require a narrative response, which would need to remain focused.
Staff time allocated to CPD each year / hours spent by staff on CPD each year	The Researcher Development Concordat states that HEIs should provide researchers to engage in a minimum of 10 days professional development (pro rata) per year. Depending on existing data infrastructure, collecting data on this may be challenging. HEIs may be able to measure staff time allocated to CPD through workload planning systems. However, allocation of hours may be combined with other activities. Also, a more revealing measure would be how many hours staff actually spend on CPD. Might have unintended consequences - staff forced to attend unhelpful training. Also hard to measure since a lot of professional development for researchers is 'on the job' rather that requiring a course that can be logged. Might be burdensome to collect the data because CPD typically is not included in formal workload allocation.
Staff have access to training and other opportunities to support their CPD	This indicator concerns investment in CPD. It would be easier and quicker for HEIs to provide evidence that they address this indicator, compared to more specific measures around staff hours allocated to CPD. However, it is rather general and represents the bare minimum.
Key sources	
• Researcher Development Concordat • Russell Group (2021) Research Culture and Environment Toolkit • Community partners and experts' feedback	

3.5.3 *Building collegiality*

Definition of the scope of the component: The creation of healthy, inclusive, supportive communities

Specific elements of the performance dimension:

- Creating welcoming and inclusive communities for all
- Recognising individual and diverse contributions, advocating for others
- Engendering a sense of identity and belonging for all
- Recognising that individuals' behaviours shape cultures
- Providing access to networks and communities

Potential evidence	**Brief description of the indicator**
Setting up and supporting networks and communities for research	This is something that HEIs should be able to evidence. Defining "support" could cause problems – if it is viewed solely in financial terms, it would favour wealthier institutions. It would be important to keep a narrative response focused. This indicator overlaps with indicators for Pillar 2, which concern collaboration.
Setting up and supporting staff networks and communities for different groups, in line with EDI strategies	This qualitative indicator relates to the creation of inclusive and supportive communities and, consequently, overlaps with aspects of Pillar 3. HEIs should be able to evidence this indicator. The number and size of networks will vary. A more relevant assessment would concern the role of networks and how network members are supported. Some HEIs incorporate networks into their strategy development and give members time in their workloads to contribute to networks. Others expect staff to participate in their own time or allocate workload hours through other categories of activity. However, reporting on this indicator in detail has the potential to become burdensome.
Staff survey data on collegiality	Indicator suggested as part of community partners' feedback. The data generated might not be comparable across HEIs and might be gamed if linked to REF. Surveys are resources intensive, further increasing burden on HEIs, and may not be representative.
Key sources	
• Researcher Development Concordat • Russell Group (2021) Research Culture and Environment Toolkit • UKRI (2022) Research Culture: A Technician Lens • Community partners and experts' feedback	

3.5.4 *Overarching evidence on the performance across the pillar dimensions*

Potential evidence	Brief description
Compliant / working towards compliance with the Researcher Development Concordat	This indicator potentially spans multiple Pillars. The concordat covers Environment and Culture, Employment and Professional Development. Signatories already have to produce annual reports on their progress, so these HEIs would be able to address this indicator relatively easily. However, HEIs that are not currently signatories would face an additional burden. Might be a better fit for Pillar 3.
Key sources	• Researcher Development Concordat • Indicators used in REF 2021 submissions guidance • Community partners and experts' feedback

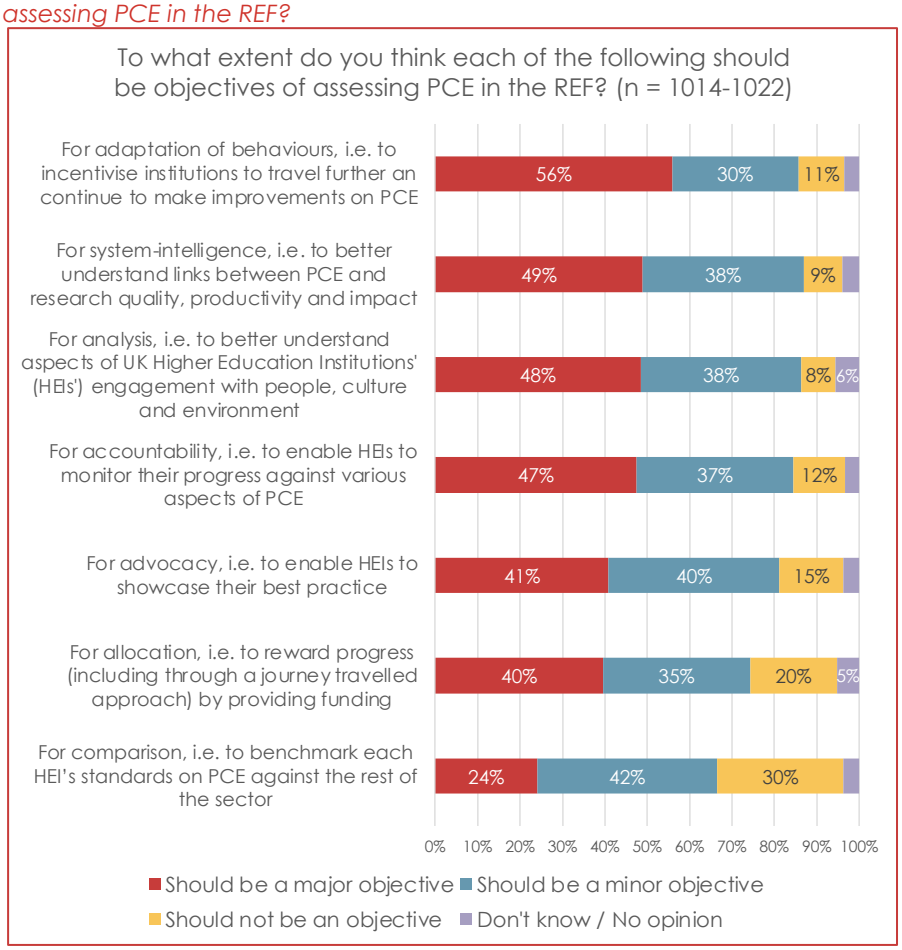
4 Summary of sector engagement findings

This section summarises the key findings from the sector engagement activities (sector workshops and the survey). Full workshop summaries and survey results are available in Appendix A (workshop summaries) and Appendix C (survey results).

4.1 Objectives for assessing PCE in REF

To understand what the sector expects from assessing PCE in REF, the sector consultation posed a question about the objectives of assessing PCE in REF. Of possible objectives of measuring PCE in the REF, 'For adaptation of behaviours' received the most support (56% reported 'should be a major objective') in the survey and was among the key objectives reported in the workshops (Figure 4). Survey open answers highlight that incentives are necessary drivers for institutional behaviour, and inclusion of PCE in REF is necessary to improve PCE and that PCE could also be used to re-balance the incentives stemming from other parts of REF.

Figure 4 Responses to survey question 'To what extent do you think each of the following should be objectives of assessing PCE in the REF?



Source: Technopolis PCE survey

This indicates a great deal of appetite to incentivise HEI's to travel further on PCE and to actively use the REF to achieve this. From the workshops, the two most prominent objectives were to incentivise and reward progress within institutions, potentially through a journey-travelled approach, and to recognise that different institutions have different resources and priorities in

relation to PCE. It was clear from the workshops that the purpose of PCE should not be to make all institutions look and act the same.

Key messages for indicator development

- PCE indicators should enable adaptation of behaviours and to travel further and continue to make improvements on PCE
- A journey-travelled approach should be considered when designing the indicators and/or submission template. Journey travelled refers to measuring the progress that has been made against an indicator from a specific starting point rather than against an end point or expected outcome. This recognises both the initial conditions and intended outcomes, and takes into consideration the context (which may influence progress). It therefore values effort over demonstrable fixed results.

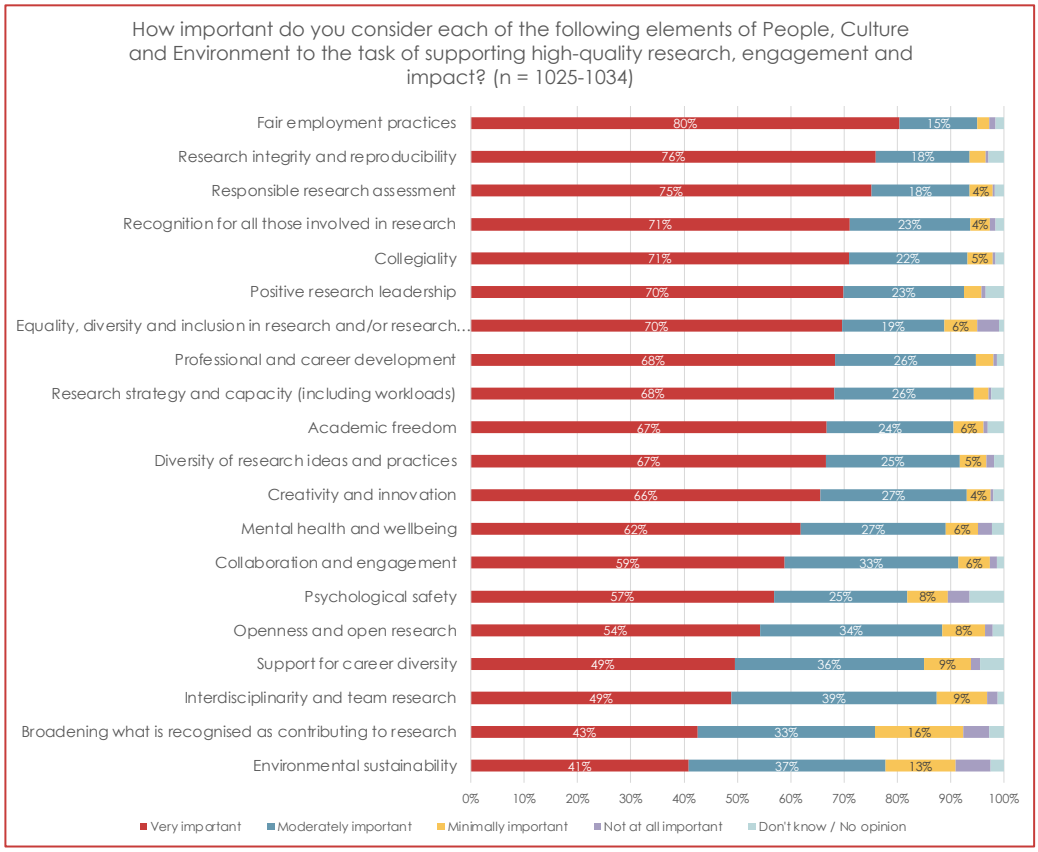
4.2 Relevance of specific PCE elements

The sector consultation revealed a consensus that the PCE elements identified in desk research are all important dimensions of PCE. 'Fair employment practices' is rated as the most important to the task of supporting high-quality research, engagement and impact in the survey. Moreover, fair employment practices were deemed to be among the five most important elements by virtually all studied demographics (e.g., respondents in England, Scotland, Wales, Northern Ireland, those without a main location, across all ethnicities, genders and sexualities) and the most important one by respondents across all gender and sexuality groups.

The next most important-rated elements are 'Research integrity and reproducibility' and 'Responsible research assessment'. 'Equality, diversity and inclusion of research and research careers (EDI)' tended to be prioritised higher by women (82% of who deemed the element very important) and non-binary respondents (90% of who indicated the same) compared to men (55%). A similar trend was identified between heterosexual sexual minority respondents (82% of respondents of sexual minorities found EDI very important compared to 71% of heterosexual respondents). Similarly, respondents reporting Black (83%), Asian (84%) and Mixed (76%) ethnicities tended to indicate EDI as 'Very important' more often than White (71%) respondents.

A smaller proportion of survey respondents considered 'Environmental sustainability' and 'Broadening what is recognised as contributing to research' to be very important. Slightly different dimensions came through strongly in workshops – 'Equality, diversity and inclusion in research and/or research careers', 'Openness and open research and collaboration and external engagement'.

Figure 5 Response to the survey question 'How important do you consider each of the following elements of People, Culture and Environment to the task of supporting high-quality research, engagement and impact?'



Source: Technopolis PCE survey

Workshop participants also highlighted the need to keep the list of elements of research culture and environment (and associated indicators) broad to avoid narrowing what is valued in institutions and to allow institutions flexibility in what they report on. The priority was for the assessment to adequately account for the sector's diversity, including differing resource levels and priorities.

Key messages for indicator development

- All PCE elements are important and indicators should cover all areas
- Keep the list of elements of research culture and environment (and associated indicators) broad to avoid narrowing what is valued in institutions and to allow institutions flexibility in what they report on

4.3 Feasibility of assessment

The sector consultation inquired about the feasibility of robustly assessing specific PCE elements. In terms of overall ease/feasibility of evidencing, Figure 6 shows that the highest scores in the survey are for 'openness and open research', 'fair employment practices', 'ED&I in research and/or research careers' and 'professional and career development' (all around 65-74% 'very easy' or 'quite easy').

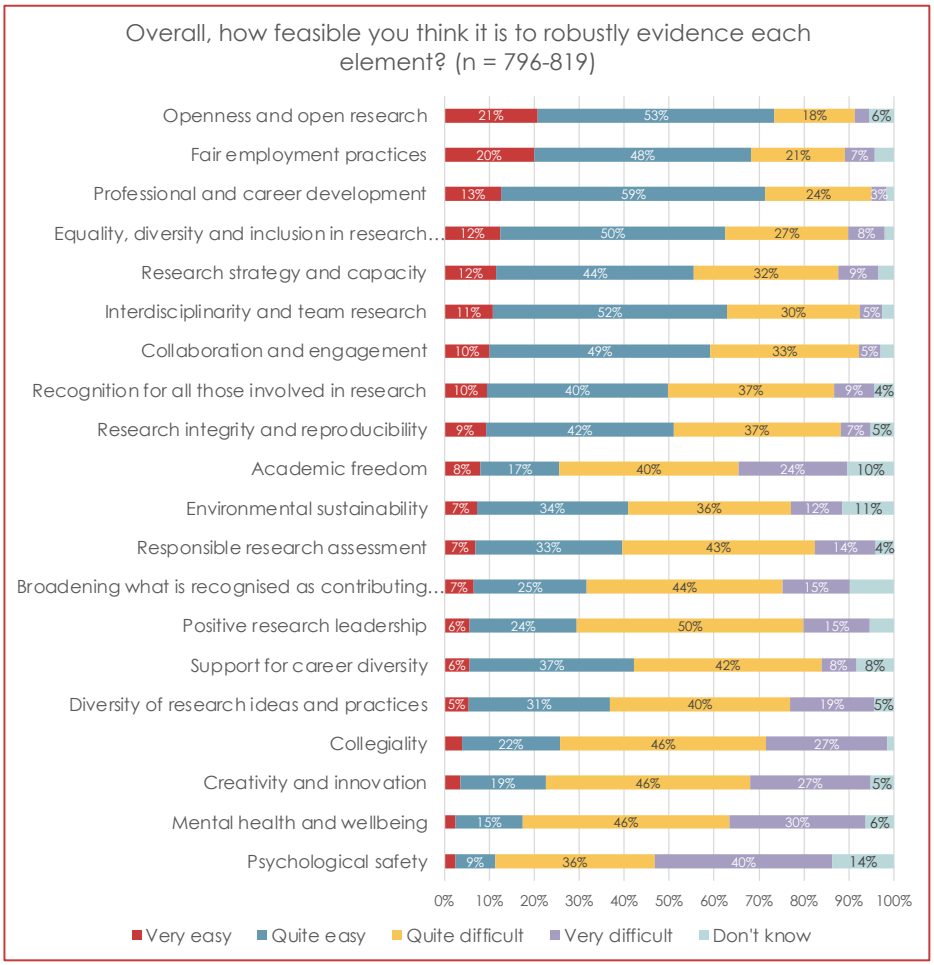
According to survey respondents, the most difficult to evidence are deemed to be 'Psychological safety', 'Creativity and innovation', 'Mental health and wellbeing', 'Collegiality', (all 65-76% 'quite difficult or 'very difficult'). Sector consultation also showed concerns that the PCE element would be challenging to implement, especially given many institutions' financial constraints.

Sector consultation workshops revealed that there was little that was being collected consistently for PCE elements, and in many cases, suggested indicators that were judged to be appropriate in principle were discarded because of the difficulty in robustly and comparably providing data for assessment. The use of survey data is the most telling example of such a problem. Survey data was frequently cited as a way of evidencing implementation and impact and demonstrating the lived experiences. However, there were recurrent concerns about the difficulties of benchmarking and the possibility of gaming the data. A few survey respondents (10 responses) suggested a direct, nationally administered confidential survey to research staff of HEIs, which they could answer without fear of repercussions. Such a survey could surface some of the most difficult dimensions; however, it could also still be gamed.

A few respondents suggested using centrally organised focus groups or panel visits of institutions to interview staff members and early career researchers and learn about their experiences. Similar national assessments in, for example, Norway and the Netherlands require the assessment panels to visit and interview evaluated institutions to fill any information gaps. However, this would significantly increase the cost of the exercise, and the approach is not directly comparable as in other contexts, the assessment is not so tightly linked to the funding of HEIs.

Workshop participants were consistently concerned about including various concordats in the assessment because of concerns about tick-box exercises and the fact that signing up for a concordat, charter, or similar initiatives alone does not demonstrate effective implementation. Therefore, signing concordats, charters, and similar initiatives is generally not included as a standalone indicator in the proposed framework. However, data collected for such exercises (and the outcomes arising from action plans) could be listed as evidence/indicators of progress.

Figure 6 Response to the survey question 'Overall, how feasible you think it is to robustly evidence each element?'



Source: Technopolis PCE survey

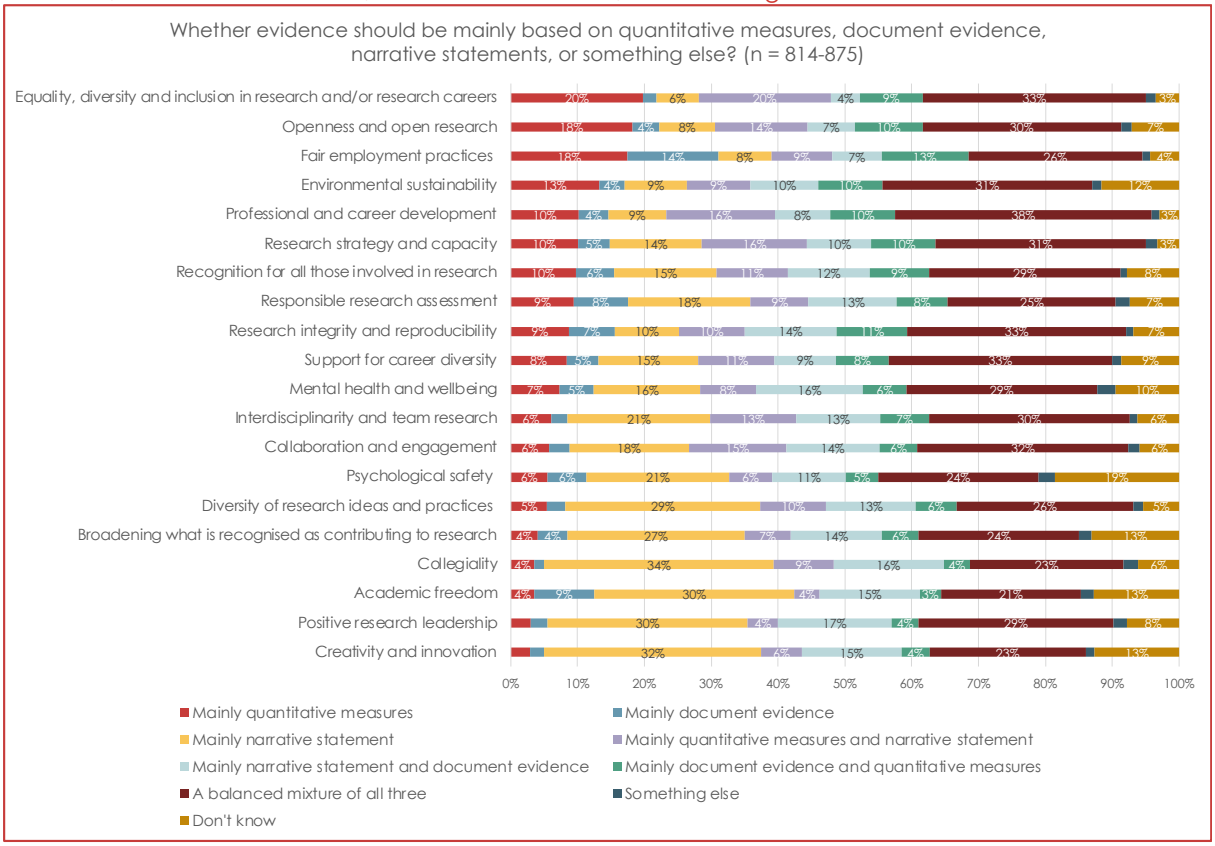
Key messages for indicator development

- If robust and comparable data are not available to demonstrate the performance against a specific indicator, the indicator cannot be mandatory or should not be used at all.

4.4 Type of evidence

The consultation inquired about the type of evidence that could be used to assess PCE. Survey respondents prefer a balanced mixture of quantitative measures, document evidence, and narrative statements (Figure 7). 'Equality, diversity and inclusion in research and/or research careers' is the PCE element which receives the most support in terms of it being assessed mainly by quantitative measures; however, still, most respondents think it should be assessed using a mixture of all three elements. Elements such as 'Creativity and innovation', 'Positive research leadership', 'Academic freedom', 'Collegiality', 'Diversity of research ideas and practices' are where survey respondents consider that these are best assessed using narrative statements.

Figure 7 Response to the survey question 'Whether evidence should be mainly based on quantitative measures, document evidence, narrative statements, or something else?'



Source: Technopolis PCE survey

In line with survey results, there were repeated suggestions across workshops for a relatively long list of optional indicators (a 'basket of indicators') that institutions could choose from to support a narrative.

Key messages for indicator development

- A balanced mixture of quantitative measures, document evidence, and narrative statements should be considered when developing a framework for PCE indicators and approach to evidencing performance
- Quantitative metrics should be optional and when used need to be contextualised to support a narrative

4.5 Narrative approach

During the sector consultation, suggestions were made to explore a case study/thematic narrative approach to the PCE assessment. Therefore, the project team explored this as one of a range of assessment options.

At the workshops, participants discussed a thematic narrative approach, which would comprise a description of an innovative activity or initiative, including:

- The challenge, issue, or outdated practice that the activity or initiative sought to address

- What the benefits or impact of the activity or initiative were (supported by evidence, and with institutions having the option to choose from a list of optional indicators)
- What the learnings have been, including reflections on challenges or barriers faced
- Plans for the legacy or future development of the activity or initiative

The discussions highlighted strong support for institutions to define their strategic priorities regarding research culture, recognising the need for context in assessments. Participants emphasised various contextual factors—such as size, demographics, and institutional aims—while also noting that financial advantages could impact how research culture teams are formed. There were mixed opinions on whether to score thematic statements, with some fearing that scoring might lead to a lack of honest reflection on challenges, while others noted potential difficulties in scoring, especially at the unit level.

Participants expressed concern over the pressure to present 'excellence' over challenges and suggested an emphasis on learning from failures. The narrative should document how institutions tackle barriers while sharing lessons learned. Overall, thematic narratives were favoured for reflecting specific initiatives, but issues of representativeness and the potential for highlighting only positive aspects were raised, especially for smaller institutions. Workshop participants agreed that both institutional and unit-level narratives are necessary to capture diverse experiences.

A combination of qualitative narratives and quantitative metrics, such as promotions and diversity statistics, was deemed essential for assessing PCE. While the thematic narrative approach was generally supported for fostering collegiality and deeper self-assessment, concerns about the practicality and potential cherry-picking of successes were noted. Clear guidelines and a standardised framework were deemed critical to ensure fairness, allowing institutions to showcase unique strengths and foster cross-institutional learning while addressing biases in the assessment process.

Key messages for indicator and template development

- The PCE submission template and guidance should include space for illustrating the context in which the institution operates
- The PCE submission template and guidance should include space for honest reflectivity and demonstrating lessons learned. It should be clearly stated that assessors will look for honest reflection in the submission and dedicated space should be provided for reporting areas of excellence, areas for developing excellence and areas for future excellence
- The PCE submission should include both narrative and quantitative metrics to illustrate the claims made in the narrative statement

4.6 Feedback on specific PCE elements

Table 2 summarises key messages from the thematic workshops where participants discussed indicators for specific thematic elements of the PCE.

Table 2 Summary of key messages for indicator development on different PCE themes

Theme	Key messages for indicator development
Research management and governance	It is important for institutions to report on guidelines, policies, schemes in place to ensure good research governance. It would need to connect with the strategic approach and how this shapes the whole research environment, with an emphasis on distance travelled. Broad support for the inclusion of a statement where institutions defined their own strategic priorities. Reporting needs to go beyond demonstrating compliance to specific concordats as institutions need to demonstrate wider efforts.
Development and support of people and talent	It is important for institutions to report on guidelines, policies, schemes in place to ensure development and support of people and talent but need to also demonstrate outputs and outcomes of these activities. Evidence would need to be longitudinal to capture the impact over time. Reporting needs to go beyond demonstrating compliance to specific concordats as institutions need to demonstrate wider efforts. There would need to be attention to efficacy and impact of measures put in place.
Integrity and research processes	Assessment criteria should consider the varying resources and starting points of different institutions, aiming to promote genuine progress rather than superficial compliance. Transparency and honesty in reporting were strongly emphasised, along with the need to create a research environment that encourages openness and integrity. Indicators should reflect the full complexity of research integrity initiatives, covering training, misconduct handling, policy implementation, and inclusivity across all institutional levels.
Openness and collaboration	Indicators need to capture both the means and outcomes of collaboration, as well as reflecting on both successes and failures. REF should not duplicate existing metrics or data collection (e.g. KEF) and other elements of REF, but rather integrate them where appropriate. Need to keep this area focused on research collaboration rather than broader engagement.
Employment and recognition	Indicators should ensure that a diversity of contributions is recognised and valued by institutions, and that all staff groups are recognised appropriately. Progression and promotion processes, team science, open research, and diversity efforts need to be covered by indicators. Evidence should combine quantitative metrics (e.g., promotion success, diversity statistics) with qualitative data (e.g., testimonials, surveys), ensuring a well-rounded picture of institutional culture.
Professional and career development	Indicators need to use a broad, inclusive definition of professional development that goes beyond just training. Showing impact is important, such as how development programmes have benefited different groups, including mid-career researchers, technicians, and research-enabling staff. Positive feedback on references to all career stages and recognising different needs.

Theme	Key messages for indicator development
	Indicators should include assessment of real-world examples, learning from failures, and reflections on challenges faced by institutions.
Equality, diversity and inclusion	EDI reporting requires transparency and accountability in EDI reporting. Indicators and the template should encourage institutions to embrace a honest approach, openly discussing both successes and failures. Narratives should be complemented with quantitative data, such as staff survey results, pay gap figures, and metrics on recruitment. There is support for charters like Athena Swan and the Race Equality Charter, but concerns were raised about their cost and practical implementation, especially for smaller institutions. Strong messages that these should not be listed as examples.
Collegiality and belonging	The concepts of collegiality and belonging are challenging to assess due to their subjective nature. Institutional policies, such as mentoring programmes, promotion processes, and inclusivity in decision-making, directly impact collegiality. The success of these policies in fostering a collegial environment should be considered when assessing an institution's narrative. Internal or national surveys to measure belonging and collegiality are problematic as there are issues with data representativeness and the influence of broader institutional and sectoral contexts.

4.7 Other topics

Participants of the sector consultation workshops and survey respondents also raised several other concerns that are not directly linked to the indicator development. Nevertheless, as these are relevant for developing PCE assessment in REF 2029, we summarise the key points below.

Guidance to the pilot HEIs

Pilot HEIs raised significant concerns about the lack of detailed guidance for the PCE pilot submissions. The need to submit long narratives, gather multiple sources, and ensure alignment with a broad set of criteria raised concerns about the time and resources required to complete submissions, particularly during the pilot exercise. There was a strong desire for more guidance from Research England and for the process to be streamlined to avoid unnecessary strain on institutions.

Timing

Workshop participants and survey respondents repeatedly emphasised the need for early and detailed PCE submission guidance for the REF2029 exercise. The limited amount of time left before REF2029 was often raised as a concern. There were also some suggestions to phase in PCE elements over time, focusing initially on elements that are relatively straightforward and introducing measurements of distance travelled in the following exercise with REF2029 as a baseline.

Fairness

Consultees raised concerns about fair assessment, especially for small institutions. Smaller institutions might struggle to engage fully with some of the PCE activities for which larger HEIs have more resources. While the inclusions of the 'journey travelled' concept was supported, more guidance is needed on how to assess it. Smaller institutions, in particular, were concerned that their progress could be overlooked in favour of larger institutions with more comprehensive narratives. There was also concern about how the weighting between institutional and unit-level assessments would reflect the actual progress made, and whether the criteria would sufficiently account for context.

The composition and role of the assessment panels

Consultees emphasised the role of the assessment panels and that the panels need to have the relevant competence to assess what will be reported in the submissions. The panels will have to consider the above points about context and fairness and assess the 'journey travelled' by considering the context. Consultees called for panel training, clear guidance and discussion about the judgements and calibration of the assessment. Workshop participants called for panels to be representative of all staff, including professional and research-enabling staff.

Good practice in facilitating culture in other sectors

Other sectors have developed and applied frameworks to facilitate a healthy work environment/culture and can provide a source of inspiration for research culture in the higher education sector. While these topics were not raised by participants in the sector workshops, one of the indicator project partners, NCCPE, mapped the PCE assessment framework developed against established good practices in other sectors. This mapping is presented in an overview provided in Appendix B.

5 People, Culture and Environment assessment framework

5.1 Goals

The goal of People, Culture and Environment (PCE) is to appropriately recognise and reward higher education institutions (HEIs) that create conditions in which excellent research and impact can be produced and which enable a diverse and sustainable research workforce. The ways in which HEIs support and develop their staff and research students, ensure the integrity of their research, and enable collaboration within and beyond the institution are all crucial components of research excellence.

The PCE profile will incentivise, reward, and provide vital intelligence on progress towards three goals for REF:

- a research system that produces **high-quality, rigorous research that is open to all**.
- an **inclusive and collaborative research system** that supports a diversity of people, ideas, institutions, methodologies, outputs, and activities.
- an **engaged and impactful research system** that connects research with wider society to bring about positive socio-economic change.

The aim of PCE is not to make all institutions look the same. The panels have no pre-formed view of the ideal size or organisational structure for a research environment, or of the ideal research culture. The panels will judge each submission on its merits, contextualised appropriately to the nature of the institution. Institutions and units are encouraged to consider what an excellent research culture and environment looks like in their own context and in line with the strategic aims and objectives for research.

5.2 Definitions

Research environment refers to the environment for supporting research and enabling impact. Research culture refers to the behaviours and values that influence how research is conducted and how people experience the environment in which research happens. There are overlaps between research environment and research culture, and there are no clear-cut distinctions between the people, culture and environment dimensions of PCE.

PCE includes, but is not limited to, effective and relevant inputs and processes, as well as demonstrable outcomes in relation to:

- the **research and impact process** (e.g. open, rigorous, ethical, collaborative, team and/or interdisciplinary approaches).
- the **people involved in research and impact** (e.g. recognition and support for all those involved in research, healthy and inclusive working environments).
- the **income, infrastructure and facilities** that support research and impact, and the people who work in them.

PCE is inclusive of all staff and research students who make a direct contribution to the research process. This includes research-enabling staff, who contribute to research and impact, but would not describe themselves as researchers.

5.3 Assessment criteria and star rating framework

PCE indicators project did not have a task to develop the assessment criteria and star rating framework, however, considering the sector feedback and overall goals of the presented PCE assessment framework, we provide some recommendations.

PCE will be assessed through the criteria of vitality and sustainability. These have been updated in line with suggestions from the sector workshops.

Vitality will be understood as the extent to which the institution fosters a thriving and inclusive culture for research, actively enables teams and communities of staff, research students and external beneficiaries, and maximises the potential of its people and assets.

Sustainability will be understood as the extent to which the research environment ensures the long-term viability of research and impact, including through effective and responsible use of resources, adapting to evolving research needs and challenges, and attracting and developing a diverse staff, research student and partnership base.

The new assessment framework requires a re-consideration of the **star rating framework** for the PCE. First, if a single score is used to rate all PCE assessment framework areas, it can hide problems in weaker areas, therefore, a profile across the assessment areas and indicators might be a useful alternative that would provide indications to HEIs on where improvements are necessary. Second, geographically defined star ratings are problematic in the context of the overall PCE assessment framework goals that emphasise judging submissions on their merits and contextualising to the nature of the institution.

5.4 Framework for assessment

Table 3 summarises the framework for assessment outlining assessment areas and indicators for each area.

Table 3 Framework for assessment

Section	Area	Indicators of excellence
1. Strategic context	**Context**	• This will not be assessed, but will enable assessors to understand the operating context, including income, infrastructure and facilities.
	Strategy	• Institution/unit has robust, effective, and meaningful plans to manage and enhance the vitality and sustainability of the research culture and environment.
2. Achievements	**Responsibility**	• Staff and research students pursue research, assessment and engagement activities responsibly, with integrity, and to the highest standards. • Institution/unit demonstrates socially responsible leadership of research, research infrastructure and facilities.
	Openness and connectivity	• Staff and research students share research, knowledge and expertise widely, including through open research practices. • Institution/unit promotes and sustains high-quality collaborative research, fostering a diversity of ideas, practices and approaches.
	Inclusivity	• Staff and research students have equitable access to research, progression and promotion opportunities. • Institution/unit recognises and values a diversity of experiences, skills, competencies and outputs, including through responsible research assessment approaches.

Section	Area	Indicators of excellence
		• Institution/unit takes fair and transparent approaches to employment, including addressing precarity, discrimination, and bullying and harassment.
	Development and support	• Staff and research students can access relevant and meaningful support at all career stages. • Staff and research students can take ownership of their careers and career options.
3. Reflexivity	**Monitoring and self-evaluation**	• Institution/unit honestly reflects on progress made over the assessment period, relevant to starting point and context.

5.5 Evidencing the indicators

The following tables describe the short-listed indicators for the achievements section of the PCE framework, including suggested narrative questions, potential documentary evidence, and optional supporting metrics. This is not intended to be prescriptive; institutions may draw on the examples provided as relevant to their own context. The use of evidence and metrics that go beyond those listed are encouraged. Expectations towards the strategy statement are outlined in the submission template presented in Section 5.

In providing evidence, institutions should draw on supporting metrics where applicable and ensure they are contextualised in the narrative. The approach reflects the strong call in the sector workshops for the use of both qualitative and quantitative evidence to support a narrative, and for institutions and units to have flexibility in how they define and approach different aspects of PCE, and in the evidence and data they provide.

The evidence provided should be relevant and appropriate to the overall focus, size and specialism(s) of the institution. Where indicators are reported at unit level, evidence should reflect unit- or disciplinary-specific approaches and support. The assessment will recognise that units do not always map neatly onto departmental or administrative structures within HEIs.

RESPONSIBILITY

1. Staff and research students pursue research, assessment and engagement activities responsibly, with integrity, and to the highest standards.	
Narrative	
This may include consideration of: • What does responsible research and research integrity look like for staff and research students in your institution or disciplinary area, and in the context in which you are operating? • What was the starting point on which you were building? • What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to research ethics, research transparency, data management) • What evidence do you have on the quality, relevance or effectiveness of these activities? • What evidence do you have that these have led to improvements or positive outcomes? • What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?	
Potential evidence	**Optional supporting metrics**

1. Staff and research students pursue research, assessment and engagement activities responsibly, with integrity, and to the highest standards.	
This may include evidence of: • Documented changes in research standards or behaviours. • Pre- and post-training assessments (e.g. on research integrity, data management, for staff conducting research misconduct investigations). • Conformity of measures with the Concordat to Support Research Integrity, including through cross-references to annual reporting. • Documented evidence that membership of relevant committees or involvement in other relevant academic citizenship activities is appropriately recognised (e.g. in workloads or promotion criteria). • Documented evidence of participation in relevant networks, events and initiatives leading to changes in policy and practice. • Documented evidence that the infrastructure, processes and mechanisms in place are working effectively (e.g. to safeguard and promote research integrity, to ensure research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards). • Unit-level mechanisms for supporting the reproducibility of research, where relevant to the disciplinary area.	This may include: • Learning and training data, such as feedback on effectiveness. • Quantitative data on, for example, the impact of participation in cross-sector initiatives linked to responsible research.

2. Institution/unit demonstrates socially responsible leadership of research, research infrastructure and facilities.	
Narrative	
This may include consideration of: • What does socially responsible leadership look like in your institution or disciplinary area, and in the context in which you are operating? • What was the starting point on which you were building? • What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to consideration of the impact of research operations on society or the environment, equitable research partnerships, or the costs of badly designed or conducted research). • What evidence do you have on the quality, relevance or effectiveness of these activities? • What evidence do you have that these have led to improvements or positive outcomes? • What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?	
Potential evidence	**Optional supporting metrics**
This may include evidence of: • Documented evidence of how responsible research and innovation are embedded in the research processes • Documented evidence of how responsible research assessment principles are followed	This may include: • Learning and training data, such as feedback on effectiveness. • Primary or carbon emissions data, or estimates of such data, including through cross-references

2. Institution/unit demonstrates socially responsible leadership of research, research infrastructure and facilities.	
• Documented evidence of how impact assessments are built into research planning processes • Transparent governance, with documented evidence of decision-making processes that incorporate ethical, equitable and sustainability considerations • Support for research that addresses complex social, economic and environmental issues, including engagement with SDGs, regional and national research priorities • Documented steps towards reducing the carbon footprint of research infrastructure and facilities (e.g. laboratories, collections, computers). • Pre- and post-training assessments (e.g. on environmentally sustainable laboratories, on responsible use of resources). • Tailored approaches to 'climate conscious' travel for research, as appropriate to career stage and research area • Documented steps towards equitable research partnerships (e.g. monitoring, evaluation and learning from research partnerships).	to Standardised Carbon Emissions Framework (SCEF) reporting. • Quantitative data on, for example, the impact of leadership participation in cross-sector initiatives linked to socially responsible research.

OPENNESS AND CONNECTIVITY

3. Staff and research students share research, knowledge and expertise widely, including through open research practices.	
Narrative	
This may include consideration of: • What approaches to sharing research, knowledge and expertise are relevant to your institution or disciplinary area, and in the context in which you are operating? • What was the starting point on which you were building? • What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to open research, the provision of digital infrastructure, support for commercialisation, or support for public performances or other activities) • What evidence do you have on the quality, relevance or effectiveness of these activities? • What evidence do you have that these have led to improvements or positive outcomes? • What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?	
Potential evidence	**Optional supporting metrics**
This may include evidence of: • Documented steps towards open research that go beyond Open Access (e.g. support for open/FAIR data). • Documented evidence of wider activity to encourage the effective sharing and management of research data, as appropriate to the institution or discipline. • Pre- and post-training assessments (e.g. on open research, peer review, commercialisation).	This may include: • Learning and training data, such as feedback on effectiveness. • The number and share of openly-accessible research outputs and activities (e.g. open databases, public performances).

3. Staff and research students share research, knowledge and expertise widely, including through open research practices.	
• Documented evidence that open research practices are appropriately recognised (e.g. in workloads or promotion criteria). • Documented evidence that activities where knowledge and expertise is shared are appropriately recognised (e.g. in workloads or promotion criteria). • Documented evidence that the infrastructure, processes and mechanisms in place to support staff and research students to share research, knowledge and expertise are working effectively. • Support for events and knowledge sharing activities (including in-kind support). • Evidence of procedures to stimulate and facilitate exchanges between academia and business, industry or public or third sector bodies (e.g. through the secondment of staff or research students).	• The number and share of research outputs that adhere to FAIR principles • Number of times shared datasets are accessed or downloaded on openly-accessible platforms.

4. Institution/unit promotes and sustains high-quality collaborative research, fostering a diversity of ideas, practices and approaches.	
Narrative	
This may include consideration of: • What does high-quality collaboration look like in your institution or disciplinary area, and in the context in which you are operating? • What was the starting point on which you were building? • What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to support for cross-disciplinary or interdisciplinary research, support for networks and idea generation) • What evidence do you have on the quality, relevance or effectiveness of these activities? • What evidence do you have that these have led to improvements or positive outcomes? • What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?	
Potential evidence	**Optional supporting metrics**
This may include evidence of: • Support for the development of research networks, centres, groups and events (e.g. waiving room hire charges, communications). • Support for the development of collaborative research (e.g. pump priming funds, cross-departmental networking). • Evidence of cross-HEI shared or collaborative use of research infrastructure including the use of major research facilities both in the UK and overseas. • Documented evidence that leadership of networks, centres and groups is appropriately recognised (e.g. in workloads or promotion criteria). • Mechanisms to pay or reimburse external partners and collaborators in a timely manner. • Documented evidence of the quality and significance of research collaborations across different disciplines,	This may include: • The number of cross-disciplinary grant applications as a proportion of eligible staff FTE. • The number and disciplinary spread of co-authored or co-produced research outputs and activities. • Contribution to collaborative research (Cash) as proportion of public funding, or estimates of in-kind contributions. • The number and disciplinary spread of cross-institutional grant applications as a proportion of eligible staff FTE.

4. Institution/unit promotes and sustains high-quality collaborative research, fostering a diversity of ideas, practices and approaches.	
institutions, or with external partners, organisations or communities. • Documented evidence of collaborative research leading to new research tools, technologies, and methodologies. • Documented evidence that the infrastructure, processes and mechanisms in place to support staff and research students to collaborate are working effectively.	

INCLUSIVITY

5. Staff and research students have equitable access to research, progression and promotion opportunities.	
Narrative	
This may include consideration of: • What does equitable access to research, progression and promotion opportunities look like for staff and research students in your institution or disciplinary area, and in the context in which you are operating? • What was the starting point on which you were building? • What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to accessibility and inclusion, mechanisms to address under-representation and under-representation) • What evidence do you have on the quality, relevance or effectiveness of these activities? • What evidence do you have that these have led to improvements or positive outcomes? • What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?	
Potential evidence	**Optional supporting metrics**
This may include evidence of: • Monitoring and assessment of the effectiveness of policies and initiatives to address under-representation and inequalities at different career stages, as relevant to the institution or unit. • Pre- and post-training assessments (e.g. on equality, diversity and inclusion (EDI) principles for members of assessment panels, juries, committees and other decision-making bodies, implicit bias). • Pre- and post-mentoring and coaching assessments. • The development of targeted leadership programmes and demonstrate that under-represented groups are enabled to participate and benefit. • Documented evidence that leadership of EDI initiatives is appropriately recognised (e.g. in workloads or promotion criteria). • Evidence of how equality and diversity issues are addressed, in relation to support for acquiring research funding, or accessing scholarly or operational infrastructure.	This may include: • Learning and training data, such as feedback on effectiveness. • Longitudinal data on percentage of eligible staff FTE returned as white, Black, Asian, other/mixed or unknown at institution level. • Longitudinal data on percentage of eligible staff FTE returned with no known disability, disability declared or unknown at institution level. • Longitudinal data percentage of eligible staff FTE returned as male, female or other at institution level. • Longitudinal data on percentage of promotion success per under-represented groups.

6. Institution/unit recognises and values a diversity of experiences, skills, competencies and outputs, including through responsible research assessment approaches.

Narrative

This may include consideration of:

- What does recognition of a diversity of experiences, skills, competencies and outputs look like for staff and research students in your institution or disciplinary area, and in the context in which you are operating?
- What was the starting point on which you were building?
- What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to responsible research assessment)
- What evidence do you have on the quality, relevance or effectiveness of these activities?
- What evidence do you have that these have led to improvements or positive outcomes?
- What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?

Potential evidence	**Optional supporting metrics**
This may include evidence of: • Documented evidence that the contributions of professional services and research-enabling staff in research activities are appropriately recognised (e.g. through the use of Contributor Role Taxonomies, such as CRediT). • Documented evidence of implementation of principles and practices from responsible research assessment initiatives, such as those outlined in CoARA or DORA. • Documented changes to assessment processes, criteria and guidance, as informed by responsible research assessment principles. • Support for the use of narrative CVs or other innovative approaches to internal assessment. • Documented evidence that industry or other non-higher education research experience is recognised in recruitment and promotion criteria, as relevant and appropriate to the institution or unit.	This may include: • Longitudinal data on average (mean and median) institutional gender, ethnicity and disability pay gap for academic and research-enabling staff stratified by grade.

7. Institution/unit takes fair and transparent approaches to employment, including addressing precarity, discrimination, and bullying and harassment.

Narrative

This may include consideration of:

- What does fair and transparent employment look like for staff and research students in your institution or disciplinary area, and in the context in which you are operating?
- What was the starting point on which you were building?
- What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to precarity, or mechanisms that prevent bullying and harassment, safeguard individuals and ensure concerns are acted on appropriately and effectively)
- What evidence do you have on the quality, relevance or effectiveness of these activities?
- What evidence do you have that these have led to improvements or positive outcomes?
- What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?

7. Institution/unit takes fair and transparent approaches to employment, including addressing precarity, discrimination, and bullying and harassment.	
Potential evidence	**Optional supporting metrics**
This may include evidence of: • Support for staff on fixed-term or atypical contracts (e.g. bridging funds, extended notice periods, mechanisms to support redeployment). • Pre- and post-training assessments (e.g. on supporting individuals who report discrimination or bullying and harassment). • Monitoring and assessment of the effectiveness of mechanisms to safeguard and protect whistleblowers or victims of bullying and harassment, including resolution satisfaction. • Activities to prevent harassment and bullying, including awareness-raising, training and the creation of safe spaces. • Consultation(s) with staff on changes to employment policies or conditions.	This may include: • Learning and training data, such as feedback on effectiveness. • Longitudinal data on percentage of fixed-term staff who have been successfully redeployed (or had their contract renewed / extended). • Staff and research student survey data.

DEVELOPMENT AND SUPPORT

8. Staff and research students can access relevant and meaningful support at all career stages.	
Narrative	
This may include consideration of: • What is relevant and meaningful support for staff and research students in your institution or disciplinary area, and in the context in which you are operating? • What was the starting point on which you were building? • What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to staff and research student support networks, training and support for line managers and supervisors, tailored support mechanisms for staff at different career stages, mental health and wellbeing) • What evidence do you have on the quality, relevance or effectiveness of these activities? • What evidence do you have that these have led to improvements or positive outcomes? • What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?	
Potential evidence	**Optional supporting metrics**
This may include evidence of: • Tailored approaches to supporting staff and research students at different career stages and on different contract types (e.g. the provision of adapted teaching workloads, mentoring and coaching, and targeted and relevant professional development opportunities). • Pre- and post-training assessments (e.g. for line managers, Principal Investigators and research supervisors). • Documented evidence that line management and supervision is appropriately recognised (e.g. in workloads or promotion criteria).	This may include: • Learning and training data, such as feedback on the effectiveness of mentoring and coaching or professional development. • Staff and research student survey data or other wellbeing measures. • Longitudinal data on share of staff and research students who completed an annual appraisal or equivalent review.

8. Staff and research students can access relevant and meaningful support at all career stages.	
• The development of initiatives to support staff who want to be research active or to return to research after a period of absence (e.g. following parental leave, bereavement, major illness). • Support for the development of staff support networks and groups. • Documented evidence that leadership of staff support networks is appropriately recognised (e.g. in workloads or promotion criteria). • Documented evidence that the infrastructure, processes and mechanisms in place to support the training and supervision of research students are working effectively.	

9. Staff and research students can take ownership of their careers and career options.	
Narrative	
This may include consideration of: • What do fulfilling careers look like to staff and research students in your institution or disciplinary area, and in the context in which you are operating? • What was the starting point on which you were building? • What activities or interventions have you pursued or put in place over the assessment period, and what was the rationale for these? (e.g. in relation to career pathways frameworks, career and professional development opportunities, support for career transitions and mobility) • What evidence do you have on the quality, relevance or effectiveness of these activities? • What evidence do you have that these have led to improvements or positive outcomes? • What challenges or issues have you faced, and how have you addressed them / how do you plan to address them?	
Potential evidence	**Optional supporting metrics**
This may include evidence of: • The development of career pathways frameworks, including for fixed-term, technical and research-enabling staff, that outline progression routes, expectations, and signposting of development opportunities. • Documented evidence of the participation of staff and research students in decision-making structures and committees leading to changes in policy and practice. • Documented steps to raise awareness of careers both within and beyond the institution and support for career transitions and mobility. • Documented steps to enable staff and research students to engage in continuing professional development (CPD) (e.g. time).	This may include: • Learning and training data, such as feedback on the effectiveness. • Data on the impact of undertaking CPD activities.

6 Submission templates

Below we present institutional and unit level submission templates. Submission templates presented below should be read in conjunction with the PCE Assessment Framework outlined in the previous section.

Information on format and word limits are not included here, but will be set out in the 'Guidance on submissions' that the REF team will develop for the PCE pilot exercise.

Institutional-level evidence-based statement
Submitting institution:
A. People, Culture and Environment
1. Context (provided to inform assessment – will not be rated in itself)
This section should provide evidence of the size, structure and mission of the institution, as relevant to understanding the institution's People, Culture and Environment submission. Evidence may include (but is not limited to): • *The operating environment and context, including: overall size and structure; balance between research, teaching and enterprise activities; local economic and demographic context; mission, affiliations and peer groupings; governance arrangements; financial health.* • *The context for research culture and environment, including:* o *Institutional research focus, disciplinary spread and diversity; institutional history and development and relative maturity of different disciplines; activities for generating research income across research units.* o *Infrastructure and facilities supporting research across the institution, including the nature, quality, provision and operation of any specialist research infrastructure and facilities, any major benefits-in-kind, and details of any shared or collaborative use of research infrastructure or major facilities.* o *The staff and research student profile, including demographic data, proportion of staff on fixed-term contracts, gender and ethnicity pay gaps.* o *Any other factors that affect what the institution needs to achieve and what it is likely to be able to achieve.*
<u>Sources to corroborate</u> 1.1 1.2 etc. (indicative maximum of ten sources)
2. Strategy
This section should provide evidence relating to the institution's strategy for enabling the vitality and sustainability of the research culture and environment during the assessment period and for the next five-year period. This should provide the strategic context for understanding the evidence provided in sections 3-7, but is not limited to these aspects of research culture and environment. Evidence should be supplemented with supporting data as appropriate, and may include (but is not limited to): • *Plans developed during the assessment period to enhance research culture and environment across the institution, including a review of the submitting*

unit's plans described in REF 2021. This may include strategies relating to organisational, physical and digital infrastructure supporting research, such as areas where there has been significant focus, activity or investment.

- *Plans for enhancing research culture and environment across the institution over the next five years, including coherent steps towards their achievement and for monitoring, evaluation and learning.*

Sources to corroborate

2.1
2.2 etc. (indicative maximum of ten sources)

3. Responsibility

This section should provide evidence relating to how the institution promotes and supports a culture of responsible research, including research integrity and ethics, and social responsibility. Assessors will be looking for consideration of what is relevant and appropriate to the context and strategy of the institution, the rationale for the institution's activities and interventions, evidence of what has changed as a result, issues and challenges faced and how these have been addressed / will be addressed.

Evidence should address the following indicators (but is not limited to them):

- *Staff and research students pursue research and research activities responsibly, with integrity, and to the highest standards.*
- *Institution demonstrates socially responsible leadership of research and research activities.*

The PCE Assessment Framework contains guidance on questions to consider, potential evidence and supporting data.

Sources to corroborate

3.1
3.2 etc. (indicative maximum of ten sources)

4. Connectivity

This section should provide evidence relating to how the institution promotes and supports a culture of openness and collaboration in research and research outcomes. Assessors will be looking for consideration of what is relevant and appropriate to the context and strategy of the institution, the rationale for the institution's activities and interventions, evidence of what has changed as a result, issues and challenges faced and how these have been addressed / will be addressed.

Evidence should address the following indicators (but is not limited to them):

- *Staff and research students share research, knowledge and expertise widely, including through open research practices.*
- *Staff and research students collaborate and co-create with others, both within and beyond higher education.*

The PCE Assessment Framework contains guidance on questions to consider, potential evidence and supporting data.

Sources to corroborate

4.1
4.2 etc. (indicative maximum of ten sources)

5. Inclusivity

This section should provide evidence relating to the institution's approach to ensuring the research environment is inclusive, accessible and equitable for all staff and research students involved in research. Assessors will be looking for consideration of what is relevant and appropriate to the context and strategy of the institution, the rationale for the institution's activities and interventions, evidence of what has changed as a result, issues and challenges faced and how these have been addressed / will be addressed.

Evidence should address the following indicators (but is not limited to them):

- *Staff and research students have equitable access to research, progression and promotion opportunities, including recognition of the diversity of experiences, skills, competencies and outputs.*
- *Institution takes fair and transparent approaches to employment, including addressing precarity and bullying and harassment.*
- *Institution/unit recognises and values a diversity of experiences, skills, competencies and outputs, including through responsible research assessment approaches*

The PCE Assessment Framework contains guidance on questions to consider, potential evidence and supporting data.

Sources to corroborate

5.1
5.2 etc. (indicative maximum of ten sources)

6. Development

This section should provide evidence relating to the institution's approach to the development and support of all staff and research students involved in research. Assessors will be looking for consideration of what is relevant and appropriate to the context and strategy of the institution, the rationale for the institution's activities and interventions, evidence of what has changed as a result, issues and challenges faced and how these have been addressed / will be addressed.

Evidence should address the following indicators (but is not limited to them):

- *Staff and research students can access relevant and meaningful support at all career stages.*
- *Staff and research students can take ownership of their careers and career options.*

The PCE Assessment Framework contains guidance on questions to consider, potential evidence and supporting data.
Sources to corroborate 6.1 6.2 etc. (indicative maximum of ten sources)
7. Reflexivity
This section should provide evidence of reflexivity in the institution's approach to enhancing the vitality and sustainability of the research culture and environment. Assessors will be looking for honest reflection on progress made over the assessment period, relevant to starting point and context, as well as consideration of achievements, issues and challenges faced, learnings, and any gaps that have been identified. *Evidence should be supplemented with supporting data as appropriate, and may include (but is not limited to):* • *Reflection on an area where the institution has demonstrated excellence.* • *Reflection on an area where the institution has been developing excellence.* • *Reflection on an area where the institution is committed to future excellence.*
Sources to corroborate 7.1 7.2 etc. (indicative maximum of ten sources)

Disciplinary-level evidence-based statement
Submitting institution:
Unit of assessment:
A. People, Culture and Environment
1. Context (provided to inform assessment – will not be rated in itself)
This section should provide evidence of the size and structure of the unit, as relevant to understanding the unit's People, Culture and Environment submission. Evidence may include (but is not limited to): • *How research is structured across the submitted unit (including research groups or sub-units), and how this relates to departmental or other administrative structures within the institution.* • *An overview of the research culture(s) and environment(s), including:* o *The staff and research student profile(s), including technical and research-enabling staff who support research within the submitting unit.* o *Operational and scholarly infrastructure supporting research within the submitting unit, including estate and facilities, advanced equipment, IT resources or significant archives and collections.* o *The nature, quality, provision and operation of specialist research infrastructure and facilities, including cross-HEI shared or collaborative use of research infrastructure and the use of major research facilities both in the UK and overseas.* o *Any other factors that affect what the unit needs to achieve and what it is likely to be able to achieve.*
Sources to corroborate 1.1 1.2 etc. (indicative maximum of ten sources)
2. Strategy
This section should provide evidence relating to relevant unit-level strategies for enhancing the vitality and sustainability of the research culture and environment during the assessment period and for the next five-year period. This should provide the strategic context for understanding the evidence provided in sections 3-7, but is not limited to these aspects of research culture and environment. Evidence should be supplemented with supporting data as appropriate, and may include (but is not limited to): • *Plans developed during the assessment period to enhance research culture and environment across the unit, including a review of the submitting unit's plans described in REF 2021. This may include strategies relating to organisational infrastructure supporting research, such as areas*

where there has been significant focus, activity or investment, or the strategic development of new research clusters.
- *Plans for enhancing research culture and environment across the unit over the next five years, including coherent steps towards their achievement and for monitoring, evaluation and learning.*

Sources to corroborate

2.1
2.2 etc. (indicative maximum of ten sources)

3. Responsibility

This section should provide evidence relating to how the unit promotes and supports a culture of responsible research, including research integrity and ethics, and social responsibility. Assessors will be looking for consideration of what is relevant and appropriate to the disciplinary area, the rationale for the activities and interventions, evidence of what has changed as a result, issues and challenges faced and how these have been addressed / will be addressed.

Evidence should address the following indicators (but is not limited to them):

- *Staff and research students pursue research and research activities responsibly, with integrity, and to the highest standards.*
- *Unit demonstrates socially responsible leadership of research and research activities.*

The PCE Assessment Framework contains guidance on questions to consider, potential evidence and supporting data.

Sources to corroborate

3.1
3.2 etc. (indicative maximum of ten sources)

4. Connectivity

This section should provide evidence relating to how the unit promotes and supports a culture of openness and collaboration in research and research outcomes. Assessors will be looking for consideration of what is relevant and appropriate to the disciplinary area, the rationale for the activities and interventions, evidence of what has changed as a result, issues and challenges faced and how these have been addressed / will be addressed.

Evidence should address the following indicators (but is not limited to them):

- *Staff and research students share research, knowledge and expertise widely, including through open research practices.*
- *Staff and research students collaborate and co-create with others, both within and beyond higher education.*

The PCE Assessment Framework contains guidance on questions to consider, potential evidence and supporting data.

Sources to corroborate

4.1
4.2 etc. (indicative maximum of ten sources)

5. Inclusivity

This section should provide evidence relating to the unit's approach to ensuring the research environment is inclusive, accessible and equitable for all staff and research students involved in research. Assessors will be looking for consideration of what is relevant and appropriate to the disciplinary area, the rationale for the activities and interventions, evidence of what has changed as a result, issues and challenges faced and how these have been addressed / will be addressed.

Evidence should address the following indicators (but is not limited to them):

- *Staff and research students have equitable access to research, progression and promotion opportunities, including recognition of the diversity of experiences, skills, competencies and outputs.*
- *Institution takes fair and transparent approaches to employment, including addressing precarity and bullying and harassment.*
- *Institution/unit recognises and values a diversity of experiences, skills, competencies and outputs, including through responsible research assessment approaches*

The PCE Assessment Framework contains guidance on questions to consider, potential evidence and supporting data.

Sources to corroborate

5.1
5.2 etc. (indicative maximum of ten sources)

6. Development

This section should provide evidence relating to the unit's approach to the development and support of all staff and research students involved in research. Assessors will be looking for consideration of what is relevant and appropriate to the disciplinary area, the rationale for the activities and interventions, evidence of what has changed as a result, issues and challenges faced and how these have been addressed / will be addressed.

Evidence should address the following indicators (but is not limited to them):

- *Staff and research students can access relevant and meaningful support at all career stages.*
- *Staff and research students can take ownership of their careers and career options.*

The PCE Assessment Framework contains guidance on questions to consider, potential evidence and supporting data.

Sources to corroborate

6.1
6.2 etc. (indicative maximum of ten sources)

7. Reflexivity

This section should provide evidence of reflexivity in the unit's approach to enhancing the vitality and sustainability of the research culture and environment. Assessors will be looking for honest reflection on progress made over the assessment period, relevant to starting point and context, as well as consideration of achievements, issues and challenges faced, learnings, and any gaps that have been identified.

Evidence should be supplemented with supporting data as appropriate, and may include (but is not limited to):

- *Reflection on an area where the unit has demonstrated excellence.*
- *Reflection on an area where the unit has been developing excellence.*
- *Reflection on an area where the unit is committed to future excellence.*

Sources to corroborate

7.1
7.2 etc. (indicative maximum of ten sources)

Appendix A Summary of workshop findings

A.1 Summary of findings from scoping workshops 1&2

The REF PCE scoping workshops 1&2 were held on 22 and 23 May respectively. Each workshop had the same agenda, and each brought together 40 representatives from across the sector. Participants ranged from early career researchers to Pro-Vice Chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and non-higher education institution sector stakeholders.

Participants were asked to explore the importance of research culture and environment, the purpose of assessing PCE in REF, and the elements of research culture and environment that should be prioritised for inclusion. This discussion was supported by an initial list of elements of research culture and environment identified through desk research. Key points from both workshops are summarised here:

The importance of research culture and environment

There was general consensus that the elements identified by desk research are important dimensions of research culture and environment, though there may be differences in emphasis between what is prioritised by institutions, and what is important for the staff working within them.

There was a recurring concern that there is not always a direct link between a positive research culture and high-quality research outputs and impact. However, multiple participants pointed to the importance of seeing PCE as a core component of research excellence—as important in its own right, and not just as a route to excellent outputs and impact.

The purpose of assessing PCE in REF

There was general consensus around two core purposes for assessing PCE in REF:

- To incentivise institutions to take research culture seriously
- To reward progress within institutions, potentially through a journey-travelled approach, and with recognition that different institutions have different resources and priorities in relation to PCE

There was interest in how different purposes might align to drive improvement across the sector, and to set minimum standards for the sector. However, there might be limited value in PCE if institutions are not able to reflect honestly on their progress and ongoing challenges. This was linked by some to the need for accountability in the sector in relation to research culture, and to 'holding institutions to account'.

PCE offers an opportunity to celebrate the diversity of the sector's research cultures and environments, as well as to understand and showcase strategies and initiatives. It was clear that the purpose of PCE should not be to make all institutions look and act the same.

What should be prioritised for assessment in PCE?

There was a tendency across both workshops to want to keep the list of elements of research culture and environment (and associated indicators) broad, to avoid narrowing what is valued in institutions and to allow institutions flexibility in what they report on.

There was broad agreement that the themes identified as coming through strongly in the desk research, were important, though there were strong feelings for the importance of many of those lower down the list, particularly responsible research assessment and mental health and wellbeing.

Equality, diversity and inclusion in research and/or research careers, openness and open research, research integrity and reproducibility, and collaboration and external engagement came through strongly in both workshops. Participants in workshop 1 additionally emphasised that recognition should be one of the top priorities for the assessment of PCE, while participants in workshop 2 emphasised the importance of workload management and time to conduct research.

There were repeated suggestions across both workshops for a relatively long list of optional indicators (a 'basket of indicators') that institutions could choose from to support a narrative. The priority was for the assessment to adequately account for the diversity of the sector, including differing resource levels and priorities. In this regard, 'barriers to entry' (or minimum expectations) indicators would likely disadvantage some institutions.

Additional points

Multiple participants wanted to see the list of elements of research culture and environment grouped or organised in ways that made clear the links with the different dimensions of PCE. There were other suggestions that pointed to the need to revise the list to reduce the overlap between themes. These will be taken forward into subsequent workshops.

There were repeated calls for attention to the importance of reflexivity and for incentives for institutions to be honest about what is not working, initiatives and strategies that have failed, and what they are doing to address known issues. Related to this, the concept of 'net contribution' seems important—not just what institutions achieve, but what they enable others to achieve.

Finally, there were recurring concerns about the need to build on what worked well in REF 2021 and to avoid 'reinventing the wheel'. This might involve evolving the 2021 template to add more focused questions and guidance on robust evidence.

A.2 Summary from scoping workshops 3 & 4

The REF PCE scoping workshops 3&4 were held on 11 and 13 June respectively. Each workshop had the same agenda, and each brought together 40 representatives from across the sector. Participants ranged from early career researchers to Pro-Vice Chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and non-higher education institution sector stakeholders.

Participants were asked to explore the characteristics of institutions that are committed to different aspects of research culture and environment and how these might be evidenced. Key points from both workshops are summarised here:

General considerations

- There are some cross-cutting characteristics running across the themes discussed:
  - Demonstrating commitment to improving working environments and cultures
  - Effective implementation of policies, mechanisms and processes for improving working environments and cultures (including recognition of the time needed to engage in these)
  - Reflexivity in the approach, with practices to reflect, learn, and continuously improve
- Across most areas, baseline expectations were that there were policies or a signed commitment in place, or at least being worked towards. There was recognition that some institutions will need to prioritise.

- When asked if institutions were already collecting data relating to the characteristics discussed, there was little that was being collected consistently.
- While survey data was frequently cited as a way of evidencing implementation and impact, there were recurrent concerns about difficulties of benchmarking and the possibility of gaming the data.
- There were wider concerns that the PCE element will be challenging to implement, especially given the financial constraints facing many institutions.
- The discussions reinforced findings from scoping workshops 1&2 that the narrative and the context is important, and that institutions should be able to self-define priorities in line with strategic objectives and resources. Broadly, these relate to:
  - The research and impact process (e.g. open, rigorous, ethical, collaborative, team, and/or interdisciplinary approaches)
  - The people involved in research and impact (e.g. recognition and support for all those involved in research, healthy and inclusive working environments)

Equality, diversity and inclusion

Leaders demonstrate **commitment**, including through their own behaviours and the effective implementation of **policies**. Institutions **monitor and evaluate** progress in relation to policies and strategic plans, with an emphasis on **continuous learning** and **understanding**. There are **mechanisms** and **practices** that recognise the time it takes to engage in EDI initiatives and how this work often falls on marginalised groups.

Evidence might include staff and postgraduate researcher demographic profile, promotion success rates, and the profile of staff with significant responsibility for research, though there are issues with data collection and use across all of these. A case study approach might be useful.

Research integrity and reproducibility

Institutions demonstrate **commitment**, with **policies** in place or being worked towards. This could include, at a minimum, working towards the Concordat to Support Research Integrity, as well as policies around ethics. There is **awareness** among staff and postgraduate researchers about what good research practice is, and effective **mechanisms** and **practices** to enable it, including ethics and safeguarding procedures, and relevant **training**.

Evidence might include uptake of and feedback on training, infrastructure, an institutional statement on policies and their dissemination, and survey data on perceptions. There is need to recognise that requirements and needs may vary greatly by discipline. It might also be challenging to assess effectiveness at a unit level.

Openness and open research

There are **mechanisms** and **practices** that recognise and incentivise open research practices and the **time** it takes to do it. There is **training** and **infrastructure** to support it, with recognition that some infrastructure, such as data repositories, are resource-intensive.

Evidence might include institutional commitments and policies which demonstrate that institutions are moving beyond open access, as well as evidence of datasets being shared, narratives on engagement with open research, and UKRI data on the use of Open Access funds.

Professional and career development

Leaders demonstrate **commitment** to professional and career development, with **policies** and external standards in place or being worked towards (e.g. the Concordat to Support the Career Development of Researchers). There are **mechanisms** and **practices** that ensure there is **time** to engage in professional and career development at all levels, including recognition of the role supervisors and colleagues play in the development of others, and effective **training and initiatives** (e.g. mentoring; secondments).

Evidence might include time for professional development activities (e.g. in workloads or as reported through surveys); commitment to the Researcher Development Concordat or Technician Commitment; action plans relating to professional and career development. There were no clear baseline expectations, beyond policies.

Mental health and wellbeing

This is a cross-cutting theme. Institutions demonstrate **commitment** that goes beyond the provision of wellbeing advice and webinars, addressing known issues, such as those of **time**, unachievable workloads, and job insecurity. There are **mechanisms** and **practices** that support colleagues to develop softer skills.

Evidence is most likely to come from staff surveys, but might also relate to other themes, such as EDI, recognition, professional and career development, and fair employment.

Interdisciplinarity

There are **mechanisms** to facilitate cross-disciplinary connections, including the **time** needed to develop relationships and new approaches and methods. There are **incentives** for risk-taking in research approaches and for engaging in interdisciplinarity more generally, including through promotion criteria.

Evidence might include the existence of interdisciplinary research groups and centres. There is need to recognise that interdisciplinarity might not be relevant to all institutions.

Environmental sustainability

There is institutional **commitment** to environmental sustainability, such as through a **policy**, and an ability to demonstrate how concern for the impact of research on the environment is being taken into account in research processes. There are **mechanisms** for disseminating policies, including through **training** and **time** to develop research.

Evidence might include engagement with training on environmental sustainability or a narrative describing changes to buildings or infrastructure. There is need to recognise that institutions with older buildings might find this more challenging. This is an important area but might be an area for a future REF exercise.

Fair employment practices

Promotion and progression criteria is **open** and **transparent**. There is action on zero-hour contracts and precarity, with recognition that these may be beyond the individual unit's control. There is **commitment** to obligations such as those in the Researcher Development Concordat.

Evidence might include policies and data on the use of different types of contracts, pay gaps and other pay data, the availability of mechanisms to support progression.

Workload management and time to conduct research

Workload processes and management is **open** and **transparent**, with an emphasis on the fair distribution of work and recognition of the **time** needed for a full range of research and research-enabling activities, beyond income generation and publications.

Evidence might include a narrative describing the process of allocating time and reviewing workloads, policies on flexible workloads, and the % of staff allocated time for research. There is need to recognise that not all institutions have workload models, and these are not always applied to all staff. There is also need to recognise that research time costs institutions money.

Academic freedom

There are clear **policies** or statements on academic freedom, which are appropriately communicated, understood, and governed. The trade-off between academic freedom and the protection of all staff has been considered and **mechanisms** put in place to support staff in balancing these.

Evidence might include a narrative statement on academic freedom and how it is protected, attitudes towards academic freedom in staff surveys.

Recognition

There is **commitment** to external initiatives such as the Technician Commitment, with this demonstrated visibly through recognition of the value of different career pathways. Professional and career development opportunities and committee membership are open to professional services and research-enabling staff, with the **time** needed for this factored into workload management. There are **incentives** for collaborative and team approaches to research.

Evidence might include authorship policies and processes, the existence of career pathways, and data from staff surveys.

Responsible research assessment

Institutions demonstrate **commitment** through engagement in external initiatives such as CoARA or DORA and put in place **policies** on the responsible use of metrics. Recruitment, promotion and progression practices allow people to demonstrate their skills and contributes beyond publications and grant income.

Evidence might include the use of narrative CVs, an action plan for CoARA or DORA, and assessment criteria that recognises a range of research and research-related activities.

Collaboration and external engagement

There are **mechanisms** to enable collaboration, including to support and coordinate external engagement at both institution and unit levels. A range of methods of engagement, with all types of stakeholders, are **incentivised** through promotion criteria. The **time** needed to develop relationships is recognised in workloads. **Practices** are inclusive and equitable, including rewarding the time of voluntary and community groups.

Evidence might include data on the scope and scale of collaborations and partnerships, the existence of a framework for inclusive and equitable collaboration, and the existence of enabling mechanisms, such as seed funding. KEF metrics and HE-BCI data might be useful, though narrowly focused. Collaboration in all its forms is central to both the Output and Impact and Engagement elements of REF and so should be fundamental to PCE.

Collegiality

There is **time** and **mechanisms** that facilitate staff and postgraduate researchers to come together, to support others and to foster new collaborations. Senior colleagues bring junior researchers along with them and provide access to networks. **Policies** and **mechanisms** address poor behaviour, and staff have trust in these processes. Collegiality is **incentivised** through promotion criteria.

Evidence might include staff surveys, the existence of staff networks and evidence of their impact. This area is likely very difficult to evidence and might not lend itself to unit structures which do not always map onto departments.

Valuing leadership at all levels

There are **opportunities** to lead at all levels and across all job families (formal or otherwise), including representation on committees and in research centres and groups, and that leadership is appropriately enabled through workload management. **Mechanisms** should be equitable. There is **training** in leadership that is relevant and appropriate.

Evidence might include committee membership, participation in leadership programmes, the terms of reference for committees.

Creativity and innovation

There is freedom to 'fail' and take risks, with **time** for experimenting with new ideas factored into workloads. There are **mechanisms** to facilitate innovation, such as secondments and innovation **training**. Collaborative and engaged approaches to research are recognised and valued.

Evidence might include secondments of staff into industry or other sectors, repurposing of KEF metrics or HE-BCI data, and the number of spin-off companies. There is need to recognise that these might not be priorities for all and that freedom and risk-taking is difficult to evidence.

Psychological safety

Leaders are visible and accessible, demonstrating **commitment** to understanding and addressing issues. There is **transparency** around the number and types of complaints made, how they have been addressed, and any **learnings**. **Processes** and **mechanisms** build trust and give staff confidence to express concerns.

Evidence might include staff exit surveys and the number of complaints. There needs to be caution around the use of negative indicators.

A.3 Summary from REF PCE workshops 5&6

The REF PCE scoping workshops 5&6 were held on 3 and 5 July respectively. Each brought together 40 individuals from across the sector. Participants ranged from early career researchers to Pro-Vice Chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and non-higher education institution sector stakeholders.

Both workshops both focused on high-level strategy in relation to PCE and ran with similar agendas. Workshop 5 focused on how research is managed and governed, while workshop 6 focused on the development and support of people and talent.

In breakout session 1, participants discussed a scenario where institutions are asked to submit a statement outlining their strategy for improving research standards and practices (workshop 5) OR for supporting and developing the people involved in research (workshop 6). This would include coherent plans towards the achievement of this strategy. Key points from both workshops are summarised here.

General points:

- There was broad support for the inclusion of a statement where institutions defined their own strategic priorities. It was seen as an important part of presenting the context that would allow PCE to be fairly assessed.
- As part of the parameters for the statement, institutions could be offered a range of contextual factors to comment on, including size, shape and maturity, regional demographics, institutional aims for PCE, and income for research culture activities.
- As in earlier workshops, it was stressed that some institutions will have benefited from dedicated resource to convene research culture teams and activities, and the capacity to engage with their research communities on priorities. Any assessment will need to take these financial advantages into account.
- It was pointed out that outlining a strategy for the whole institution might be challenging for larger institutions, particularly as research culture varies across disciplines, departments and faculties.

On scoring:

- There were mixed views as to whether the statement should be scored.
- There were concerns that it could be a lot of work for something that was not scored, and that this might lead to it not being taken seriously.
- If the statement was not scored, there may be more scope for honesty and critical reflection on the barriers to improving research culture.
- There were concerns that it would be difficult to score. This would be even more challenging if it was also required at a unit level, as there might be tensions between a unit's and an institution's strategic focus.
- Comparisons were made with the Environmental statements from REF2021 and the possibilities to learn from experiences there.

On encouraging institutions to be honest about challenges:

- It was pointed out that it will be difficult to encourage reflection on challenges (and particularly 'failures') in a process that is about 'excellence'.
- As in earlier workshops, it was stressed that sharing lessons would be useful for the sector and that institutions should not be penalised where initiatives have not worked, as long as they can identify learnings.
- It was suggested that the REF Steering Group would need to emphasise that learning is part of the process of excellence.
- There were numerous suggestions for a case study approach across both workshops. This could be structured around: how an institution approached an identified challenge or barrier, what the benefits of the activity or approach were, and what the learnings have been. Innovation and creativity in the approach could form the basis of assessment criteria.

On assessing institutions on their plans in REF 2035/6

- There was support for the forward-looking nature of this proposed approach, but strong practical reservations about asking institutions to self-define indicators now, for assessment in the next REF.
- The problems with the approach include the long timeframe, which extends beyond the normal timeframe for action plan, and that institutions would need to contend with changes in strategic direction, institutional leadership, and other factors.
- Assessing institutions on indicators and plans defined so far in advance may also limit ambition and mean that institutions focus on the indicators that have been selected. There may be a risk that REF PCE becomes another action plan requiring internal monitoring.
- A more practical approach would be to include a reflective element in REF 2035/6, but not to hold institutions to indicators defined now.

In breakout session 2, participants discussed a selection of qualitative indicators, considering how well these would allow institutions to demonstrate commitment to improving different aspects of PCE, what quantitative data could support qualitative reporting, and any consequences. Key points from both workshops 5&6 are summarised here:

Topic	Key points
Outline of guidelines, policies, schemes in place to ensure good research governance (e.g., research governance committee dedicated to overseeing research practices; good research practice policy; conformity of measures with Concordat to Support Research Integrity)	• Important for institutions to report on this, and could build on what was in REF 2021. It would need to connect with the strategic approach and how this shapes the whole research environment, with an emphasis on distance travelled.
Existence of individual policies and guidance relating to research governance, standards, and practices (e.g. on the use of AI, open data practices, ethics, safeguarding, whistleblowing, academic freedom)	• These are baselines. Some policies may be critical (e.g. ethics, academic freedom) though institutions should not be expected to have a policy on everything, particularly if the area is new or rapidly changing (e.g. AI, environmental sustainability). • The robustness and effectiveness of implementation is much more important and revealing than the existence of policies, and would need to be considered.

Topic	Key points
Compliant / working towards compliance with the Concordat to Support Research Integrity	• An important baseline that most institutions will be able to meet, or at least explain how they are working towards this. • It was noted that the Concordat is relatively narrow in how it defines research integrity and so evidence of wider efforts in relation to research integrity would also be important.
Compliant / working towards compliance with the Concordat on Open Research Data at an institution level	• Important for institutions to consider whether and how they can work towards this, but may not be relevant or feasible for all.
Compliant / working towards compliance with the Guiding Principles of the Knowledge Exchange Concordat	• Important for institutions to consider whether and how they apply the framework, but the Knowledge Exchange Concordat is not about compliance and not solely focused on research and impact, so this would need careful wording and attention to implications for the Concordat.
External funding for research culture activities (e.g. Research England's Enhancing Research Culture fund or Wellcome Institutional Funding for Research Culture).	• Not all institutions have had access to the same funds. While external income would not demonstrate commitment, it would provide important contextual information to ensure assessment of PCE is fair across the sector. • Institutions already have to report on activities through these funds, risking duplication of effort.
Infrastructure, staff resource and support for strategic priorities (e.g. entrepreneurship, new technologies, reproducibility, open research)	• This should be rooted not in what institutions have, but how they provide within available resources, how staff and researchers engage, and how effective investments are. • This topic offers an opportunity to build on REF 2021. • Institutions will likely already have KPIs or be monitoring progress on this.
Resources and mechanisms for supporting the reproducibility of research as appropriate to the research focus of the HEI	• May not be relevant across all disciplines or institutions. • Smaller institutions may have smaller budgets to invest in training, support and/or facilities. • Evidence of impact may be burdensome.
Availability of open research data training, support and/or facilities	• Useful input indicator, but would need to be linked to evidence of engagement. • Evidence of the impact will be difficult to measure. Data download or reuse statistics might be difficult to gather and be burdensome. • Training and support may be biased towards STEM disciplines. • Smaller institutions may have smaller budgets to invest in training, support and/or facilities.
Presence of public information or communications (e.g. openly-available web pages) explaining research	• This is a baseline, but may be meaningless on its own.

Topic	Key points
regulations, procedures, standards, and right-to-reply procedures	
Existence of research integrity training, mentoring and other forms of self-learning and monitoring of the effectiveness of these measures	• Useful input/process indicator, but would need to be linked to evidence of effectiveness. • The long-term impact of this on behaviours would be difficult to establish. • This is already part of UKRIO reporting, which could be repurposed, though potentially too high-level for the purposes of REF PCE.
Corrective actions (e.g. in relation to research misconduct)	• This would require a clear definition of what counts as research misconduct or bullying in the context of research. • It may be useful to work with funders on data collection and reporting.
Presence, oversight and resources for ethics committees and ethics approval processes	• This is a baseline for research practice, but on its own reveals little about the broader culture or how ethical considerations are embedded across all stages of research. • It could be supported by further information on how representative committees are of different communities.
Commitment to responsible assessment initiatives, such as CoARA or DORA	• This could be a baseline, but commitment on its own reveals little, and may disadvantage institutions that have limited resources. • This would need to be accompanied by a narrative on plans for reform and/or how these are being implemented. • It was pointed out that this is a relatively new area and it is not yet clear what 'good' looks like.
Policies, practices, schemes, resources in place to address gender and ethnicity disparities, disability or religion-based needs or biases. This could include an active policy to encourage applications of under-represented groups to leadership positions.	• This is important, and recognises that institutions are on a journey to becoming more inclusive and representative. • This would need to recognise that there may be a disparity between policies and schemes at an institutional level and the reality of experiences 'on the ground'. • Evidence would need to be longitudinal to capture the impact over time.
Policies, procedures and support in place to provide flexible working agreements (e.g., working from home, flexible hours, etc.) to accommodate diverse needs and create healthy working conditions.	• This may be challenging to evidence, particularly as there may be discrepancies with what is supported in practice at local levels. • This is an area where a case study approach may be useful.
Compliant / working towards compliance with the Researcher Development Concordat	• On its own this would reveal little, particularly given questions about the level of awareness about the Concordat among researchers.

Topic	Key points
	• There would need to be attention to efficacy and impact of measures put in place.
Policies and practices in place that recognise and attribute contributions of staff with professional services roles (e.g., recognition on research outputs, grant applications)	• This is an area where a case study approach may be useful. • There would need to be clarity on who is included within 'professional services' and 'support services', as well as what counts as a contribution. • It was pointed out that recognition on research outputs would be more appropriate in the Outputs element of REF, rather than PCE.
Policies on the provision of research leave, including strategically-timed research leave (e.g. post-parental leave, post-bereavement leave)	• The context of the institution would be particularly important here, as not all will be able to offer these provisions. • Evidencing uptake and impact would be time consuming and may have privacy implications.
Technician Commitment signatory	• On its own, signing the Technician Commitment reveals little. • Institutions who are signatories will already need to report on it, risking double reporting. • Evidence on the existence of career pathways may be more revealing.
Policies, procedures and support in place to encourage the use of narrative CVs, portfolio assessment, or other innovative approaches in internal processes to enable recognition of diverse contributions to research. This could also include evidence of recruitment and promotion criteria that recognise a range of contributions beyond 'normal' teaching and research (e.g. academic citizenship, industry and knowledge exchange experience).	• The evidence-base on these is growing, if still limited. • Any narrative on these would need to be accompanied by what is done, rather than what is in the policy, with particular attention on implementation at unit level. • Data on who is being promoted would need to be longitudinal to capture the impact over time.
Policies and practices in place to ensure availability of mentoring for all staff. Depending on needs, targeted mentoring for specific groups (e.g., ECR).	• Mentoring schemes can often be a tick-box exercise, risking potential for gaming. • It is difficult to capture the quality of the mentoring.
External accreditations (e.g. Athena Swan Award, Race Equality Charter Award, HR Excellence in Research Award, and awards around disability access such as Disability Smart)	• These are often good indicators of senior leadership buy-in, but are tools for improvement rather than a mark of success. • Involvement in external accreditations usually involves significant data collection, which could be repurposed for REF. • Not all institutions have the resource to pursue these awards. • If these were required, there would be resourcing implications for the organisations that run the awards.

Topic	Key points
Existence of career pathways frameworks, including for specialist technical and research support staff that outline expectations, development opportunities, and progression routes	• This is an important indicator, key to demonstrating commitment to recognising and developing research-enabling colleagues. • Data on who is progressing through different pathways would need to be longitudinal to capture the impact over time, but may be burdensome for some institutions.
Setting up and supporting staff networks and communities for different groups, in line with EDI strategies	• Networks are important but it would be difficult to evidence the role and value they play. • It was pointed out that engagement with external networks is similarly important.
Policies and procedures outlining support for doctoral researchers and Early Career Researchers (ECRs). For doctoral researchers, this might include monitoring and support, documented supervisory meetings requirements, training to enable progression to diverse employment. For ECRs, it might include ECR support groups and mentoring, awards and funding for ECR support, adapted teaching workloads.	• Support for doctoral researchers and ECRs is critical, but so is evidence of moves towards more secure employment for ECRs. • Information on contracts could be relatively straightforward to gather, but may present a misleading picture of conditions and security.
Policies and approaches to handling harassment and bullying	• These are important but the effectiveness of these are difficult to assess and evidence. • This may be a suitable area for a case study approach.
Guidelines, policies, procedures, schemes in place to ensure transparency in promotion processes and outcomes	• This is an important indicator, key to empowering all staff to succeed and progress. • It may be difficult to evidence the impact of policies and schemes, and any data would need to be longitudinal.

A.4 Summary from REF People, Culture and Environment (PCE) workshop 7

Integrity and Research Processes

The REF PCE thematic workshop 7 was held on 6 September 2024. It was one of a series of thematic workshops that explored aspects of PCE in depth. Participants ranged from early career researchers to pro-vice chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and wider sector stakeholders.

Participants were asked to explore assessment options and test indicators relating to research integrity processes and practices at both institutional and disciplinary levels. Topics relevant to this workshop included: training and initiatives to embed research integrity, ethics and reproducibility, recognition of authorship, open research methods and approaches, and care and respect for participants.

Overall summary

The workshop participants had mixed views on the use of case studies to assess research integrity within REF. They noted that the approach has potential, but significant challenges must be addressed to ensure fairness and robustness. Participants raised concerns about representativeness, particularly for smaller institutions and disciplines, the risk of selective reporting, and potential for neglect of more challenging areas. A mixed approach, combining qualitative case studies with quantitative metrics, was proposed as a more balanced solution to capture the full scope of research integrity efforts across diverse institutions.

It was suggested that the current criteria of 'vitality' and 'sustainability' may not fully reflect the needs of research culture assessments. Participants recommended shifting the focus towards measures that emphasise ongoing improvement, inclusivity, and equity. Assessment criteria should consider the varying resources and starting points of different institutions, aiming to promote genuine progress rather than superficial compliance. Transparency and honesty in reporting were strongly emphasised, along with the need to create a research environment that encourages openness and integrity.

There were particular concerns about the use of case studies at the unit level due to the potential burden, comparability issues, and resource disparities. Participants called for case studies to reflect the full complexity of research integrity initiatives, covering training, misconduct handling, policy implementation, and inclusivity across all institutional levels.

Participants recommended using existing and new sector standards, such as the UKCORI indicators for research integrity, as well as other frameworks. Allowing institutions to point to their Concordat to Support Research Integrity annual reports could reduce administrative burden and streamline reporting processes. However, it was noted that not all universities submit annual reports, and that use of Concordat reporting might complicate evaluation and lead to gaps in transparency and depth.

In reviewing specific indicators, participants stressed that indicators should be clear, actionable, and appropriately supported by data collection methods. For example, the relevance of certain indicators, such as contributions to new research tools, was questioned, while others, such as research integrity training, were viewed as essential but challenging to implement consistently. Concerns about the additional workload for smaller institutions, the risk of superficial compliance, and the need for meaningful participation and consultation from the sector regarding any future changes.

Key points:

- *Openness and transparency*: Ensuring visibility and openness in research integrity processes is crucial. Institutions should be encouraged to share both successes and failures to foster an environment where researchers feel safe to raise concerns without fear of consequences.
- *Narrow focus and cherry-picking*: There is a risk of institutions focusing on positive stories while neglecting areas needing improvement, potentially skewing the overall picture of research integrity.
- *Burden and comparability*: The workload of producing case studies, particularly for smaller institutions, could exacerbate inequalities. Comparing case studies across institutions and disciplines was seen as challenging in terms of fairness and comparability.
- *Combining case studies and metrics*: A mix of case studies and quantitative metrics was preferred to provide a fuller, more objective view of institutional progress and avoid manipulation or selective reporting.

- *Institutional vs. unit-level differences*: Case studies were seen as more appropriate at the institutional level, where broader, cross-cutting activities could be captured. Unit-level case studies raised concerns about data comparability and burden.
- *Resource disparities*: Wealthier institutions may have an advantage in developing case studies, raising concerns about unequal opportunities and outcomes across the sector.
- *Contextualising sustainability and vitality*: Terms like "vitality" and "sustainability" need updating to reflect modern research culture. Assessments should focus on meaningful changes in behaviour and outcomes, tailored to the size and context of each institution.
- *Discipline-specific needs*: Research integrity varies by discipline, making it difficult to create uniform case studies. A hybrid approach, with institution-wide goals complemented by discipline-specific case studies, was suggested.
- *Journey over destination*: Case studies should document the entire process of addressing research integrity, including challenges, improvements, and cultural shifts, rather than only focusing on outcomes.
- *Handling misconduct*: Case studies should address how institutions manage research misconduct. Including real examples of how challenges have been handled and how these experiences have led to policy or cultural changes is essential for demonstrating progress in research integrity.
- *Training and education*: Providing comprehensive research integrity training and mentoring is vital, especially for senior researchers and leaders. Ensuring inclusivity in this training for all researchers is critical for creating a healthy research culture that prioritises ethical practices.

A.5 Summary from REF People, Culture and Environment (PCE) workshop 8

Openness and Collaboration

The REF PCE thematic workshop 8 was held on 9 September 2024. It was one of a series of thematic workshops that explored aspects of PCE in depth. Participants ranged from early career researchers to pro-vice chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and wider sector stakeholders.

Participants were asked to explore assessment options and test indicators relating to the processes and practices that enable collaborative, engaged, and interdisciplinary research environments. Topics relevant to this workshop include but are not limited to: collaboration and knowledge sharing between higher education institutions, collaboration and co-production with external partners, knowledge exchange mechanisms, impact, open communication, and support for interdisciplinary and team working.

Overall summary

Overall, participants generally supported the use of thematic narratives as a meaningful tool for reflecting on specific initiatives and activities. However, concerns were raised about how these thematic narratives could be cherry-picked to highlight positive examples while overshadowing challenges or underrepresented areas. Workload issues, representativeness, and the ability to demonstrate progress were also points of discussion, particularly when considering smaller or resource-limited institutions.

When discussing the appropriateness of thematic narratives at both institutional and unit levels, participants agreed that having them at both levels could reflect the different contexts and scale within larger institutions, whilst smaller institutions might find it challenging to differentiate between the two levels. There was a consensus that this approach could be burdensome for

smaller institutions, but it was deemed necessary for larger ones to reflect their distinct cultures and environments.

The types of activities encompassed by openness and collaboration varied. Participants emphasised the importance of capturing both the means and outcomes of collaboration, as well as reflecting on both successes and failures. There were suggestions to include external partnerships, interdisciplinary work, and initiatives promoting open research. However, concerns arose regarding how such examples could be assessed fairly, especially when institutions differ significantly in their resources and capacity to foster collaboration.

Participants discussed the value of external testimonies, action plans linked to accreditations, and quantitative indicators like those from the KEF. They emphasised that REF should not duplicate existing metrics or data collection, but rather integrate them where appropriate. The potential for larger institutions to have more resources for data collection and analysis was noted, which could create inequities compared to smaller institutions. The importance of balancing qualitative narratives with quantitative metrics, without overburdening institutions, was a recurring theme in the workshop.

The feedback on the proposed indicators revealed a range of concerns, particularly around the applicability and relevance of certain metrics across different disciplines and institutions. Many participants highlighted the risk of oversimplifying complex processes such as collaboration, peer review, and spin-out success by relying too heavily on quantitative measures without accounting for context or disciplinary differences. There were also concerns about the unintended consequences of incentivising certain behaviours, like co-authorship or spin-out formation, that may not align with all research environments. The need for clearer definitions, flexibility, and more inclusive measures was emphasised to ensure that the indicators reflect a genuine assessment of progress and culture, rather than just meeting prescriptive targets.

Key points:

- *Allow flexible evidence:* Institutions should have flexibility in how they present evidence, using external testimonies, existing metrics, and qualitative data, to reflect their unique contexts.
- *Focus on collaboration processes:* Institutions should be able to highlight the processes behind these initiatives, not just the outcomes, to give a fuller picture of institutional effort.
- *Ensure fair assessment across institutions:* Assessment criteria should account for institutional differences in resources and capacity, ensuring smaller institutions are not disadvantaged.
- *Provide clear definitions and guidance:* Clear criteria for success, definitions of key terms like 'openness' and 'collaboration', and baseline expectations are needed to ensure consistent and fair assessments across institutions.
- *Encourage honesty and reflexivity:* Institutions should be encouraged to reflect honestly on their progress and challenges in research culture, with assessments valuing transparency over perfection to foster genuine improvement.
- *Leverage existing frameworks and avoid duplication:* Institutions already adhering to frameworks like the Concordats or KEF should not be required to duplicate reporting. Aligning PCE assessments with existing initiatives will reduce administrative burden.

A.6 Summary from REF People, Culture and Environment (PCE) workshop 9

Employment and Recognition

REF PCE workshop 9 was held on 10 September 2024. It was one of a series of thematic workshops that explored aspects of PCE in depth. Participants ranged from early career researchers to pro-vice chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and wider sector stakeholders.

Participants were asked to explore assessment options and test indicators relating to employment and progression of staff, including policies and practices that contribute to the broadening of what and who is recognised and valued in research. Topics relevant to this workshop included: contractual arrangements, fairness and transparency in recruitment and progression, career pathways for research-enabling staff, responsible research assessment practices, and support for inter-sectoral mobility.

Overall summary

Workshop participants broadly supported the idea of using thematic narratives for assessing PCE in REF. They appreciated the potential to capture the 'journey travelled' by institutions, reflecting a holistic view of research culture, but emphasised the need for clear guidance to avoid overly broad or inconsistent approaches. There were concerns about comparing institutions and units fairly, as some may have more resources to tell compelling narratives. This would risk the process becoming a storytelling exercise rather than a meaningful assessment.

Participants felt that thematic narratives on employment and recognition were more suited to the institutional level, where policies and processes are typically managed, but acknowledged the importance of capturing experiences at the unit level to reflect local implementation and impact. There was concern about the workload required for unit-level narratives, particularly in smaller institutions, but consensus that both levels were necessary to provide a full picture of employment practices and recognition across diverse contexts.

Participants emphasised the importance of ensuring that a diversity of contributions is recognised and valued by institutions, and that all staff groups are recognised appropriately. Also important were progression and promotion processes, team science, open research, and diversity efforts. Evidence should combine quantitative metrics (e.g., promotion success, diversity statistics) with qualitative data (e.g., testimonials, surveys), ensuring a well-rounded picture of institutional culture.

While the current criteria of 'vitality' and 'sustainability' were seen as potentially useful, participants noted that these terms could be too rigid. There were calls for more nuanced indicators of progress that take into account the journey of each institution. Some participants suggested focusing on 'distance travelled' from REF 2021, highlighting institutional progress rather than absolute success. There was a strong call for guidance on how to capture intangibles like trust, morale, and collegiality, while also ensuring honest and reflexive submissions.

The workshop revealed a mix of opinions on the proposed indicators. Some were supported for promoting inclusivity and recognising diverse career paths, such as narrative CVs and the use of contributor roles taxonomies. These indicators were seen as valuable for ensuring that non-academic staff and varied contributions are acknowledged.

However, concerns were raised about the practicality and fairness of indicators like research leave, flexible working, and peer review participation, which were viewed as too narrow or inconsistent across disciplines. There were strong calls to ensure that individual indicators are

more inclusive and relevant to the full range of people involved in research, including technical staff, postgraduate students, and professional services.

The overall consensus was that a balanced approach combining both qualitative and quantitative measures is needed, with an emphasis on context, equity, and avoiding one-size-fits-all solutions.

Key points:

- *Equity across institutions:* Participants expressed concerns about the potential for larger, well-resourced institutions to dominate through polished narratives, while smaller institutions might struggle with the administrative burden. Fairness in assessment must consider the context and capacity of each institution.
- *Institutional vs unit-level narratives:* While institutional policies set the framework for employment and recognition, unit-level narratives are essential for capturing local implementations. Participants emphasised that both levels should be assessed, but smaller institutions might need flexibility.
- *Diversity of contributions:* Recognising the contributions of all staff, including professional services, technical staff, and postgraduate students, was seen as vital. There was a call for the thematic narratives to move beyond traditional research outputs and include activities like open research, mentoring, and team science.
- *Evidence-based assessment:* A balance between quantitative and qualitative evidence is crucial. Metrics such as promotion rates, contract types, and diversity statistics should be supplemented with testimonials, surveys, and narrative descriptions of policies' impact.
- *Flexibility in themes:* A one-size-fits-all approach was discouraged. Institutions should demonstrate why their chosen strategies fit their specific contexts and what outcomes were achieved, avoiding a race to impress assessors with 'big ideas'.
- *Reflexivity and honesty:* Institutions should be encouraged to be transparent about both successes and failures. Reflexive reporting was seen as essential to building a culture of trust, rather than focusing solely on positive outcomes.
- *Inclusivity in promotion and recognition:* The promotion and recognition processes should extend to all staff groups, not just academic researchers. Participants urged institutions to address issues like precarious contracts and progression barriers for under-represented groups.

A.7 Summary from REF People, Culture and Environment (PCE) workshop 10

Professional and career development

The REF PCE thematic workshop 10 was held on 11 September 2024. It was one of a series of thematic workshops that explored aspects of PCE in depth. Participants ranged from early career researchers to pro-vice chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and wider sector stakeholders.

Participants were asked to explore assessment options and test indicators relating to the professional and career development of researchers and research-enabling staff. Topics relevant to this workshop include but are not limited to: career development across all career stages, supervision and line management, appraisals and reviews, time for professional and career development, and support for career diversity.

Overall summary

Participants expressed support for using a thematic narrative approach as part of the assessment of PCE, but highlighted the need for clarity and specificity. They noted that while thematic narratives allow for deeper, context-rich reporting, there is a risk of overemphasising specific successes while neglecting broader issues. There was also concern about potential overlaps with existing frameworks like HR Excellence and the Concordats, with participants suggesting a more integrated approach to avoid duplication.

The balance between institutional and unit-level reporting was discussed, with participants agreeing that the size and structure of institutions should dictate what is assessed, and how. Larger institutions may benefit from unit-level narratives, while smaller institutions might find it challenging to report on both levels without excessive repetition. A blended approach, combining institutional strategies with unit-level specifics, was proposed to ensure inclusivity and representation across diverse research communities.

Participants emphasised the need for a broad, inclusive definition of professional development that goes beyond just training. They stressed the importance of showing impact, such as how development programmes have benefited different groups, including mid-career researchers, technicians, and research-enabling staff. They also recommended the inclusion in the assessment of real-world examples, learning from failures, and reflections on challenges faced by institutions.

In the assessment, participants suggested moving beyond simply counting course attendance to also focusing on qualitative outcomes, such as staff satisfaction and career progression. They agreed that indicators should reflect both successes and lessons learned, encouraging institutions to show how they've responded to challenges and made progress. The need for flexible and contextually relevant assessment was underscored to avoid imposing one-size-fits-all solutions across different institutions and disciplines.

In discussing specific indicators, participants repeatedly stressed the importance of using the language of accessibility and inclusion for all. Professional and career development opportunities, for example, was suggested as more inclusive than researcher development, with participants seeking to ensure professional development opportunities are relevant and accessible across all staff roles and career stages. Flexibility in training and support for career transitions were central themes. There were concerns about the complexity of defining and supporting mid-career researchers, recommending that institutions focus on individual needs rather than rigid career stages.

The role of mentorship and constructive feedback was widely discussed, with participants stressing that indicators which rely on policies or the existence of programmes alone are insufficient evidence of impact, engagement, and quality. There were concerns that 360-degree appraisals can be a blunt tool for leadership improvement, with particular challenges in measuring effectiveness.

Key points:

- *Inclusivity across career stages:* There was a strong emphasis on ensuring that thematic narratives and indicators cover all staff, not just specific groups like early-career researchers or technicians. Institutions should seek to understand the needs of their staff and research students, address gaps in support and provide holistic career development opportunities.
- *Qualitative and quantitative:* The need for a balanced assessment combining narrative themes with quantitative data was highlighted. Metrics alone cannot capture progress, so narratives should provide context, but they must be backed by evidence, such as staff feedback and engagement data, to demonstrate impact.
- *Reporting burden*: Concerns were expressed about the potential reporting burden, especially for smaller institutions. A blended approach should be adopted, where HEIs can

highlight exceptional initiatives while also addressing institutional-level strategies. There was also a call for reducing duplication with existing frameworks like the Researcher Development Concordat.

- *Career development as an ongoing process:* Career development should go beyond training sessions and focus on mentorship, experiential learning, and the broader cycle of professional growth. Initiatives should also support transitions between academia and other sectors, with attention to impact and effectiveness.

A.8 Summary from REF People, Culture and Environment (PCE) workshop 11

Equality, diversity and inclusion

The REF PCE thematic workshop 11 was held on 12 September 2024. It was one of a series of thematic workshops that explored aspects of PCE in depth. Participants ranged from early career researchers to pro-vice chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and wider sector stakeholders.

Participants were asked to explore assessment options and test indicators relating to equality, diversity and inclusion (EDI) in research and research careers. Topics relevant to this workshop included, but were not limited to: enhancing access to and participation in research from underrepresented groups, accessibility, career breaks and disruptions, and the diversity of research teams.

Overall summary

The workshop discussions highlighted the importance of inclusive authorship and representation in developing EDI narratives. Participants stressed that ensuring a diverse range of voices is crucial, particularly those from marginalised groups. This would help create more authentic and comprehensive narratives that reflect the realities of all those involved, rather than just the perspectives of a select few.

Participants called for greater transparency and accountability in EDI reporting, expressing concerns that institutions might focus too heavily on presenting success stories while neglecting the challenges they face. They suggested that institutions should embrace a more honest approach, openly discussing both successes and failures.

Participants recommended complementing narratives with quantitative data, such as staff survey results, pay gap figures, and metrics on recruitment. This combination of qualitative and quantitative evidence would provide a fuller, more accurate picture of EDI efforts and their real-world impact.

A key area of concern was the disparity in resources between larger and smaller institutions. Smaller institutions often struggle to fully engage in EDI initiatives due to limited resources and capacity. Participants suggested that flexibility in the assessment approach should be offered to ensure that these institutions can still showcase their unique challenges and achievements. They also recommended collaboration between smaller institutions as a way to share practices and support each other in advancing EDI work.

Participants noted that the fear of repercussions for honest reporting might hinder institutions from fully acknowledging areas for improvement. They suggested creating a safe space for institutions to reflect honestly on their EDI journey without the risk of being penalised for reporting failures or ongoing challenges. This would encourage a more authentic assessment process and foster a culture of learning and improvement across the sector.

The workshop discussions highlighted the importance of ensuring EDI indicators reflect genuine progress, with participants calling for transparency in leadership policies, promotion processes, and decision-making. While there was support for charters like Athena Swan and the Race Equality Charter, concerns were raised about their cost and practical implementation, especially for smaller institutions. Participants emphasised the need for clear evidence of impact, suggesting that EDI training should focus on measurable changes rather than ticking boxes.

Key points:

- *Representation in narratives*
  Ensuring diverse voices from across job families are represented in narratives is crucial to avoid bias.
- *Reflection and improvement*
  Thematic narratives should be used to showcase progress and address ongoing challenges in EDI. They offer an opportunity for institutions to reflect on lessons learned and future improvements.
- *Challenges for smaller institutions and UoAs*
  Smaller institutions may struggle with fewer resources to engage fully in EDI initiatives. Support and flexibility are needed to ensure they can fairly represent their unique challenges and achievements. This may come in the form of having a minimum FTE to report on certain EDI initiatives.
- *Intersectionality in EDI initiatives*
  EDI efforts should consider the intersection of various identities, such as gender, race, class, and disability. Narratives need to address the full complexity of inequalities rather than focusing on single categories.
- *Equity in resource allocation*
  The ability of an institution to engage in EDI initiatives is often linked to available resources. Ensuring equitable allocation of resources to support EDI activities, particularly for smaller units, is essential to ensure all areas of the institution can participate fully in these efforts.
- *Accountability*
  Institutions must demonstrate accountability in their EDI initiatives by showing tangible outcomes. Regular evaluation of impact and progress helps track whether these initiatives are genuinely addressing inequalities and improving the institutional environment.

A.9 Summary from REF People, Culture and Environment (PCE) workshop 12

Collegiality and belonging

The REF PCE thematic workshop 12 was held on 13 September 2024. It was one of a series of thematic workshops that explored aspects of PCE in depth. Participants ranged from early career researchers to pro-vice chancellors, spanned academic and professional services roles, and were from a wide range of institution types, sizes, and geographies. Each workshop also included a small number of users of research and wider sector stakeholders.

Participants were asked to explore assessment options and test indicators relating to collegiality and belonging. Topics relevant to this workshop included, but were not limited to: staff networks, peer mentoring, involvement of staff in decision-making processes, competition, and action on bullying and harassment.

Overall summary

The workshop participants broadly supported the thematic narrative approach to assessing PCE, especially in relation to promoting collegiality within institutions. They felt that this method allows for a more context-specific evaluation and encourages critical self-assessment, particularly if institutions are asked to include information about failures. Participants emphasised the need to avoid a 'tick-box' approach focused on awards and charter marks, suggesting that thematic narratives could provide a more authentic and meaningful reflection on institutional culture.

There were concerns about the practical challenges of thematic narratives. Institutional size and resources can affect the ability to gather and present comprehensive evidence. Larger institutions might have dedicated teams for these tasks, while smaller institutions could struggle with workload and time constraints. There was also apprehension that institutions might cherry-pick successful initiatives, potentially obscuring areas needing improvement. Clear guidelines and a framework for standardising the narrative approach were seen as essential for ensuring fairness in assessment.

Participants valued the potential of narratives to foster cross-institutional learning, allowing institutions to showcase their unique strengths and share best practices. While some worried about the risk of focusing too narrowly on specific activities, others believed the narratives could provide a balanced view if complemented by appropriate quantitative data and overarching strategies. Concerns were raised about the subjectivity of assessments, particularly in areas like collegiality and belonging, and the need for clear definitions, guidelines, and metrics to ensure that the narratives reflect the lived experiences of academic communities across various disciplines and career stages.

Participants discussed a range of concerns and considerations across the indicators. They highlighted the need for breadth to accommodate differences in institutional size and resources, namely in staff networks and interdisciplinary collaborations. There were calls for indicators to include attention to effective implementation and evaluation, particularly around mentoring and researchers' input into decision-making, stressing that policies should not be tokenistic.

Participants questioned the practicality of some indicators, such as measuring safe workspaces, and called for more clarity and refinement, especially in defining terms like collaboration and academic citizenship. The group also expressed scepticism about using either internal or national surveys to measure belonging and collegiality, pointing out issues with data representativeness and the influence of broader institutional and sectoral contexts. There were particular concerns about gaming and problems with surveys becoming associated with the REF.

Key points:

- *Standardisation:* Participants highlighted the need for clear and consistent guidelines to ensure fairness across institutions. There was concern about the potential for narratives to become too focused on selective success stories without addressing broader institutional challenges.
- *Collegiality and belonging*: Many participants felt that the concepts of collegiality and belonging were challenging to assess due to their subjective nature. There were discussions on how these concepts differ across career stages, institutional structures, and individual experiences, and whether they should be assessed at the unit or institutional level.
- *Policies on collegiality*: It was highlighted that institutional policies, such as mentoring programmes, promotion processes, and inclusivity in decision-making, directly impact collegiality. The success of these policies in fostering a collegial environment should be considered when assessing an institution's narrative.
- *Inclusivity:* There was recognition that collegiality and belonging must be linked to inclusivity, ensuring that everyone, regardless of their role or contract type, feels a sense of belonging and value within the institution. Inclusivity in research teams, committees, and decision-making processes was seen as crucial for genuine collegiality to thrive.
- *Restructuring:* It was noted that institutional changes, such as restructuring or staff reductions, can severely impact feelings of belonging. Participants shared that these changes often lead to a sense of instability, isolation, and disconnection among staff, particularly in small units.

Appendix B Mapping of REF PCE assessment framework against good practice in other sectors

Proposed REF PCE framework (detailed presentation in section 4)	Areas that align with broader discourses about performance and organisational development	What concepts and good practice principles are currently absent from the REF PCE framing?
Strategy	• Strategic Planning • Financial Management • Compliance and Risk Management • Accountability	The following good practice principles are not covered in the framework: • Quality Control • Innovation and Adaptability • Building business resilience • Operational Efficiency • Technology Utilization • Performance Measurement • Risk Management • Brand Reputation
Responsibility	• Sustainability	
Openness and connectivity	• Customer Focus • Customer Satisfaction • Patient/Client Satisfaction • Building collaborative networks	
Inclusion	• Accessibility • Equity	
Development and support	• Leadership and Culture • Talent Management • Employee Engagement • Workforce Development	

Appendix C Sector consultation survey

6.1 Survey questionnaire

People, Culture and Environment indicators survey

Thank you for participating in this survey.

Research England has commissioned a project to Technopolis and CRAC-Vitae in collaboration with a number of sector organisations, which will develop indicators to be used for the assessment of People, Culture and Environment (PCE) in REF 2029. The project engages extensively with the research community to co-develop a shortlist of indicators to be used to evidence and support institutions' PCE submissions as part of a structured questionnaire for REF submissions.

This survey complements online workshops delivered in May-October 2024 to co-develop indicators on research culture and environment. This survey allows individuals from research-performing institutions (including senior institutional leaders, as well as academics and all other staff) or any other stakeholder organisations or networks to have their say on key questions discussed specifically at the scoping workshops.

The scoping workshops and this survey explore what the sector wants the indicators to do, the aspects of PCE that most effectively support high-quality research and impact, how these aspects might be evidenced, and any potential unintended consequences.

We will treat all responses as individual responses rather than as aggregate responses on behalf of entire institutions.

The survey will be open from Monday 24 June - Friday 13 September.

We are monitoring data on selected protected characteristics in order to understand the profile of survey participants in relation to the wider higher education sector profile. These data will be used to ensure that our survey results are as representative of the sector as possible. As this survey is anonymous, the data you provide cannot be connected to your personal identity.

1. Which of the following best describes your gender?

- Man
- Woman
- Non-binary
- Prefer not to say
- My gender is not listed (specify if you wish)

2. Do you consider yourself to be one or more of the following? [Select all that apply]

- A specific learning difficulty such as dyslexia, dyspraxia or AD(H)D
- A social/communication impairment such as Asperger's syndrome/other autistic spectrum disorder
- A long-standing illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy
- A mental health condition, such as depression, schizophrenia or anxiety disorder

- A physical impairment or mobility issues, such as difficulty using arms or using a wheelchair or crutches
- Deaf or a serious hearing impairment
- Blind or a serious visual impairment uncorrected by glasses
- A disability, impairment or medical condition that is not listed
- None
- Prefer not to say

3. What is your nationality?

- UK/British national
- National of a European Union member state
- National of a country outside the UK and the European Union
- Multiple nationalities (including UK/British)
- Multiple nationalities (excluding UK/British)
- Prefer not to say

4. Are you a parent or guardian of a child aged under 18 or a carer for anyone of any age?

- Yes
- No
- Prefer not to say

5. What is your age?

- 25 or under
- 26-35
- 36-45
- 46-55
- 56-65
- 66 or over
- Prefer not to say

Which of the following best describes your sexual orientation?

- Straight/ heterosexual
- Gay or Lesbian
- Bisexual
- Other orientation
- Prefer not to say

6. Which of the following best describes your ethnicity?

- Black or Black British – Caribbean
- Black or Black British – African
- Other Black background
- Asian or Asian British – Indian
- Asian or Asian British – Pakistani
- Asian or Asian British – Bangladeshi
- Chinese
- Arab
- Other Asian background
- White – English, Scottish, Welsh, Northern Irish or British
- Gypsy or Traveller
- Other White background
- Mixed - White and Black Caribbean
- Mixed - White and Black African
- Mixed - White and Asian
- Other mixed background
- Other ethnic background
- Prefer not to say
- My ethnicity is not listed

If you prefer to self-describe your ethnicity please do so here: [box]

Additionally, we have some profiling questions so that we can monitor representation of different stakeholder and institution types

7. At which of the following types of institutions do you conduct the majority of your work?

- University – Russell Group
- University – MillionPlus
- University – University Alliance
- University – GuildHE
- University – The Cathedrals Group
- University – Other or unsure of group
- Research-performing organisation other than a university
- Research funding organisation – public
- Research funding organisation – non-profit/charity/foundation/third sector
- Professional body
- Private company/industry
- None of the above

- Don't know
- I prefer not to say

8. How large is the institution at which you conduct the majority of your work, as measured by total enrolled student numbers (UG and PG combined)? Please approximate as closely as you can.

- Large institution – more than 20,000 enrolled students
- Medium-sized institution – 10,000-20,000 enrolled students
- Small institution – fewer than 10,000 enrolled students
- Not applicable – there are no enrolled students at my organisation
- No idea
- I prefer not to say

9. In which UK region is your organisation mainly based?

- England: East Midlands
- England: East of England
- England: London
- England: North East
- England: North West
- England: South East
- England: South West
- England: West Midlands
- England: Yorkshire and The Humber
- Northern Ireland
- Scotland
- Wales
- My organisation is virtual and/or does not have one main location (e.g. Open University)
- I am not based at a UK organisation
- Don't know
- I prefer not to say

10. Which of the following most closely approximates to your job title?

- Professor
- Reader
- Senior Lecturer
- Lecturer
- Postdoctoral fellow

- Research fellow (general)
- Teaching fellow (general)
- Technician
- Senior leadership staff at institutional level (Chancellor, Vice-Chancellor, Pro-VC or equivalent only)
- Professional university staff at institutional level (e.g. research manager, research culture manager, library services, etc)
- Professional university staff at departmental or subject-area level (e.g. research manager, research culture manager, library services, etc)
- Other university staff – academic
- Other university staff – non-academic
- PhD student (including professional doctorates, e.g. DClin, EdD)
- Student (undergraduate or postgraduate)
- Not based at a research-performing institution – Public research funder
- Not based at a research-performing institution – other civil service/government
- Not based at a research-performing institution – charitable/non-profit research funder
- Not based at a research-performing institution – Other charity/non-profit organisation
- Not based at a research-performing institution – Private company
- I currently do not have a job title
- I prefer not to say
- None of the above (please specify)

11. In which of the following fields of research do you conduct most of your work?

[if you do not conduct research yourself but are a research manager or support staff predominantly in charge of a particular field of research, please also select as appropriate]

- Drop-down menu to include:
- List of the 34 REF UoA fields: https://results2021.ref.ac.uk/filters/unit-of-assessment
- Interdisciplinary: my work habitually involves several of the listed areas of research
- Not applicable: my work does not involve an emphasis on any particular field of research
- Prefer not to say

We now come to a series of closed questions about the assessment of People, Culture and Environment in the REF. These mostly take the shape of point-and-click or dropdown-menu answer options. However, on the final page of the survey, there is an opportunity for you to share more detailed written views if you wish to do so.

12. How important do you consider each of the following elements of People, Culture End environment to the task of supporting high-quality research, engagement and impact?

(Please note the list of research culture elements is in randomised order and appears in the same randomised order in later questions. No priority levels are implied for elements near the start of the list)

[not at all important / minimally important/ moderately important / very important / DKNO]

[see list of elements at the end of this document]

13. To what extent do you think each of the following should be objectives of assessing PCE in the REF?

[should not be an objective / should be a minor objective / should be a major objective / DKNO]

- For analysis, i.e. to better understand aspects of UK HEI engagement with people, culture and environment
- For system-intelligence, i.e. to better understand links between PCE and research quality, productivity and impact
- For advocacy, i.e. to enable HEIs to showcase their best practice
- For accountability, i.e. to enable HEIs to monitor their progress against various aspects of PCE
- For comparison, i.e. to benchmark HEI's standards on PCE against the rest of the sector
- For adaptation of behaviours, i.e. to incentivise institutions to travel further an continue to make improvements on PCE
- For allocation, i.e. to reward progress (including through a journey travelled approach) by providing funding
- Any other major objectives' [specify, free text box]

15. For each of the following elements of research culture, please use the drop-down menus to give us your view on:

- **Whether assessment should best done at institutional or unit level, or both?**
- **Should evidence be predominantly based on quantitative measures, document evidence (certificates/accreditations, etc), narrative statements, or something else?**

Columns:

- Level of assessment (drop down menu: Institutional level / unit level / both / DKNO)
- Type of evidence (drop down menu: mainly quantitative measures / mainly document evidence / mainly narrative statement / a balanced mixture of the above / something else / DKNO)

[see list of elements at the end of this document]

16. Which of the following sector initiatives, concordats and accreditations do you think ought to play a role in the assessment of PCE?

Please tick all that apply. If you have not heard of any of the initiatives, concordats and accreditations, simply leave them un-ticked.

- Athena Swan Charter (2005, revised in 2015 and 2021)
- Barcelona Declaration on Open Research Information (2023)
- Coalition on Advancing Research Assessment (CoARA) (2022)
- Concordat for Engaging the Public with Research (2011)
- Concordat for the Environmental Sustainability of Research and Innovation Practice (2024)
- Concordat on Open Research Data (2016)
- Concordat on Openness on Animal Research (2014)
- Concordat to Support Research Integrity (2012, revised in 2019)
- Concordat to Support the Career Development of Researchers (2008, revised in 2019)
- Guidance for Safeguarding in International Development Research (2020)
- HR Excellence in Research Concordat
- Knowledge Exchange Concordat (2020)
- Leiden Manifesto on Research Metrics (2015)
- Race Equality Charter (2016)
- San Francisco Declaration on Research Assessment (DORA) (2013)
- Technician Commitment (2017)
- Any other sector initiatives, concordats and accreditations that should play a role in the assessment of PCE (please specify) [freetext box]

17. For the same list of elements of research culture, please use the drop-down menus to give us your view on:

- **Overall, how feasible you think it is to robustly evidence each element? (feel free to consider the kinds of evidence sources you think would be needed for each)**
- **What you think might be the likelihood of gaming and/or negative unintended consequences collecting and assessing evidence?**

Columns

- Overall feasibility evidencing (drop-down menu: very easy / quite easy / quite difficult / very difficult / DKNO)
- Likelihood of gaming or negative unintended consequences (Very low / quite low / quite high / very high / DKNO)

[see list of elements at the end of this document]

18. Please feel free to provide below any specific reflections you would like to make on any of the issues covered in the any of the items in this survey.

[Please note: there is a further open-text box on the next page for any broader reflections you may wish to share about the inclusion of PCE in the REF]

[free text box]

19. [Final page:] Please feel free to provide below any additional thoughts you might have on the inclusion, evidencing and assessment of 'people, culture and environment' in the Research Excellence Framework

[free text box]

20. Please feel free to provide below any feedback you have about this survey

[free text box]

6.2 Analysis of Survey Demographics

Gender

Responses were benchmarked against HESA Staff Data for Academic Staff.[2] While respondents included a range of non-academic staff, the gender balance of academic staff in UK HE is not significantly different from the UK population, which was 51% female and 49% male in the 2021 census.

Calculations exclude blanks and 62 respondents (4.30% of total responses to this question) who selected 'Prefer not to say".

The survey responses (Table 4) show a **skew towards female respondents**, compared to both academic staff and the UK population. There were also a higher proportion of respondents identifying as other genders, compared to the HESA staff data.

Table 4 Benchmarking for gender

Gender	REF PCE Survey		HESA Staff Data 2022-23		Difference
	Count	% of total survey responses	Count	% of total academic staff	
Male	**491**	**35.61%**	**123,290**	**51.28%**	**-15.67%**
Female	**841**	**60.99%**	**116,540**	**48.47%**	**+12.52%**
Other	**47**	**3.41%**	**245**	**0.10%**	**+3.31%**
Non-Binary (survey)	13	0.94%	-	-	-
Not listed (survey)	34	2.47%	-	-	-
Total	**1,379**	**-**	**240,420**	**-**	**-**

Disability

Responses were benchmarked against HESA Staff Data for Academic Staff.[3] This is because the proportion of people with disabilities is much lower in the population of UK Academic staff than the general population, at 7% for Academic staff compared to 23% of the general working-age population.[4]

[2] https://www.hesa.ac.uk/data-and-analysis/staff/working-in-he/characteristics# - Note: HESA Data refers to "Sex" not "Gender"

[3] https://www.hesa.ac.uk/data-and-analysis/staff/table-5#

[4] https://researchbriefings.files.parliament.uk/documents/CBP-9602/CBP-9602.pdf

Calculations exclude blanks and 108 respondents (7.45% of total responses to this question) who selected 'Prefer not to say'.

As Table 5 shows, 28% of survey respondents declared a disability on the survey, which is significantly higher than proportion of academic staff with a declared disability in the HESA data. It is also higher than the UK population in general.

Table 5 Benchmarking for a declared disability

Disability status	REF PCE Survey		HESA Staff Data 2022-23		Difference
	Count	% of total responses	Count	% of total academic staff	
None	951	72%	196,660	93%	-21%
All Disabilities	363	28%	15,155	7%	+21%
Total	**1,341**		**211,815**	**-**	

When reviewing the data for **disability by type, the survey data is not directly comparable with HESA because the survey allowed respondents to select multiple disabilities**, whereas HESA records 'Two or more disabilities' separately. 87 survey respondents selected 2 or more disabilities.

Table 6 Breakdown of declared disabilities by type

Disability by type	REF PCE Survey		HESA Staff Data 2022-23		Difference
	Count	% of total disabilities	Count	% of total disabilities	
A mental health condition, such as depression, schizophrenia or anxiety disorder	124	26%	2,255	14.88%	+11.12%
A specific learning difficulty such as dyslexia, dyspraxia or AD(H)D	104	22%	3,955	26.10%	-4.10%
A long-standing illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy	92	19%	3,345	22.07%	-3.07%
A disability, impairment or medical condition that is not listed	51	11%	2,065	13.63%	-2.63%
A social/communication impairment such as Asperger's syndrome/other autistic spectrum disorder	48	10%	430	2.84%	+7.16%
A physical impairment or mobility issues, such as difficulty using arms or using a wheelchair or crutches	31	6%	1,130	7.46%	-1.46%
Deafness or a serious hearing impairment	23	5%	720	4.75%	+0.25%
Blindness or a serious visual impairment uncorrected by glasses	7	1%	280	1.85%	-0.85%
Two or more disabilities	-	-	925	6.10%	-

Disability by type	REF PCE Survey		HESA Staff Data 2022-23		Difference
	Count	% of total disabilities	Count	% of total disabilities	
Development condition that you have had since childhood which affects motor, cognitive, social and emotional skills, and speech and language	-	-	45	0.30%	-

Nationality

Responses were benchmarked against HESA data for personal characteristics of academic staff.[5]

Calculations exclude blanks and 55 respondents who selected 'Prefer not to say' (3.82% of total responses to this question). For comparison with the HESA data, respondents with multiple nationalities including UK/British nationality have been counted as UK/British nationals.

In the survey data, there is a **skew towards UK/British nationals**, compared to the overall population for UK academic staff (Table 7).

Table 7 Benchmarking for nationality

Nationality	REF PCE Survey		HESA Staff Data 2022-23		Difference
	Count	% of total responses	Count	% of total academic staff	
UK/British national (including dual nationality for PCE survey)	1146	82.68%	160,390	67.34%	+15.34%
National of a European Union member state	137	9.88%	37,585	15.78%	-5.90%
National of a country outside the UK and the European Union	96	6.93%	40,195	16.88%	-9.95%
Multiple nationalities (excluding UK/British)	7	0.51%	-	-	-
Total	1386		238,170		

Age

Responses were benchmarked against HESA data for personal characteristics of academic staff.[6]

Calculations exclude blanks and 55 respondents who selected 'Prefer not to say' (3.87% of total responses to this question).

[5] https://www.hesa.ac.uk/news/16-01-2024/sb267-higher-education-staff-statistics#

[6] https://www.hesa.ac.uk/news/16-01-2024/sb267-higher-education-staff-statistics#

When compared to HESA data, **younger academic staff are under-represented** in the survey sample, whereas older, particularly mid-career staff, are over-represented (Table 8).

Table 8 Benchmarking by age bracket

Age bracket	REF PCE Survey		HESA Staff Data 2022-23		Difference
	Count	% of total	Count	% of total	
25 or under	14	1.02%	8,275	3.44%	-2.42%
26-35	161	11.79%	59,340	24.68%	-12.90%
36-45	407	29.80%	69,665	28.98%	0.82%
46-55	461	33.75%	55,850	23.23%	10.52%
56-65	272	19.91%	38,340	15.95%	3.96%
66 or over	51	3.73%	8,945	3.72%	0.01%
Total	**1,366**	**100%**	**240,415**	**100%**	**-**

Sexuality

HESA collects data on staff sexual orientation, but this is not in the publicly available dataset. The ONS Annual Population Survey 2022 was used instead, with the percentages adjusted to account for the removal of 'Do not know or refuse'.[7]

Calculations exclude blanks and 167 respondents who selected 'Prefer not to say' (11.79% of total responses to this question).

As can be seen in Table 9, **the proportion of survey respondents identifying as a sexuality other than heterosexual is higher** the general UK adult population.

Table 9 Benchmarking by sexuality

Sexuality	REF PCE Survey		ONS Annual Population Survey 2022	Difference
	Count	% of total	% of total	
Straight/heterosexual	1,082	76.41%	95.99%	-9.36%
Gay or Lesbian	74	5.23%	1.85%	4.07%
Bisexual	68	4.80%	1.54%	3.90%
Other orientation	25	1.77%	0.62%	1.38%

[7] https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/sexuality/bulletins/sexualidentityuk/2021and2022

Total	**12,49**	**100%**	**100%**	**-**

Ethnicity

Responses were benchmarked against HESA data for personal characteristics of academic staff.[8]

Calculations excluded blanks and 83 respondents who selected 'Prefer not to say' (5.87% of responses to this question).

The survey responses (Table 10) show a **higher proportion of White respondents**, compared to the HESA data on academic staff, with **Asian staff under-represented**.

Table 10 Benchmarking for ethnicity

Ethnicity	REF PCE Survey		HESA Staff Data 2022-23		Difference
	Count	% of total	Count	% of total	
White	1156	86.79%	167,190	77.63%	+9.15%
Black	35	2.63%	7,295	3.39%	-0.76%
Asian	55	4.13%	28,095	13.05%	-8.92%
Mixed	45	3.38%	6,480	3.01%	+0.37%
Other	41	3.08%	6,300	2.93%	+0.15%
Total	1332	100.00%	215,360	100%	-

HESA collects data that provides a more detailed breakdown of ethnicities. However, this data is not available in the public data releases. It has, therefore, not been possible to benchmark specific ethnicities.

Table 11 provides a breakdown of ethnicities reported in the survey. Calculations excluded blanks and 83 respondents who selected 'Prefer not to say' (5.87% of total responses to this question).

Table 11 Breakdown of Ethnicity for REF PCE Survey responses

Ethnicity	Count	% of Total
White	**1156**	**86.79%**
White – English, Scottish, Welsh, Northern Irish or British	881	66.14%
Other White background	275	20.65%
Black	**35**	**2.63%**
Black or Black British – African	19	1.43%

[8] https://www.hesa.ac.uk/news/16-01-2024/sb267-higher-education-staff-statistics#

Black or Black British – Caribbean	12	0.90%
Other Black background	4	0.30%
Asian	**55**	**4.13%**
Asian or Asian British – Bangladeshi	2	0.15%
Asian or Asian British – Indian	28	2.10%
Asian or Asian British – Pakistani	6	0.45%
Chinese	12	0.90%
Other Asian background	7	0.53%
Mixed	**45**	**3.38%**
Mixed - White and Asian	14	1.05%
Mixed - White and Black African	2	0.15%
Mixed - White and Black Caribbean	2	0.15%
Other mixed background	27	2.03%
Other	**41**	**3.08%**
Arab	7	0.53%
Gypsy or Traveller	1	0.08%
Other ethnic background	14	1.05%
My ethnicity is not listed	19	1.43%
Total	**1332**	**100.00%**

Institution Type

Calculations were based on HESA staff data which records the total number of academic staff employed by each HEI.[9] This benchmarking data was filtered based on HEIs participated in REF 2021. For the purposes of comparison, the survey and HESA data were grouped into two categories: Russell Group and Non-Russell group universities.

Calculations exclude blanks, 11 respondents who selected 'Don't know' (0.79% of total responses to this question) and 27 respondents who selected 'Prefer not to say' (1.94% of total responses to this question).

In terms of HEIs, the balance in survey responses **skews slightly towards staff at Russell Group Institutions** (Table 12). However, **there is still good representation from non-Russell Group HEIs**.

[9] https://www.hesa.ac.uk/data-and-analysis/staff/location#

Table 12 Benchmarking of HEI institution type

Institution Type: HEIs	REF PCE Survey		HESA Staff Data 2022-23	Difference
	Count	% of total	% of total REF HEIs	
Russell Group Universities	675	53.78%	45.88%	+7.9%
Non-Russell Group Universities	580	46.22%	54.12%	-7.9%
Total	1255	100%		

It is not possible to benchmark non-HEIs because the population size is unknown. Table 13 below shows the breakdown of institution types.

Calculations exclude blanks, 11 respondents who selected 'Don't know' (0.79% of total responses to this question) and 27 respondents who selected 'Prefer not to say' (1.94% of total responses to this question).

Respondents from universities account for the vast majority (92.89%) of survey responses. There were broad a range of respondents from outside of academia.

Table 13 Breakdown of Institution type for REF PCE Survey

Institution Type	Count	% of Total
Russell Group Universities	**675**	**49.96%**
Non-Russell Group Universities	**580**	**42.93%**
University – GuildHE	25	1.85%
University – MillionPlus	54	4.00%
University – Other or unsure of group	409	30.27%
University – The Cathedrals Group	17	1.26%
University – University Alliance	75	5.55%
Research sector organisations	**41**	**3.03%**
Research funding organisation – non-profit/charity/foundation/third sector	11	0.81%
Research funding organisation – public	7	0.52%
Research-performing organisation other than a university	23	1.70%
Other organisations	**29**	**2.15%**
Other civil service / government organisation	9	0.67%
Private company/industry	12	0.89%
Professional body	8	0.59%
None of the above	**26**	**1.92%**

Institution Type	Count	% of Total
Total	**1,351**	**100.00%**

Institution Size

It is difficult to benchmark this metric, as it depends on what is being used as the benchmark.

In terms of student numbers, of the HEIs that participated in REF 2021:

- 38% were large institutions
- 32% were medium institutions
- 30% were small HEIs

Based on this distribution, large institutions are significantly over-represented in the survey responses and small HEIs are under-represented.

However, **the survey was sent to individuals, not just institutions**, and so we could also base our calculations on the proportion of academic staff in UK HEIs that work in different sizes of institution.

The method used was as follows:

- HEIs that participated in REF 2021 were categorised by institution size, based on HESA data on student numbers.
- The number of academic staff across institutions in each size category was calculated, based on HESA data on academic staff numbers.
- This data was then represented as a percentage of the total academic staff in UK HE working in institutions of each size.

Based on this calculation, the table below shows how the survey sample compares to the % of staff in HEIs that participate in the REF. **Purely in terms of individual staff numbers, the responses skew slightly towards medium-sized and small institutions**.

Table 14 Benchmarking by HEI size

HEI Size	REF PCE Survey		HESA Data 2022-23	Difference
	Count	% of total	% of staff in UK (REF) HEIs	
Large institution – more than 20,000 enrolled students	757	61%	71%	-10%
Medium-sized institution – 10,000-20,000 enrolled students	352	28%	22%	+6%
Small institution – fewer than 10,000 enrolled students	135	11%	7%	+4%
Total	**1,244**	**100%**	**100%**	

Region

The HESA public data set for staff does not include staff numbers by region. However, the HESA student data does provide a breakdown of student numbers by region.[10] This provides a n approximate proxy measure for the level of HE activity a particular region.

As can be seen below, **the distribution of survey responses by region is broadly in line with HE activity across the UK regions**.

Table 15 Benchmarking by UK region

Region	REF PCE Survey		HESA Student Data 2022-23		Difference
	Count	% of total	Count	% of total	
England: East Midlands	96	7.20%	205,690	7.00%	-0.20%
England: East of England	93	6.98%	170,620	5.81%	-1.17%
England: London	227	17.03%	544,045	18.52%	+1.49%
England: North East	56	4.20%	129,345	4.40%	+0.20%
England: North West	110	8.25%	274,295	9.34%	+1.09%
England: South East	185	13.88%	309,755	10.55%	-3.33%
England: South West	149	11.18%	208,070	7.08%	-4.09%
England: West Midlands	59	4.43%	253,960	8.65%	+4.22%
England: Yorkshire and The Humber	119	8.93%	228,470	7.78%	-1.15%
My organisation is virtual and/or does not have one main location (e.g. Open University)	31	2.33%	98,755	3.36%	+1.04%
Northern Ireland	6	0.45%	67,515	2.30%	+1.85%
Scotland	145	10.88%	292,240	9.95%	-0.93%
Wales	57	4.28%	154,385	5.26%	+0.98%
Total	**1333**	**100%**	**2,937,145**	**100%**	**-**

Job Title

HESA collects a range of data on academic staff roles, but the public datasets present the data in ways that makes it challenging to compare with the survey data.

HESA shares data based on salary bandings, but this does not map easily onto the job titles used in the survey. Moreover, the academic grades used in post-92s are different to the older research universities anyway. So this does not seem to be a viable option.

[10] https://www.hesa.ac.uk/data-and-analysis/students/where-study

The HESA public datasets do include a breakdown of academic roles into Professor, Other Senior Academic (i.e. with management responsibilities) and Other Academic roles. Comparison with the survey data is based on Professors vs. Other Academic Staff.

As can be seen below, **Professors are significantly over-represented in the survey**, as a proportion of academic staff.

Table 16 Benchmarking of academic staff - Professors vs Other academic staff

Job Title	REF PCE Survey		HESA Staff Data 2022-23		Difference
	Count	% of total	Count	% of total	
Professor	**414**	**52.74%**	**24,430**	**10.16%**	+42.58%
Other academic staff	**371**	**47.26%**	**215,990**	**89.84%**	-42.58%
Reader	79	10.06%	-	-	-
Senior Lecturer	140	17.83%	-	-	-
Lecturer	71	9.04%	-	-	-
Research fellow (general)	30	3.82%	-	-	-
Teaching fellow (general)	6	0.76%	-	-	-
Postdoctoral fellow	33	4.20%	-	-	-
Other university staff – academic	12	1.53%	-	-	-
Total	**785**	**100%**	**240,420**	**100%**	**-**

Beyond academic roles, the breadth of job titles covered by the survey makes it virtually impossible to know what the population size is and, therefore, to calculate benchmarks.

What we can see from the survey data is that, across all job titles, there is **good representation of professional university staff.**

Table 17 Breakdown of job roles for REF PCE survey data

Job Title	Count	% of Total
Academic	**785**	**57.72%**
Professor	414	30.44%
Reader	79	5.81%
Senior Lecturer	140	10.29%
Lecturer	71	5.22%
Research fellow (general)	30	2.21%
Teaching fellow (general)	6	0.44%
Postdoctoral fellow	33	2.43%

Job Title	Count	% of Total
Other university staff – academic	12	0.88%
HEI Senior Leadership	**26**	**1.91%**
Senior leadership staff at institutional level (Chancellor, Vice-Chancellor, Pro-VC or equivalent only)	26	1.91%
Professional and technical university staff	**448**	**32.94%**
Professional university staff at institutional level (e.g. research manager, research culture manager, facility manager, library services, etc)	290	21.32%
Professional university staff at departmental or subject-area level (e.g. research manager, research culture manager, facility manager, library services, etc)	109	8.01%
Other university staff – non-academic	27	1.99%
Technician or technical manager	22	1.62%
Students	**22**	**1.62%**
PhD student (including professional doctorates, e.g., DClin, EdD)	21	1.54%
Student (undergraduate or postgraduate)	1	0.07%
Non-HE staff	**33**	**3.16%**
Not based at a research-performing institution – I work at a public research funding organisation	3	0.22%
Not based at a research-performing institution – I work for a charitable/non-profit organisation that does not fund research	8	0.59%
Not based at a research-performing institution – I work for a charitable/non-profit research funding organisation	8	0.59%
Not based at a research-performing institution – I work for a private company	14	1.03%
Not based at a research-performing institution – I work in a part of the civil service or government other than a public research funding organisation	10	0.74%
Other	**36**	**2.65%**
I currently do not have a job title	9	0.66%
None of the above (please specify, (max. 50 characters, including spaces)	27	1.99%
Total	**1925**	**100.00%**

Academic Discipline

For the purpose of benchmarking, survey responses were grouped based on the 4 main REF panels. The proportion of staff per panel was compared to the data for number of FTEs submitted to each panel in REF 2021.[11]

All calculations excluded blanks and "Prefer not to say" (10 responses, 0.82% of total responses to the question).

When benchmarking the responses for subjects aligned with REF panels (Table 18), the responses demonstrate a good spread across the main panels.

Table 18 Benchmarking for disciplines by REF panel

Disciplines by REF Panel	REF PCE Survey		REF 2021 FTE staff data		Difference
	Count	% of total	Count	% of total	
Panel A	278	30.99%	19,983	26.25%	+4.74%
Panel B	162	18.06%	18,393	24.16%	-6.10%
Panel C	302	34.67%	23,451	30.80%	+2.86%
Panel D	155	17.28%	14,305	18.79%	-1.51%
Total	**897**	**100%**	**76,132**	**100%**	-

A significant proportion of survey respondents selected categories that are not directly aligned with REF panels (Table 19).

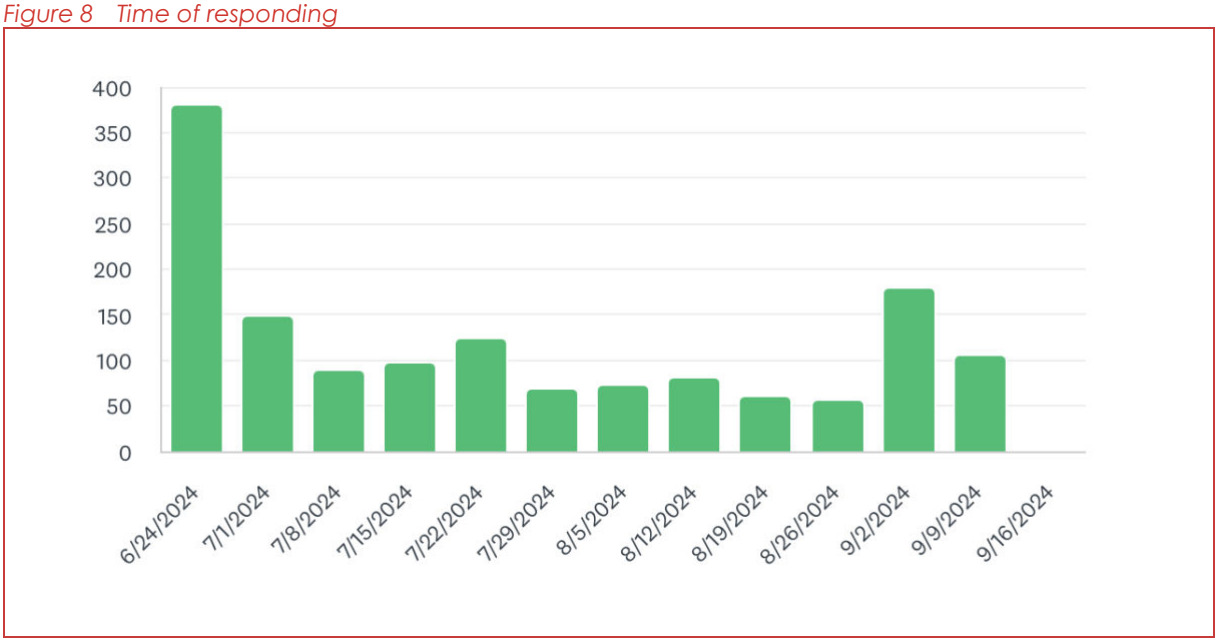
Table 19 Breakdown by REF panel-aligned and other fields

Research Field	Count	% of Total
Subject Areas Aligned with REF Panels A-D	897	74.13%
Interdisciplinary: my work habitually involves several of the listed fields of research	92	7.60%
Other – my main field is not represented on this list	18	1.49%
Not applicable: my work does not involve an emphasis on any particular field of research	203	16.78%
Total	**1210**	**100%**

[11] https://2021.ref.ac.uk/results-analysis/submissions-data/index.html

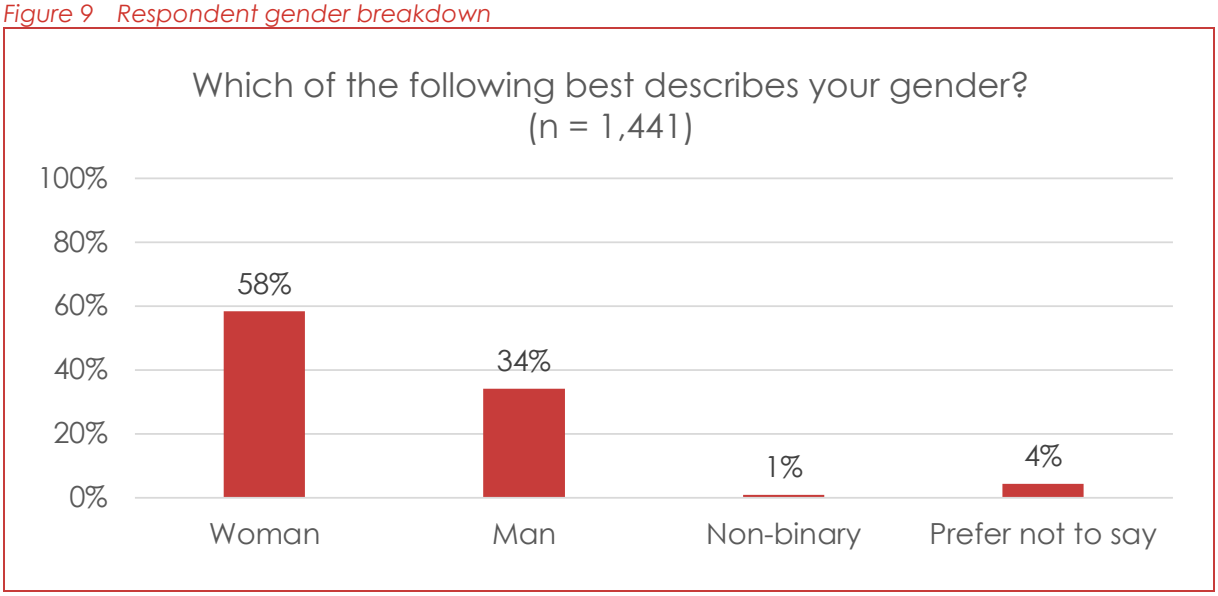
6.3 Response analysis

Figure 8 Time of responding



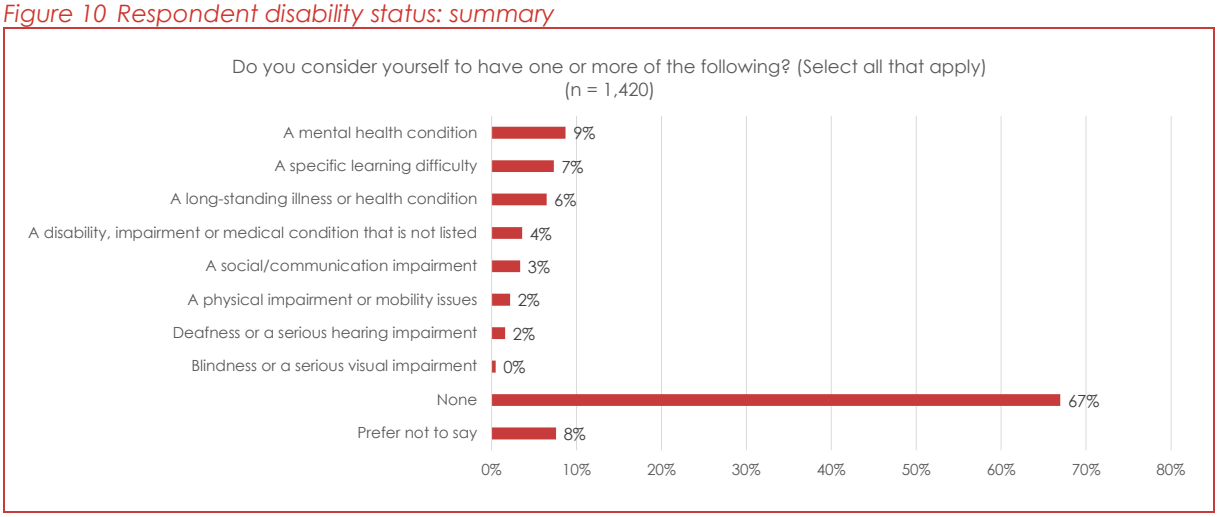
Technopolis survey

Figure 9 Respondent gender breakdown



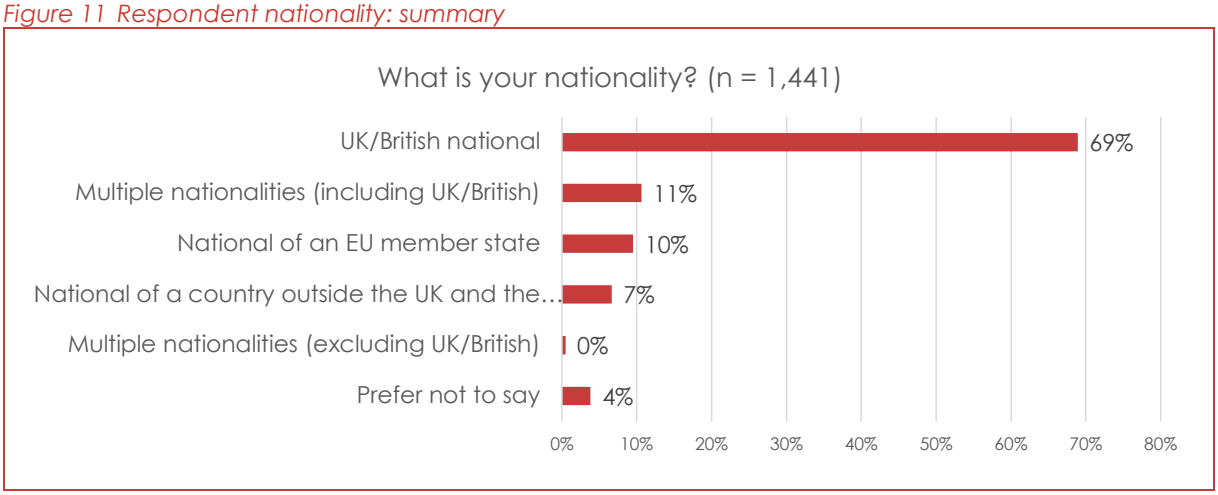
Source: Technopolis survey

Figure 10 Respondent disability status: summary



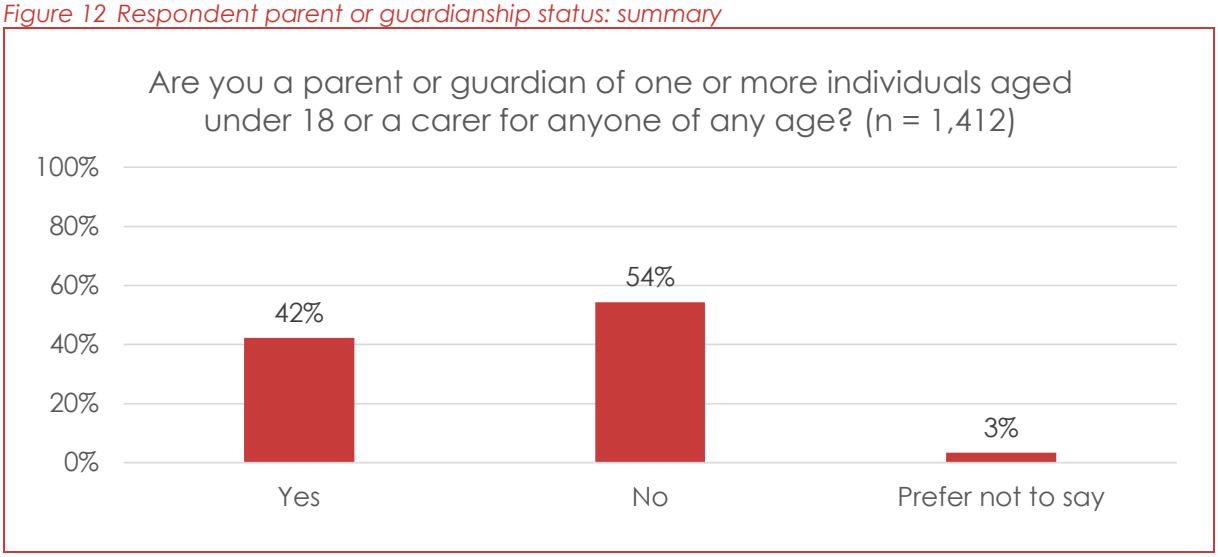
Source: Technopolis survey

Figure 11 Respondent nationality: summary



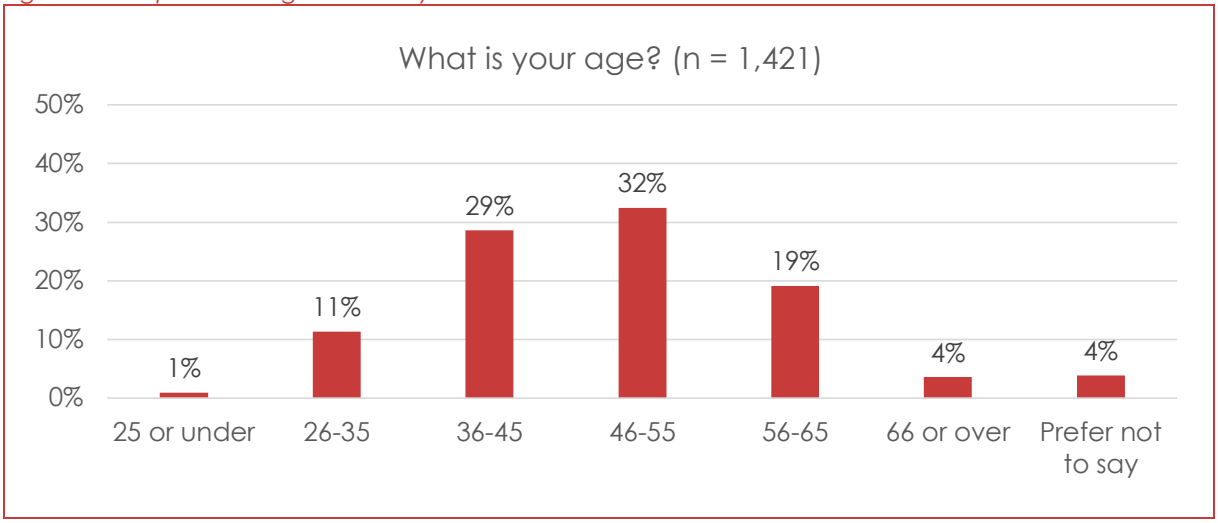
Technopolis survey

Figure 12 Respondent parent or guardianship status: summary



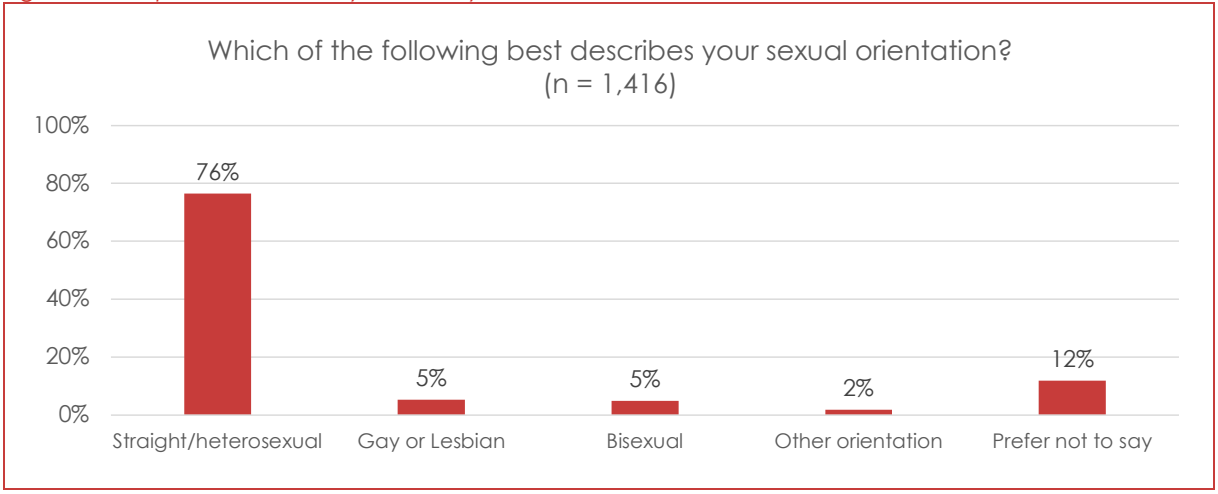
Technopolis survey

Figure 13 Respondent age: summary



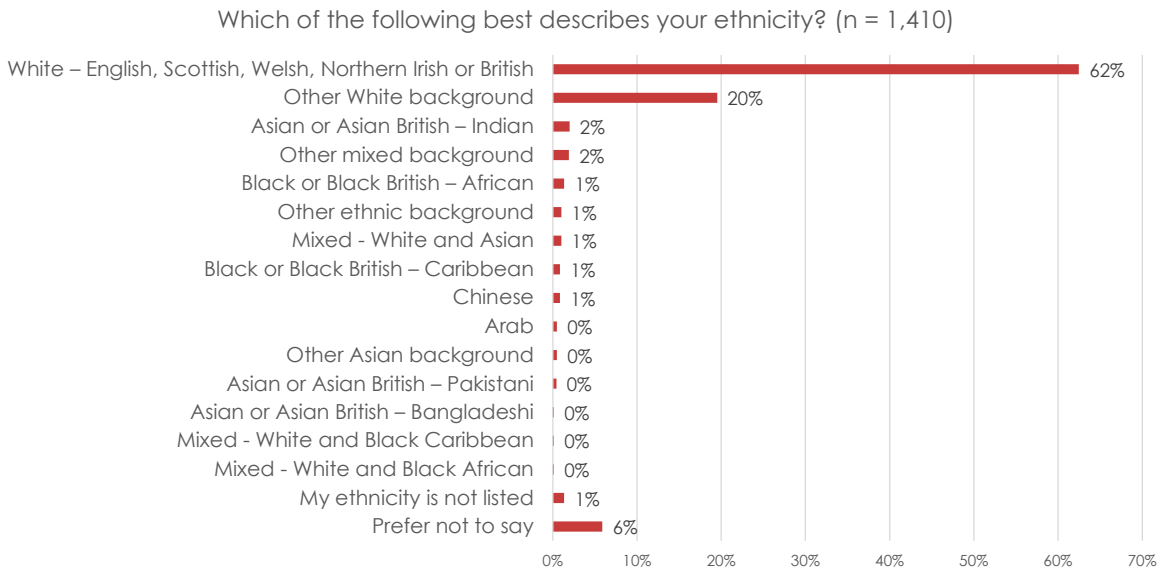
Technopolis survey

Figure 14 Respondent sexuality: summary



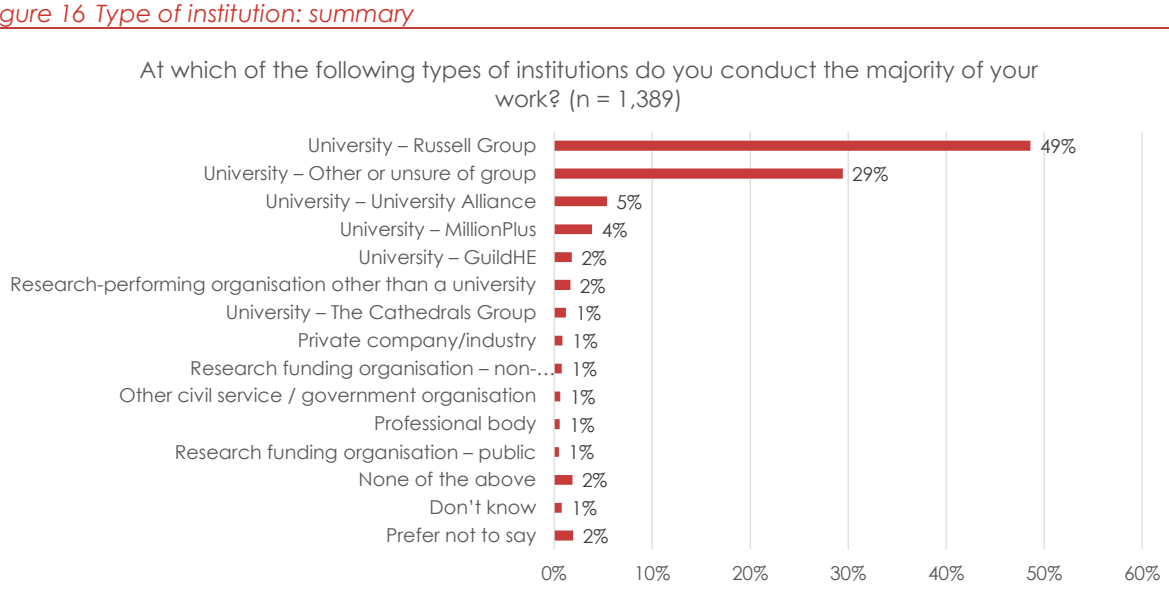
Technopolis survey

Figure 15 Respondent ethnicity: summary



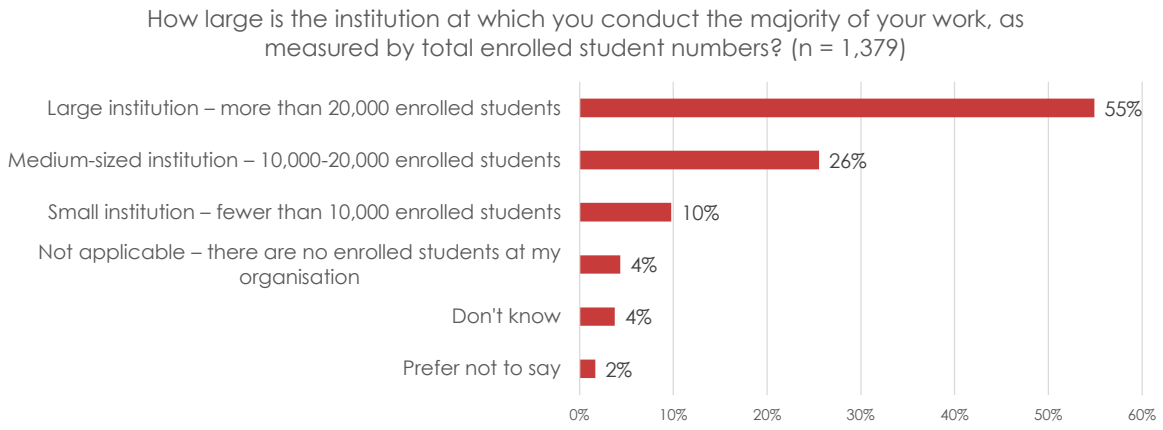
Technopolis survey

Figure 16 Type of institution: summary



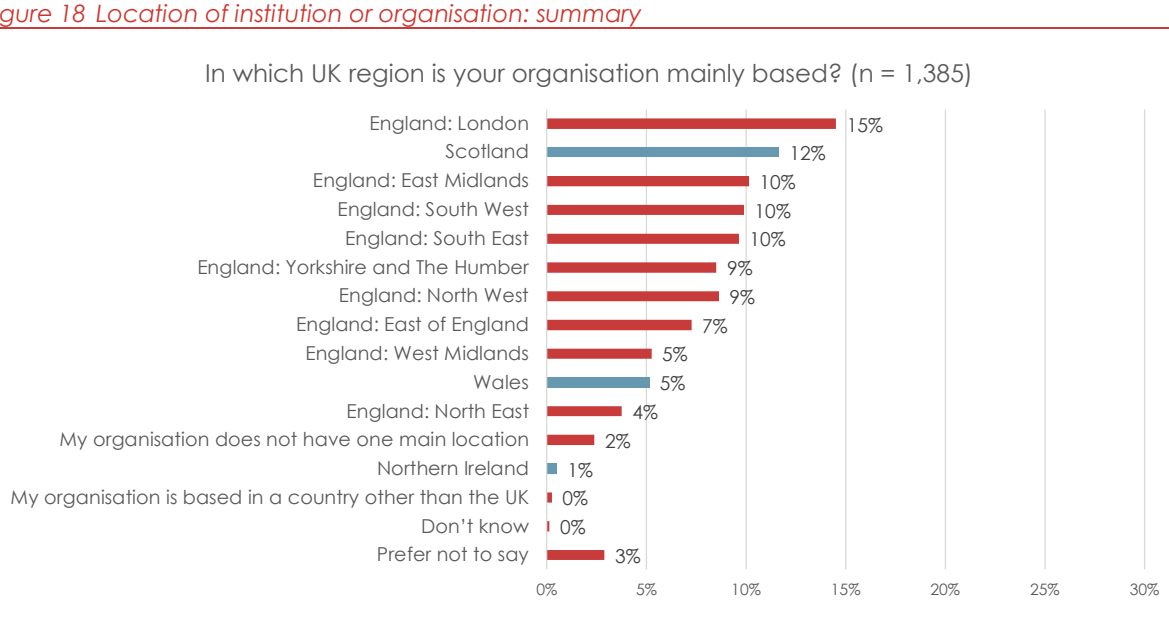
Technopolis survey

Figure 17 Size of institution: summary



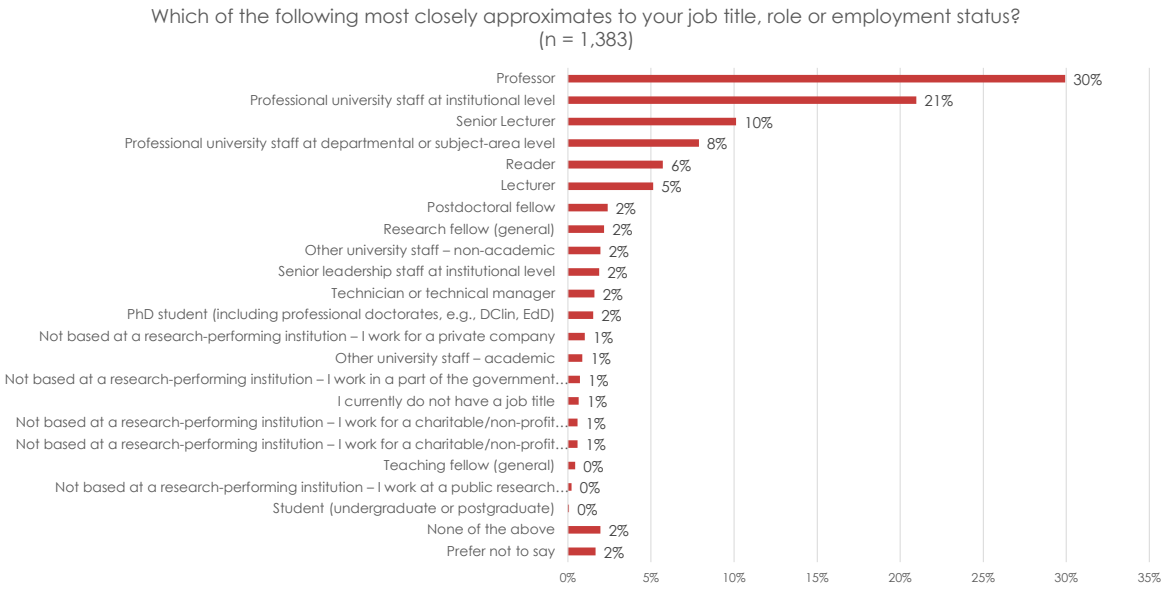
Technopolis survey

Figure 18 Location of institution or organisation: summary



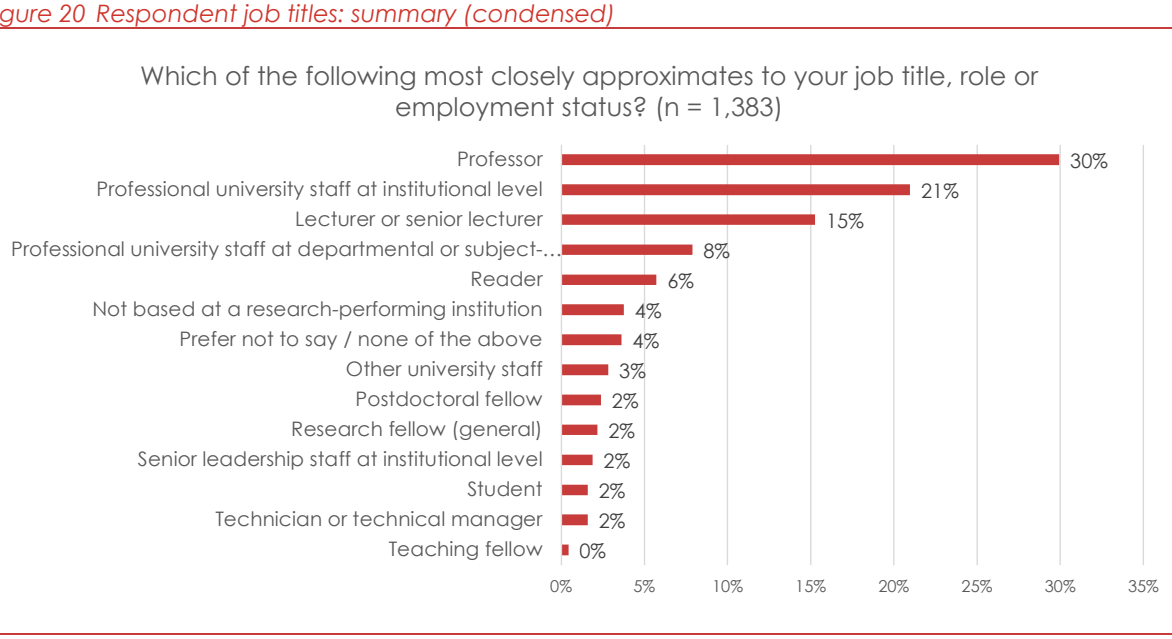
Technopolis survey

Figure 19 Respondent job titles: summary



Technopolis survey

Figure 20 Respondent job titles: summary (condensed)



Technopolis survey

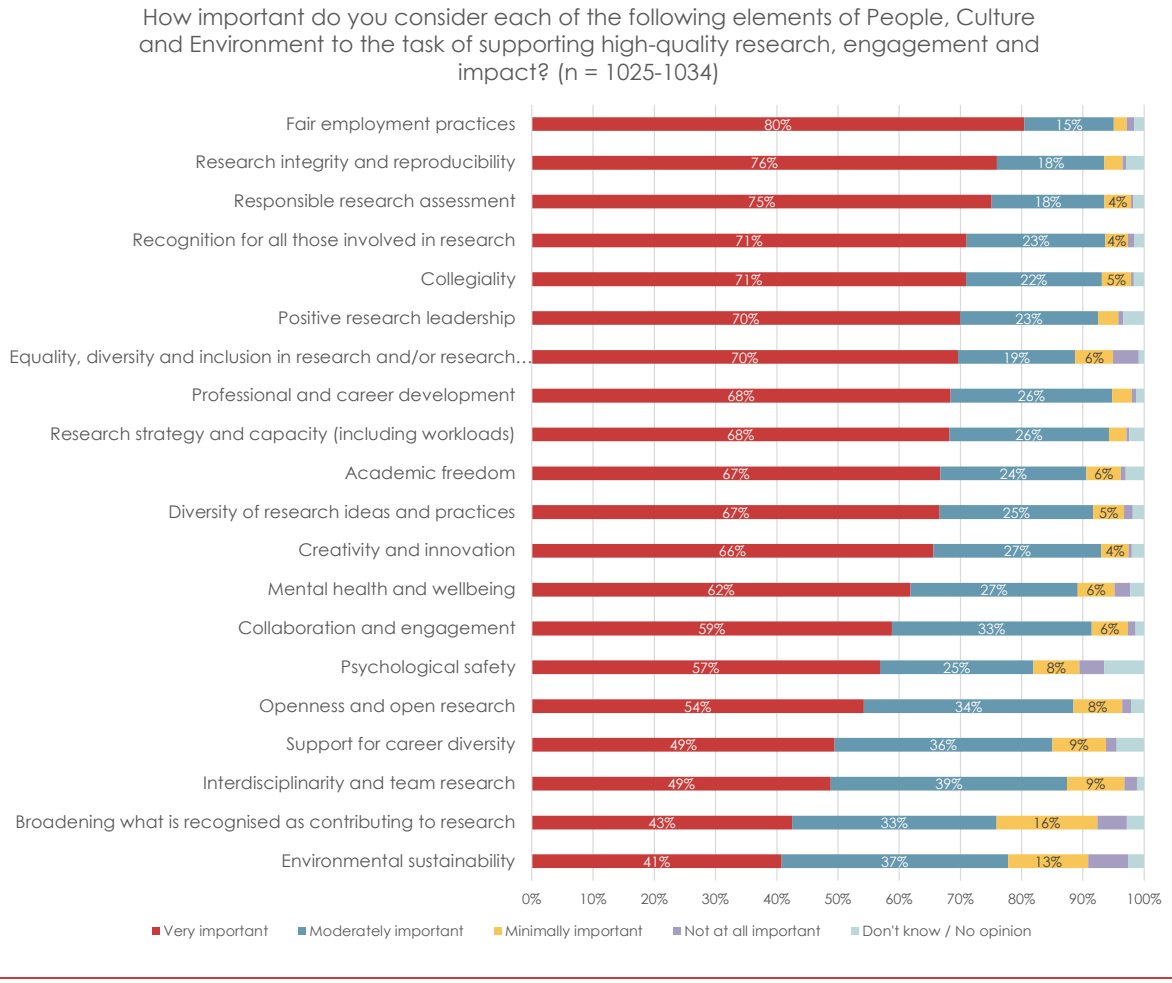
Table 20 Respondent field of discipline: summary

Field of research	Count	%
Biological Sciences	94	8%
Interdisciplinary: my work habitually involves several of the listed fields of research	92	8%
Psychology, Psychiatry and Neuroscience	74	6%
Education	52	4%
Engineering	48	4%

Field of research	Count	%
Business and Management Studies	46	4%
Law	41	3%
Clinical Medicine	40	3%
Allied Health Professions, Dentistry, Nursing and Pharmacy	34	3%
Earth Systems and Environmental Sciences	33	3%
Public Health, Health Services and Primary Care	31	3%
English Language and Literature	30	2%
Computer Science and Informatics	28	2%
Sociology	28	2%
Geography and Environmental Studies	27	2%
Music, Drama, Dance, Performing Arts, Film and Screen Studies	26	2%
Social Work and Social Policy	24	2%
Art and Design: History, Practice and Theory	24	2%
Mathematical Sciences	24	2%
History	22	2%
Politics and International Studies	22	2%
Other – my main field is not represented on this list	18	1%
Physics	16	1%
Sport and Exercise Sciences, Leisure and Tourism	15	1%
Economics and Econometrics	14	1%
Architecture, Built Environment and Planning	14	1%
Chemistry	13	1%
Modern Languages and Linguistics	13	1%
Communication, Cultural and Media Studies, Library and Information Management	12	1%
Classics	11	1%
Anthropology and Development Studies	10	1%
Archaeology	9	1%
Philosophy	8	1%
Area Studies	6	0%
Agriculture, Food and Veterinary Sciences	5	0%
Theology and Religious Studies	3	0%
Not applicable: my work does not involve an emphasis on any particular field of research	203	17%
Prefer not to say	10	1%

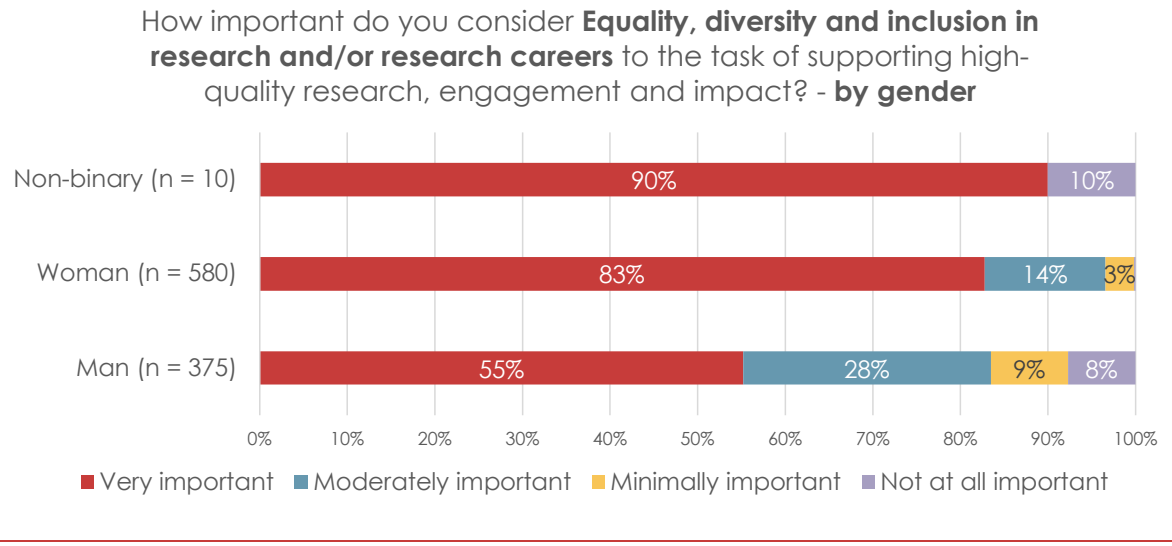
Technopolis survey

Figure 21 Elements prioritised: summary



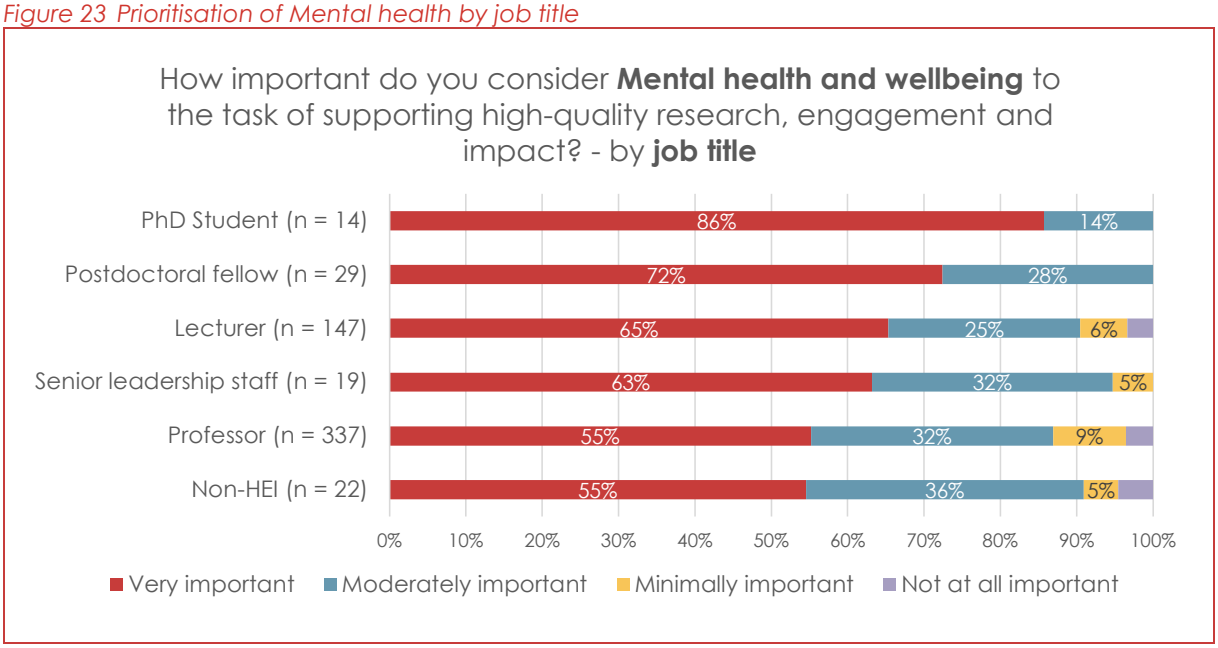
Technopolis survey

Figure 22 Prioritisation of Equality, diversity and inclusion in research and/or research careers by gender



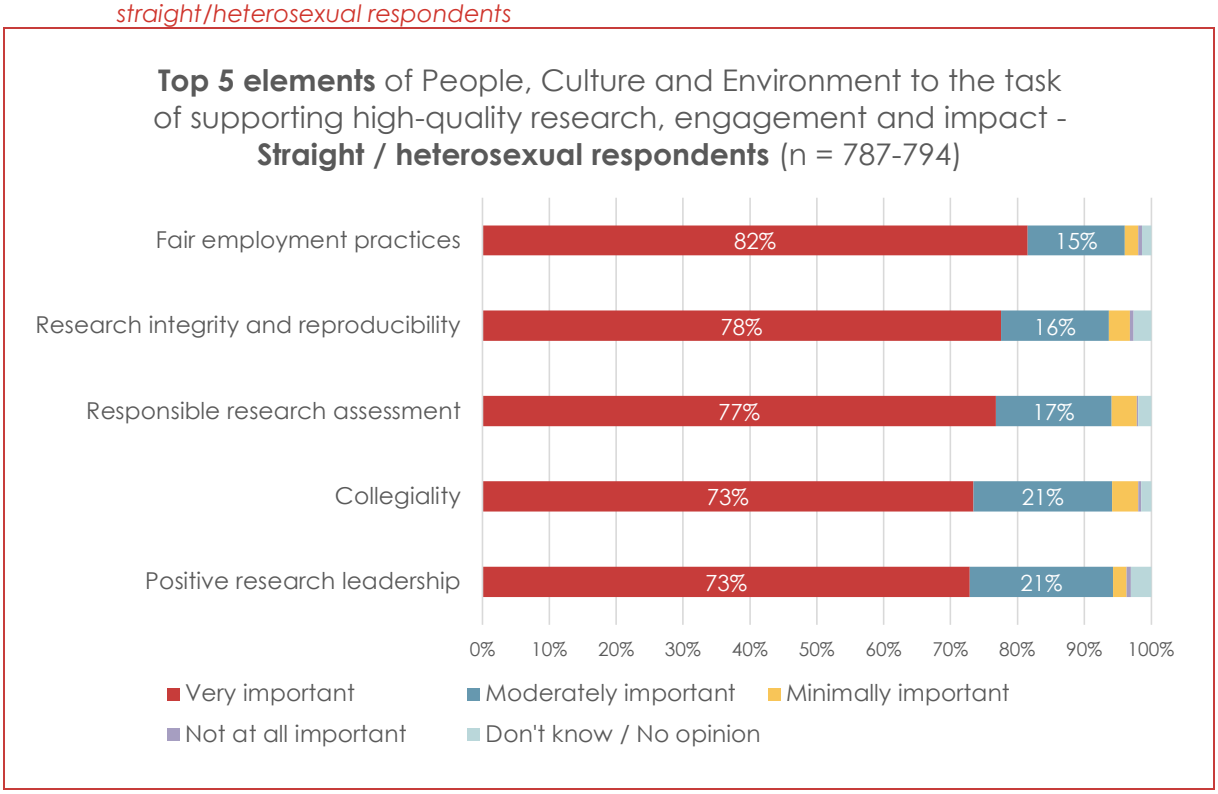
Technopolis survey

Figure 23 Prioritisation of Mental health by job title



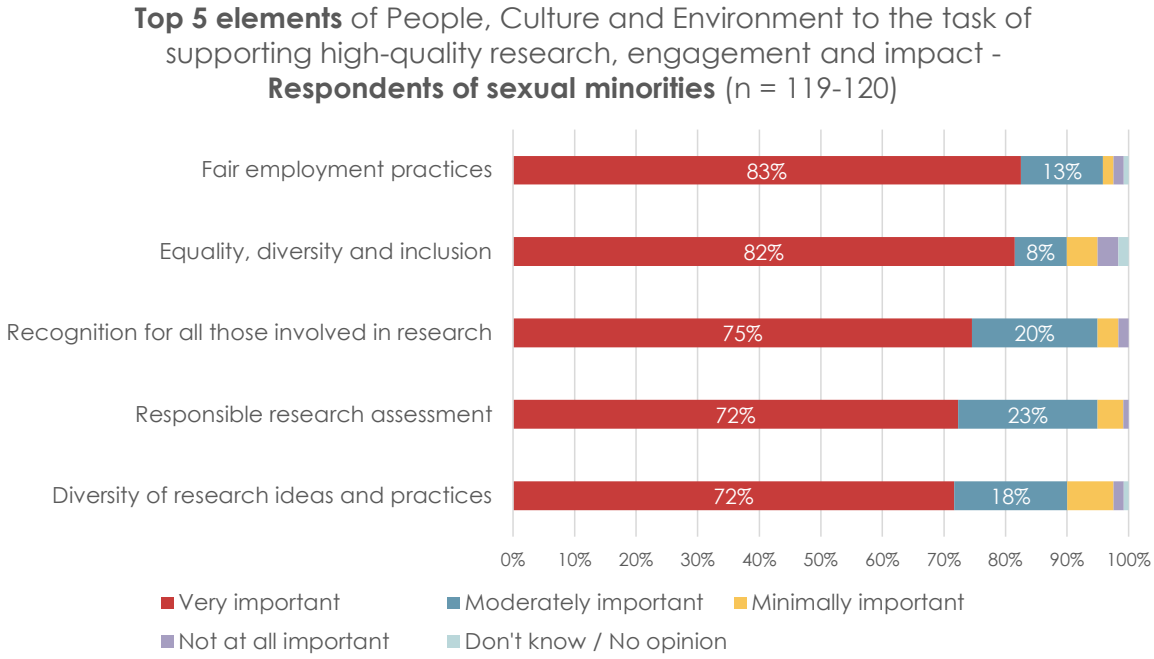
Technopolis survey

Figure 24 Top five elements of PCE for supporting high-quality research, engagement and impact: straight/heterosexual respondents



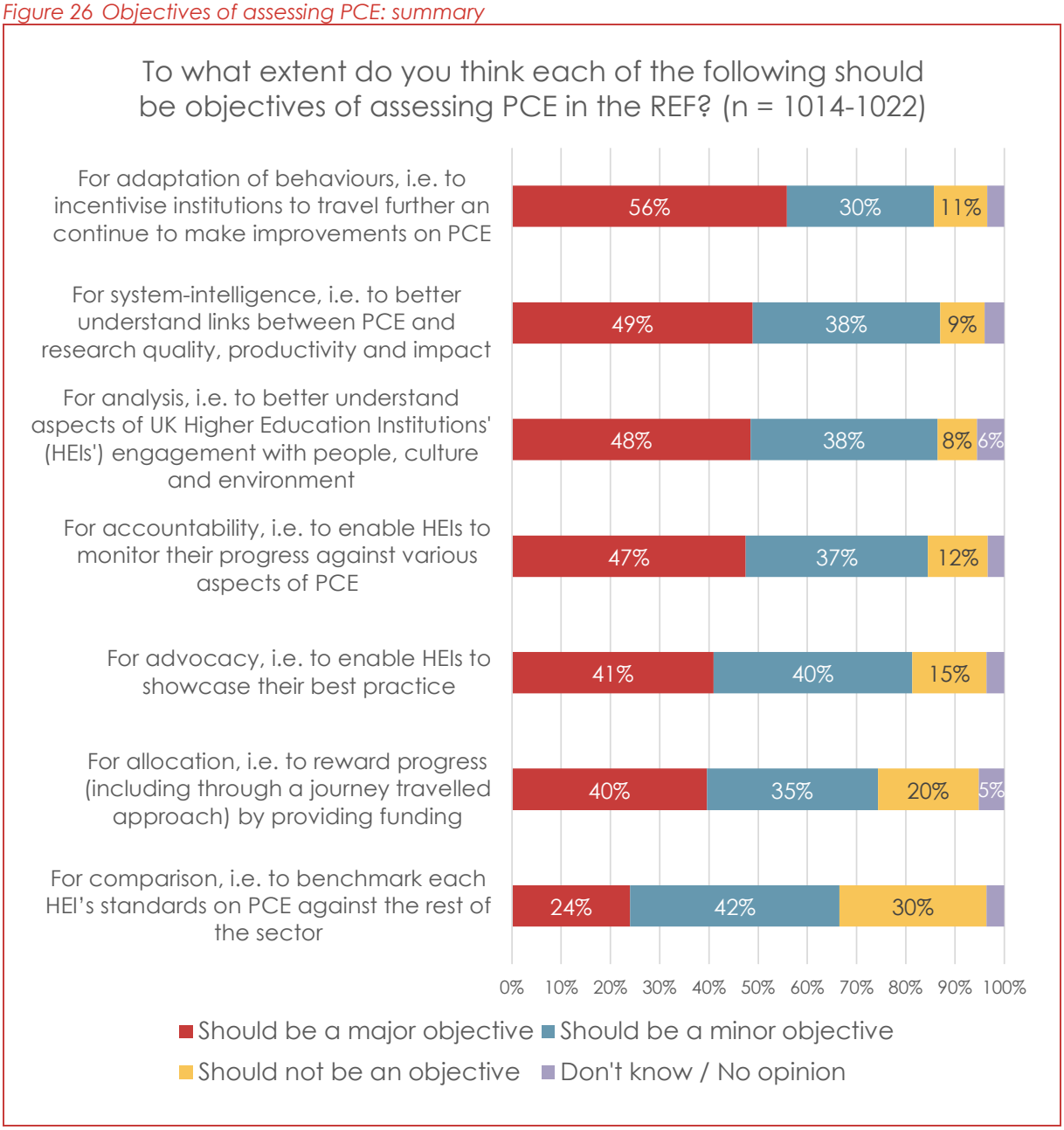
Technopolis survey

Figure 25 Top five elements of PCE for supporting high-quality research, engagement and impact: respondents of sexual minorities



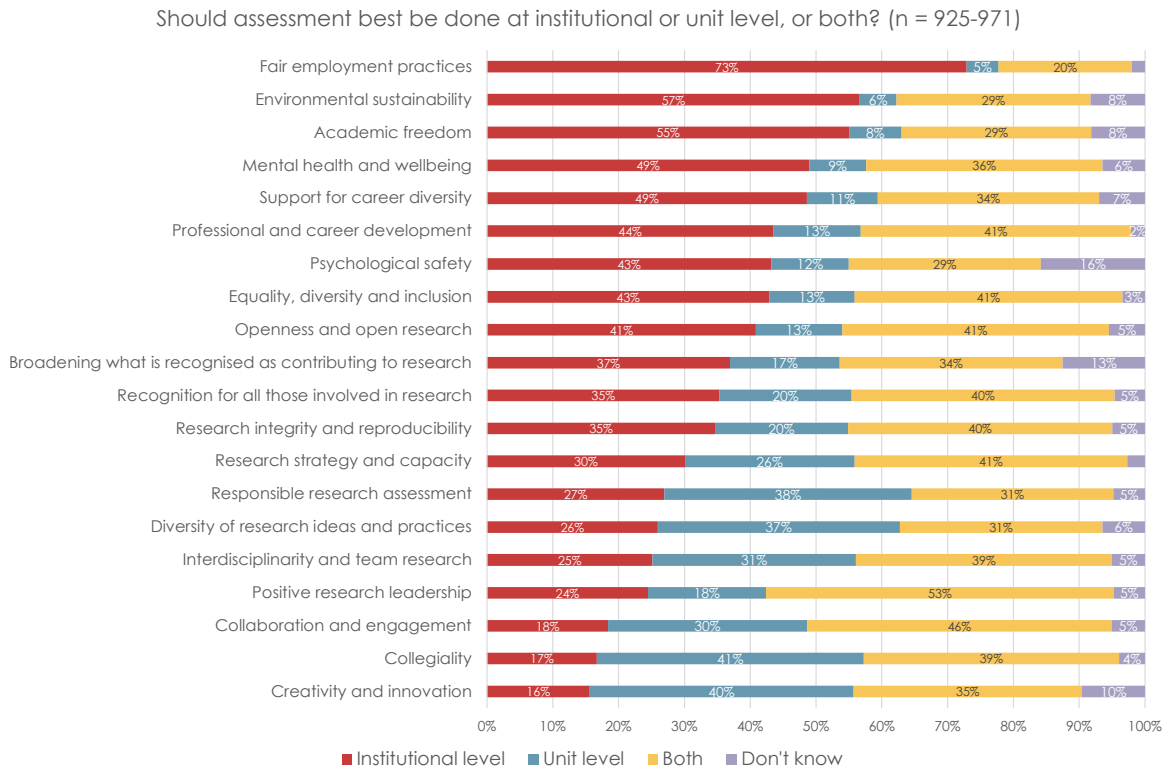
Technopolis survey

Figure 26 Objectives of assessing PCE: summary



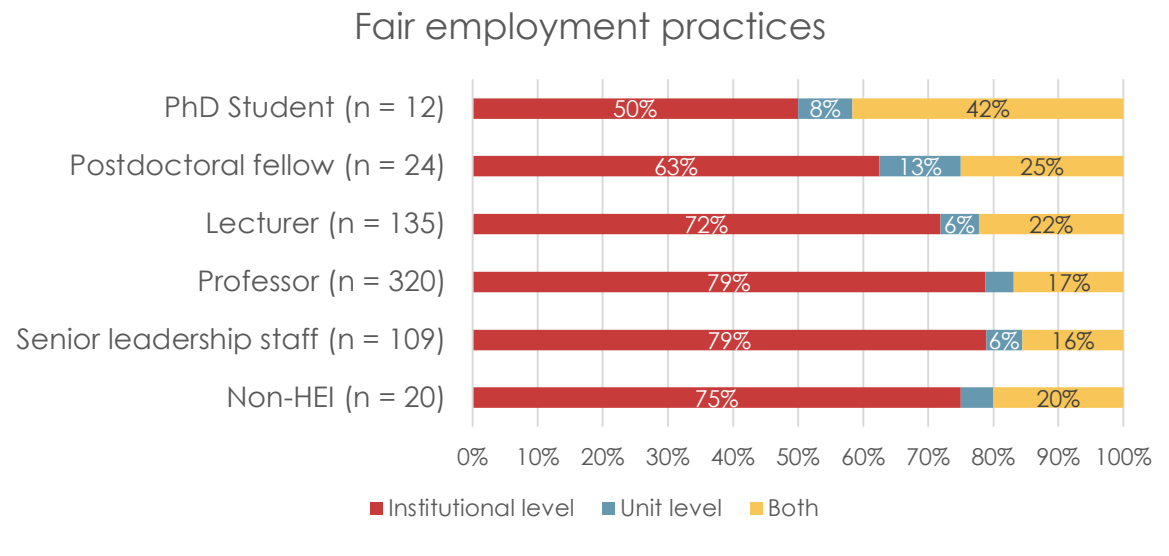
Technopolis survey

Figure 27 Assessment at institutional and/or unit level: summary



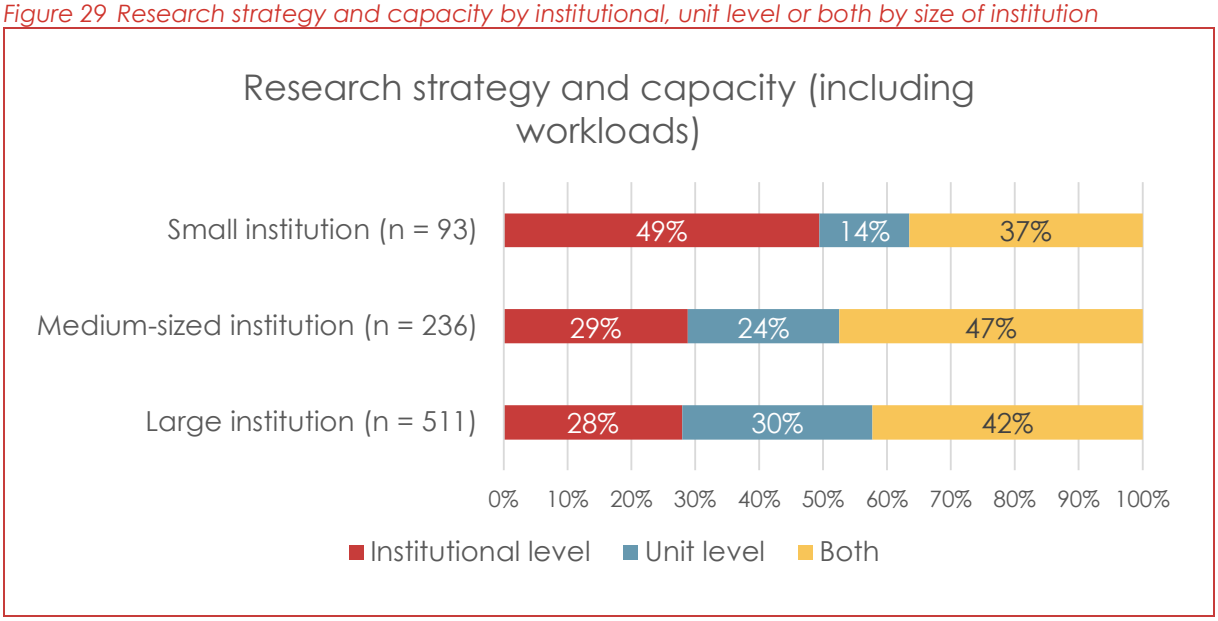
Technopolis survey

Figure 28 Fair employment practices by institutional, unit level or both by job type



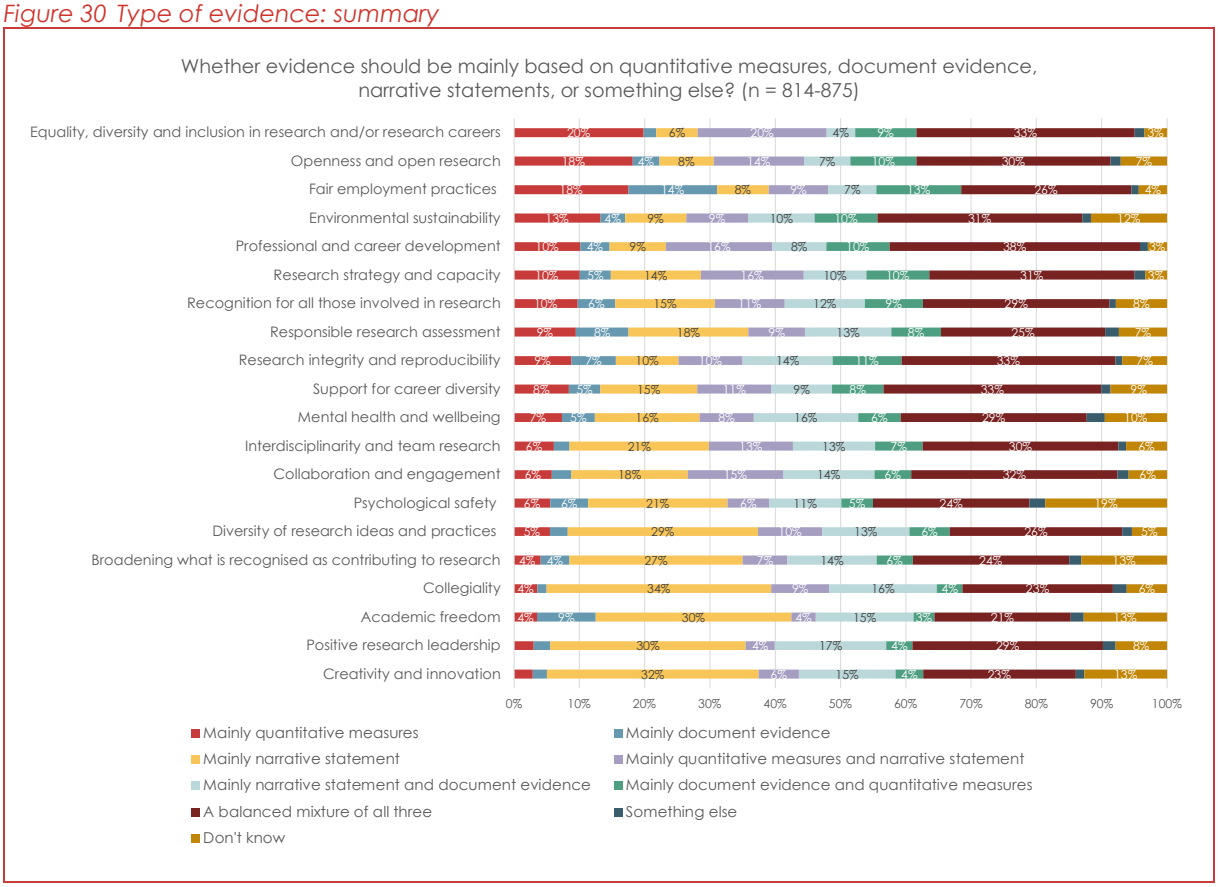
Technopolis survey

Figure 29 Research strategy and capacity by institutional, unit level or both by size of institution



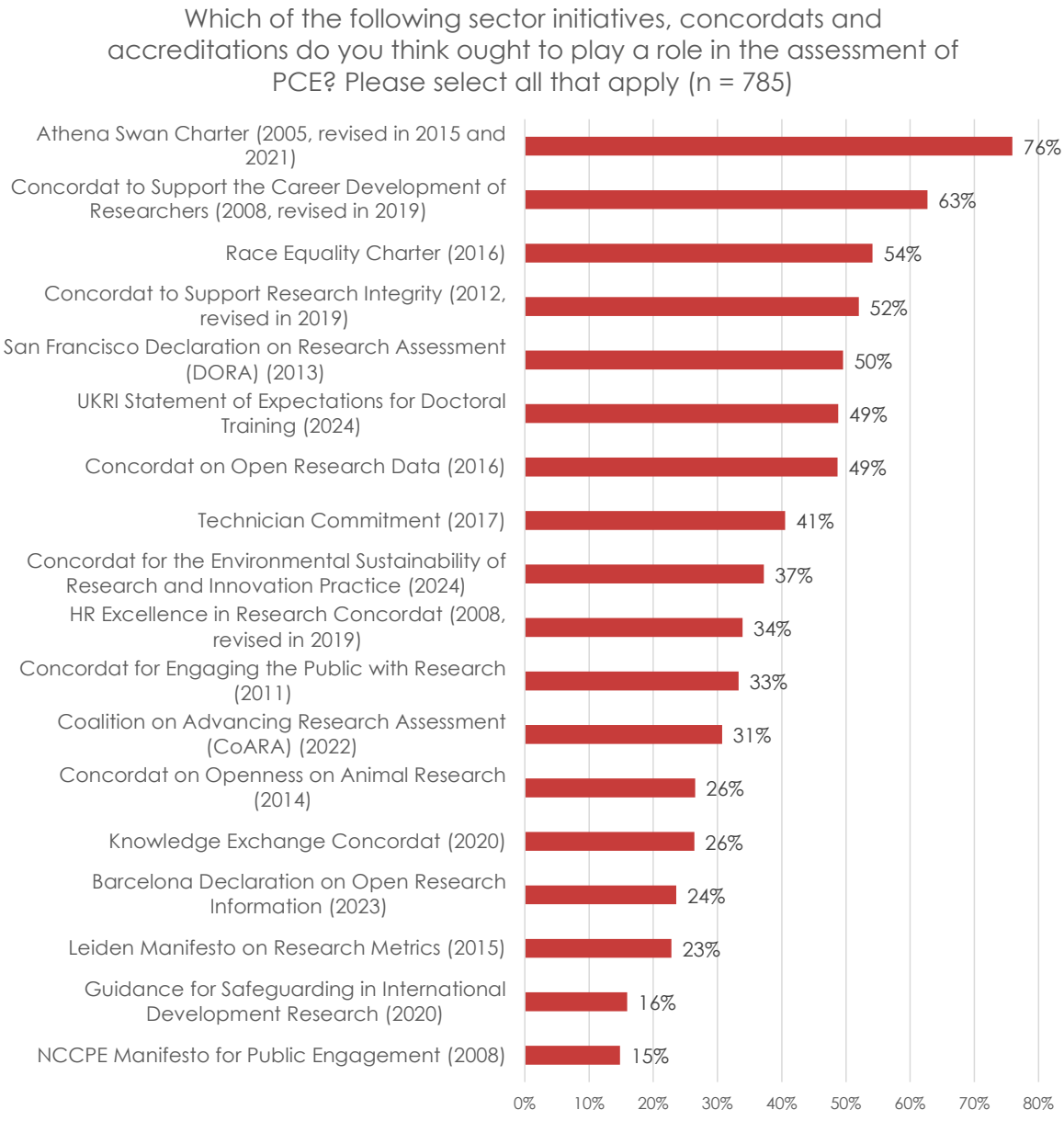
Technopolis survey

Figure 30 Type of evidence: summary



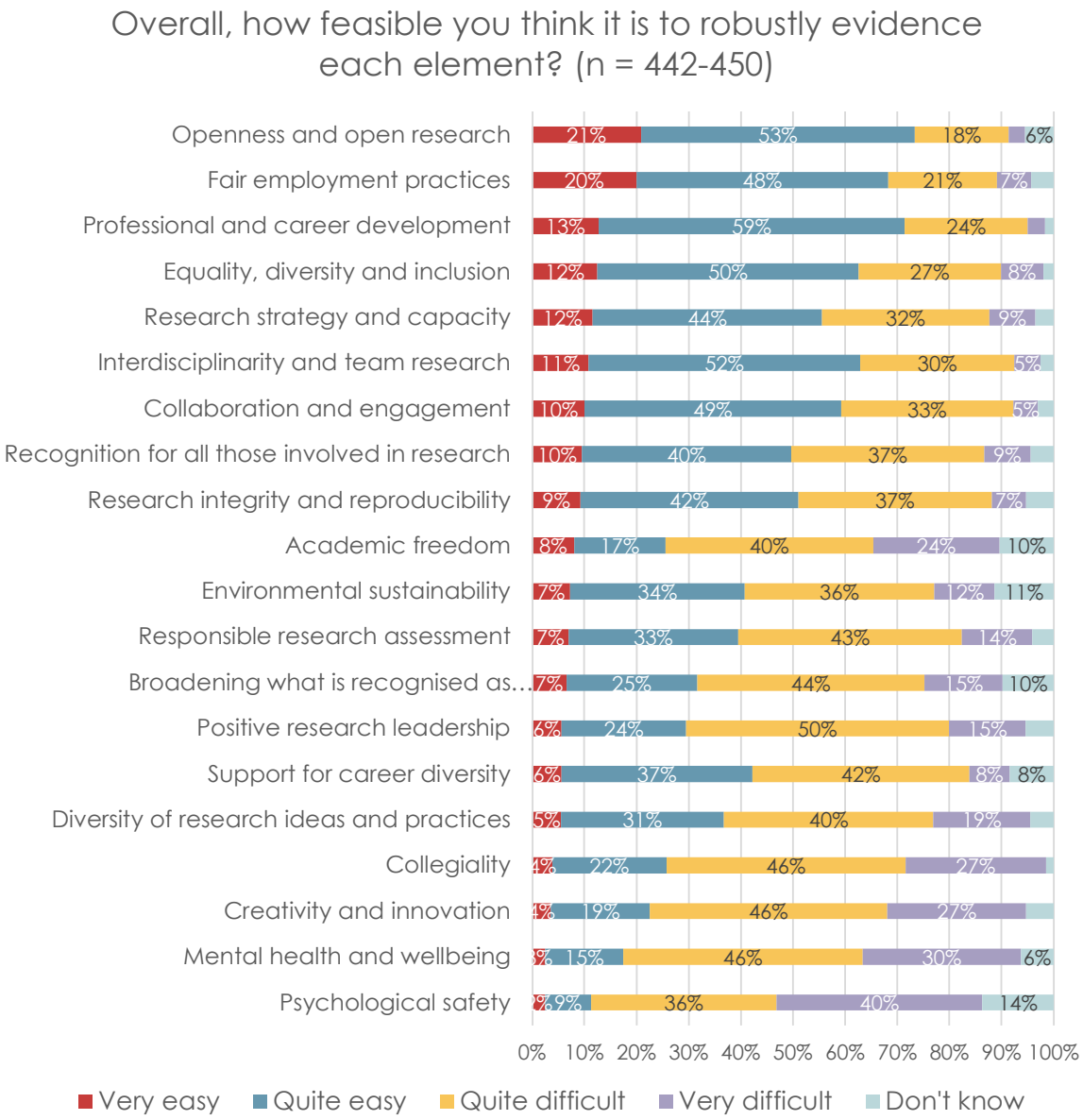
Technopolis survey

Figure 31 Suitability of initiatives in the assessment of PCE: summary



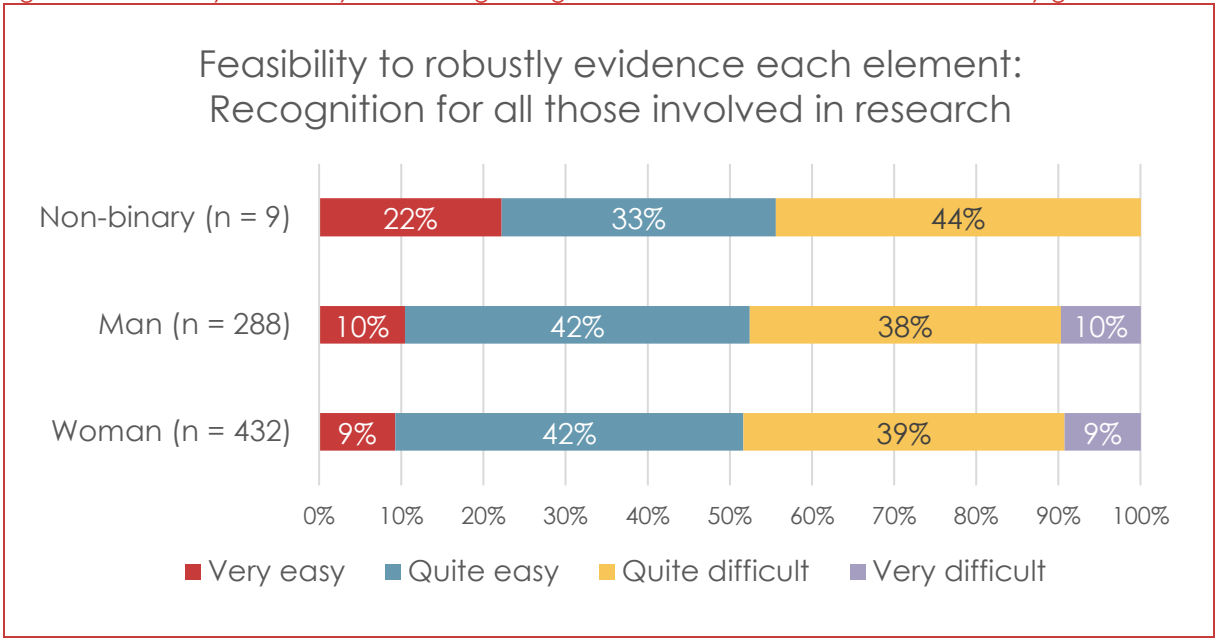
Technopolis survey

Figure 32 Feasibility of robustly evidencing each element: summary



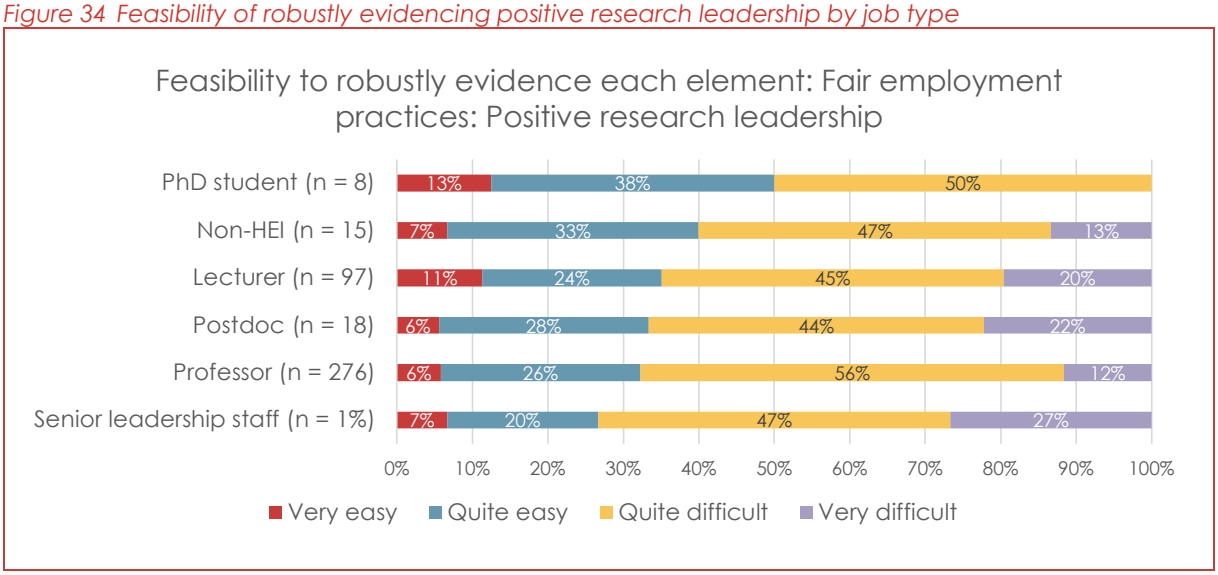
Technopolis survey

Figure 33 Feasibility of robustly evidencing recognition for all those involved in research by gender



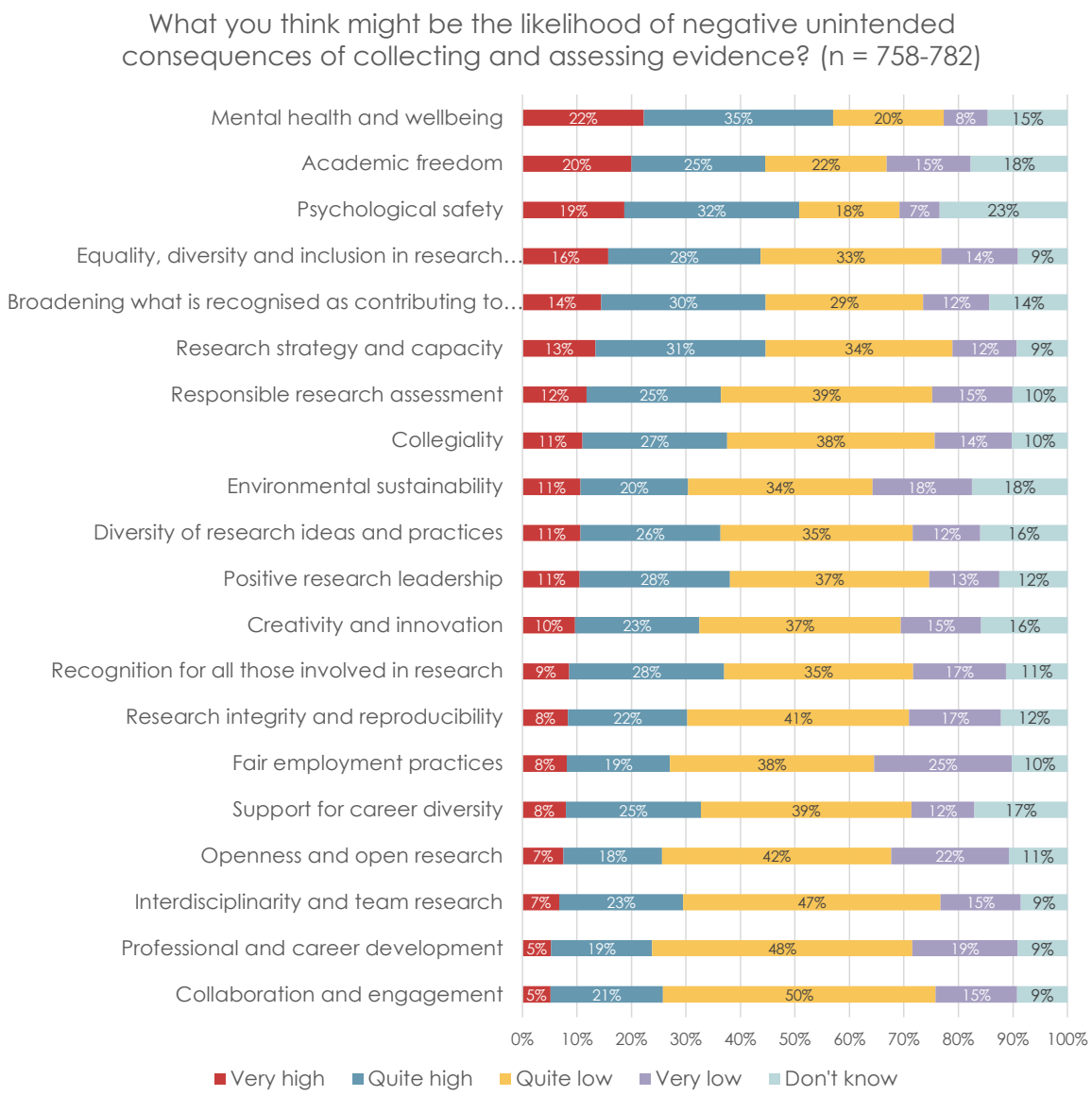
Technopolis survey

Figure 34 Feasibility of robustly evidencing positive research leadership by job type



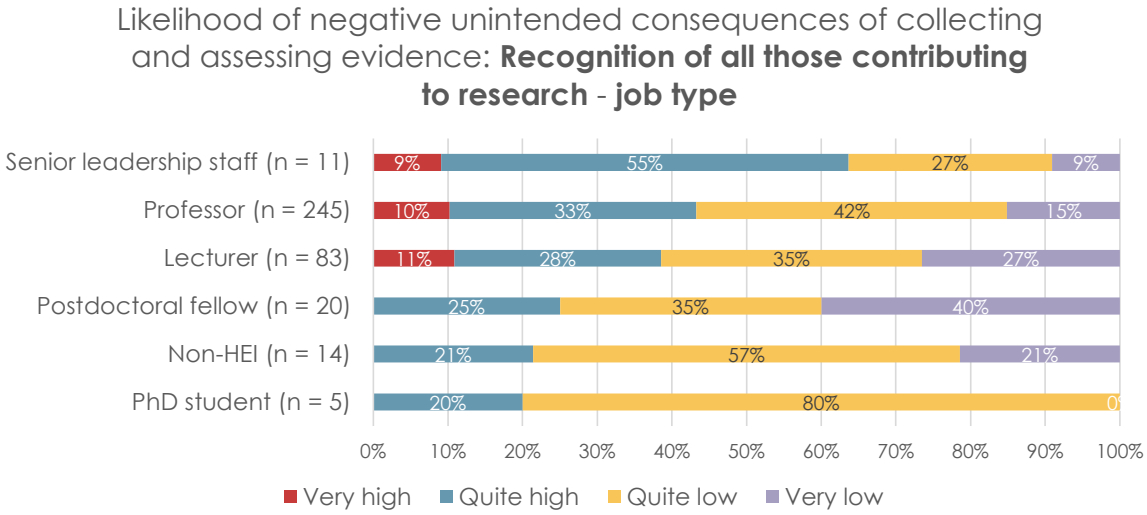
Technopolis survey

Figure 35 Likelihood of negative unintended consequences: summary



Technopolis survey

Figure 36 Likelihood of negative unintended consequences of collecting and assessing evidence of recognition of all those contributing to research by job type



Technopolis survey

Appendix D Discarded draft indicators

Discarded indicator	Justification
Number of formalised partnerships with external organisations which lead to the production of research outputs and duration of these partnerships.	Institutions may struggle to track informal partnerships, and the ability to capture this data consistently could vary widely. The indicator risks overlooking valuable informal collaborations.
Number of outreach activities that build on research activity.	Without proper context, simple quantitative measures like "number of activities" could be misleading. This indicator also muddles engagement and outreach, which should be distinct.
Licensing and other intellectual property (IP) income as proportion of research income	There is concern that this indicator emphasises commercial outcomes over societal or cultural impacts, which can create an unintended focus on profit rather than meaningful stakeholder engagement. It may not be applicable to many disciplines, particularly in humanities and social sciences (Panels C & D), where intellectual property may not take a commercial form.
Estimated current turnover of all active firms per spin-out surviving at least 3 years.	It disproportionately favours wealthier institutions with a focus on spin-outs, creating inequities. There is also concern about double counting with HEBCIS data and the potential for penalising institutions that do not focus on spin-outs.
Average external investment per spin-out surviving at least 3 years.	The indicator risks focusing too narrowly on one outcome (external funding for spin-outs), which might not reflect the broader research culture or the institution's goals. Regional imbalances in funding and difficulty attributing this at a unit level are also concerns.
Count of citations of research outputs in policy documents or reports.	Institutions may not have access to the tools required to track citations in policy documents, and the measure is vulnerable to gaming. Additionally, the value of citations can vary widely across disciplines.
Proportion of research active staff who are external examiners.	This metric is easy to game and may not reflect the true collaborative efforts of staff. It could also become a target to meet, reducing its value in assessing genuine research engagement.
HEI has policies and practices in place to ensure the availability and effectiveness of mentoring for all staff, as well as targeted mentoring for specific groups, if needed.	It is difficult to measure informal mentoring, which is often key to professional development. Formalising these interactions may reduce their effectiveness or frequency. Monitoring the impact of mentoring schemes, rather than just their availability, is critical to avoid a tick-box approach. Mentoring might not suit everyone, and tracking effectiveness across diverse departments can be challenging.
Percentage of staff on permanent (open-ended), fixed-term, and atypical contracts.	Data alone doesn't explain context or sustainability. Intersectionality and contract types based on demographics should be considered.
Researchers have formal opportunities to provide input into organisational policy and decision-making.	The main concern is that the opportunity for input may be tokenistic or formulaic, where researchers are included in decision-making bodies but not given the chance to contribute meaningfully. There is also a challenge in measuring the impact of researchers' contributions to policy. Furthermore, power dynamics within universities could prevent junior researchers from having an equal voice, making this indicator difficult to implement effectively across different institutional cultures.
Compliant / working towards compliance with the Researcher Development Concordat	Concern about a tick-box exercise
HEI offers and supports staff to take up flexible working.	There may be confusion between flexible working and reasonable adjustments, especially for disability-related needs. Quantitative data might be hard to capture, as flexible working arrangements are often informal and not captured on HR systems.
Uptake of flexible working by staff (e.g. working from home, flexible hours).	Tracking flexible working may conflate data with research excellence and teamwork; data collection would be difficult as not all institutions formally record flexible working uptake.

Amount of research leave taken by research-active staff (sabbaticals).	The focus on sabbaticals might obscure other methods of supporting research time. Additionally, equity and transparency in allocating leave may be an issue, especially if sabbaticals disproportionately affect certain protected characteristics.
HEI offers and supports staff to take strategically-timed leave (sabbaticals).	The focus on academic staff risks excluding non-academics from this benefit; more nuance is needed to avoid confusion over what constitutes strategic research leave. Access to sabbaticals may be uneven, favouring well-resourced departments. Clarity on how strategy and decision-making influence leave opportunities is crucial.
HEI can demonstrate the provision of appropriate, safe and accessible workspaces.	Currently too focused on physical conditions rather than research culture. There are already statutory obligations related to health and safety, so requiring this in the REF could be redundant. Interpretation of the data, such as reported incidents, may lead to misjudgement since higher incident reports could reflect better safety practices, not poor conditions. There are concerns about how institutions with fewer resources may struggle to provide high-quality workspaces. The indicator may inadvertently highlight disparities between wealthier institutions with modern infrastructure and smaller or underfunded universities. Another challenge is measuring subjective aspects such as psychological safety and work-life balance, which can be difficult to quantify.
HEI has achieved, or is working towards, an award on disability (e.g. Disability Smart). **See also: External accreditations (e.g. Athena Swan Award, Race Equality Charter Award, HR Excellence in Research Award, and awards around disability access such as Disability Smart)**	External accreditation does not fully capture the varied experiences of disabled staff. Disclosure rates are low, and institutions should find more meaningful ways to assess and improve their support for disabled employees.
Diversity data on returned staff stratified by grade.	The indicator may conflate career stage with protected characteristics, and pressure to disclose sensitive information could arise. There is also concern that the focus on diversity data could add unnecessary pressure and workload. Capture of most EDI data is ad-hoc and voluntary across most institutions making it inherently hard to assess. With what little data is available makes it easy to identify when stratified by Grade. Grade is also an arbitrary term captured on HR systems– are we really trying to see career level e.g., ECR, mid, etc?
Increase in the proportion of academic promotions to Grades 9 and 10 by researchers with protected characteristics that have previously been under-represented.	Institutions with different promotion cycles or salary structures could be disadvantaged. Comparability might be difficult, and unfair comparisons between institutions may arise if the nuances of institutional promotion processes are not adequately considered.
HEI uses 360-degree appraisals and monitors the effectiveness of these.	Measuring the effectiveness of 360-degree appraisals is challenging, and the process can be burdensome, especially in providing feedback and support. Furthermore, there is little evidence that those with problematic behaviour respond well to the feedback provided through this method.
HEI ensures that feedback is constructive and delivered effectively, through appropriate mechanisms.	Many HEIs already have feedback mechanisms in place, but demonstrating the effectiveness of these systems is more complex. Staff surveys, such as CEDARS, may not fully capture research-specific feedback, making it harder to supply relevant evidence. Additionally, it is unclear how feedback effectiveness, especially in the context of research, can be consistently measured across institutions.
HEI ensures that leaders and managers receive effective training and guidance on how to deliver feedback.	Measuring the effectiveness of feedback training is difficult, as it requires assessing whether colleagues feel supported and whether the appraisal process is genuinely developmental. Simple

	participation data will not capture the quality of feedback or its impact on career progression.
HEI has effective staff induction processes that ensure that researchers are aware of policies and practices relevant to their role.	Simply having an induction process is not enough; it is necessary to ensure staff engage meaningfully with the process. Assessing engagement and effectiveness beyond just existence could be administratively burdensome, particularly at the unit level. Additionally, workload and time constraints may limit staff engagement.
Technician Commitment signatory	Evidence on the existence of career pathways may be more revealing.
Proportion of research-active staff who have undertaken peer review activities.	It risks being a vague metric, difficult to quantify, and may conflate academic citizenship with research excellence.
HEI requires inclusion of ethics approval, conflict of interest, and other statements in research outputs	Monitoring publications for such statements could be resource-intensive and inconsistent across disciplines.
Presence, oversight and resources for ethics committees and ethics approval processes	A key concern is that simply measuring adherence to ethical baselines may fail to capture whether these practices are genuinely embedded in the research culture. Without a focus on implementation and the representativeness of those enforcing these standards, there is a risk that the broader ethical landscape might remain unexamined. Institutions may need to ensure that diversity and inclusivity are reflected in the makeup of committees, which could be challenging in smaller institutions or those with fewer resources.
HEI provides research integrity training, mentoring, and other forms of self-learning and regularly monitors the effectiveness of these measures	Monitoring this places a burden on trainers and professional services. Results would vary across institutions, making it hard to compare. Evidence should focus on how the training is applied rather than just measuring participation.
Research outputs published Open Access as a share of total outputs	This indicator feels more like a compliance metric than a true measure of an institution's commitment to PCE values. Some outputs may not be suitable for open access, and focusing too much on OA compliance could detract from more meaningful contributions to open research. The burden of capturing and reporting this data across all outputs could be overwhelming, especially for smaller institutions.
Number and proportion of research-active staff that routinely deposit data in open access repositories in a form that allows basic verification and reuse	The indicator risks encouraging unnecessary data production and may penalise institutions and disciplines that do not engage with data in the same way. It also does not measure the quality or reuse of the data.
HEI engages with and supports open peer review.	The indicator risks being confusing and difficult to assess, especially for disciplines where open peer review is not standard practice. It may also impose unnecessary pressure on institutions to support models that do not fit their research culture.
Workload allocations acknowledge the time necessary for researchers to do their research with integrity	Difficult to standardise due to variability across institutions. It may cause stress for individual staff, especially in under-resourced HEIs.
Number of grant applications and awards with co-investigators from multiple Units of Assessment.	Small institutions or single UoA may be disadvantaged. A sole focus on grant success could miss other valuable forms of collaboration.
HEI has policies and procedures in place to provide support for mid-career researchers, and actively monitors the effectiveness of these.	There may be overlap with other indicators focused on career support. Monitoring effectiveness could also be difficult as the needs of mid-career researchers are diverse, and institutions might struggle to tailor appropriate support.
HEI provides accessible, flexible, and inclusive skills-related training and/or professional development to suit different roles, disciplines, and career stages, and is open to all staff.	Measuring the inclusiveness of training programs and assessing their effectiveness is difficult. There is also a need to ensure that flexible working arrangements are considered by leadership and woven within broader institutional environments.
External funding for research culture activities (e.g. Research England's	Not all institutions have had access to the same funds. While external income would not demonstrate commitment, it would provide

Enhancing Research Culture fund or Wellcome Institutional Funding for Research Culture).	important contextual information to ensure assessment of PCE is fair across the sector. - Institutions already have to report on activities through these funds, risking duplication of effort.
Infrastructure, staff resource and support for strategic priorities (e.g. entrepreneurship, new technologies, reproducibility, open research)	Many institutions likely already have KPIs in place or are monitoring progress in these areas, so the challenge will be ensuring that these align with broader frameworks without duplicating existing efforts.
HEI has practices in place to support reflective practice and self-assessment with regard to research integrity and research processes.	Ethics committees may overextend beyond their remit. Institutions need clearer guidelines on promoting reflection.
HEI facilitates replication of key experimental findings	Limited applicability without funding for replication studies.