

The ESA responded to a selection of questions in the survey, and these are included below

Section 3—Excellence in Research for Australia

Value of ERA

Q3.1 To what extent is ERA meeting its objectives to:

- a. Continue to develop and maintain an evaluation framework that gives government, industry, business and the wider community assurance of the excellence of research conducted in Australian higher education institutions. **A moderate amount: Within the existing framework, the output is not easily intelligible to government, industry, business and the wider community. The large number of units of evaluation and disciplinary framework means that outcomes are not easily approachable by stakeholders focussed on capabilities to address specific or sectoral outcomes.**

Q3.2 How do you use ERA outcomes? *Please describe.*

As evidence to demonstrate the quality of ecological science undertaken by Australian ecologists.

Q3.3 ERA outcomes are beneficial to you/your organisation. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

Contextual indicators

Q3.4 The research income indicators are still relevant to ERA. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

Research income is an 'input' measure and is a dubious and unreliable surrogate for the quality or impact of the resultant research, and should not be confused with a genuine measure of outcomes. Research income reflects the cost of doing particular kinds of research. For example within ecology, a theoretical ecologist may require access to advanced computing capabilities supported by their institution or available through national research infrastructure. In contrast, an ecologist studying Antarctic ecosystems may require substantial funding for field equipment and access to marine research vessels. The cost of the research (reflected in the research income they attract) provides no information about the quality or impact of either of these research activities. It's the equivalent of judging the quality of a painting based on the volume of paint used in its creation.

Q3.5 The applied measures are still relevant to ERA:

- a. Patents. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*
- b. Research commercialisation income. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*
- c. Registered designs. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*
- d. Plant breeder's rights. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*
- e. NHMRC endorsed guidelines. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

None of these applied measures are valid for ecology, where applied outcomes are commonly public good such as the adequate protection or conservation of a threatened species or ecosystem.

Section 4—Engagement and Impact Assessment

EI Overview

Q4.1 Considering that EI is a new assessment, to what extent is it meeting its objectives to:

- a. provide clarity to the Government and the Australian public about how their investments in university research translate into tangible benefits beyond academia? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

The EI provides an opportunity not available in the ERA to showcase the impact of research beyond academia.

- b. identify institutional processes and infrastructure that enable research engagement? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*
- c. promote greater support for the translation of research impact within institutions for the benefit of Australia beyond academia? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

We measure what we value, and we value what we measure. The EI provides an opportunity to measure research impact, and in this way it enhances the value of this kind of work and incentivises institutions to support research engagement.

- d. identify the ways in which institutions currently translate research into impact? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

Q4.2 The EI outcomes are valuable to you or your organisation. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

EI definitions

Q4.3 The current Engagement definition is appropriate. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree.*

Q4.4 The current Impact definition is appropriate. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree.*

Q4.5 The current end-user definition is appropriate. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree.*

- a. If you don't agree, what are your suggested amendments to the end-user

Q4.6 Are there other key terms that need to be formally defined? *Yes/No. If you answered 'Yes', please explain your answer.*

Uptake and outcome

EI methodology

Unit of assessment

Q4.7 Are the two-digit Field of Research codes the most appropriate method to define units of assessment for Engagement and Impact? *Yes/No. Please explain your answer.*

The codes are broad enough to capture multiple fields, which is important given that within certain fields, not all research can lead to engagement and impact.

EI low-volume threshold

Q4.8 The low volume threshold is set at the appropriate level. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

Engagement indicators

Q4.9 Overall, the engagement indicator suite for the assessment of research engagement is suitable. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

The engagement indicators are inadequate for ecology as there are limited commercial outcomes for ecological research, and few end-users able to invest directly in research. A number of the engagement indicators are also related to input measures (cost of research) that have no bearing on the resultant quality or impact of the research.

Q4.10 The cash support from research end-users indicator using HERDC data is appropriate for the assessment of research engagement? *Strongly agree; agree; neither agree nor disagree; disagree; strongly disagree. Please explain your answer.*

See response to Q4.16

Q4.11 The research commercialisation income is appropriate for the assessment of research engagement. *Strongly agree; agree; neither agree nor disagree; disagree; strongly disagree. Please explain your answer*

See response to Q4.16

Q4.12 Are there additional metrics that would be appropriate across many or all disciplines? *Yes/No. If you answered 'Yes', please outline the metrics. If you answered 'No', please explain your answer.*

Policy developments, on-ground action changes, increased awareness at public and end-user levels, and tool/framework developments.

Q4.13 The co-supervision of HDR students should be made an engagement indicator in future rounds of EI. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

Co-supervision of HDR students is an example of engagement and collaboration beyond the limited viewpoint of financial metrics.

Engagement narrative

Q4.14 The narrative approach is suitable for describing and assessing research engagement with end-users. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

The narrative approach is vital to enable the assessment of research engagement beyond a simple focus on financial metrics and outcomes. Research engagement is often a non-standard and non-linear process that varies on a case by case basis. In this context, a narrative approach is appropriate to capture and assess the activity.

a. If you disagree, what alternative approach could be used to replace the narrative? *Please explain your answer. If you are suggesting indicators, please be specific.*

Q4.15 One engagement submission per broad discipline is sufficient for capturing the research engagement within that discipline. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

A single submission may not be able to capture the breadth of impact resulting from a broad discipline area. It would be appropriate for institutions to have the option of submitting more than one submission per broad discipline if they choose to do so.

Impact narrative

Q4.16 The narrative approach is suitable for describing and assessing impact. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

The narrative approach is appropriate to assess impact, given that pathways to impact are often non-standard and non-linear processes that vary on a case by case basis.

- a. If you disagree, what alternative approach could be used to replace the narrative? *Please explain your answer. If you are suggesting indicators, please be specific.*

Q4.17 One impact study per broad discipline is sufficient for capturing the research impact within that discipline. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

A single submission may not be able to capture the breadth of impact resulting from a broad discipline area. It would be appropriate for institutions to have the option of submitting more than one submission per broad discipline if they choose to do so.

Q4.18 The impact narrative needs to be longer. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

Q4.19 In your opinion, are there quantitative indicators that could be used to measure the impact of research outside of academia? *Yes/No. Please explain your answer.*

- a. If you answered 'yes' to the previous question, please name and describe the quantitative indicator/s, and the disciplines for which they are relevant. *Please list and describe.*

- *Research findings/tools adopted by on-ground managers (multiple fields)*
- *Links formed across researchers, managers, policy makers, etc (multiple fields)*
- *Tailored reports or popular articles for accessibility and understanding (multiple fields)*

Approach to impact Narrative

Q4.33 The narrative approach is suitable for describing and assessing approach to impact. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

Q4.34 One approach to impact narrative per broad discipline is sufficient for capturing the activities within that discipline. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

A single submission may not be able to capture the breadth of impact resulting from a broad discipline area. It would be appropriate for institutions to have the option of submitting more than one submission per broad discipline if they choose to do so.

Q4.35 The approach to impact narrative needs to be longer. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

Q4.36 There is a need for additional evidence to be provided. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*