

Engagement and Impact Assessment  
Australian Research Council  
Department of Education  
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24<sup>th</sup> June 2016

Dear Australian Research Council and Department of Education,

The Australian Technology Network of Universities (ATN) welcomes the opportunity to make the following submission to the consultation on Engagement and Impact Assessment.

The ATN has long been proactive in shaping and responding to policy regarding engagement and impact, recognising the value in evaluating Australia's investment in research to ensure:

- That the spill-over benefits from the investment in university research to the broader community are optimal;
- Incentives are in place to balance high quality basic research and research which leads to positive economic and wider societal impacts through translational activity in partnership with end users of research – noting that the two are not mutually exclusive;
- Strategic intelligence on how to better integrate university research into the broader Australian innovation system; and
- Greater emphasis on the communication of the impact of university research to industry, government and the Australian community more broadly (noting the cultural change that has happened in the UK in response to the Research Excellence Framework; REF).

There appears to be no definitive 'silver bullet' regarding the assessment of engagement and/or impact. Each of the proposed models of assessment flagged in the discussion paper and elsewhere have their strengths and limitations. As such, the ATN encourages the Steering Committee to maintain a clear focus on the policy intent of the assessment in building a robust assessment framework. Further, regardless of the options taken for the pilot, the ATN strongly recommends a thorough review of the pilot before any policy implementations are made in order to determine the correct balance between quantitative and qualitative measures.

The guiding principles set out in section 4 of the discussion paper are a good starting point, and the ATN suggests that the end-user perspective be strongly represented as an additional principle. Ultimately, in an exercise looking to understand the reach and significance of research beyond academia, the process would be well served by drawing in expertise and perspectives beyond its own sphere.

In summary, the ATN recommends that:

1. Definitions of engagement should consider the complex relationship between engagement and impact, and be broad enough to include various types of engagement;
2. Definitions of impact should consider the different pathways to impact, acknowledging that impact is not a one-off event, can be unpredictable and may not necessarily be viewed the same way by two different end-users;

3. The impact and engagement assessment framework use a mixed-method approach and incorporate both quantitative and qualitative measures, assessed by expert peer review;
4. The Steering Committee consider the balance between the appropriate number of vignettes and metrics, considering the direct and indirect benefits of assessing impact and the administrative costs;
5. Vignettes should primarily focus on the outcomes of research, while highlighting steps taken by the institution to facilitate those outcomes as part of the assessment;
6. The impact and engagement assessment framework could collect unique identifiers such as ORCID and digital object identifiers (DOIs) to provide evidence of impact;
7. The review process of the pilot exercise should include a review and mapping of reporting processes to see where efficiencies can be achieved;
8. Involve disciplinary experts in the consultation of specific measures/approaches to determine what forms of engagement/impact are meaningful in their areas.
9. The sector and Government continue work towards developing reliable indicators for engagement in consultation with discipline experts and end-users.

Further issues for the Advisory Panel to consider are set out in response to the feedback questions below.

### Feedback Questions

#### Definitions

1. *What definition of ‘engagement’ should be used for the purpose of assessment?*

The ATN is supportive of definitions of engagement that take a broad view of the different ways in which researchers and research organisations can interact with systems, individuals and communities outside of the research sphere.

The relationship between engagement and impact should be carefully considered, noting that at best, engagement is a proxy for impact. Engagement is input focussed and broad based engagement metrics can only identify level of activity which *may* lead to impact. The Australian Academy of Technology and Engineering’s (ATSE) Research Engagement for Australia (REA) metrics, for example, very purposefully aims to measure engagement, defined as:

“the interaction between researchers and research organisations and their larger communities and industries for the mutually beneficial exchange of knowledge, understanding and resources in a context of partnership and reciprocity.”<sup>1</sup>

***Recommendation 1: Definitions of engagement should consider the complex relationship between engagement and impact, and be broad enough to include various types of engagement.***

2. *What definition of ‘impact’ should be used for the purpose of assessment?*

The ATN supports the definition of impact used in the Excellence in Innovation for Australia Exercise:

<sup>1</sup> ATSE (2016) Research Engagement for Australia: Measuring research between universities and end users, A summary to the report, p. 4.

“an effect on, change, benefit to the economy, society, culture, public policy or services, health, the environment or quality of life beyond academia. It includes, but is not limited to, an effect on, change or benefit to:

- The activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding;
- Of an audience, beneficiary, community, constituency, organisation or individuals
- In any geographic location whether locally, regionally, nationally or internationally.

It includes the reduction or prevention of negative effects including the harm, risk or cost arising from negative effects. It does not include impact on research or the advancement of academic knowledge, nor impacts on students, teaching or other activities within the submitting institution. It may include impacts within the higher education sector, including teaching or students where they extend significantly beyond the submitting higher education institution.”

It should be noted that research impact is not necessarily what occurs at the end of a research process. For example, in some Arts and Humanities disciplines, impact can be delivered at the same time as delivering research (e.g. performance art and installations).

***Recommendation 2: Definitions of impact should consider the different pathways to impact, acknowledging that impact is not a one-off event, can be unpredictable and may not necessarily viewed the same way by two different end-users.***

## Scope of assessment

### 3. How should the scope of the assessment be defined?

The ATN is supportive of a mixed-methods approach to measure engagement *and* assess impact using selected quantitative indicators and peer assessed vignettes (i.e short case studies). However, the ATN note that there is a spectrum of view across its member universities, and encourages the pilot exercise to be used to determine the ideal balance between quantitative and qualitative indicators. In the first instance, the pilot could explore using panel of experts consisting of representatives from industry, community, government and non-government organisations and consider both metrics and peer review of vignettes, in much the same way Research Evaluation Committees assess quality in ERA submissions based on relevant data, indicators and peer review outputs (where applicable in peer review disciplines). A mixed model approach relying on peer review of metrics and short case studies would allow nuanced judgement with understanding of limitations of particular indicators.

The UK Independent Review of the Role of Metrics in Research Assessment and Management, commissioned by the Higher Education Funding Council for England, found that a national assessment framework based solely on metrics is undesirable, and that “peer review, despite its flaws and limitations, continues to command widespread support across disciplines. Metrics should support, not supplant, expert judgement.”<sup>2</sup> The ATN’s own work on prospective metrics via the ATN Research Industry Advisory Board (ARIA Board) has suggested that there are limitations to data availability and uniformity across universities to have confidence in the robustness and validity of knowledge transfer and engagement metrics. This will be discussed further in the response to discussion question 15.

The main methods of assessing impact each have their strengths and weaknesses, as summarised in the table below.

**Table 1. Comparison of methods of impact and engagement assessment<sup>3</sup>**

Method	Approach	Strengths	Limitations
Metrics	Quantitative analysis of scientific and scholarly research outputs and their impacts	-Seen as an ‘objective’ method of assessment -If structured correctly, can provide national/international benchmarking and longitudinal data	-Can be taken out of context -May encourage unintended behaviour (e.g. opportunistic or superficial collaboration between research and industry) -Better as indicators of collaboration and engagement, rather than impact -Not all datasets sufficiently robust or currently available

<sup>2</sup> Wilsdon, J., et al. (2015). The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management. [http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/Independentresearch/2015/The,Metric,Tide/2015\\_metric\\_tide.pdf](http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/Independentresearch/2015/The,Metric,Tide/2015_metric_tide.pdf) p. x

<sup>3</sup> Table adapted from ‘The Metric Tide’ Publication

			-Metrics are more effective in assessing some disciplines than others
Case studies	A process of research assessment based on the use of expert deliberation and judgement  e.g. UK REF uses cases studies as retrospective assessments of outputs	-Enables impacts to be assessed in a broader narrative -Considers long-term research impact -Captures variation in research outputs and pathways to impact	-Ability to differentiate between 'quality' of impacts -Can be costly to implement -Self-assessment bias (cherry-picking of best case studies) -Inconsistent, lack of inter-rater reliability -Subject to bias (in selection of peer reviewer) - human judgment is subjective – which may however also be seen as a strength
Mixed-Model	Metrics used to support peer reviewers in making nuanced judgements  e.g. ERA uses this approach to assess research excellence	-Could emphasise comparative performance	-Finding the right balance of metrics and peer review elements

***Recommendation 3: The impact and engagement assessment framework use a mixed-method approach and incorporate both quantitative and qualitative measures, assessed by expert peer review.***

4. Would a selective approach using case studies or exemplars to assess impact provide benefits and incentives to universities?

Universities and researchers are responsive to incentives, as evidenced in behavioural responses to the Excellence in Research for Australia (ERA) exercises. It should be noted that while the methodology for ERA has been imperfect, it has generally been regarded as a successful instrument for evaluating the quality of research in Australia and creating strong incentives for universities to support the “excellence” agenda, with the attached prestige being a major incentive.<sup>4</sup> The ATN

<sup>4</sup> Hicks, Diana (2012) Performance-based university research funding systems, *Research Policy*, 41(2), p251-261.

suggests that the policy objectives of the impact and engagement assessment framework should be demonstrable, transparent and seek to minimise potential risk.<sup>5</sup>

As such, the ATN cautions against using case studies for illustrative or exemplar purposes only, and points to the significant cultural change experienced in the UK in preparing case studies and framing research in terms of the benefits outside of academia as reason to embed it as a key part of the evaluation framework.

As a point of comparison, the impact and utility of the National Survey of Research Commercialisation (NSRC) - Australia's only data collection on how the publicly funded research system collaborates with industry to transfer knowledge and commercialise research – has been constrained given it is a voluntary survey, which is not tied to funding or legislation.<sup>6</sup>

Given the current higher education funding environment, the ATN acknowledges that a comprehensive assessment of impact mirroring the REF approach is undesirable. While headline figures associated with collecting and evaluating case studies reported from the REF has been a deterrent to adopting a full case study approach, it must be noted that the annualised cost of the impact component of REF represents only 0.2 per cent of higher education institutions' research income from public sources over the six year period of assessment.<sup>7</sup> An alternative could be to use a limited number of vignettes (perhaps no more than 10 per university in the pilot phase) to help identify pathways to impact and as a way of verifying claims made by universities regarding the nature of their research impact.<sup>8</sup> It may be the case that a vignette approach is better fit for purpose for some disciplines compared to others. Settling on the ideal mix between metrics and vignettes could be a worthwhile aim for the trial using an iterative approach to weigh up the direct and indirect benefits of assessing impact via vignettes and the administrative costs associated with them and testing for disciplinary differences (see response to question 13).

***Recommendation 4: The Steering Committee consider the balance between the appropriate number of vignettes and metrics, considering the direct and indirect benefits of assessing impact and the administrative costs.***

*5. If case studies or exemplars are used, should they focus on the outcomes of research or the steps taken by the institution to facilitate the outcomes?*

In keeping with the parameter for a retrospective assessment of research performance, it may be wise to focus on the outcomes of research, while highlighting steps taken by the institution to facilitate those outcomes as part of the assessment.

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<sup>5</sup> In line with principles set out in Kwok, J. T (2013) Impact of ERA Research Assessment on University Behaviour and their Staff, report for the national Tertiary Education Union, [https://issuu.com/nteu/docs/impact\\_of\\_era](https://issuu.com/nteu/docs/impact_of_era)

<sup>6</sup> Commonwealth of Australia (2015) Department of Industry, *Review of the National Survey of Research Commercialisation Report*, <http://www.industry.gov.au/innovation/NSRC/Policy/Documents/Final-NSRC-Review-Report.pdf>

<sup>7</sup> Watt, I. J. (2015) Review of Research Policy and Funding Arrangements Report, p. 68-69 discussing figures reported Technopolis (2015) REF Accountability Review: Costs, benefits and burden, *Report by Technopolis to the four UK higher education funding bodies*.

<sup>8</sup> See Appendix 1 for an example of an impact vignette template.

***Recommendation 5: Vignettes should primarily focus on the outcomes of research, while highlighting steps taken by the institution to facilitate those outcomes as part of the assessment.***

*6. What data is available to universities that could contribute to the engagement and impact assessment?*

*i. Should the destination of Higher Degree Research students be included in the scope of the assessment?*

The ATN supports including the destination of Higher Degree Research (HDR) students in the scope of the assessment as it demonstrates the willingness of the end-user to employ an HDR graduate, and is a measure of the value being placed on research. This indicator could form part of a suite of metrics available to assessors and be framed as “Employment of HDR graduates by research users”, using Australian Graduate Survey (AGS) /Graduate Outcomes Survey data.

Data could be scoped by using HDR graduates responding to the AGS in full-time work 2010 to 2014 (five years of data), and cross-referencing with the graduate’s broad field of education and ABS industry classified employer. One approach might be take those in professional, scientific or technical industries and present that as a percentage of the totals (e.g. nearly 15 percent of HDR graduates in Information Technology are employed by research users) and comparing to national benchmarks.

The advantage is that such a metric could be created using already available data, is a non-financial indicator, demonstrates the willingness of a research user to employ a HDR graduate (in sectors outside of academia) and can be applied at various levels of granularity.

*ii. Should other types of students be included or excluded from the scope of assessment (e.g. professional Masters level programmes, undergraduate students)?*

The ATN has no strong views as to whether professional Masters level programmes and undergraduate students are included in the scope of assessment, but suggests that focus should in the first instance be kept on the students with a significant ‘research component’. For sake of simplicity, the ATN recommends that these cohorts are excluded for the trial and revisited in further evaluations.

## **Key Issues**

*7. What are the key challenges for assessing engagement and impact and how can these be addressed?*

Key challenges are adequately canvassed in the consultation questions and will be addressed below.

## **Attribution of research impact and engagement**

*8. Is it worthwhile to seek to attribute specific impacts to specific research and, if so, how should impact be attributed (especially in regard to a possible methodology that uses case studies or exemplars)?*

Attribution of impact is a significant challenge, given that there are many pathways of knowledge exchange, significant time lags between research and the eventual impact(s) and the complex set of research users and other actors interacting across multiple stages of the research process.

One way of addressing the issue of the attribution of specific impacts is by framing research impact via *contribution* rather than attribution.<sup>9</sup> In doing so, we acknowledge that research in many cases does not have a direct or linear influence on impact, and that both processes and outcomes are important. Case studies is one methodology which is useful for capturing such multifaceted processes, as are interviews and various other mixed methods. As noted in the discussion paper, the UK REF uses researcher submitted case studies with supporting evidence reviewed by a committee of experts. A more rigorous process would be to have end-users independently verify claims of impact<sup>10</sup>, although this may be unnecessarily burdensome and impractical.

The Research Councils in the UK use the online platform Researchfish to help track the outcomes, outputs and impacts of their funded research. Each Research Council have their own set of agreed metrics which include both case studies and quantitative analysis of: publications; collaborations; generation of further funding; engagement activities (e.g. influence on public policy, contributions to human capital); intellectual property activity (e.g. patent applications and grants, creation of new businesses/spin-outs); products and interventions (e.g. diagnostic/screening tools, drugs, vaccines, medical devices/surgeries, preventative interventions and health/social care services); and research materials (e.g. databases, data analysis techniques, new equipment). Such an approach may not be fit for purpose in Australia, given we already capture most of the above data types in other data collections. However, it may be worthwhile to consider and harness the capabilities of big data to help with the issue of attribution for future impact evaluations and in other data collections more broadly in the sector. A more sensible compromise to adopting a new system-wide platform may be the use of unique identifiers like ORCID and digital object identifiers (DOIs) to help track research and its impact.

***Recommendation 6: The impact and engagement assessment framework could collect unique identifiers such as ORCID and digital object identifiers (DOIs) to provide evidence of impact.***

*9. To what level of granularity and classification (e.g. ANZSRC Fields of Research) should measures be aggregated?*

The ATN supports using the ABS Socio-Economic Objective (SEO) codes as the level of classification, as it is a better fit with the policy intent of the assessment. In the EIA, four broad SEO clusters were used:

- Sector A - Defence
- Sector B – Economic Development
- Sector C – Society
- Sector D – Environment

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<sup>9</sup> Morton, S. (2015) Progressing research impact assessment: A 'contributions' approach, *Research Evaluation*, 24 (4), 405 – 419.

<sup>10</sup> Milat, AJ, Vaynabm AE, & Redman, S. (2015) A narrative review of research impact assessment models and methods, *Health Research Policy and Systems*, 13 (8), 1-7.



The RAND Europe review of the EIA Trial suggests that the SEO codes could be further disaggregated to capture a greater scope of potential impacts, such as ‘Society’ being further divided the areas of health, education, law and politics and cultural understanding.<sup>11</sup> The ATN is also supportive of considering the use of the ABS industrial classification codes.

## Managing time-lags

10. *What timeframes should be considered for the **engagement** activities under assessment?*

The ATN suggests that the engagement collection follow the same reference period as future ERA timeframes (i.e. 6 years).

11. *What timeframes should be considered for the **impact** activities under assessment?*

The ATN are comfortable with an approach following the REF 2014 – i.e. having a research impact period of 15 years before the reference period. However, the ATN are also open to the idea of having different time frames for different disciplines should there be reasonable justification to do so. This would require consultation with discipline and end-user experts.

## Balancing data collection, verification and cost

12. *How can the assessment balance the need to minimise reporting burden with robust requirements for data collection and verification?*

While the ATN acknowledges the reservations attached to case studies in terms of cost and administrative burden, there must be a balance between measuring what is *easy* to capture or readily available and capturing information that is *meaningful*, and fits with the policy intent. For example, in the UK REF, while the median cost of producing an impact case study (£7,500) was greater than the cost to produce the impact templates which are used to articulate a department’s “approach to enabling impact from its research (median cost of £3,500 per case study), there have been some concerns by assessment panel members regarding whether the templates added value, given there was no requirement to verify claims with evidence.<sup>12</sup>

In the interests of keeping administrative burden down, it may be worthwhile to consider how reporting aligns with other major data collection systems. It may be the case that some aspects of data collection can be sourced from existing data points, such as ORCIDs, and Digital Object Identifiers (DOIs).

The ATN notes that the Government have taken steps to streamline administrative burdens where possible, for example, in the review of the National Survey of Research Commercialisation (NSRC) and the proposed alignment of the Excellence in Research for Australia (ERA) and the Higher Education Research Data Collection (HERDC). Undoubtedly, reducing reporting burden is something

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<sup>11</sup> RAND Europe (2013) Assessing report impact: An international review of the Excellence in Innovation for Australia Trial, [http://www.rand.org/pubs/research\\_reports/RR278.html](http://www.rand.org/pubs/research_reports/RR278.html), p.12

<sup>12</sup> RAND Europe (2015) Assessing impact submissions for REF 2014: An evaluation. [www.rand.org/content/dam/rand/pubs/research\\_reports/RR1000/RR1032/RAND\\_RR1032.pdf](http://www.rand.org/content/dam/rand/pubs/research_reports/RR1000/RR1032/RAND_RR1032.pdf)

strongly supported by both the sector and Government. As such, the ATN recommends that following the pilot assessment round, part of the review process can include a careful mapping and analysis of reporting processes, to see where efficiencies can be achieved.

***Recommendation 7: The review process of the pilot exercise should include a review and mapping of reporting processes to see where efficiencies can be achieved.***

## Managing disciplinary differences

*13. What approaches or measures can be used to manage the disciplinary differences in research engagement and impact?*

The ATN advocates for broad suite of indicators to be used, with different emphasis/weightings applied to different disciplines. For example, consultancy research may be more critical in the fields of business compared to the arts. It is important to allow disciplinary experts the opportunity to inform what types of engagement/impact are meaningful in their areas.

In the UK REF experience, institutions initially were more conservative in arts and humanities case studies than other disciplines to begin with, partly because they were unconvinced it would be possible to demonstrate impact and a sense of anxiety that they would be able to measure impact on policy. However, over time this has shifted.

It is worth noting that there is a precedent in ERA for using a disciplinary matrix to manage disciplinary differences, specifying the data types relevant to individual fields of research. A similar approach could be considered for engagement/impact assessment.

***Recommendation 8: Involve disciplinary experts in the consultation of specific measures/approaches to determine what forms of engagement/impact are meaningful in their areas.***

*14. What measures or approaches to evaluation used for the assessment can appropriately account for interdisciplinary and multidisciplinary engagement and impacts?*

Research conducted by King's College London which found that different types of impact are more common in different disciplines.<sup>13</sup> The study assigned FoR codes to each of the 6,679 case studies and found that 87 per cent of the case studies had two or three 4-digit FoR codes, suggesting a high level of multidisciplinary in the research underpinning the case studies, and nearly two-thirds of case studies had two or more 2-digit FoR codes assigned to them, indicating a level of interdisciplinary engagement.

As such, case studies/vignettes appear to be the best approach to capture a broad range of multidisciplinary and interdisciplinary differences, and their related impacts.

## Types of indicators

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<sup>13</sup> King's College London and Digital Science (2015). The nature, scale and beneficiaries of research impact: An initial analysis of Research Excellence Framework (REF) 2014 impact case studies, [http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/Independentresearch/2015/Analysis,of,REF,impact/Analysis\\_of\\_REF\\_impact.pdf](http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/Independentresearch/2015/Analysis,of,REF,impact/Analysis_of_REF_impact.pdf)

### 15. What types of engagement indicators should be used?

The ATN is supportive of a broad range of engagement indicators, balanced between financial transaction-based metrics (e.g. ATSE metrics) and non-financial transaction-based metrics (e.g. transfer of knowledge to research users via mobility of HDR students) to help account for the diversity of research conducted at universities. The engagement indicators should be agreed upon in consultation with disciplinary experts and end-users, as per recommendation 8.

The ARIA work on metrics used the following five criteria<sup>14</sup> to assess the appropriateness of a wide range of metrics:

- credibility (robustness and validity; is it clear to an informed observer that the metric actually provides information about an impact on or benefit to research users, or about a process underway that will provide an eventual benefit?)
- collectability (are the data for the metric available in existing surveys or readily incorporated into future surveys, to limit costs of acquiring data and to obviate objections?)
- continuity (stability – is it reasonable to expect that the same data will be available and relevant in future, affording durability to the metric and supporting long-term data sets?)
- comparability (does a similar or reasonably comparable metric exist in other jurisdictions, and can it be applied across institutions and socio-economic objective classes?)
- coherence (does the metric contribute to a logical and comprehensive set, in which the value greater than sum of the parts?)

Metrics were canvassed from sources such as the Australian Innovation System Report, the OECD Science and Technology Scorecard, the Global Innovation Index, the NESTA UK Innovation Index, the EU Report on Measuring Impact of University-Business Cooperation, and the Economist's Creative Productivity Index.<sup>15</sup>

Of the candidate metrics identified in review of metrics against the criteria, the following were shortlisted for further evaluation:

1. Employment of HDR graduates by research users;
2. Mobility of research staff between the institution and research users;
3. Revenue per researcher from research users for contract research, consultancy etc;
4. Revenues from research users for licences, options and assignments of intellectual property or embedded technology;
5. Revenue per researcher from repeat business from research users for contracted research, consultancy etc;
6. Revenues from investee company dividends or value realisations; and
7. Consumption of diverse research outputs accessible through internet-based and social-media channels.

ATN Universities conducted a data availability assessment of 'recommended metrics' and found inconsistencies in how universities collected data and in terms of availability and reliability for the majority of metrics. The only metric which is currently systematically collected and reliable is the

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<sup>14</sup> Framework adapted from the 2014 *Enhanced Commonwealth Performance Framework* for publicly funded programs

‘Employment of HDR graduates by research users’. As such, the ATN recommends this metric be considered in the possible suite of engagement indicators (c.f. response to discussion question 6i).

Given there was difficulty in achieving compatibility across five universities, the likelihood of getting robust, reliable data across the sector is low. While metrics can be useful indicators of engagement, the exercise showed that there are limitations with current datasets. Caution should be placed on relying on metrics without contextual information, and making sure that measures are meaningful, attributable and measurable. As previously canvassed, the pilot could also look further into the utility of metrics gathered via existing data sources such as the NSRC.

*16. What types of impact indicators should be used?*

As above and in response to question 13, the ATN recommends that impact indicators are developed in close consultation with discipline experts and end-users.

***Recommendation 9: The sector and Government continue work towards developing reliable indicators for engagement and impact in consultation with discipline experts and end-users.***

**Other**

*17. Are there any additional comments you wish to make?*

The introduction of a well thought out national engagement and impact assessment framework has the potential to help researchers and universities better understand and strengthen the links between undertaking research and its economic, societal, cultural, environmental and other spill-over effects. The ATN acknowledges that the efforts to improve collaboration and translation of knowledge between universities and end-users via an engagement and impact assessment needs to sit within a wider policy framework that considers both push and pull factors.

### Appendix 1. Proposed Impact Vignette Template

Institution:	
Unit of Assessment Primary SEO Code: Secondary SEO Codes (if needed):	
Title of partnership or project:	
Description (1/2 page): - Include contribution of the research to the impact	
External partner organisations:	
Start date:	End date (if applicable):
Funding sources, grants and amounts:	
Benefits (outputs, SEO, regional, global, knowledge transfer) (1/2 page):	
Awards and recognition:	
Media coverage:	
Other:	
ORCID:	
Publications (including DOIs):	