RESEARCH IMPACT AS ETHOS

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EXECUTIVE SUMMARY

Existing dominant approaches to university research impact are not adequately meeting societal and planetary needs. Nor are they meeting societal expectations or building public trust. If academic institutions are to secure their future, they need to demonstrate a genuine commitment and capacity to work with others to achieve the transformational changes needed. Part of this challenge and opportunity is to **re-imagine research impact as ethos**.

Research impact as an ethos reflects a fundamental shift towards a *co-created*, *embedded and positive research impact culture*. This is an approach to research impact that does not externalise "the real world" but sees academia as part of it and researchers as partners within dynamic innovation ecosystems, willing and able to use their unique capabilities to help generate the positive transformational changes needed.

To this end we outline three different stages of research impact culture:

1ST GENERATION

Focuses on complementing academic rigour by demonstrating the relevance of research, increasing its reach by making it more publically accessible, and encouraging end users to adopt it.

2ND GENERATION

Shifts the focus to working with partners to ensure research is legitimate, generating value for and with research partners, and improving research impact literacy across the institution.

3RD GENERATION

Emphasises the need to focus on what is most important, consciously operate within genuinely *eco* "innovation ecosystems", assess impacts and generate synergies across projects, adapt to dynamic conditions and continually learn, improve and build.

Understandings and practices around research impact are evolving to better address the need for meaningful real world change. As part of this, we highlight a growing pool of openaccess resources and references that can help inform, guide, challenge and inspire policies and practices. To complement these resources, we offer 7 provocations designed to prompt and promote thinking, discussion, reflection and debate about the shifting meanings of research impact in a climate of change.

As researchers, this is an opportunity to attune to what is most important and to do what we do best. It is about pausing to ask hard questions about what the world needs and not simply what research funders want now. It is about celebrating what distinguishes researchers in universities by leveraging the power of our deep knowledge, academic networks and independence to not only do practical applied research of the sort many research actors can do, but to identify neglected issues and voices, articulate lessons from the past, critique existing approaches and anticipate possible futures.

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RE-IMAGINING IMPACT AS ETHOS

Ethos: the characteristic spirit of a culture, era, or community.



The key word in the higher education sector today is 'impact'. This reflects the pressure on universities to better justify their societal role and public support. Understanding, tackling and responding to 'grand challenges' such as those outlined in the Sustainable Development Goals (SDGs) requires unprecedented levels of collaboration, coordination and commitment across disciplines, sectors and scales - *a new research impact ethos*.

Existing dominant approaches to university research impact are not adequately meeting societal and planetary needs. Nor are they meeting societal expectations or building public trust. If academic institutions are to secure their future, they need to demonstrate a genuine commitment and capacity to work with others to achieve the transformational changes needed, including helping government deliver and demonstrate public value both as a higher education sector and through specific projects¹. Part of this challenge and opportunity is to re-imagine research impact. The mutual shaping of science and society is described by Sheila Jasanoff as 'co-production'². Universities extend beyond science to all other disciplines, and beyond research to the many other overlapping functions of the university, notably learning and teaching, leadership and engagement. These too are mutually shaping. A co-production lens helps us see the multitudinous continuities between universities and other elements of the world, including government, business, NGOs and the community sector.

Until recently, co-production between science and society has been seen as a straightforward two-way interaction between: 1) formal researchers and 2) designated research users. Increasingly, though, it is clear that the categories, divides and processes involved are far more complex. Already, the concept of research impact is evolving as a result of shifting relationships between research and society. This includes the important multifaceted contribution of the arts, media studies, architecture, and humanities. Research impact as an ethos reflects a fundamental shift towards a *co-created*, *embedded and positive research impact culture*. All research institutions have a research impact culture of some kind, but in some cases that culture devalues research impact relative to other agendas such as journal impact factors. A leading thinker on research impact, Mark Reed, has identified a positive research impact culture as key to helping researchers enhance and benefit from the real world value of their research³.

Increasingly, research impact cultures across institutions are progressing from a "mildly positive" research impact culture - one in which research impact is acknowledged but largely seen as an optional add-on or values-free target - to a more "deeply positive" one focused on the values, purpose and 'spirit' of research (that is, the type of world we are collectively helping create). We refer to this as a '3rd Generation' research impact culture and in the sections below outline the evolution to this point, before offering some final provocations.

'1ST GENERATION' RESEARCH IMPACT RIGOUR, RELEVANCE, ACCESSIBILITY

Many researchers and related institutions think of research impact in line with a '1st Generation' research impact culture. Here, impact is about real world relevance as a complement to (not replacement of) academic rigour and excellence. It is about impact as a powerful additional criteria in research evaluation, one designed to increase and indicate how far and in what way a given piece of research has 'reached out into the world'. Innovation, it is often repeated, refers to actual change, not just new knowledge.

A key driver of this push for research impact and innovation has been the growing need to defend public and private investment in the university research sector. Rhetorically, much university research is justified on the basis of its contribution to public value⁴. Most research evaluations, however, use economic values (e.g. financial benefits of research to a given group) or science values (e.g. citation scores) as proxies.



In keeping with this, dominant approaches to demonstrating research impact include:

2

Encouraging a given group of end users (e.g. manufacturers, policy makers) to adopt the research and thereby help transform it into an innovation; and

1

Translating and disseminating research in the academic and public domains by making it intellectually and practically accessible, akin to university 'outreach'.

One of the upshots of this impact turn is recognition of the need to build researchers' capacities around research impact. This begins with skills in shaping knowledge production to the messy contours of real world problems rather than along straight disciplinary lines. It includes collaboration approaches such as 'team science' and a host of knowledge translation and communication capabilities, including writing compelling narratives, communicating with the media, and generating Altmetric attention for our work.

These approaches can be important, and can represent a real departure from research contained within The Academy. Yet this approach to research impact also risks being compliant, formulaic and superficial. Researchers can struggle to see the point, and are generally under-resourced to assist, understand or even hear about audience engagement with their work. End-users often do not appreciate being told to use something they may not really want, research funders can be underwhelmed by inflated claims of impact, and commercial beneficiaries can lock innovations behind closed doors, limiting their value to researchers and the world.

More fundamentally, although a '1st Generation' research impact culture strives to increase the accessibility of research, it leaves unexamined the deeper questions around the research agenda: *Who* informs the research? *Why* do the research? *Who* benefits from the research?

'2ND GENERATION' RESEARCH IMPACT LEGITIMACY, VALUE, LITERACY

A '2nd Generation' research impact culture starts with a focus on the change that is needed. A 2nd Generation research impact approach recognises that in order to produce positive impactful changes in the world, researchers need to appreciate that problems and solutions are not self-evident or only of their choosing. What counts as a real problem or a satisfactory solution for a given set of stakeholders is always contestable, always a matter of shifting priorities and circumstances. The impacts that research generates are not necessarily positive from the perspective of designated 'end users'.

What this means is that rather than just maximising the impact of a given area of research, the goal needs to be to collaboratively co-produce research from the outset, working for and with partners to generate outcomes that *they* recognise as valuable.





Centering partner perspectives means that '2nd Generation' research impact aims for research that is not just relevant but also socially legitimate⁵. It emphasises how research is done as much as what research is done. It redesigns research processes and practices to ensure research partners are included from the beginning so that the 'real world' that the research is targeting is the one that partners recognise.

In this way, the linear 'push' of first generation research impact - from researchers to endusers - is replaced with a process that is more circular, iterative and realistic about complexities. By focusing on what real people want and strong relationships with them, impacts of a social, cultural and environmental sort rather than only economic and bibliometric ones are increasingly validated. Research partners become just that - partners in the research - partners in the research. At the same time, partnerships are not reduced to projects. By broadening out from designated endusers, a '2nd Generation' research impact approach begins to consider the "ecosystem" the research is embedded within. It begins to appreciate that as well as scaling innovations "out" across a population, innovations need to be scaled "up" into surrounding systems if they are to work and stick⁶.

One of the hallmarks of a '2nd Generation' research impact culture is that it itself is more institutionally embedded. In contrast to a compartmentalised and competitive approach to research impact driven by isolated researchers, a '2nd Generation' research impact culture recognises that scaling research impact capability requires more than just researchers or conventional research skills. It builds impact literacy into institutional relationships, structures and processes at all levels. It builds capabilities in individuals and groups, coherence into systems and measures, and purpose into activities and processes (Figure 2)⁷.

5. Cash, D.W., Clark, W.C., Alcock, F., Dickson, N.M., Eckley, N., Guston, D.H., Jäger, J. & Mitchell, R.B. (2003) Knowledge systems for sustainable development, Proceedings of the National Academy of Sciences of the United States of America, 100(14): 8086 -8091. 6. Wigboldus, S. and Leeuwis, C. (2013) Towards Responsible Scaling Up and Out in Agricultural Development: An exploration of concepts and principles, Centre for Development Innovation, Wageningen University and Research, Netherlands. 7. Bayley, J.E. & Phipps, D. (2019) Building the concept of research impact literacy, Evidence & Policy, 15(4): 597-606.

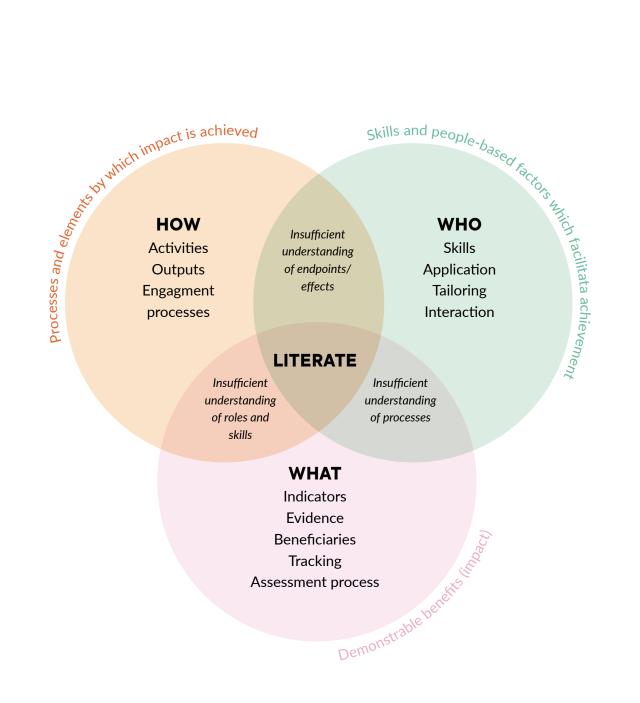


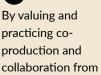
Figure 2: Building Research Impact Culture and Literacy (Bayley and Phipps, 2019)

Overall, '2nd Generation' research impact progresses past the '1st Generation' in five main ways:





By directly aligning impact with the desired change through detailed planning;



the start;

By fostering longterm partnerships inside and outside the university;

3



4

By scaling impact not just out but up into enabling systems; and



By taking the same approach to impact capability - embedding an impact culture across an institution to build literacy, skills, knowledge and agency.

This progression is desirable and valid. Yet even as it continues to gain momentum, already it is becoming evident that an even more transformative and ambitious approach is simultaneously needed.

Dynamic, complex and urgent situations mean that in addition to methodical and large collaborative projects, other more anticipatory, agile, discerning and effective approaches are needed to generate the impact the world needs given the depth and urgency of challenges we face. Although the reach of research is increasing, so too are the issues research is needed on, with current research failing to arrest profoundly dangerous trajectories such as climate change. Too many research projects remain focused on narrowly defined impacts, too many groups in society remain left out of research conversations, too many research institutions remain focused on uncritically maximising impact project-by-project, too often what is asked of researchers by funders is out of step with future challenges and ignorant of present day realities. This is why we need to forge a '3rd Generation' research impact culture.

'3RD GENERATION' RESEARCH IMPACT PURPOSEFUL, CONNECTED, ADAPTIVE

Although 1st and 2nd generation approaches to research impact dominate, there are signs that a '3rd Generation' research impact culture is emerging in recognition of the transformational change needed and upon us. Rather than waiting for, ignoring or lamenting broad social change, 3rd generation research impact adopts a systems lens to acknowledge context and complexity and generate desirable change through intelligent interventions⁸.

Mobilising co-produced knowledge for positive transformative change needs significant research impact - no matter the size or scale. This requires more cross-disciplinary collaborative approaches that link and weave research impacts together to address society's 'big challenges'. The emphasis here is on finding the synergies and lessons across and between the research projects, programs and institutions. Such synergies remain one of the greatest untapped resources in research. Work on the 4th Industrial Revolution. for example, demands the insights of the social sciences and humanities if its impact is to be 'empowering and human-centred, rather than divisive and dehumanizing'⁹.



While individual researchers are often brought together to collaborate on new research, 3rd generation impact brings researchers together to identify, compare and collaboratively leverage impact and partnerships around *existing* research. In many areas, for example, the key question is not just *what* new technologies or data are needed, or *how* they can be developed, but also *why* they are needed, given what may lie ahead and what is already known. Innovation is vital and exciting, but not all innovation is ethical, useful, effective, insightful or enabling of further innovation.

As researchers, this is an opportunity to attune to what is most important. It is about pausing to ask hard questions about what the world needs and not simply what a given research funder wants now. It is about leveraging our deep knowledge, disciplinary networks and independence - that is, our academic freedom¹⁰ - to not only do practical applied research of the sort many research actors can do, but to identify neglected issues and voices, articulate lessons from the past, critique existing approaches and anticipate possible futures¹¹.

Such change has to involve our ways of doing research. Research impact needs to be more than a discrete end-of-project task, more than a consideration for only new research, and more than an expression of what research capability happens to exist. A '3rd Generation' research impact culture cultivates an ethos of research impact that doesn't just scale impact out and up, but *scales it deep* as new understanding among researchers, research institutions and participants. By circling back to affect researchers and their institutions themselves, this approach to research impact reveals the question of research impact as a serious research question and learning opportunity in its own right¹²⁻¹³.

3rd generation research impact also encourages us to aggregate and evaluate research impact beyond the project scale to examine what impact emerges *from the spaces between as well as within projects.* It encourages us to consider the 'public value' of our research overall. To what extent and in what ways is the net effect of our programs', schools' or institutions' research helping the world address key challenges, such as those encapsulated by the United Nations SDGs?

A more critical, discerning, targeted approach is needed that strategically assembles research to drive positive social change. Helpful here can be organising at least some research in targeted, missionoriented, cross-disciplinary portfolios of projects designed to strategically and effectively help address key issues (Figure 2)¹⁴.



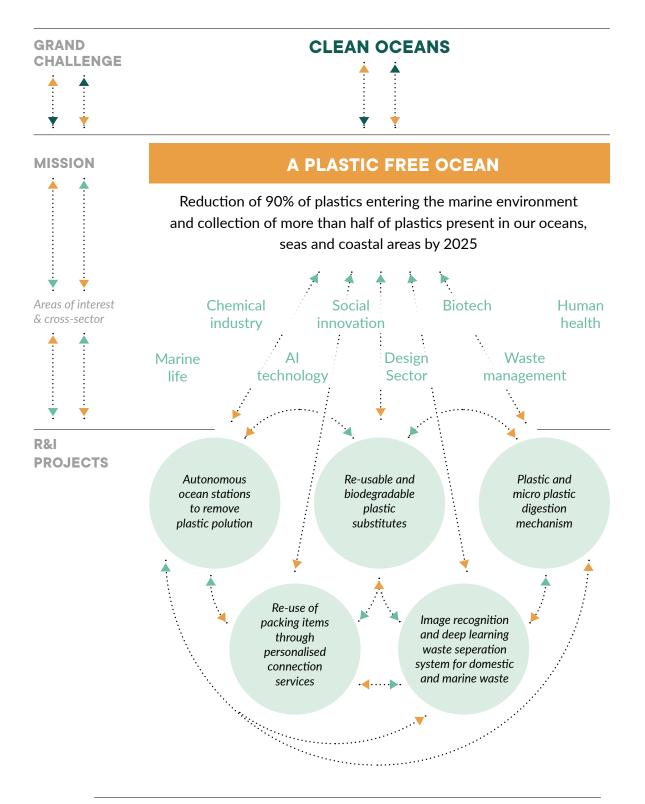
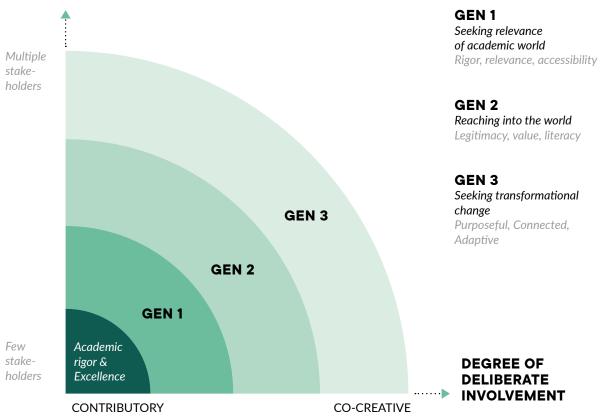


Figure 2. Illustration of how research can be organised in a 3rd generation research impact culture (from Mazzucato 2018)

3rd generation research impact also recognises the blurred boundary between research impact and other university activities including "engagement". It advances wholeof-university frameworks such as the social impact framework at University of Technology Sydney¹⁵. This further expands the range of stakeholders implicated in research impact within and beyond the university.

Besides structural enablers and leadership, a 3rd generation research impact approach is open to bottom-up experimentation in approaches. It acknowledges the contemporary need for research and translation practices to become more agile to cope with disruptions such as COVID-19 and climate change impacts¹⁶, while recognising that 'fast is not a direction' and the fundamental challenges we face more than ever require care and consideration.

Care-full research impact requires we attend to the 'innovation eco-system' we are inevitably part of. This means opening up not only to the value that designated research partners bring to innovation, but that others across their organisation and across society bring. It means pushing the 'eco' of innovation ecosystem beyond a mere indicator of complexity to a genuine consideration of the actual physical ecosystems, places and earth systems any innovation implicates, impacts, relies on and needs to adapt to. It means acknowledging the many stakeholders, near and far, human and non-human, of our research (Figure 3)¹⁷.



STAKEHOLDERS

Figure 3. Schematic representations of two of the key dimensions that distinguish Generation 1, 2 and 3 research impact cultures.



If '2nd Generation' research impact culture is about the what, who and how of research impact (Figure 1), '3rd Generation' research impact culture is also about the why and so what.

This involves researchers asking critical questions such as:

Why are we aiming for these impacts from this research? What is theWIvalue of thisweresearchdorelativeorto otherdifresearch?dif

What do we need to do more of, or less of, differently?

How canNwe createopositivewimpactsgacross andtbetween therresearch workiwe and ourginstitutionso

What type of world are we helping generate through our research, individually and collectively?

What impact does research have on us as researchers and research managers and what do we have to do to adapt to our rapidly changing context?

In summary, there are three research impact cultures evident in the research landscape today (Table 1). Any one institution is likely to have elements of each. Each culture has strengths. Meeting contemporary research impact needs requires that research impact culture is cultivated carefully, appreciating the strengths of each approach while recognising that the third generation research impact culture speaks most directly to our context.

RESEARCH IMPACT CULTURE	KEY FOCI
1ST GENERATION	Complementing academic rigour by demonstrating research relevance Increasing the reach of research by making it more publicly accessible and encouraging end users to adopt it
2ND GENERATION	Working with partners to ensure research is legitimate Generating value for and with research partners Improving research impact literacy across the institution
3RD GENERATION	Purposefully fostering synergies, insights and learning across projects and other boundaries to enhance positive research impact Attuning to what is most important and what researchers can best contribute within the innovation <i>eco</i> -systems they are part of Cultivating adaptability and continuous improvement in how research impact is imagined and produced

Table 1. Overview of the three generations of research impact culture



7 PROVOCATIONS FOR RESEARCHERS

Understandings and practices around research impact are evolving to better address the need for meaningful real world change. There is a growing pool of open-access resources and references that can help inform, guide, challenge and inspire policies and practices, including some that encourage a shift to 3rd Generation research impact culture.

To complement these resources, we offer 7 provocations designed to prompt and promote thinking, discussion, reflection and debate about the shifting meanings of research impact in a climate of change.

The aim of these provocations is to draw critical attention to taken-for-granted practices and provide space for "debate and discussion about topics which are often treated instrumentally or deterministically"¹⁸. Provocations work to stimulate ideas and discussion by helping "to reimagine some of the orthodoxies and unexamined truisms surrounding the field"¹⁸. Our aim is to persuade readers that these topics are rich and complex and require more urgent critical attention than they often receive.



Together with the rest of this discussion paper, the aim of these provocations is to build critical institutional praxis around research impact in order to capitalise on the strengths of all of the research impact cultures described, including 3rd Generation research impact with its focus on 'why' and 'so what?'

RESOURCES

Contemporary challenges require us to accelerate our own learning about impact in any one situation and in general.



Research impact endeavours are themselves an area for research and a route to important learning and improvements. The resource list below offers insights that researchers and aligned professionals/stakeholders might find useful and generative.

It is important to note that there is a serious dearth of research on how impact is generated from research in practice. With researchers and research institutions now often required to write 'impact case studies', there is an opportunity to contribute learning and insight about the complexities, challenges and joys of trying to cultivate impact and the way impact can emerge right along the research journey. However, this requires an actual research orientation to impact. In contrast to analyses into projects that just try to prove an impact or demonstrate a return on investment, this is about genuinely inquiring into what happens during and after projects in order to improve the process and learn from it, helping those involved understand, increase and capture the value they are creating.

Such an approach will not be of interest to everyone and requires social science expertise. But it is one way a research institution could embed a learning ethos of the sort that charactises a 3rd generation research impact culture. Just as the importance of positive social and environmental impact can be 'ingrained within the overall research 'ingrained within the overall research attitude' of an institution¹⁹, genuine social research could be ingrained within an overall impact attitude.



Ten recommended online resources for research impact

FAST TRACK IMPACT - RESOURCES

Newcastle University

The richest array of tools and reflections on RI for researchers in all disciplines. Website includes a useful podcast. Run by Mark Reed, a leading thinker on RI. www.fasttrackimpact.com/resources

RESEARCH IMPACT CANADA

Good overview of different RI case studies from Canada's universities. Home to David Phipps, another leading thinker on RI. www.researchimpact.ca

RESEARCH EXCELLENCE FRAMEWORK (REF) IMPACT TOOLKIT

Overseas Development Institute RI tools enriched by insights from the international development field into how complex RI can be. www.odi.org/sites/odi.org.uk/files/resource-

documents/12319.pdf

For those interested in having impact in low and middle income countries, see also the Research for Development Impact Network www.rdinetwork.org.au

IMPACT PLANNING TOOLKIT

University of Sheffield Simple tool kit to help researchers in all disciplines get started www.sheffield.ac.uk/rs/impact/planning_toolkit

RI TOOL-KIT

ESRC

Tools for social science researchers. Insight into the 2nd generation UK approach that Australia is generally following. www.esrc.ukri.org/research/impact-toolkit

PUBLIC ENGAGEMENT EVALUATION TOOLKIT

National Coordinating Centre on Public Engagement Tools for those trying to engage the public with their research www.qmul.ac.uk/publicengagement/ goodpractice/evaluation-toolkit/

LSE IMPACT BLOG

London School of Economics Eclectic and useful blog series on RI of social science for professional and academic staff www.blogs.lse.ac.uk/impactofsocialsciences

THE RESEARCH IMPACT ACADEMY

Innovative company assisting researchers with RI in Australia. Runs an annual RI summit. www.researchimpactacademy.com

OUR IMPACT MODEL

CSIRO

Clear, basic RI framework, primarily for scientists. www.csiro.au/en/About/Our-impact/Ourimpact-model

THE REAL IMPACT OF CHANGE

Emerald Publishing

Insight into how academic publishers are engaging with RI www.emeraldpublishing.com/the-realimpact-of-change/?utm_source=twitter&utm_ medium=social&utm_campaign=bnd_ realimpactofchange_20190719

DESIGNING 4 RESEARCH IMPACT

The following Impact Canvas (worksheet) is designed to help researchers design their own research in such a way that impact is embedded from the beginning. The Impact Canvas is a result of the report authors' collaboration with Anna Thomas and David Downes (RMIT University).

RESEARCH PURPOSE	BENEFICIARIES	RESEARCH IMPACT PROPOSITION STATEMENT*
What is your main research goal? Why does it matter?	Who would benefit from the uptake and application of your research? In what way?	The societal or industry problem this research addresses is [use Bigger Problem section to help you].
BIGGER PROBLEM	KEY PARTNERS	The research addresses this problem by [use Key Outputs section
What is the change you or your team is seeking to achieve through this research? Why does this matter to beneficiaries, end users and partners? What is the value for them?	Who are your key partners? When do they need to be involved ? At what stage? What will be their role in realising impact?	to help you]. The outcomes from uptake and use of this research are anticipated to be [use Key Outcomes and Bigger Problem sections to help you]. Which will benefit [indicate beneficiary] by [explain in what way].
REFLECTIVE PRACTICE		*Please use the proposed
What societal implications will your research have? In what way might your research affect or influence others, both positively and negatively?		statement structure as an example.
RESEARCH IMPACT MAIN ACTIONS		CALL 2 ACTION
Indicate at least three actions to deliver your impact propositions: short, medium and long term. They will serve as a basis for your impact delivery plan.		What is your next step?

KEY OUTPUTS

What will be the main outputs of your research?

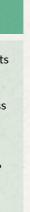
Do they really help to address your bigger problem?

What else can be done to strengthen your proposition?

TRANSLATION EFFORTS

In what forms will your research be translated for uptake by end users, beneficiaries (e.g. presentations, workshops, guidelines, demonstrations, case studies, etc.)?

What translational activities are you planning to conduct?



What outcomes are you planning to achieve thanks to your translational efforts?

CAPTURING IMPACTS

What will indicate progress towards, or achievement of, your desired outcomes?

In what ways do you intend to measure or gather evidence of progress against these indicators?

CONTACT







Cover Image: Thick plumes of smoke rise from bushfires at the coast of East Gippsland, Victoria, Australia January 4, 2020 in this aerial picture taken from AMSA Challenger jet. Photo by Australian Maritime Safety Authority/Handout via REUTERS