

WORKSHOP REPORT

Building a **Social Science Agenda** for Challenge-Led Science, Research and Innovation Policy in Australia

21–22 April 2026

Melbourne, Australia



MONASH
University



Australian
National
University

Fenner School
of Environment
& Society

Authors

Prof Rob Raven¹
Prof Xuemei Bai²
Dr. Christoph Brodnik¹
Dr. Heinz Schandl³
Gabriela Bawarshi¹
Dr. Michael Battaglia³
Prof Alejandra Boni⁴
Prof Ingrid Burkett⁵
Karen Cain⁶
Ethan Daugherty¹
A/Prof Kathryn Davidson⁷
Dr. Yasmina Dkhissi⁸
Dr. Simon Fielke³
A/Prof Matthew French¹

Prof Roy Green⁹
Prof Dan Hill⁷
Dr. John Howard¹⁰
Dr Sombol Mokhles²
Xue Ruo Ng¹
Amelia Olsen-Boyd³
Prof Sujatha Raman²
Prof Chris Riedy⁹
Dr. Dan Santos²
Prof John Thwaites¹
Prof Beth Webster⁷
Prof Bruce Wilson¹¹
Bangle Wu (Bernice)²

¹Monash University

²Australian National University (ANU)

³Commonwealth Scientific and Industrial Research Organisation (CSIRO)

⁴Ingenio (CSIC-Universitat Politècnica de València)

⁵Griffith University / The Good Shift

⁶V/Line

⁷University of Melbourne

⁸Regen Melbourne

⁹University of Technology Sydney (UTS)

¹⁰Acton Institute for Policy Research and Innovation / University of Technology Sydney (UTS)

¹¹Royal Melbourne Institute of Technology (RMIT)

Suggested citation:

Raven, R., et.al. 2026. *Building a Social Science Agenda for Challenge-Led Science, Research and Innovation Policy in Australia: Workshop Report*. Monash University, Australian National University, CSIRO and Academy of the Social Sciences in Australia.

Graphic design by Ivy Hajduk E:design@ivyhajduk.com.au

Preface

This report summarises the proceedings and key insights from the workshop **Building a Social Science Agenda for Challenge-Led Research and Innovation in Australia**, held in Melbourne on 21–22 April 2026. The workshop was convened by Prof. Rob Raven (Monash University), Prof. Xuemei Bai (Australian National University), Dr. Christoph Brodnik (Monash University), and Dr. Heinz Schandl (CSIRO).

The workshop brought together researchers, policymakers, and practitioners from across Australia and internationally to reflect on the role of the social sciences in shaping challenge-led science, research and innovation (SRI) policy. Discussions focused on themes including transformative innovation policy, mission-oriented research, governance, public participation, equity, and place-based approaches to addressing societal challenges such as climate change and circular economy transitions.

This report synthesises the main themes, discussions, and emerging priorities identified during the workshop. Drawing on the workshop insights, it proposes a novel typology of the role of the social sciences in challenge-led SRI and provides recommendations for advancing a challenge-led SRI policy agenda informed by the social sciences. It is intended as a resource for researchers, policymakers, funding bodies, and institutions interested in strengthening the contribution of social sciences to challenge-led SRI policy and practice in Australia.

The convenors would like to thank all workshop participants for their generous contributions, as well as the Academy of the Social Sciences in Australia, the Monash Sustainable Development Institute, the Monash Business School, the Fenner School of Environment & Society (ANU), and the CSIRO for their generous support of the workshop and broader commitment to fostering interdisciplinary dialogue on Australia's major societal challenges.

Executive Summary

Australia is increasingly adopting challenge-led approaches to science, research and innovation (SRI) to address major societal and sustainability challenges such as climate change, biodiversity loss, circular economy transitions, housing pressures and growing social inequalities. At the same time, Australia faces ongoing challenges relating to productivity growth, industrial renewal and economic resilience. The workshop concluded that these challenges are deeply interconnected and require innovation systems that can deliver both societal and economic transformation.

While challenge-led approaches are gaining momentum through initiatives such as Ambitious Australia: Strategic Examination of Research and Development (SERD) and Future Made in Australia, they often continue to be shaped primarily through technological, economic and industrial perspectives. The workshop highlighted that the success of challenge-led SRI depends not only on technological innovation, but also on understanding and shaping the social, institutional, political, cultural and behavioural dimensions of transformation.

Drawing on discussions among researchers, policymakers and practitioners, the report identifies eleven themes that highlight the importance of governance, participation, experimentation, place-based innovation, institutional capability, justice and societal learning in challenge-led SRI. The overarching conclusion is that transformation should be understood as a socio-technical and relational process rather than a purely technological one. Social sciences therefore play a critical role in helping governments, industries and communities navigate and govern complex transitions.

At the same time, challenge-led SRI does not only challenge governments and innovation systems to change; it also challenges the social sciences themselves. While social sciences have traditionally made essential contributions through analysis, critique and explanation, the scale and urgency of contemporary challenges require greater engagement in designing, enabling and supporting transformative responses. The workshop therefore emphasised the need for a more action- and solutions-oriented social science that combines critical insight with practical engagement in and design of new approaches to governance, experimentation, participation and institutional innovation.



The report proposes a framework for understanding the contribution of social sciences to challenge-led SRI. It identifies four foundational roles:



Defining and broadening societal challenges;



Generating and synthesising evidence and knowledge;



Supporting and enabling social change; and



Critiquing, reflecting on and questioning societal change processes.

Building on these foundations, the report identifies seven operational contributions, ranging from systems diagnosis and futures exploration to governance design, experimentation, collaboration, participation and cultural interpretation.

The report concludes with three priorities for action:

1. STRENGTHEN ACTION- AND SOLUTIONS-ORIENTED SOCIAL SCIENCE CAPABILITIES

- » Invest in training, fellowships, methods development and dedicated funding mechanisms that support action- and solutions-oriented social science research.

2. EMBED SOCIAL SCIENCES ACROSS CHALLENGE-LED SRI

- » Integrate social science expertise into missions, challenge-led programs, industrial transformation agendas and innovation evaluation frameworks from the outset, recognising their contribution to productivity growth, industrial renewal, economic resilience and societal outcomes.

3. INVEST IN ENDURING SCIENCE-POLICY-SOCIETY INTERFACES

- » Support intermediary organisations, cross-jurisdictional coordination, collaborative platforms and long-term learning infrastructures that connect research, policy, industry and communities.

The central message of this report is that social sciences should not be viewed as complementary to challenge-led SRI, but as essential to achieving productive, resilient, equitable and sustainable societal transformations. By helping societies understand, govern and shape systemic change, the social sciences are critical to delivering both public value and long-term national prosperity.



The workshop participants acknowledge the Traditional Owners of Country and that we live and work on the unceded lands of Indigenous Nations within and outside Australia and pay their respects to Elders past and present. We recognise their enduring leadership, knowledge systems, and strength in caring for Country for countless generations.

Acknowledgement of Country

Preface

page iii

Executive Summary

page iv

The role of the
social sciences in
challenge-led SRI

page 25

Contents

Introduction

page 02



Recommendations

page 33

Appendix A –
Workshop Participants

page 37

Appendix B –
Workshop Program

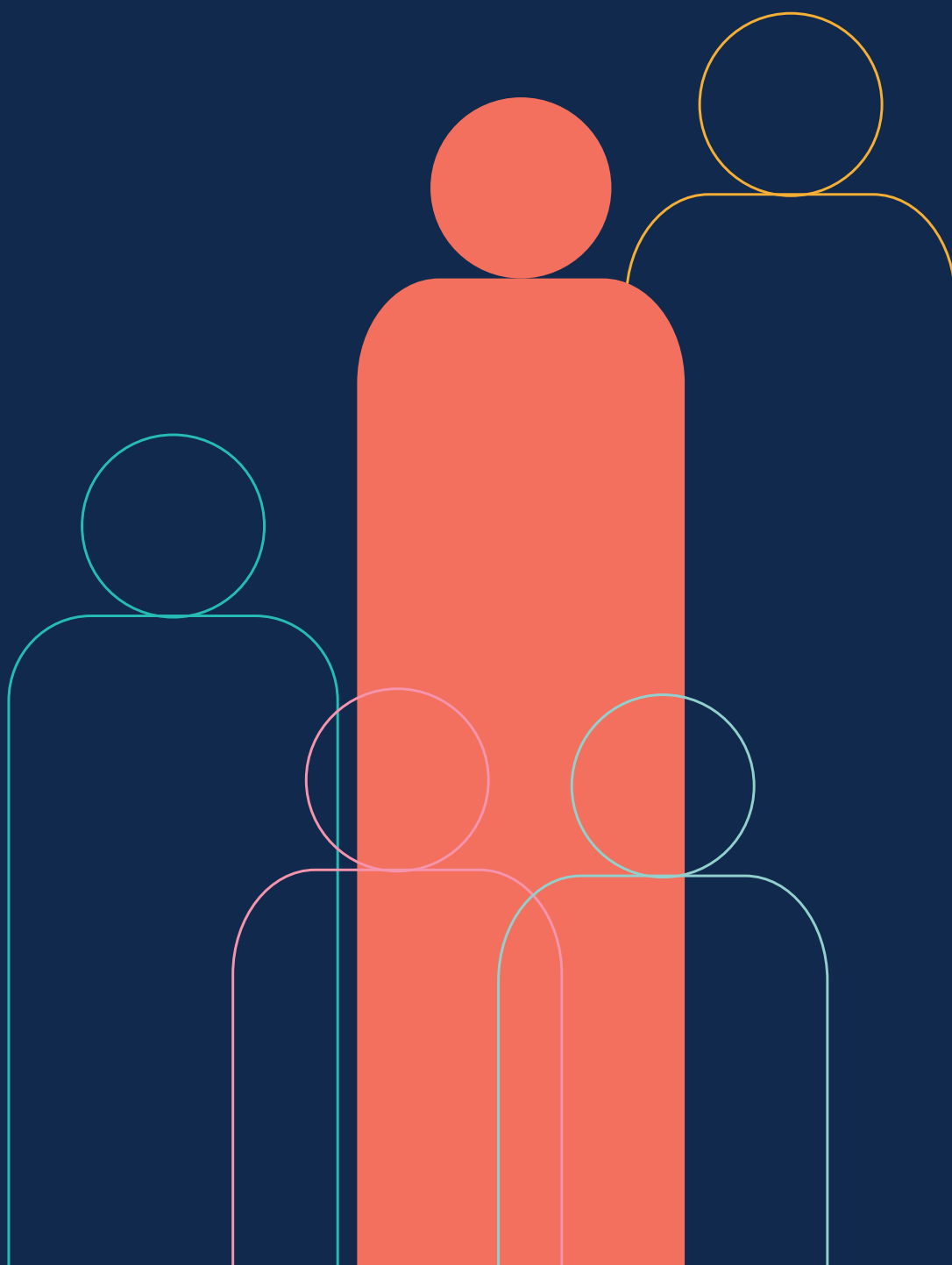
page 38



Themes emerging from
the workshop

page 08

Introduction



Australia, like many countries around the world, faces a growing set of interconnected societal and sustainability challenges that cannot be addressed through incremental innovation or isolated policy interventions alone.

Challenges such as climate change, biodiversity loss, circular economy transitions, energy security, housing pressures, public health risks, and growing social inequalities are increasingly recognised as systemic challenges that require coordinated transformations across technologies, institutions, behaviours, markets, governance systems, and cultural practices. In response, governments, research organisations, and funding agencies are placing greater emphasis on challenge-led approaches to science, research and innovation (SRI) policy that seek to orient innovation systems toward broader societal goals.

Internationally, this shift has been reflected in the emergence of frameworks such as mission-oriented innovation policy and transformative innovation policy. These approaches move beyond traditional linear models of innovation focused primarily on economic growth, commercialisation, and technological diffusion. Instead, they emphasise directionality, societal outcomes, cross-sectoral coordination, experimentation, participation, and systems transformation. Major international initiatives, including the European Union's Horizon Europe missions, as well as policy developments in countries such as Sweden, the United Kingdom, and South Korea,

illustrate growing momentum toward more challenge-oriented approaches to innovation governance.

Australia is also beginning to embrace challenge-led SRI approaches. Federal and state governments have introduced policies and strategies linked to net-zero transitions, circular economy development, or nature-positive planning. Research organisations and universities are increasingly aligning research priorities around societal missions and interdisciplinary sustainability challenges. However, despite this momentum, many challenge-led initiatives in Australia continue to rely predominantly on techno-economic framings of innovation and relatively narrow assumptions about how transformation occurs. Questions relating to governance, public legitimacy, social acceptance, participation, inequality, institutional change, place-based diversity, political contestation, and Indigenous knowledges often remain underdeveloped or marginal within mainstream innovation policy debates.

Importantly, the workshop took place during a significant policy window for Australian science, research and innovation policy.

In recent years, the Australian Government has initiated a series of major reviews, strategies, and reforms

that collectively signal a shift toward more strategic, challenge-oriented and mission-led approaches to research and innovation. Central among these developments is the *Ambitious Australia: Strategic Examination of Research and Development* (SERD), which calls for a more coordinated, outcomes-oriented and nationally strategic approach to research and innovation investment. The review highlights the need to better align Australia's research system with national priorities, strengthen cross-sectoral collaboration, and improve the translation of research into societal and economic outcomes.

Alongside SERD, a broader landscape of reforms is unfolding, including the redesign of Australian Research Council programs, the National Reconstruction Fund, the Future Made in Australia agenda, the Net Zero Plan, emerging circular economy policy frameworks, the Nature Positive Plan, and so on. Together, these reforms indicate a growing recognition that innovation policy can no longer focus solely on scientific excellence and commercialisation, but must also address long-term societal resilience,

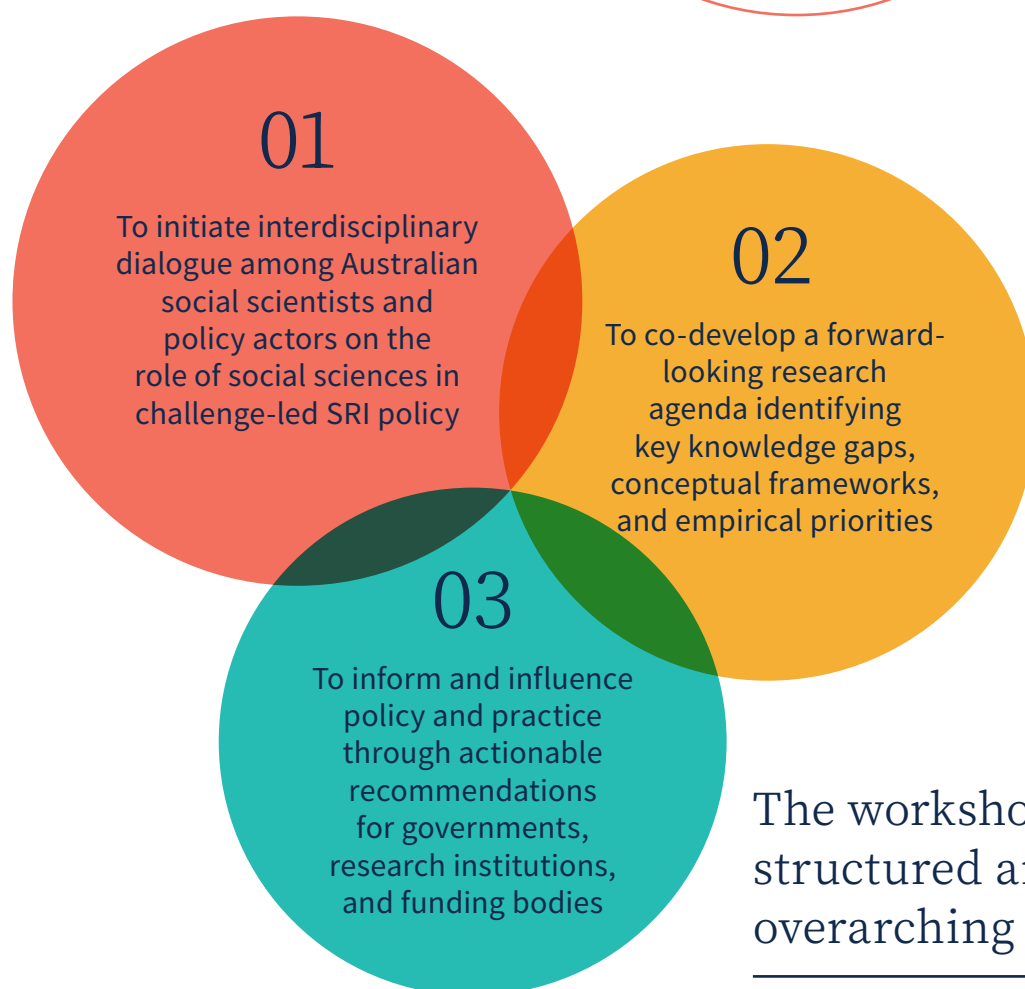


Social science perspectives are essential for understanding how societal transformations unfold in practice, including the ways in which power, institutions, values, behaviours, cultures, and politics shape innovation trajectories and transition pathways.”

sustainability, industrial transformation, and public value creation. These reforms also reflect growing recognition that Australia's long-term productivity performance and economic resilience depend on its ability to renew its industrial structure and mobilise innovation around strategic societal and economic missions. Yet questions remain whether these initiatives continue to be shaped predominantly through economic, industrial, engineering, and technological lenses, or whether these are signs of a genuine and sufficiently far-reaching policy aspiration to enable deep transformations. This creates both a challenge and an opportunity for the social sciences: a challenge because social science perspectives may remain insufficiently embedded in policy design and implementation; and an opportunity because the current reform environment opens space for the social sciences to deliberately contribute to shaping the next generation of Australian SRI policy.

This creates an important opportunity, and responsibility, for the social sciences more broadly. Social science perspectives are essential for understanding how societal transformations unfold in practice, including the ways in which power, institutions, values, behaviours, cultures, and politics shape innovation trajectories and transition pathways. Social sciences can contribute critical insights into governance design, policy coordination, societal engagement, co-design processes, behavioural change, social justice, and the enabling conditions for legitimate and durable transformation. They also help illuminate tensions, trade-offs, and unintended consequences that may otherwise be overlooked in predominantly technological or economic approaches to innovation policy.

At the same time, the emergence of challenge-led SRI policy does not only challenge governments and innovation



The workshop was structured around three overarching objectives.

systems to change; it also challenges the social sciences themselves to reconsider their roles and modes of engagement. Social sciences have traditionally played indispensable roles through creating data and evidence of social science phenomena, and through critical analysis, reflexive inquiry, problematisation, and the examination of institutions, politics, and power relations. These functions remain essential, particularly in ensuring that challenge-led approaches remain democratic, inclusive, and attentive to questions of justice and legitimacy. However, the urgency and scale of contemporary societal and sustainability challenges also require social sciences to engage more directly in shaping constructive responses, solutions and pathways for transformation.

This includes, for instance, directly contributing to the design of governance arrangements, policy instruments, participatory processes, institutional experimentation, and transformative strategies. Rather than positioning critique and solution-orientation as opposing roles, the workshop explored the importance of a more action- and solutions-oriented social science that combines analytical depth with constructive, action-oriented engagement.

In this sense, challenge-led SRI policy not only creates opportunities for greater social science influence, but also invites reflection on how social sciences can more deliberately contribute to imagining, enabling, and governing transformative change.



↑
ABOVE
Workshop
participants at the
'Building a Social
Science Agenda
for Challenge-Led
Science, Research
and Innovation
Policy in Australia'.

Against this backdrop, the workshop *Building a Social Science Agenda for Challenge-Led Research and Innovation in Australia* was convened to explore how social science research can more effectively inform and shape emerging challenge-led SRI policy agendas in Australia.

Over two days, participants engaged in presentations, dialogue, thematic sessions, breakout discussions, and collaborative agenda-setting exercises. Discussions addressed topics including transformative innovation policy, governance and policy instruments, geography and place-based transitions, public participation, equity and justice, interdisciplinary collaboration, and institutional reform. While participants shared a strong sense that Australia is entering an important period of transition in SRI policy, discussions also highlighted significant unresolved questions regarding implementation capacity, governance arrangements, evaluation frameworks, and the role of social sciences within predominantly STEM-oriented innovation systems.

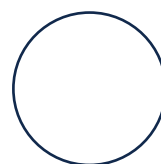
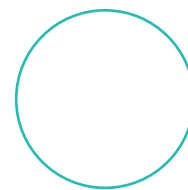
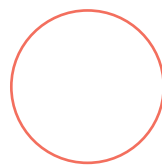
This report synthesises the key insights, debates, and emerging research priorities arising from the workshop. Rather than presenting a single consensus position, the report reflects the diversity of perspectives expressed throughout the discussions and identifies areas where further conceptual development, empirical research, and policy experimentation are needed. The report aims to contribute to ongoing national and international conversations about how science, research and innovation systems can better respond to complex societal and sustainability challenges, and how social sciences can play a more central role in shaping transformative and socially robust pathways for the future.

The remainder of this report is structured as follows. **Section 2** provides a synthesis of the themes that emerged out of the presentations and discussions across the two workshop days. Based on workshop insights, **section 3** provides a typology of the ways in which the social sciences can contribute to challenge-led SRI. Finally, **section 4** provides recommendations on how to strengthen the role of the social sciences in challenge-led SRI policy.

“ Over two days, participants engaged in presentations, dialogue, thematic sessions, breakout discussions, and collaborative agenda-setting exercises.”

Themes emerging from the workshop





Across the presentations, panel discussions and breakout sessions, several recurring themes emerged concerning the role of social sciences in challenge-led SRI policy. This section synthesises eleven themes that repeatedly surfaced throughout the workshop discussions — organised into five parts: reframing, governing, experimenting, building, and participating, all in relation to challenge-led SRI, and summarised in [Table 1](#).

In a nutshell, the workshop suggests that transformation is not primarily a technological challenge but a socio-technical and relational process of cultivating ecosystems capable of orienting collective action, coordinating across institutions and timescales, learning through experimentation, and grounding change in place-based collaborations, legitimacy, and lived experience. The key overarching message is that by moving away from viewing transformation as purely technological to a socio-technical and relational process, the themes collectively indicate a significant role for the social sciences in challenge-led SRI.

Table 1: Emerging themes from the workshop

Part	Theme	Core insight emerging from the workshop	
01	PART I Reframing innovation for challenge-led transformation	Moving beyond techno-economic innovation models	Challenge-led SRI requires broader socio-technical understandings of transformation that engage with governance, institutions, politics, culture, behaviours and ecological limits rather than relying primarily on technological innovation and market incentives.
		The importance of imaginaries, narratives, and directionality	Challenge-led SRI policy is shaped by imaginaries and narratives about desirable futures. Challenge-led SRI therefore requires deliberate reflection on societal directionality, public purpose and the kinds of futures being prioritised.
02	PART II Governing challenge-led SRI	Governance, coordination, and institutional capability as central challenges	Challenge-led SRI depends heavily on governance capacity, coordination across sectors and scales, and institutional arrangements capable of supporting long-term systemic transformation.
		The politics of directionality and challenge-led SRI	Challenge-led SRI is inherently political because it involves decisions about whose priorities, values and futures are advanced through innovation policy and transformation agendas.
		Temporalities of transformation: long-term change in short-term systems	Societal transformations unfold over decades, yet existing research, funding and policy systems often remain shaped by short-term cycles or policy instruments and priorities that may undermine continuity and long-term capability building.
03	PART III Experimentation and learning	From individual projects to experimental portfolios	Challenge-led SRI requires adaptive and flexible portfolio approaches to experimentation rather than isolated projects or linear implementation models.
		Evaluation, reflexivity and transformative learning	Challenge-led SRI requires new approaches to evaluation that recognise emergence, systems learning and reflexive adaptation rather than focusing only on short-term measurable outputs.
04	PART IV Building place-based ecosystems and collaborative capacity	Place-based and ecosystem approaches	Transformations occur through specific places, institutional ecosystems and local capacities, making place-sensitive and regionally grounded approaches essential for challenge-led SRI.
		Relational infrastructures, intermediaries and the “missing middle”	Transformative change depends on intermediary actors, collaborative infrastructures and relational capacities capable of connecting fragmented actors, institutions and scales, which therefore is an essential element of challenge-led SRI.
05	PART V Participation, justice, and lived experiences in challenge-led SRI	Democratisation, participation and justice	Legitimate and durable transformation requires broad societal participation, inclusion and attention to justice, equity and plural forms of knowledge within challenge-led innovation systems.
		Cultural and emotional dimensions of transformations	Societal transformations are also cultural and emotional processes shaped by identity, belonging, trust, care, hope and lived experience, not merely technological or institutional change.

2.1 Part I: Reframing innovation for challenge-led transformation

FAST SUMMARY:

The workshop highlighted the need for challenge-led innovation policy to combine technological innovation with a deeper understanding of social systems, institutions and governance. It also reinforced the role of the social sciences in shaping the narratives, direction and inclusive decision-making needed to deliver lasting transformation.

Moving beyond techno-economic innovation models

A recurring theme throughout the workshop was the need to move beyond narrow techno-economic understandings of innovation that continue to dominate Australian SRI policy. Multiple speakers argued that existing innovation frameworks remain heavily oriented toward technological development, productivity growth, commercialisation and economic competitiveness, often treating societal transformation as something that can be achieved primarily through better technologies and market incentives. Participants repeatedly stressed that complex societal challenges such as climate change, circular economy transitions, nature-positive transformations, and social inequality require broader socio-technical understandings of transformation that also engage with governance, culture, institutions, political economy, behaviours, values and everyday practices.

Heinz Schandl argued that Australian SRI policy “keeps reverting to linear, market-based, techno-economic thinking” and framed this as a deeper structural condition rather than simply

a problem of policy design. Drawing on Manuel Castells and Yanis Varoufakis, he argued that states increasingly operate within networked and platform-based systems that erode collective steering capacity and privilege actors controlling infrastructural nodes and digital platforms.

Sujatha Raman similarly challenged what she called “the problem of more”, arguing that innovation systems continue to assume that environmental problems can largely be solved through technological substitution and scaling, while paying insufficient attention to material throughput, consumption patterns and resource use. She used Australia’s rapid uptake of electric vehicles and household batteries as examples where sustainability transitions can simultaneously deepen extraction and resource intensity.

Beth Webster approached these questions from an evolutionary economics of innovation perspective, arguing that transformative innovation is inherently characterised by uncertainty, tacit knowledge and long-term investment risks that conventional market incentives often struggle to accommodate. Her contribution

highlighted that challenge-led SRI requires not only technological innovation, but also institutional conditions that support capability building, experimentation and patient investment over extended time horizons.

Chris Riedy's analysis of Australian SRI policy documents reinforced these concerns. He described many contemporary policy documents as expressing a “techno-market imaginary” in which “technological innovation [is] in service of economic prosperity”, with social and cultural dimensions largely absent. He noted that policy language was dominated by mechanistic and engineering metaphors such as “acceleration”, “unlocking”, “optimising” and “supercharging innovation”.

Tony Haymet also reinforced these concerns from the perspective of marine science, arguing during the panel discussion that for many contemporary societal challenges “the science is done. It's all social science.” Reflecting on climate change, marine governance and public responses to scientific evidence, he suggested that the major barriers to transformation increasingly concern



Tony Haymet reinforced these concerns from the perspective of marine science, arguing during the panel discussion that for many contemporary societal challenges “the science is done. It's all social science.”

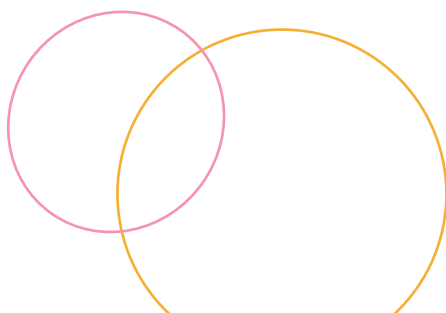
TONY HAYMET

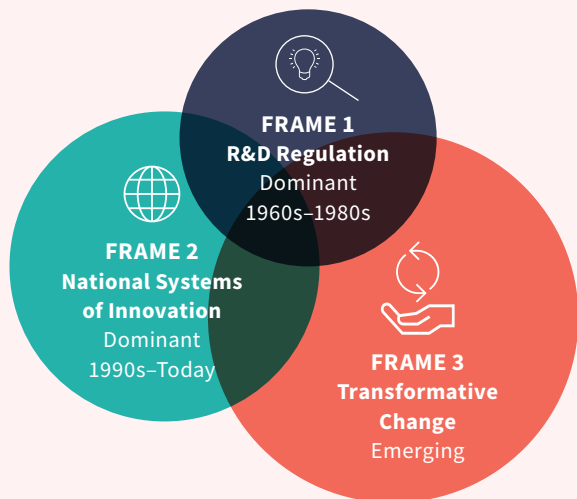
governance, behaviour, institutions, trust and collective action rather than technological feasibility alone.

John Thwaites similarly argued that many major sustainability challenges require more than technical solutions because they involve “complex issues around behaviour, institutions, politics”, areas where social scientists can make a practical contribution. Reflecting on his own experience in government, he noted that he had been “surprised at how little input scientists and researchers, including social science researchers, had on government policy”.

The workshop also revealed ambiguities regarding how far challenge-led SRI policy should move beyond techno-economic paradigms, and what alternative framings should replace them. Discussions acknowledged that technological innovation and industrial policy remain essential components of transformation, particularly in areas such as energy systems, manufacturing and digitalisation. The question therefore was not whether technology matters, but how technological innovation can be embedded within broader social, institutional and ecological understandings of change. Tensions also emerged regarding the political feasibility of concepts such as “sufficiency”, reduced consumption, or post-growth pathways, particularly within policy systems still strongly oriented toward economic growth and competitiveness.

More broadly, participants repeatedly questioned whether Australia's emerging challenge-led agendas, including *Ambitious Australia* and *Future Made in Australia*, represent a genuine shift toward transformative innovation policy, or whether they continue to reproduce older techno-economic assumptions under new policy language.





↑
ABOVE
Schot and
Steinmueller's
"three frames of
innovation".

The importance of imaginaries, narratives and directionality

A recurring theme throughout the workshop was that challenge-led SRI policy is not only about funding priorities, technologies or institutional coordination, but also about shaping collective visions of desirable futures. Multiple participants argued that innovation systems are always underpinned by particular imaginaries, narratives and assumptions about what constitutes progress, prosperity and societal success. This drew attention to the cultural and political dimensions of directionality: how societies define challenges, imagine alternative futures, and mobilise support for transformative change. Participants repeatedly suggested that challenge-led policy requires not merely better innovation systems, but also compelling and socially meaningful narratives capable of orienting collective action.

Chris Riedy's presentation on "future imaginaries" provided one of the clearest articulations of this theme. He argued that Australian SRI policy documents actively construct "imaginaries about Australia now and in the future" and function as attempts "to shape our cultural identity". Drawing on cultural sociology and imaginaries scholarship, he analysed policy language, imagery and metaphors across documents such as the National Science Statement and *Ambitious Australia*. He argued that many current policy narratives remain dominated by

a "techno-market imaginary", where technology and commercialisation are framed as the central drivers of prosperity and societal progress.

Related themes surfaced across other presentations. **Roy Green** framed Australia as being "at a crossroads", needing to move beyond passive dependence on natural resources toward a more ambitious, mission-oriented and knowledge-intensive future.

Rob Raven returned to the question of directionality through discussions of Schot and Steinmueller's "three frames of innovation", arguing that challenge-led policy requires moving beyond market-failure and systems-failure approaches toward transformative innovation focused on societal goals, reflexivity and inequalities.

The workshop also highlighted tensions around directionality and future imaginaries. Different views existed on how much strategic steering governments could or should exercise in defining societal priorities and missions. Some contributions suggested that stronger directionality is necessary to address major societal challenges, while others warned that challenge-led agendas can become overly centralised, managerial or exclusionary. Different challenge-led SRI models and frameworks place different emphases on what matters most: top-down directional steering versus bottom-up, distributed experimentation.

Questions also emerged regarding whose visions and values shape dominant imaginaries, and whether current policy narratives sufficiently incorporate perspectives relating to justice, care, Indigenous knowledges, or ecological limits. Social sciences can play a role in ensuring that a multitude of perspectives are invited into the shaping and evolution of future imaginaries, including the ways in which change towards those futures should be organised and governed.

2.2 Part II: Governing challenge-led SRI

FAST SUMMARY:

Participants highlighted that successful challenge-led innovation depends not only on new technologies, but on stronger governance, coordination and institutional capability to support long-term systemic change. They also emphasised that transformation requires inclusive decision-making, long-term commitment and institutions capable of adapting to evolving complex societal challenges.

Governance, coordination, and institutional capability as central challenges

A major theme concerned the importance of governance, coordination and institutional capability in enabling challenge-led SRI. Across the workshop, participants argued that the central challenge is often not the absence of technological innovation or scientific knowledge, but rather the limited capacity of institutions to coordinate actors, align priorities, sustain collaboration, and steer long-term systemic change.

Many speakers suggested that existing Australian SRI systems remain fragmented across portfolios, sectors, funding programs and jurisdictions, making it difficult to address interconnected societal challenges that cut across institutional boundaries. Governance was therefore framed not simply as a supporting activity, but as a core dimension of transformative capability itself, and that *innovation in governance* is critical if Australia is to achieve its transformative ambitions.

This argument was particularly visible in **John Howard's** presentation on “The Management Chasm”, where he argued that challenge-led innovation

often fails because of a missing capability to translate discovery into deployment at scale. Howard introduced a “complementarity thesis”, arguing that success depends less on the strength of individual policy instruments than on how different institutional capabilities combine and reinforce one another.

Similarly, **Ingrid Burkett** — taking a strong foothold in social innovation — argued that challenge-led initiatives are frequently constrained by fragmented project structures and accountability systems that inhibit systemic learning and long-term coordination.

Amelia Olsen-Boyd reflected on a decade of mission-oriented policy practice and argued that missions often struggle not because of lack of ambition, but because governing actors underestimate the governance, design and brokerage work required to make them operational. Several participants also highlighted the growing prominence of coordination within current Australian policy reforms.

Discussions raised questions about what forms of governance are most appropriate for challenge-led SRI. While participants supported stronger coordination and directionality, concerns also emerged regarding centralisation, top-down



Participants stressed that concepts such as “missions”, “grand challenges” and “national priorities” are never neutral or purely technical categories.”

control and the risk that mission-oriented approaches become overly managerial or technocratic. Questions were raised about how governance systems can remain adaptive, participatory and reflexive while still providing strategic direction.

Some questioned whether governments currently possess the institutional capabilities required to govern systemic transformation at all, particularly under conditions where digital platforms, global supply chains and privately controlled infrastructures increasingly shape collective outcomes beyond direct state control.

The politics of directionality and challenge-led SRI

The workshop highlighted that challenge-led SRI is inherently political, because it involves decisions about which societal futures should be pursued, whose priorities matter, who decides, and what kinds of transformation are considered desirable.

Participants stressed that concepts such as “missions”, “grand challenges” and “national priorities” are never neutral or purely technical categories. Rather, they embody assumptions about progress, prosperity, sustainability and social order. As a result, challenge-led SRI was frequently discussed not simply as a coordination problem, but as a contested political process involving competing values, interests and visions of the future.

Chris Riedy argued that policy documents actively construct and normalise particular futures through the imaginaries they promote, noting that many Australian innovation narratives remain strongly tied to economic competitiveness, growth and technological optimism, thereby prioritising technological and economic interests over social or ecological dimensions.

Sujatha Raman similarly questioned whether contemporary sustainability transitions sufficiently confront deeper political and economic structures associated with extraction, consumption and inequality. Reflecting on the politics of sufficiency, she noted that “the problem of more” remains largely absent from mainstream innovation policy discussions.

Amelia Olsen-Boyd similarly argued that challenge-led SRI is fundamentally a political-economic process rather than simply a matter of technological deployment or policy coordination. She emphasised that missions operate within existing institutional, industrial and political structures that shape which actors benefit, whose priorities are advanced, and how risks and rewards are distributed. Her contribution reinforced the argument that challenge-led SRI inevitably involves strategic choices about public purpose, industrial directionality and the kinds of economy and society being prioritised.

Discussions raised concerns that challenge-led agendas can become overly centralised, technocratic or economically narrow if societal goals are defined primarily by governments, experts or industry actors without broader democratic deliberation and participation. Questions emerged regarding whose voices are included in defining national priorities, particularly in relation to Indigenous knowledges, regional communities and marginalised groups.

Temporalities of transformation: long-term change in short-term systems

A recurring concern throughout the workshop was the mismatch between the long-term nature of societal transformation and the short-term structures that continue to shape research, policy and funding systems and decisions.

Discussions highlighted that challenges such as climate change mitigation and adaptation or biodiversity restoration unfold over decades, yet many innovation systems remain governed through short political cycles, fragmented project funding, rapidly changing priorities and narrow evaluation timelines. This temporal mismatch can be a major barrier to building the institutional continuity, trust and adaptive capability required for challenge-led SRI.

Several speakers addressed this issue directly. **Ingrid Burkett** argued that transformative work requires “staying with systems over time” and cautioned against treating complex societal challenges through short-term project interventions alone.

Karen Cain similarly reflected on transition work in the Latrobe Valley and stressed that long-term transformation depends heavily on trust, continuity and sustained institutional presence within communities undergoing change. She noted that “relationships are the work” in collaborative transition processes, particularly where communities have experienced industrial decline, political volatility and shifting policy commitments over extended periods.

Amelia Olsen-Boyd reflected on mission-oriented policy as an evolving and adaptive process that unfolds through

experimentation and institutional learning over extended periods, rather than through linear implementation pathways.

Michael Battaglia highlighted how regional industrial transitions often require sustained commitment over decades, especially in communities dealing with economic restructuring and industrial decline. Several discussions returned to concerns about “projectification”, where short-term grants and fragmented initiatives inhibit the development of durable institutional memory and long-term collaborative capability.

These discussions led to questions about whether existing Australian SRI systems are institutionally configured for long-duration transformation at all. Governments, universities and funding agencies often operate under pressures for rapid delivery, measurable short-term outcomes and political responsiveness, even where societal change requires patience, iteration and long-term experimentation.

Some questioned whether current evaluation systems unintentionally discourage ambitious transformative work because meaningful impacts may only emerge after many years. This includes the way in which grants tend to measure success or outputs in the short term, while transformative outcomes are only visible over longer time periods. Another example is the way in which metrics focus on Technology Readiness Level, which is still technology-centred, rather than metrics that measure *transformation readiness*.

The workshop highlighted a deeper unresolved challenge: how can challenge-led SRI systems create sufficient continuity and long-term commitment while remaining adaptive and responsive within rapidly changing political and societal environments?

2.3 Part III: Experimentation and learning

FAST SUMMARY:

Participants argued that challenge-led innovation requires moving beyond isolated projects towards portfolio-based approaches that support experimentation, continuous learning and long-term institutional capability. They also highlighted the need for evaluation systems that value adaptation, collaboration and systems-level learning alongside accountability and measurable outcomes.

From individual projects to experimental portfolios

The workshop highlighted that challenge-led transformation cannot be achieved through isolated projects, short-term funding cycles or linear implementation models alone. Presentations highlighted that addressing complex societal challenges requires sustained experimentation, iterative learning and the development of longer-term institutional capabilities. Rather than viewing innovation as a sequence of discrete interventions, speakers advocated for portfolio-based approaches that combine multiple experiments, actors and learning processes over time. This shifted attention from individual projects toward broader systems of experimentation, adaptation and institutional learning capable of responding to uncertainty and complexity.

Ingrid Burkett's contribution was particularly influential in framing this discussion. Drawing on systems innovation practice, she argued that societal challenges require “portfolios of interventions” rather than single solutions, emphasising the need to work simultaneously across different leverage points, time horizons and institutional settings. She stressed that transformative

work depends on creating spaces for ongoing experimentation and reflexive adaptation, rather than expecting predefined pathways to succeed from the outset.

Alejandra Boni similarly reflected on experiences from the Transformative Innovation Policy Consortium (TIPC), arguing that challenge-led policy requires “continuous reflexive learning” and institutional openness to uncertainty and adjustment.

Amelia Olsen-Boyd reinforced this point by describing mission-oriented policy as a process of “learning by doing”, where governments and institutions must adapt as missions evolve and new complexities emerge.

Tony Haymet also stressed the importance of institutional continuity and long-term capability in marine science and sustainability governance, warning against fragmented short-termism and arguing that enduring societal challenges require durable public institutions capable of maintaining strategic focus across political cycles. In the closing reflections, **Rob Raven** questioned whether existing Australian funding and evaluation systems are willing or capable of supporting “the long-term relational and learning infrastructures” required for challenge-led SRI.

Participants acknowledged that experimentation and adaptive learning are difficult to reconcile with prevailing funding, accountability and political systems that prioritise short-term measurable outputs and low-risk delivery. Questions arose concerning how portfolio approaches should be governed and evaluated, particularly when transformative outcomes may only become visible over long-term horizons. Some participants expressed concern that “experimentation” can become an appealing rhetorical device without sufficient attention to power, failure, accountability or uneven impacts across communities. Others noted that long-term learning processes often depend on institutional stability and trusted relationships that are difficult to sustain within increasingly projectified research and policy environments.

Evaluation, reflexivity and transformative learning

Questions concerning evaluation, learning and reflexivity emerged throughout the workshop, particularly in relation to how challenge-led initiatives are assessed and governed under conditions of uncertainty and complexity. Participants argued that existing evaluation systems remain oriented toward short-term outputs, linear impact models and measurable deliverables, making them not well suited to capturing systemic transformation, institutional learning and long-term societal change.

Several speakers suggested that challenge-led SRI requires more adaptive and reflexive approaches to evaluation that recognise experimentation, iteration, adaptation, and learning as central features of transformative governance rather than signs of policy failure or inefficiency.

These concerns surfaced across a range of presentations and discussions. **John Howard** argued that often innovation systems struggle because they focus excessively on isolated outputs rather than on how different capabilities interact and evolve over time.

Ingrid Burkett similarly stressed that transformative systems work requires evaluation approaches capable of tracking “emergence, adaptation and learning” rather than predefined linear outcomes alone.

Alejandra Boni and **Christoph Brodnik** reflected on experiences within the Transformative Innovation Policy Consortium (TIPC), emphasising the importance of reflexive monitoring approaches that allow actors to continuously reconsider assumptions, adapt strategies and learn collectively through experimentation.

Kathryn Davidson also highlighted that many transformative urban and sustainability initiatives generate important relational, behavioural and institutional outcomes that are difficult to capture through conventional quantitative metrics.

Several participants noted that current university and government evaluation systems continue to privilege publication outputs, commercialisation metrics and economic impacts, often undervaluing collaborative processes, capacity building and systems-level learning. Participants acknowledged that more reflexive and adaptive evaluation approaches also raise difficult practical and political questions. Governments and funding agencies still require accountability frameworks and measurable outcomes, particularly where public funding and political legitimacy are involved. Another question is how open-ended experimentation and adaptive learning can be balanced against pressures for certainty, efficiency and rapid delivery.

Discussions surfaced concerns that concepts such as “learning” and “reflexivity” can become vague or depoliticised if not connected to questions of power, responsibility and societal outcomes. A key question is how challenge-led SRI systems can create evaluation cultures that genuinely support experimentation, social learning, and long-term transformation while still maintaining democratic accountability and institutional legitimacy.

2.4 Part IV: Building place-based ecosystems and collaborative capacity

FAST SUMMARY:

Participants emphasised that challenge-led innovation must be grounded in places, communities and local ecosystems, recognising that transformation is shaped by regional contexts and lived experience. They also highlighted the importance of trusted relationships and intermediary organisations that connect people, sectors and institutions to turn strategic ambitions into collaborative action.

Place-based and ecosystem approaches

Another strong thread running through the workshop was the importance of place-based and ecosystem approaches to challenge-led SRI. Participants argued that societal transitions do not occur in the abstract, but emerge in and through specific places, communities, regional ecosystems and local capacities. This challenged more linear or centralised understandings of innovation policy that assume national policy settings alone can drive transformation. Instead, many speakers emphasised that transformative capacity is embedded within cities, regions, industries and communities, all of which shape how challenge-led initiatives are interpreted, contested and enacted in practice.

These ideas emerged particularly strongly in sessions focused on geography and place-based SRI policy.

Xuemei Bai described cities not merely as sites where change occurs, but as “transformative agents” with capacities to influence broader societal trajectories and build networked resilience.

Yasmina Dkhissi presented Regen Melbourne as an example of “transitional infrastructure” that works through systems-level collaboration, collective visioning and place-based experimentation to address complex urban challenges.

Michael Battaglia similarly argued that Australia’s net-zero transition “will be won or lost in specific places”, using the suburb of Westall to illustrate how industrial decline, civic fragmentation and institutional disconnection can undermine transition capacity.

Dan Hill stressed that challenge-led transformation requires working through the infrastructures and experiences of everyday life, arguing that “transitions, like the energy transition, do not land on an empty canvas. They land on the social and economic arrangements that are already in place”. He used examples from Sweden and Australia to demonstrate how mission-oriented innovation can be grounded in streets, schools, housing and other lived environments through participatory and place-sensitive design approaches.



...transformative change depends not only on scientific knowledge, technological innovation or policy ambition, but also on the existence of trusted relationships, coordinating institutions and intermediary actors...”

Dan Santos explored how emerging bioeconomies and advanced manufacturing could contribute to regional resilience and community renewal within the context of Australia’s Future Made in Australia agenda.

Simon Fielke’s work on responsible “twin transitions” in agrifood systems also highlighted the importance of designing innovation programs that actively engage with local sustainability ambitions and regional contexts. Across these contributions, transformation was repeatedly framed as embedded within local institutional ecosystems, civic capacity and regional development trajectories.

Several unresolved issues nevertheless are visible from these discussions. Participants questioned how place-based experimentation and local diversity can be reconciled with broader national missions and strategic coordination and mentioned the importance of multi-level governance to balance place-based practice and ecosystems with regional and national scale aspirations. Some also noted that place-based approaches

are often rhetorically supported but insufficiently resourced within existing policy and funding systems, which continue to favour nationally standardised programs. Questions further arose concerning which places are prioritised within challenge-led agendas, and whether current transition strategies risk concentrating investment and capability within already advantaged metropolitan regions.

Relational infrastructures, intermediaries and the “missing middle”

Another important theme concerned the often-overlooked infrastructures and intermediary capacities required to connect actors, sectors and scales within challenge-led transformation processes.

Presenters argued that transformative change depends not only on scientific knowledge, technological innovation or policy ambition, but also on the existence of trusted relationships, coordinating institutions and intermediary actors capable of translating, convening and aligning diverse forms of expertise and action. This was described as a “missing middle” within current Australian SRI systems: a lack of sustained institutional capacity to bridge the gap between high-level strategic ambitions and local implementation and experimentation.

This issue surfaced in a variety of contexts throughout the workshop.

Michael Battaglia used the term “missing middle” to describe the absence of institutional and civic infrastructures capable of linking national transition agendas to local industrial and community realities.

Yasmina Dkhissi presented Regen Melbourne as an example of an intermediary designed to build collaborative capacity and systems-level coordination across government,

community organisations, businesses and universities, in service to the socio-ecological regeneration of Greater Melbourne.

Simon Fielke also emphasised the importance of facilitation and brokerage in regional agrifood transitions, arguing that innovation processes require actors capable of navigating tensions between technological change, community values and sustainability objectives.

Several participants stressed that universities, civic organisations and intermediary institutions may increasingly need to act as convenors and translators within fragmented innovation systems.

Matthew French reflected on the evolving role of universities within challenge-led SRI systems, arguing that universities increasingly need to operate not only as producers of disciplinary knowledge, but also as collaborative institutions capable

of convening partners, supporting experimentation and contributing to long-term societal problem solving.

The workshop nevertheless revealed uncertainty regarding how these intermediary and relational capacities can be built and sustained over time. Participants noted that brokerage, facilitation and convening work often remain poorly recognised and funded within traditional academic and policy systems, despite being essential for collaboration and systems integration. Questions emerged about who should fund and legitimately occupy these intermediary roles, particularly where organisations may simultaneously act as facilitators, advocates and knowledge producers. Some contributors warned that the growing emphasis on collaboration and partnerships risks overburdening already stretched organisations or individuals, such as within universities, without providing stable long-term support.



2.5 Part V: Participation, justice, and lived experiences in challenge-led SRI

FAST SUMMARY:

Participants argued that challenge-led innovation must be democratic, ensuring communities have a meaningful role in shaping priorities and that transitions are equitable, inclusive and socially legitimate. They also emphasised that successful transformation depends on engaging with the cultural, emotional and lived experiences that influence how people understand and respond to change.

Democratisation, participation and justice

Questions of democratisation, participation and justice surfaced throughout the workshop as central concerns for challenge-led SRI policy. Several participants argued that societal transformations cannot be governed effectively through expert-driven or technocratic approaches alone, particularly where transitions affect livelihoods, identities, communities and everyday practices.

Speakers emphasised the importance of broader societal participation in shaping transition agendas, defining desirable futures, and governing innovation pathways. This included attention to inclusion, legitimacy, equity, co-production and the role of communities and civil society actors within challenge-led innovation systems.

A number of contributions stressed that participation is not simply an add-on to innovation policy, but a core condition for transformative change. **Yasmina Dkhissi** described Regen Melbourne as a platform for “systems-level collaboration

and place-based pathways for the regeneration of Greater Melbourne”, built around collective visioning and a civic mandate, enabling collaborative learning in service of the public good.

Kathryn Davidson similarly highlighted that sustainability transitions are ultimately negotiated through everyday urban life, where questions of housing, mobility, energy use and public space intersect with broader issues of participation, equity and governance. She argued that transitions need to engage more directly with the lived experiences and practical realities of communities rather than assuming that policy ambition automatically translates into societal change.

Sujatha Raman repeatedly foregrounded questions of equity within sustainability transitions, arguing that “the elephant in the room” concerns “who bears the costs” of transformative change. In discussing the concept of sufficiency, she noted that low-consumption futures are often politically difficult because they become associated with “austerity, deprivation and sacrifice”, unless connected to broader ideas of wellbeing and solidarity.

Chris Riedy's analysis of Australian SRI policy documents further illustrated how citizens and communities often remain marginal within dominant innovation narratives. He observed that “there’s this sense that we just invest in the technology and everything else will happen”, while “people are sort of an afterthought here”. He also highlighted the contradiction between policy commitments to Indigenous engagement and the relatively superficial incorporation of First Nations perspectives within policy imaginaries, noting that First Nations imagery appeared prominently on report covers while deeper engagement remained limited.

Rather than resolving these issues, the workshop deliberated about how genuinely democratic challenge-led governance can be achieved in practice. Participants questioned whether participatory approaches risk becoming tokenistic exercises aimed primarily at securing public acceptance for pre-determined technological pathways. Concerns were raised that challenge-led agendas continue to be dominated by institutional, economic and expert actors, despite increasing rhetorical emphasis on inclusion and co-design. A deeper tension emerged between the urgency of rapid societal transformation and the slower, more deliberative processes often required for meaningful participation and trust-building.

Cultural and emotional dimensions

A final theme emerging from the workshop concerned the cultural and emotional dimensions of societal transformation. Presentations and discussions stressed that challenge-led transitions involve questions of identity, belonging, meaning, care and everyday life. Transformations are not experienced only through policies or technologies, but through changes in how people imagine their futures, relate to places and communities, and make sense of or challenge societal change. Participants therefore argued that challenge-led SRI policy must engage more seriously with the cultural and emotional dimensions of transformation rather than assuming that behavioural change automatically

follows from technological innovation or economic incentives. These themes surfaced particularly strongly in presentations concerned with future imaginaries, urban life and community transitions. **Chris Riedy** argued that policy imaginaries shape not only institutional priorities but also “our cultural identity” and collective sense of possibility.

Dan Hill similarly emphasised the importance of design, storytelling and lived experience in shaping public engagement with transformation, arguing that societal transitions are ultimately experienced through the textures of everyday life rather than abstract policy frameworks. **Bruce Wilson** discussed the role of civic capacity, belonging and social cohesion within regional transformation processes, particularly in communities experiencing economic and industrial restructuring.

Sujatha Raman's reflections on sufficiency also highlighted the emotional politics of sustainability transitions, noting that low-consumption futures are often associated with “sacrifice” and “deprivation” unless alternative narratives of wellbeing and collective flourishing are developed. Discussions repeatedly returned to questions of trust, hope, fear, identity and legitimacy as central but often neglected dimensions of challenge-led SRI.

Some participants cautioned against reducing culture and participation to communication strategies designed merely to increase public acceptance of predetermined technological pathways. Discussions considered whether governments and research institutions currently possess the capabilities needed to engage meaningfully with lived experience, care and community identity. Tensions were highlighted between optimistic narratives of innovation and the realities of anxiety, uncertainty and loss that often accompany periods of societal transformation.



The role of the social sciences in challenge-led SRI



The themes discussed in the previous section point toward a broader and more integrated understanding of the role of the social sciences in challenge-led SRI. Rather than functioning merely as complementary or supportive disciplines alongside techno-economic innovation, the social sciences contribute directly to understanding, shaping and governing societal transformation.

The workshop insights show that social sciences play multiple and overlapping roles across challenge-led SRI systems. They are increasingly recognised for their capacity to not only analyse societal change from a critical distance, but also to contribute more directly in an action- and solutions-oriented fashion through governance design, experimentation, participatory facilitation, public engagement and collaborative learning and action. This section presents a synthesising framework consisting of four foundational roles of the social sciences and seven operational contributions that the social sciences can make to challenge-led SRI policies. The framework is visually presented in [figure 1](#).

Figure 1: Roles of the social sciences in challenge-led SRI

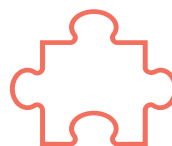


3.1 Foundational roles of the social sciences



1. Defining and broadening social phenomena and challenges

A first foundational role of the social sciences is to help define, broaden and reframe social phenomena and challenges. This includes framing and reframing problems and setting agendas. Social sciences contribute by moving beyond narrow or reductionist understandings of societal problems toward broader social, political, cultural, institutional and ecological perspectives. In this sense, the social sciences help clarify what the challenge is and why it matters.



2. Generating, analysing and synthesising evidence and knowledge

A second foundational role concerns the generation, analysis and synthesis of evidence and knowledge. Social sciences contribute robust, contextual and relevant forms of evidence that help explain societal dynamics, compare policy options and inform decision-making. This includes producing empirical insights into social phenomena such as institutions, governance arrangements, behaviours, markets, cultures, participation processes and transformation pathways. Social science approaches also help connect different forms of knowledge across disciplines, sectors and societal actors, including qualitative, quantitative, participatory and practice-based forms of evidence. In this role, the social sciences contribute to understanding what is happening, why it is happening, and what kinds of responses or interventions may be appropriate under different social and institutional conditions.



3. Supporting, enabling and engaging with social change

A third foundational role of the social sciences is to support, enable and engage with social change through facilitating change processes. Transformative change depends not only on new technologies or policy interventions, but also on the coordination of actors, institutions, infrastructures and learning processes across multiple scales and sectors. Social sciences contribute by helping mobilise actors, design governance arrangements, facilitate collaboration and support experimentation, learning and adaptive action. This includes developing institutional capacities for coordination, participation, reflexive governance and long-term transformation. In this role, the social sciences contribute directly to enabling collective action and strengthening the governance capabilities required to navigate complexity, uncertainty and contested societal priorities.



4. Critiquing, reflecting and questioning social issues

A fourth foundational role concerns critique, reflection and questioning. Social sciences contribute by critically examining assumptions, power relations, unintended consequences and ethical implications associated with societal change processes and governance arrangements. This includes questioning whose interests are prioritised, who benefits or loses from particular pathways of change, and how accountability, legitimacy and democratic oversight are maintained. Social sciences also contribute reflexive perspectives that help challenge dominant narratives, expose blind spots and support more inclusive and ethically grounded forms of decision-making. In this sense, critique remains an essential capability for ensuring that societal change processes remain responsive, accountable and socially legitimate.

3.2 Operational roles of the social sciences in challenge-led SRI policy

1. Diagnosing societal challenges and barriers to transformation

A first contribution concerns diagnosing societal challenges and barriers to transformation. Social sciences help analyse the broader socio-technical systems within which societal challenges emerge and persist, including the institutions, infrastructures, governance arrangements, economic structures, social practices and power relations that shape trajectories of change. This includes research activities such as systems mapping, institutional analysis, political economy analysis, transition diagnostics or comparative case studies. Within challenge-led SRI policy, these approaches help identify structural barriers, institutional lock-ins and unintended consequences that may inhibit transformative innovation. They also support more systemic understandings of societal challenges by examining how technological, political, economic and cultural dynamics interact across different scales and sectors.

2. Exploring societal futures, imaginaries and transformation pathways

A second contribution concerns exploring societal futures, imaginaries and transformation pathways. Social sciences contribute by analysing or developing narratives, scenarios and visions that help societies imagine

alternative futures and deliberate on desirable directions for transformation. Typical research activities include foresight and futures studies, scenario development, participatory visioning, discourse analysis and pathway analysis. These approaches help explore how different actors frame societal challenges, whose futures become prioritised within policy processes, and how future imaginaries shape innovation agendas and political legitimacy. Within challenge-led SRI, this contribution helps move beyond reactive problem-solving toward more anticipatory and directional approaches to innovation and transformation.

3. Designing and analysing governance arrangements

A third contribution concerns research that supports the design and analysis of governance arrangements and institutional architectures capable of supporting challenge-led transformation. Social sciences contribute by examining how policy systems coordinate action across sectors, scales and domains, and by identifying governance mechanisms that can support long-term transformative change. Relevant research activities include governance analysis, policy design research, institutional analysis, or policy mix analysis. Within challenge-led SRI, these contributions help strengthen institutional capability and improve the alignment between societal goals, policy instruments and implementation processes.

4. Supporting experimentation, learning and reflexive governance

A fourth contribution concerns supporting experimentation, learning and reflexive governance. Challenge-led transformation often unfolds under conditions of uncertainty and complexity, requiring iterative learning, adaptation and experimentation rather than fixed implementation pathways. Social sciences contribute by supporting living labs, real-world experiments, portfolio approaches, developmental evaluation and reflexive monitoring processes that enable continuous social learning and adjustment. Research activities associated with this contribution include action research, formative evaluation, reflexive monitoring, portfolio analysis and iterative prototyping. These approaches help governments, organisations and communities respond adaptively to emerging insights, unintended consequences and changing societal conditions.

5. Enabling collaboration, intermediation and place-based capacity building

A fifth contribution concerns research that enables collaboration, intermediation and place-based capacity building. Social sciences contribute by strengthening the relational and institutional capacities needed to coordinate diverse actors across research, government, industry and civil society. This includes supporting intermediaries, knowledge brokerage, stakeholder engagement, ecosystem development and collaborative governance processes. Relevant research activities include co-design and co-production, network analysis, stakeholder engagement research, capacity building, community-based participatory research and ecosystem mapping. Place-based approaches are particularly important because challenge-led transformation unfolds differently across regions, cities and communities, each with distinct institutional contexts, histories and capabilities. Social sciences therefore play an important role in strengthening local innovation ecosystems and supporting context-sensitive transformation processes.

6. Enabling participation, inclusion and democratic engagement

A sixth contribution concerns enabling participation, inclusion and democratic engagement. Challenge-led SRI policy inevitably raises questions concerning legitimacy, justice, representation and public accountability. Social sciences contribute by designing participatory processes, facilitating public deliberation, supporting co-design approaches and examining how different groups experience and shape transformation processes. This includes research activities such as participatory governance research, citizen deliberation processes, justice and equity analysis, participatory evaluation and public engagement research. It also includes attention to Indigenous knowledges and decolonial methodologies that broaden whose knowledge counts within innovation processes. Within challenge-led SRI, this contribution helps ensure that transformative agendas remain socially legitimate, inclusive and responsive to public values and lived experiences.

7. Interpreting cultural change, lived experience and societal meaning

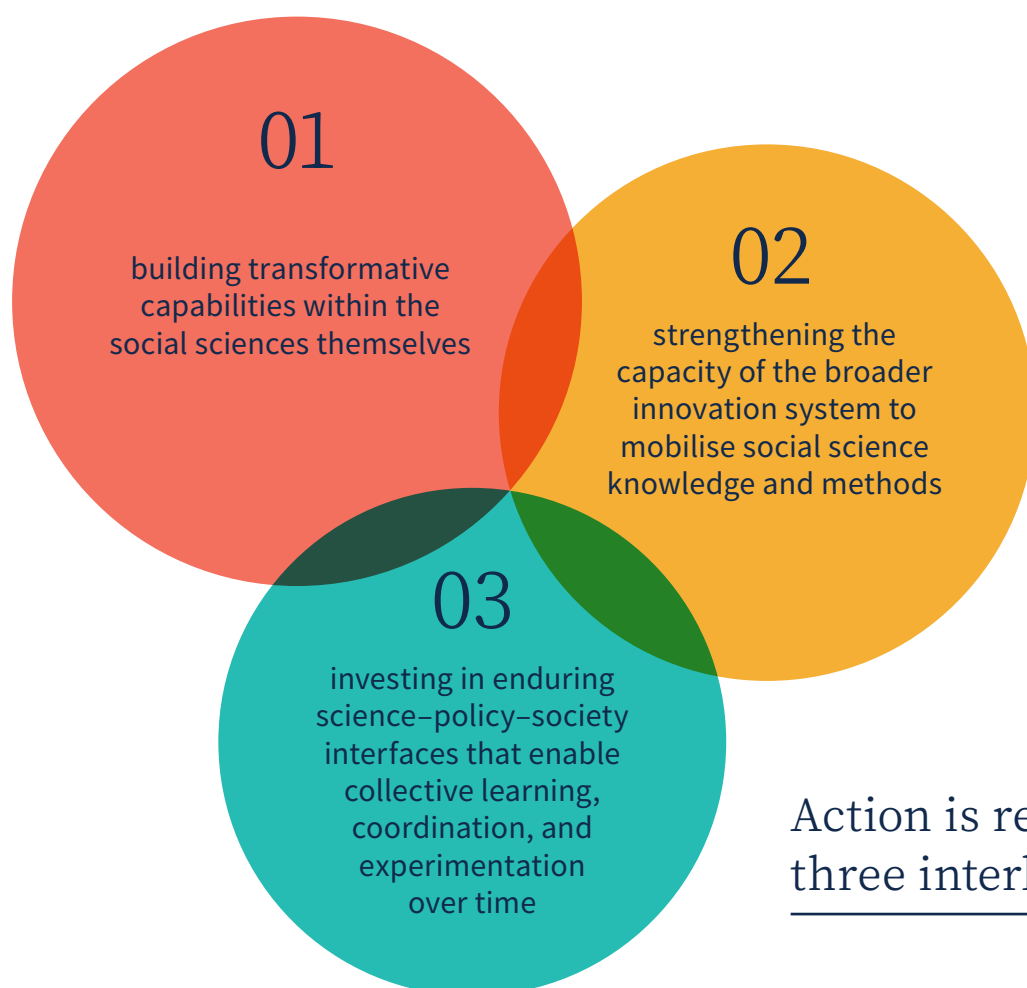
A final contribution concerns interpreting cultural change, lived experience and societal meaning. Social sciences contribute by examining how transformations are experienced, interpreted and negotiated within everyday life. This includes understanding how societal change interacts with identities, values, emotions, narratives and cultural practices, as well as how public meanings shape responses to innovation and transformation. Relevant research activities include ethnography, narrative inquiry, discourse and media analysis, cultural analysis and studies of identity and belonging. Within challenge-led SRI, these contributions help connect systemic transformation to lived realities and societal meaning-making processes, thereby supporting more socially grounded and culturally sensitive approaches to transformation.

Recommendations



The workshop has highlighted the importance and relevance of social sciences in supporting challenge-led SRI to address complex societal and sustainability challenges such as net-zero transitions, the circular economy and biodiversity loss.

Based on the workshop insights, strengthening the contribution of social sciences to challenge-led SRI requires action at three interlinked levels: building transformative capabilities within the social sciences themselves; strengthening the capacity of the broader innovation system to mobilise social science knowledge and methods; and investing in enduring science–policy–society interfaces that enable collective learning, coordination, and experimentation over time.



Action is required at
three interlinked levels

01

Strengthen action- and solutions-oriented capabilities within the social sciences

First, there is a need to strengthen action- and solutions-oriented capabilities within the social sciences. While the social sciences have strong capabilities in problem definition, critique, and analysis, challenge-led SRI also requires greater capacity to contribute directly to responses that can positively address societal challenges.

POSSIBLE ACTIONS INCLUDE:

- » Establishing a national PhD training network focused on action-oriented responses and challenge-led social sciences and SRI policy.
- » Creating embedded fellowship schemes placing social scientists within government, industry, or place-based transition initiatives.
- » Supporting practice-oriented methods training and knowledge sharing in areas such as systems thinking, co-design, facilitation, experimentation, transition management, or developmental evaluation. This could be done through an annual conference series.
- » Developing dedicated funding mechanisms for action- and solutions-oriented social sciences that contribute to addressing societal challenges.

02

Build stronger capability across the innovation system to mobilise social science for challenge-led SRI

Second, there is a need to build stronger capability across the Australian innovation system to mobilise social science for challenge-led SRI. Addressing societal challenges requires deeper integration of social science perspectives, methods, and expertise across governments, funding agencies, industry, research organisations, and STEM disciplines.

POSSIBLE ACTIONS INCLUDE:

- » Positioning the social sciences as essential in challenge-led SRI approaches as a key contributor to long-term productivity growth, industrial renewal and economic resilience.
- » Requiring major challenge-led SRI initiatives and missions to incorporate social science expertise and societal engagement strategies from the design phase onwards.
- » Developing capability-building programs for policymakers, funding agencies, industry, and STEM researchers on the potential of social science to inform challenge-led SRI and societal transformations.
- » Establishing social science informed, challenge-led demonstrators, living labs, and experimentation platforms where social scientists work in an integrated approach on a level-playing field with engineers, policymakers, industry, and communities collaborating on real-world transitions.
- » Expanding monitoring and evaluation frameworks to include societal outcomes, inclusion, behavioural change, learning, interdependencies across systems, and creating and measuring the longer-term conditions for systems transformation.

03

Invest in an enduring science–policy–society interface for challenge-led SRI

Third, there is a need to invest in an enduring science–policy–society interface for challenge-led SRI. Addressing complex societal and sustainability challenges requires trusted and durable intermediary spaces that connect research, policy, industry, and civil society around shared societal priorities. Such relational infrastructure is essential for supporting collective agenda-setting, policy experimentation, knowledge exchange, reflexive learning, and cross-sector coordination across portfolios of projects, institutions, sectors, and places.

POSSIBLE ACTIONS INCLUDE:

- » Establishing a national challenge-led SRI network or observatory creating the glue between existing initiatives, researchers, governments across jurisdictions, industry, and civil society.
- » Creating sustained funding for intermediary and relational infrastructure functions such as convening, synthesis, facilitation, translation, and cross-sector coordination, and recognise these not as overhead but as essential elements of challenge-led SRI.
- » Developing regular science–policy forums and deliberative platforms to support collective agenda-setting around major societal challenges and transition priorities.
- » Strengthening coordination across Australian jurisdictions through shared challenge-led SRI frameworks, joint priority-setting processes, and mechanisms for collective learning and policy alignment.
- » Supporting open-access knowledge hubs and case repositories documenting Australian and international challenge-led SRI experiments, methods, and lessons.
- » Building and strengthening connections with international networks and consortia such as the Transformative Innovation Policy Consortium and The European Forum for Studies of Policies for Research and Innovation.

Appendix A: Workshop Participants

Prof. Xuemei Bai

Distinguished Professor, Fenner School of Environment & Society,
Australian National University

Dr. Michael Battaglia

Mission Lead, Towards Net Zero Mission, CSIRO

Gabriela Bawarshi Abarzúa

PhD Student, Monash University

Dr. Christoph Brodnik

Research Knowledge Manager, Sustainability Transitions Lab, Monash University

Prof. Ingrid Burkett

Adjunct Professor, Griffith University and Co-Director, The Good Shift

Ethan Daugherty

PhD Student, Monash University

Prof. Alejandra Boni

Professor at the Universitat Politècnica de València, and researcher at Ingenio (CSIC-UPV), Spain

Karen Cain

V/Line Advisory Board Member, Iberdrola Australia Advisory Board Member & Steering Committee Chair, International Urban and Regional Cooperation (IURC) programme

Associate Prof. Kathryn Davidson

Faculty of Architecture, Building and Planning, University of Melbourne

Dr. Yasmina Dkhissi

Research Activation Lead, Regen Melbourne

Dr. Simon Fielke

Senior Research Scientist, CSIRO

Associate Prof. Matthew French

Senior Director, Research Missions and Global Impact, Monash University

Prof. Roy Green

Special Innovation Adviser, University of Technology Sydney

Prof. Tony Haymet

Australia's Chief Scientist, Department of Industry, Science and Resources

Prof. Dan Hill

Director, Melbourne School of Design, University of Melbourne

Dr. John Howard

Director, Acton Institute for Policy Research and Innovation

Dr. Sombol Mokhles

Laureate Postdoctoral Research Fellow, Australian National University

Xue Ruo Ng

PhD Student, Monash University

Amelia Olsen-Boyd

Executive Manager, Innovation Systems & Foresighting, CSIRO

Dr. Heinz Schandl

Senior Principal Research Scientist and Circular Economy Lead, CSIRO

Prof. Sujatha Raman

Director, ANU Centre for the Public Awareness of Science, Australian National University

Prof. Rob Raven

Director, Sustainability Transitions Lab, Monash University

Prof. Chris Riedy

Associate Director, Learning And Development, Institute for Sustainable Futures, University of Technology Sydney

Dr. Dan Santos

Research Fellow, Australian National University

Prof. John Thwaites

Professor of Practice in Sustainability, Monash University

Prof. Beth Webster

Director, Melbourne Institute of Applied Economic and Social Research, University of Melbourne

Prof. Bruce Wilson

Professor Emeritus and former director European Union Centre of Excellence, RMIT

Bangle Wu (Bernice)

PhD candidate, Australian National University

Appendix B: Workshop Program

Day 1

8:45am	Arrival
9:00am	Acknowledgement of Country
9:00am	Prof Rob Raven: Workshop Introduction
9:30am	Academic Keynote: Professor Alejandra Boni
10:40am	Session 1: The Role of Social Sciences in SRI policy Dr. Heinz Schandl - Processing Societal Challenges in Networked Innovation Systems: Sociological Insights for Challenge-Led SRI Policy Prof. Sujatha Raman - Transforming Systems of Resource Use: A Social Science Agenda for Research and Innovation Prof. Chris Riedy - Future Imaginaries in Australia's SRI policy Prof. Beth Webster - Innovation Capabilities and Productivity
1:00pm	Session 2 - Governance & Policy Instruments #1 Prof. Roy Green - Productivity, Innovation and Industrial Policy Dr. John Howard - The Management Chasm: Why Challenge-Led Innovation Often Fails and What Governance Can Do About It Prof. Ingrid Burkett - From projects to portfolios: Designing place-based challenge portfolios for addressing complex challenges
2:00pm	Panel Discussion with Prof. John Thwaites, Prof. Tony Haymet, Prof. Alejandra Boni, Amelia Olsen-Boyd
3:10pm	Session 3 - Geography and Place-Based SRI Policy #1 Prof. Bruce Wilson - The Social Science Role in Democratising Innovation: the Power of People in Place Prof. Dan Hill - Challenge-led innovation via social infrastructures and the design of everyday life, in Sweden, Finland, and Australia Karen Cain - The practice and discipline of innovation in place. Assoc. Prof. Kathryn Davidson - Governing Innovation in Place to a Practice of Just Care
6:00pm	Workshop Dinner

Day 2

8:45am	Arrival
9:10am	Keynote: Professor Tony Haymet
10:10am	Session 4 - Geography and Place-Based SRI Policy #2 Prof. Xuemei Bai - Building and enhancing transformative agency of cities Dr. Michael Battaglia - Innovation at the Decision Point: Industrial Policy, Civic Renewal, and the Missing Middle Dr. Dan Santos - Building regional (bio) economic resilience through manufacturing and community engagement Dr. Simon Fielke - (Human) Geographies of Responsible Twin Transitions Across 3 Agrifood Cases
12:30pm	Session 5 - Governance & Policy Instruments #2 Dr. Yasmina Dkhissi - Regen Melbourne, an example of place-based and challenge-led innovation Amelia Olsen-Boyd - Innovation is Political: Lessons from a decade of modern missions Assoc. Prof. Matthew French - University-Led Missions and the Social Sciences: Shaping Challenge-Led Research and Innovation Policy
1:30pm	Break Out Table Discussion
2:40pm	Plenary - Workshop synthesis & next steps
3:20pm	Workshop Close

For all inquiries and feedback, contact:

**Professor Rob Raven,
Director Sustainability Transitions Lab,
Monash Business School**

E: rob.raven@monash.edu

