Sustainable Communities and Waste

National Environmental Science Program

National Environmental Science Program (NESP)

Sustainable Communities & Waste Hub annual progress report 1 January to 31 December 2025

Contents

Acknowledgement of Country

We acknowledge the Traditional Owners of Country throughout Australia and their continuing connection to land, sea, sky, and community.

We pay our respects to them and their cultures and to their Elders past and present.

Our Indigenous research partnerships are a valued and respected component of National Environmental Science Program (NESP) research.

Letter from the Hub Leader

I am pleased to present the 2025 Annual Progress Report for the Sustainable Communities and Waste (SCaW) Hub. Over the past year, the Hub has continued to consolidate its role as a national platform for delivering co-designed, applied research that strengthens the evidence base for decision-making across waste management, circular economy transitions, air quality and sustainable community outcomes.

Operating as part of the Australian Government's National Environmental Science Program (NESP), the SCaW Hub brings together researchers, Indigenous partners, government agencies, industry and community stakeholders to address complex environmental challenges through collaborative research and practical knowledge translation. During 2025, this integrated approach resulted in strengthened partnerships, improved research usability, and contributions to the scientific foundations that underpin policy development, regulatory practice and standards-setting discussions. Hub projects generated consistent methodologies, datasets, monitoring guidance and applied evidence that support governments in assessing risks, evaluating interventions and informing policy design across priority environmental domains.

Progress across research priorities

Waste materials and circularity

In 2025, SCaW researchers delivered a suite of significant outputs aimed at strengthening Australia's evidence base on plastic pollution and material impacts. Major reports on microplastics, tyre and road wear particles, and site selection protocols for environmental monitoring were released, supporting more consistent data collection and interpretation across jurisdictions.
Impact Priority 2 | Sustainable Communities and Waste Hub

This video demonstrates a successful collaboration on turning waste into a useful product: https://youtu.be/QMxfrKUIHMA

A key national outcome was SCaW's contribution to the development of Australia's first official standard aligned with ISO 24187 for the analysis of microplastics in environmental matrices. This Australian Standard underpins nationally consistent measurement practices and provides a robust scientific foundation for policy, regulatory and management responses to microplastic pollution.

Recycling and technology innovation

Research under the Hub's fit-for-purpose recycling portfolio continued to focus on practical circular economy solutions that reflect Australia's geographic diversity, particularly in regional and remote contexts. During 2025, the Hub expanded applied case studies and developed decision-support tools and technology frameworks to assist communities and regional authorities in identifying locally appropriate recycling and remanufacturing options. This work supports economic resilience, local capability development and reduced environmental impacts by moving beyond one-size-fits-all recycling infrastructure models.
Waste as a resource | Sustainable Communities and Waste Hub

Sustainable communities and nature connection

SCaW's sustainable communities research progressed from foundational research to applied decision-support during 2025. Targeted summaries examining nature connection, wellbeing

and pro-environmental behaviours were developed to support planners, policymakers and practitioners in translating evidence into program and place-based decision-making. Sustainable communities | Sustainable Communities and Waste Hub

At Hub Day 2025, local government partners highlighted how Hub research on the physiological and wellbeing benefits of connecting with nature had been applied to inform council-led nature connection activities, supporting improved community wellbeing outcomes.

In parallel, the Hub advanced place-based research into water-sensitive and liveable communities, including work led by Dr Paul Satur and collaborators. This research examines how water governance, liveability and community wellbeing can be integrated through place-centred planning approaches, with particular consideration of regional, remote and First Nations contexts. These projects provide scientific input to policy discussions related to climate resilience, nature repair and sustainable water management. National Water Week: Supporting Water Sensitive and Liveable Communities in Regional and Remote Australia | Sustainable Communities and Waste Hub

Hazardous waste and chemical safety

Ensuring that circular economy transitions are undertaken safely remains a core priority of the Hub. In 2025, the SCaW hazardous waste and pollutants teams released a comprehensive suite of factsheets addressing chemicals of concern in waste and recovered materials. Co-designed with the Department of Climate Change, Energy, the Environment and Water and state environment agencies, these resources provide practical guidance on chemical risk assessment, safe reuse thresholds and responsible decision-making across complex waste streams, supporting regulators and industry in enabling safe circular practices. https://www.nespsustainable.edu.au/turning-science-action-new-resources-hazardous-waste-and-pollutants

Air quality

SCaW's air quality research continued to contribute to healthier community outcomes through applied projects addressing smoke exposure, woodheater emissions, and the evaluation of interventions in identified high-risk environments. This work strengthened the scientific evidence base required to inform air quality management, intervention design and performance assessment. Projects included the use of low-cost sensor networks to improve spatial understanding of air quality and evaluate intervention effectiveness. https://www.nespsustainable.edu.au/tags/air-quality

This video explains about one of the projects in this area: https://youtu.be/pnoy2ge6etM

Engagement, outreach and knowledge translation

Throughout 2025, the Hub prioritised active knowledge translation and stakeholder engagement to ensure research outputs were accessible and usable.

Hub Day 2025 convened researchers, government representatives, industry partners and community organisations to focus on *Different Pathways to Impact*, highlighting practical examples of research translation and collaborative implementation.

Public engagement was also advanced through initiatives such as the Materials Revolution exhibition, which showcased applied recycling and remanufacturing technologies developed through UNSW-led research and Hub-linked activities. Hosted by the UNSW Library, the exhibition demonstrated how end-of-life materials can be transformed into new products and helped broaden public and stakeholder understanding of waste as a valuable resource.

Information on the exhibition is available via the UNSW Library:
https://www.library.unsw.edu.au/about-unsw-library/exhibitions-program/materials-revolution

At the national level, the Hub's research and leadership were further elevated through high-profile engagement, including my address to the National Press Club of Australia in October 2025, which highlighted the role of remanufacturing and circular economy innovation in addressing Australia's waste challenges.
https://www.nespsustainable.edu.au/watch-full-hub-leader-veena-sahajwallas-ao-addresses-national-press-club

Across all areas of activity, Indigenous leadership and co-design remained central to the Hub's operating model, including partnerships with Indigenous land and sea managers, Indigenous-led workshops and community-led approaches to environmental monitoring and management.

Impact and influence

SCaW research outputs in 2025 informed national discussions on waste policy, circular economy implementation, environmental monitoring standards, air quality management and safe resource recovery. By working closely with government, industry and communities, the Hub continues to deliver applied science that supports evidence-based decision-making and contributes to Australia's transition toward more sustainable and resilient systems.

Leadership and recognition

In January 2025, I was honoured to be appointed an Officer of the Order of Australia (AO) for distinguished service to science as an engineer and inventor, to sustainable materials research and technology, and to waste management. This recognition reflects the collective efforts of colleagues, collaborators and partners who continue to contribute to advancing applied environmental science for public benefit.

Looking ahead

As the Hub moves into 2026, our focus remains on deepening impact by strengthening partnerships, improving the usability of evidence and tools, and continuing to work alongside communities across Australia—particularly in regional, remote and Indigenous contexts. I thank our funding partners, research collaborators and stakeholders for their ongoing support and engagement.

— Professor Veena Sahajwalla AO
Hub Leader, Sustainable Communities and Waste Hub

Management

The National Environmental Science Program (NESP) is a long-term commitment by the Australian Government. The program funds environmental and climate research. The second phase of NESP (NESP2) builds on the foundations of past work, and funds 4 research hubs from 2020–21 to 2026–-27.

The Sustainable Communities and Waste (SCaW) Hub is a consortium comprising five world-class research institutions led by the University of New South Wales, Sydney (UNSW Sydney). They include the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Monash University (Monash), the University of Tasmania (UTas) and Curtin University (Curtin). The Hub provides a collaboration space for academics, government, industry and the community, with the shared objective of enhancing sustainable community outcomes and reducing negative waste impacts.

Our research agenda is co-designed with the Department and other research-users at all levels of government, industry, non-government organisations (NGOs), national associations and Indigenous and other community groups in urban, regional and remote Australia.

Our Hub Vision is to improve the health, resilience, connectedness and prosperity of urban, regional and remote communities across Australia, with reduced impact on the environment (Figure 1).

Figure 1: SCaW Hub's Vision

In 2025, the Sustainable Communities and Waste (SCaW) Hub entered its fifth year of operation, marking a period of consolidation and maturity across the research portfolio. This year focused on progressing projects through advanced implementation phases, building on the Hub's established co-design model and ensuring research activities continued to align closely with end-user needs and agreed milestones.

During 2025, the Hub's governance processes and operating systems continued to be strengthened and refined. The Hub Leadership Team worked closely with Impact Priority (IP) Leads to support effective project delivery, ensure alignment with program objectives, and maintain momentum across all research themes.

The Hub's research portfolio also expanded in 2025 with the addition of **Impact Priority 6 (IP6)**, strengthening the Hub's capacity to address emerging cross-cutting challenges. **Professor Matthew Kearnes** was appointed as Lead for IP6, bringing additional expertise and leadership to this new area of focus and further enhancing the Hub's interdisciplinary approach.

There were several personnel changes during the year (refer Figure 2). In 2025, Lucas Way commenced in the role of SCaW Hub Data Wrangler, replacing Anirban Ghose. Dr Sanjith Udayakumar subsequently stepped into the Data Wrangler role in a later year.

This transition supported the continued development of the Hub's data governance, management and accessibility functions, ensuring research outputs remain robust, interoperable and fit for long-term use.

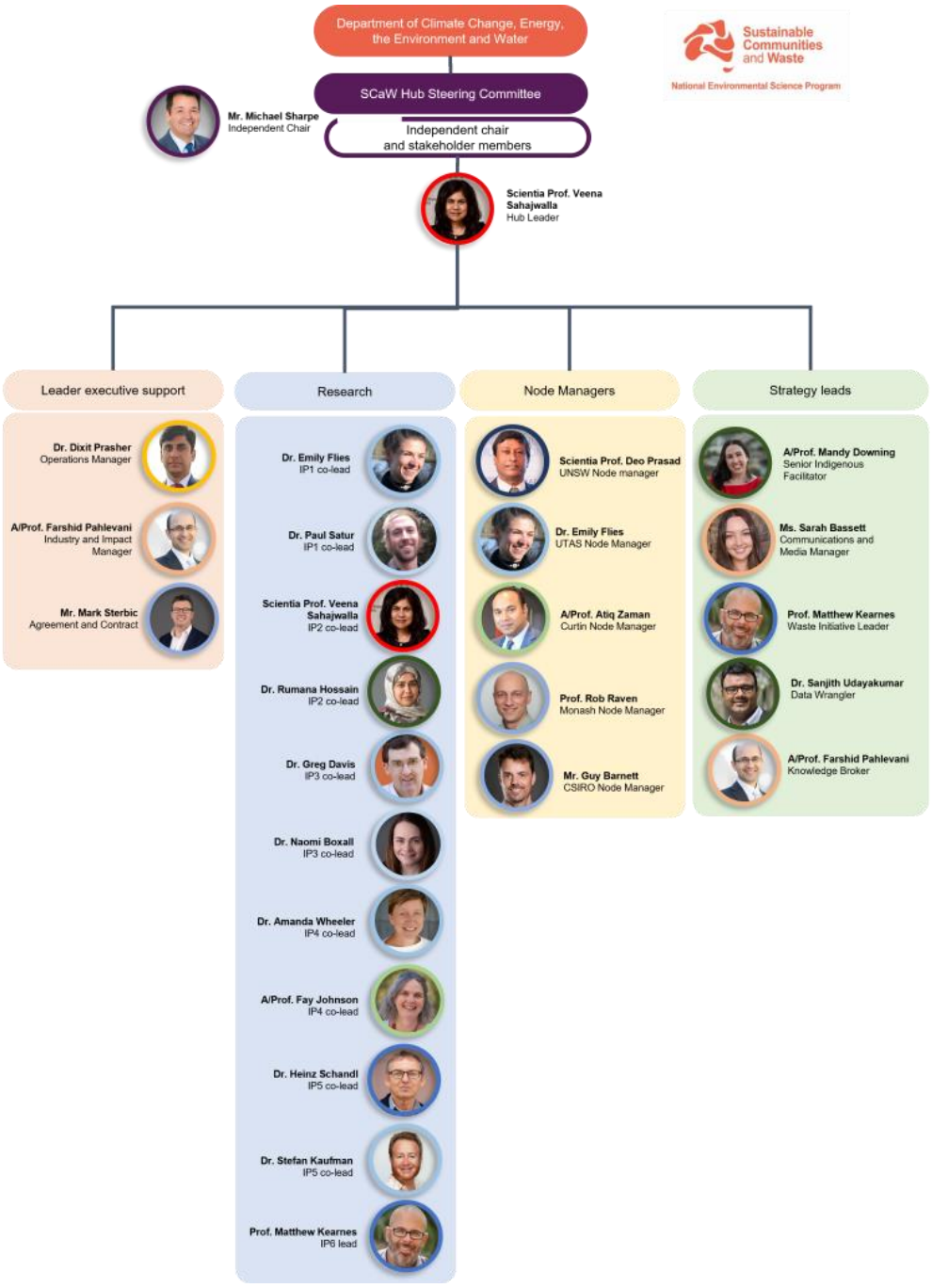

Figure 2: 2025 SCaW Hub Operational and Governance Structure

Research

NESP hubs deliver world-class, practical, evidence-based research to inform decisions. This investment helps build adaptation capacity and resilience in our natural environment and communities.

NESP research has real impact through partnerships and collaboration between researchers and research-users, including policymakers, to deliver proven outcomes. Environmental decision-makers are key partners and are encouraged to articulate their needs to researchers; provide feedback on the quality and usefulness of the research outputs; and be engaged in the communication of how this information has informed policy.

NESP research listens to and prioritises the research needs of Indigenous land and sea managers, weaves together Indigenous and western environmental knowledge systems and celebrates Indigenous-led approaches to strengthening and sharing knowledge.

New and existing NESP research findings are available to use and accessible at Australian Government and hub websites.

Key Thematic Areas

SCaW Hub research impacts, as shown in Figure 3, are delivered across three thematic areas:

- **Sustainable Communities** - explores ways to enhance and inform sustainable social outcomes, policy and cultural challenges, and the health, wellbeing and liveability of Place, including what is needed to protect, preserve and increase prosperity.
- **Waste Resources** - explores the ways that materials, such as microplastics, tyres and e-waste can be recovered and revalued through innovative technological solutions and helps to provide a better understanding of waste flows through society.
- **Remote & Regional Solutions** - explores how place-based, fit-for-purpose solutions can be developed as a response to local needs across Australia, in remote and regional communities as well as urban environments. This theme focuses on building economies of purpose rather than purely economies of scale.

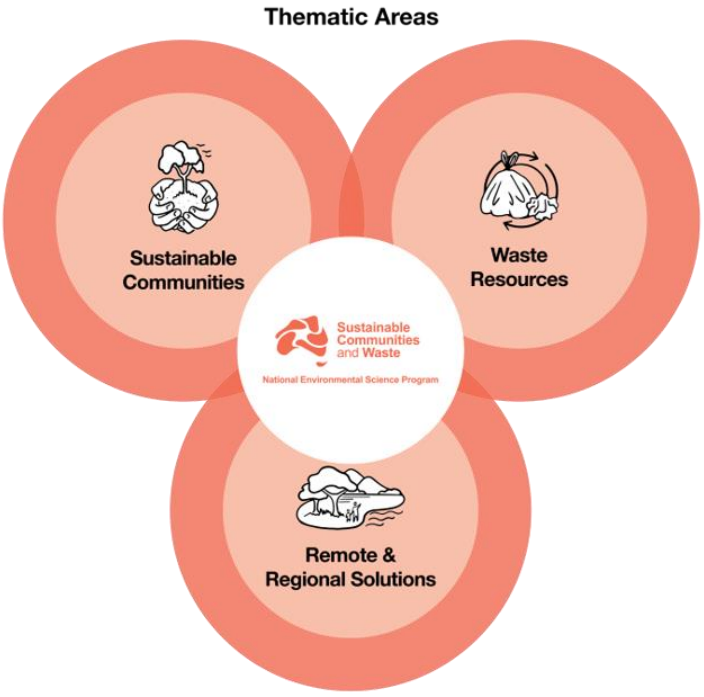

Figure 3: SCaW Hub 3 Key Thematic Areas

The SCaW Hub has six Impact Priority (IP) Areas that collectively deliver outcomes against our three thematic areas. IP1 to IP5 comprises several research projects, identified and then developed through co-design processes, starting with our very first Research Plan, RP2021/2022. IP6 was included to the hub as a part of RP2025 to deliver the various subprojects under impact priority – Safe Circular Economy. Projects are led by collaborations of researchers from across all Hub institutions and involve input from research users and partners. Our projects and thematic areas are mapped in Figure 4, with more detail provided in Attachment A. Figure 5 shows the overall SCaW hub outcomes and impact achieved in 2025

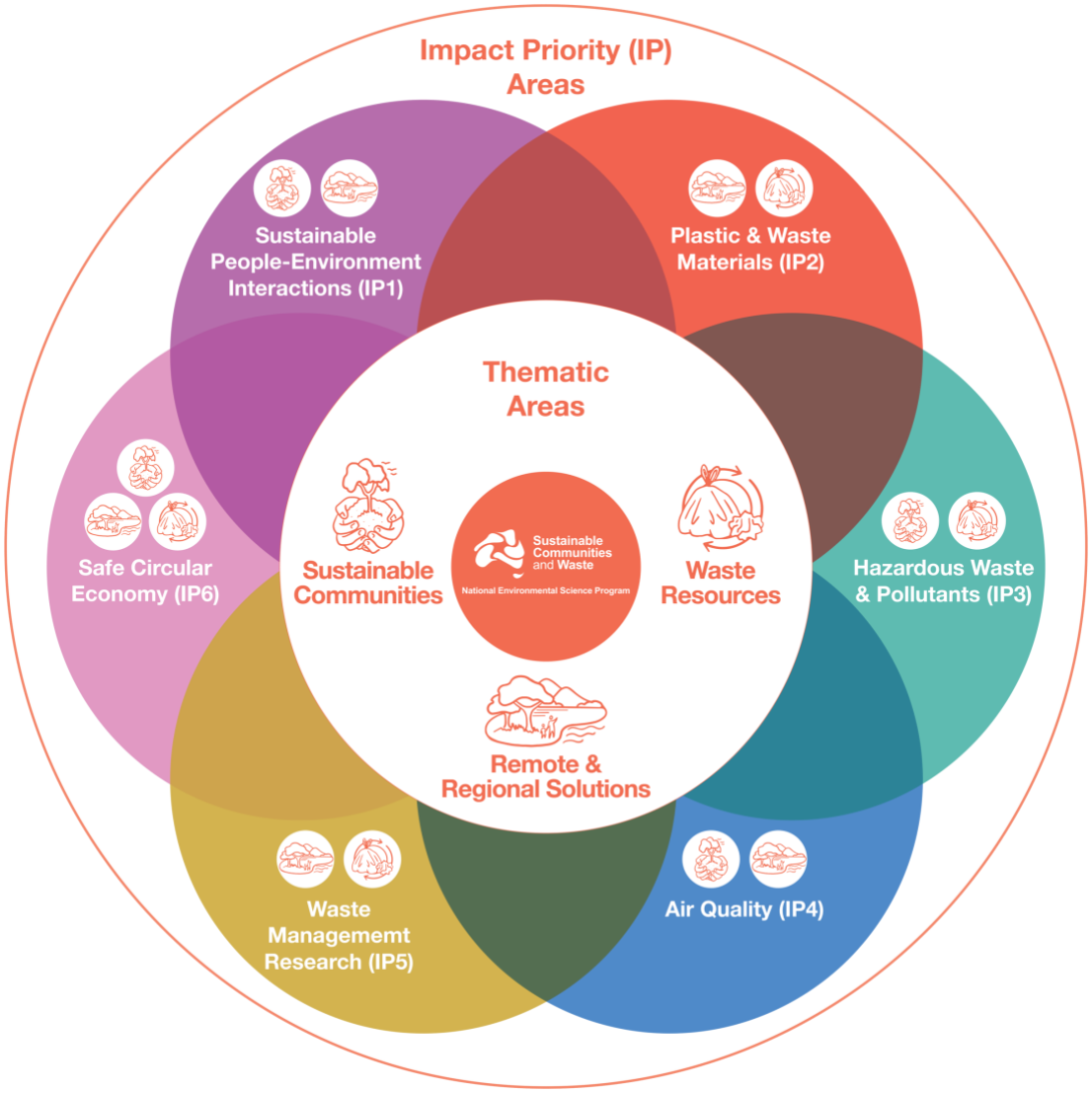

Figure 4: SCaW Hub 3 Key Thematic Areas and 6 Impact Priority (IP) Areas

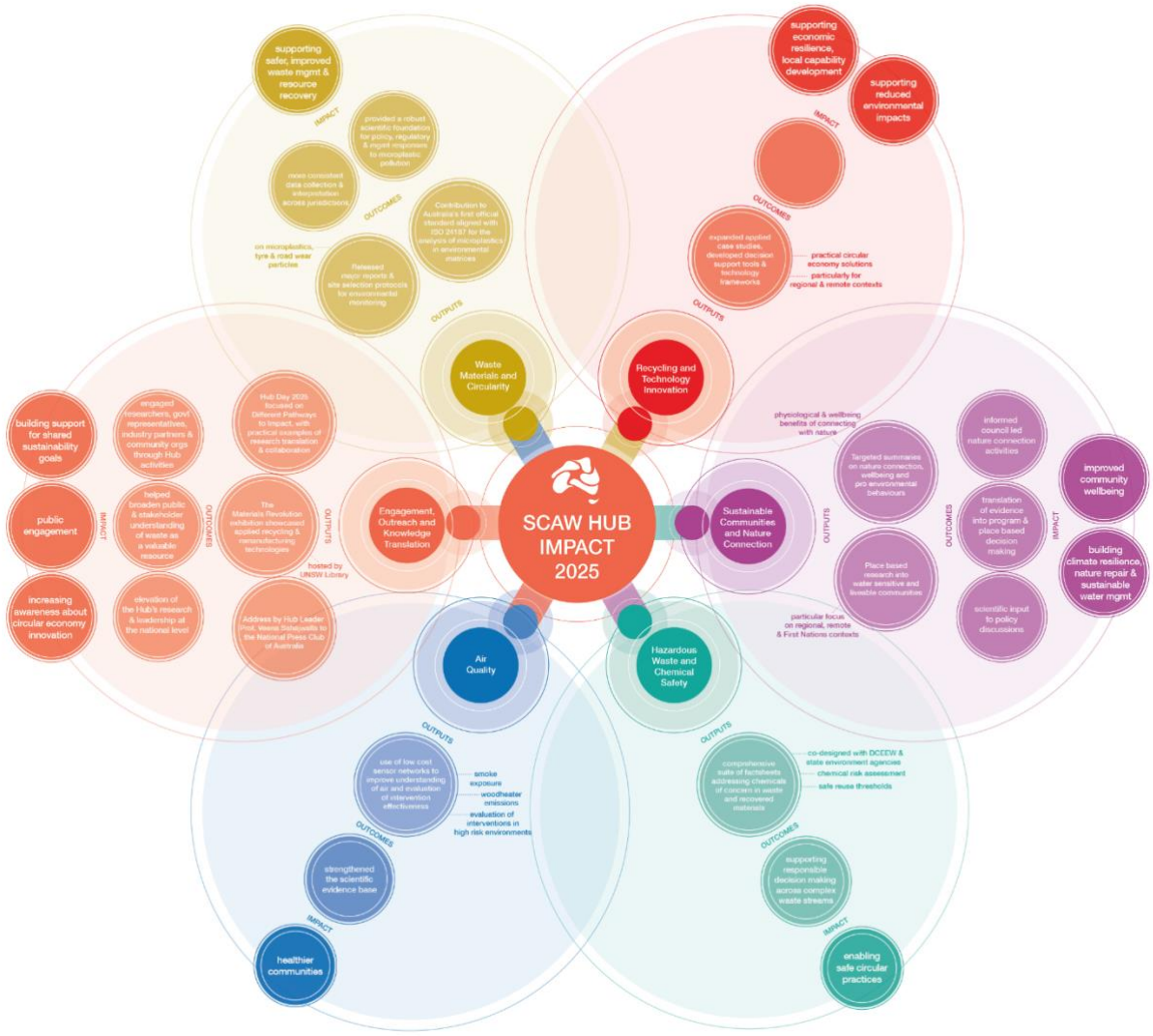

Figure 5: SCAW's 2025 outcomes and impact

IP1 - Sustainable People–Environment Interactions

IP1 explores links between human wellbeing, and environmental and ecosystem health. Through research and collaboration with various stakeholders and using a Nature-based Solutions (NbS) lens, this research is developing knowledge and tools to inform and stimulate change for the shared benefit of humans and nature.

This Impact Priority area also aims to empower regional, remote and Indigenous communities to become more sustainable and to improve liveability. It is also supporting delivery of *Australia's Strategy for Nature 2019–2030*, *National Climate Resilience and Adaptation Strategy 2021–2025*, and a renewed *National Water Initiative 2004*.

Thematic Areas

- Sustainable Communities
- Remote & Regional Solutions

IP2 – Reduced Impact of Plastics and Other Materials

IP2 seeks to develop innovative solutions to mitigate the negative impact of problematic materials on the environment. The outcomes of this research are expected to have implications for the waste management industry, policymakers, and society at large. By developing innovative solutions that address the negative impact of waste materials, IP2 aims to promote cleaner and healthier environments while contributing to a more sustainable future.

IP2 researchers are guided by national priorities including, *The National Waste Policy 2018* and the *2019 National Waste Policy Action Plan* and supported by further plans including policies related to the modernisation of recycling and manufacturing capability, the protection of national materials supply and to develop a circular economy. Additionally, *The Circular Advantage* report recently produced by the Circular Economy Ministerial Advisory Group (CEMAG), a member of whom sits on the SCaW Hub's Steering Committee, highlights the importance of using waste resources for remanufacturing.

Thematic Areas

- Waste Resources
- Remote & Regional Solutions
- Sustainable Communities

IP3 – Management of hazardous waste, substances and pollutants

Chemicals in our waste streams pose undefined risks, which inhibit our ability to safely move towards achieving national and state policy action targets to divert materials from landfill and accelerate reuse. The presence of chemicals of potential concern (CoPC) can impact recyclability of waste and the safe reuse of materials in the economy, and the establishment of robust circular economies. Through the generation of high-quality data related to the mass and potential availability of chemicals in our waste streams, this project will assist safe recovery and reuse of resources obtained from wastes and enable national resource recovery targets, by bridging the gaps in knowledge that allow adequate risk characterisation.

Thematic Areas

- Waste Resources
- Sustainable Communities

IP4 – Improved Air Quality, Forecasting and Assessment

While air quality in Australia is generally good, significant health impacts continue from bushfire smoke, planned burns, wood-heaters, and local industrial pollution. IP4 explores how to reduce air pollution and its impacts in Australia.

Thematic Areas

- Remote & Regional Solutions
- Sustainable Communities

IP5 Waste Impact Management Research

IP5 focuses on providing information, data and management tools; informing design for repurposing waste and to achieve a circular economy; informing the institutional and governance needs of community-based resource recovery and circular economy initiatives; and waste management and resource recovery opportunities for Indigenous communities.

Thematic Areas

- Waste Resources
- Remote & Regional Solutions

IP6- Safe Circular Economy

Impact Priority 6 focuses on enabling safe and inclusive circular economy transitions across Australia. It explores how communities, businesses and governments can participate in circular economy initiatives in ways that are safe, equitable and locally relevant. The work shifts the focus from technical solutions alone to include people, place and participation at every stage.

The projects under this IP aims:

- to establish a comprehensive, empirically grounded framework for a ‘people-centred’ approach to transitioning to a circular economy.

- to identify key business transition needs raised by the goals and targets of the national CE framework and associated policy leadership, and coproduce practical tools and frameworks to address them.

Thematic Areas

- Sustainable Communities
- Waste Resources
- Remote & Regional Solutions

HIP.04- Hub Indigenous-led Project

This project aims at harvesting invasive native and introduced species of plants from landscapes as part of restoring the health and identity of the natural environment and local Indigenous communities.

This project will explore the viability and potential use of the selected waste feedstock prototype/s along with estimates of economic viability for potential use within the manufacturing industry.

This project did not commence in 2025.

Outside the reporting period, the Hub wishes to provide a current update on the HIP.04 project. HIP.04 represents the second stage of project EP2.03 which is currently in the final stages of reporting in 2026.
EP2.03 previously experienced delays in commencement which subsequently resulted in further delays to the HIP.04 project. As the Hub has not received a variation document from the partner for HIP.04 project outlining a revised scope and deliverables and given the limited time remaining for completion of the NESP projects, it is not feasible for this project to proceed. Accordingly, the project needs to be closed.

Thematic Areas

- Waste Resources
- Sustainable Communities
- Remote & Regional Solutions

Progress towards research delivery

IP1 – Sustainable people–environment interactions (led by UTAS and MU)

Both multi-year projects continued their progress in 2025r, working with partners and collaborators to address research-user priorities.

IP1.02.01: Nature Connection

Significant insights:

- Delivered strong knowledge outputs, including four academic papers, national survey reports, and ~100 public stories, directly supporting policy and practice discussions. Details of the outputs included in attachment A
- Advanced national engagement through workshops, conferences, and collaboration with Australia's Strategy for Nature 2019-2030 and Nature Positive frameworks, aligning research with government priorities.
- Achieved recognised impact in urban greening, with the Launceston project winning a national planning research award and informing future government planning.
- Progressed Indigenous-led research, strengthening partnerships, cultural knowledge sharing, and developing wellbeing and environmental impact frameworks, with further outputs underway.

Overall achievement: Significant contribution to policy support, community engagement, and Indigenous-led knowledge co-production, with clear pathways to future impact.

IP1.02.02: Water Sensitive and Liveable Communities

Significant insights:

- Established a national systems approach for regional and remote water services, progressing toward implementation through living labs and strategic partnerships.
- Formed a high-level national steering group and Remote Water Futures Consortium, strengthening cross-sector collaboration.
- Enabled place-based governance innovation, notably the Anangu-led Kapi Planning Taskforce, formally endorsed to guide water management in Uluru–Kata Tjuta National Park.
- Delivered capacity-building initiatives (Water Camp) and progressed plans for a First Nations Water Embassy, embedding Indigenous leadership in water governance.

Overall achievement: Advanced system-level reform, Indigenous leadership, and scalable models for water governance, with strong foundations for long-term, place-based implementation.

IP2 – Reduced impact of plastics and other materials (led by UNSW)

IP2 aims to reduce the environmental and social impacts of problematic waste materials by developing research-driven solutions for plastic pollution and waste management. The program informed by national priorities, including the National Waste Policy 2018, the 2019 National Waste Policy Action Plan.

In 2025 both IP2.02.01 and IP2.02.02 projects continued implementation of the project, working with key research-users from the Department, industry and community groups, including both Indigenous and government, building on the foundational work in previous years. IP2.05.03 commenced in July 2025

IP2.02.01: Understanding Microplastics

Significant Insights

- Microplastic pollution varies significantly by land use:
    - Commercial areas showed the highest loads, largely from packaging and vehicular debris.
    - Residential areas contained finer particles, including textile fibres from domestic runoff.
- Delivered large-scale field monitoring (81 samples across multiple catchments) using standardised AS ISO 24187:2025 methods.
- Synthetic turf systems are a notable emerging source of microplastics, particularly through degradation of turf blades and rubber infill under use.
- Everyday plastic products (e.g., bottles) can release large quantities of microplastics, especially under heat and repeated use, highlighting potential human exposure through everyday plastic products.
- Remote island systems (Indian Ocean Territories) are influenced by both local waste practices and ocean-driven debris transport, indicating complex source pathways.

Overall achievement: Overall, the 2025 research program significantly advanced understanding of microplastic sources, environmental pathways, degradation processes, and analytical detection methods, while strengthening collaborations between academia, industry partners, and local governments to support improved monitoring and mitigation of microplastic pollution.

IP2.02.02: Finding fit for purpose technological recycling solutions for regional and remote communities across Australia

Significant Insights

- Developed a comprehensive Technology Roadmap aligned with ISO 59000 circular economy principles, guiding decision-makers on suitable recycling technologies.
- Demonstrated real-world application through the Wellington Aboriginal Community case study, converting waste into Green Ceramic tiles:
    - Successfully combined waste recovery with housing outcomes
    - Enabled skills transfer and local capacity building
- Investigated recycling opportunities for complex waste streams in remote Northern Territory communities.
- Conducted a case study in the Indian Ocean Territories (Christmas Island and Cocos (Keeling) Islands).
- Conducted regional and Indigenous community engagement, including workshops and knowledge exchange in Far North Queensland.

Overall achievement: Overall, the 2025 activities demonstrate how technology road mapping combined with community-centred demonstration projects can accelerate circular economy adoption in regional Australia. The Wellington project particularly highlights the potential of decentralised recycling technologies to generate environmental, economic and social benefits for remote communities.

IP2.05.03: Creating value from metals and alloys of waste solar panels: Technological roadmap to capture economic benefits and lower carbon emissions

Significant Insights

- A co-design workshop was conducted with key stakeholders to identify priority materials and strategic objectives aligned with circular economy principles.
- A comprehensive report evaluating advanced recycling and remanufacturing technologies at laboratory, pilot and commercial scales was submitted to DCCEEW in November 2025 and currently under review with research users. The report assessed global technology readiness, scalability potential, and capacity for high-purity recovery of value-added metals.

Overall achievement: This project commenced in July 2025. During this reporting period, the project successfully establishes the foundation for the technological roadmap on advanced metal recovery from end-of-life (EoL) solar panels.

IP3 – Management of hazardous waste, substances and pollutants (led by CSIRO and Monash)

IP3.02.01: Quantifying mass and potential release of chemicals of potential concern in our wastes and recovered resources

The IP3 RP2025 research project concluded formally on 30 June 2025 and represents multiple years of highly impactful research. For the calendar year (Jan to June 2025), the research continued to build on the strong foundation established for waste and chemical risk assessment in Australia, generated scientific and publicly facing reports and factsheets that demonstrate the importance of continued research related to chemical risk and circular economy in Australia. The research completed throughout 2021-2025 for IP3 was aligned with international best practice and informed by close co-design with research users at DCCEEW.

Significant Insights:

- Management of chemical risk in Australia's transition to circular economy: The research highlighted the :
    - Chemicals in wastes can be a barrier for circular economy.
    - Assessing availability and effect of chemicals in reuse scenarios is key to safe reuse decisions.
    - Four key research themes are outlined to guide Australia's management of waste chemicals.
    - An iterative approach to assess availability and effect of waste chemicals is proposed.

- Research proposing a novel method for assessing the leaching of chemicals from products with recycled rubber content
- Updated Sampling Guidance document that was developed in the early stages of IP3's multi-year research project.
- Developed various factsheets outlining the research plan and outcomes related to IP3. Details included in Attachment A.

Overall Achievement: The research generated by the first IP3 team has been critical in the development of resources and data related to chemicals in products containing recycled rubber and chemicals associated with batteries and e-waste, and the development of significant contextual evidence and appropriate measurement techniques to support the management of chemicals in circular systems in Australia.

IP4 - Air quality, forecasting and assessment (led by UTAS and CSIRO)

During 2025, a range of activities commenced for each of the five projects under IP4.

IP4.02.01: Let's Yarn About Smoke

Significant Insights:

- Indigenous communities face heightened health risks from bushfire, planned burn, and household smoke.

- Yarning circles with Indigenous communities to understand concerns related to landscape fire smoke exposures as well as discussing potential methods for communicating risks associated with these exposures.
- Integration of Air Quality Forecasting System (AQFx) forecasting with local knowledge improves relevance of smoke messaging to assist with the implementation of preventative health actions.

Overall Achievement: Established a culturally informed, community-engaged approach to understanding smoke impacts and developing tailored communication tools, strengthening health preparedness across multiple regions.

IP4.02.02: How will a changing climate and emissions reduction measures impact sources of air pollution and secondary pollutant formation?

Progress continued across Future Air Quality modelling activity this reporting period, with work advancing on both scientific publication and scenario development streams.

Significant Insights:

The manuscript 'Quantifying natural emissions and their impacts on air quality in a 2050s Australia' was published in Journal of Atmospheric Environment in April 2025. The highlights of the work were:

- Peak isoprene emissions to double in 2050, by 3-4 mg m^{-2} h^{-1} in eastern Australia.
- Ozone in cities to increase by 6 ppb, when ozone is already at air quality limits.
- Air mass stagnancy will limit pollution abatement in winter.
- Reduced hydroxyl radical concentrations will increase the methane lifetime.

Overall Achievement: The development of the combined natural–anthropogenic 2050 emissions scenarios was initiated. This included selection of emission pathways appropriate to the Shared Socio-economic Pathways (SSPs) chosen for the study, and alignment with the way the emissions are dealt with inside the CSIRO Chemical Transport Model.

IP4.02.03: Wood-heaters: developing and testing novel solutions to a persistent problem.

Wood heaters were identified as a priority area for action after the roundtables and workshops held at the start of the SCaW Hub. This was in recognition of their major contribution to community air pollution and serious public health impacts. The research team has partnered with local community and council groups in three communities to pilot different approaches to education and action for air quality improvement.

Significant Insights:

- Low awareness, or acceptance, of the existing evidence concerning adverse health impacts of wood heater smoke, especially among owners of wood heaters. More effort is therefore needed to address this gap in community health literacy.
- Financial incentives are an important tool for encouraging wood heater owners to change to less polluting heating.

- Champion led interventions, and the use of creative arts, have high potential for fostering community engagement.

Overall Achievement: Implemented and evaluated multiple community-based interventions across Australia, generating practical, scalable strategies to reduce wood smoke pollution and improve public health outcomes.

IP4.02.04: Evaluation of interventions to reduce air pollution in safe havens and use of Low-Cost Sensors to identify areas of concern.

Climate-driven bushfires have become a significant public health threat, costing Australia AU$1.95 billion in health impacts during the 2019–20 summer bushfires alone. Cleaner indoor air centres offer a scalable and equitable response. Under this project survey of research literature and consultation with more than 25 stakeholders revealed strong interest but little knowledge or experience on the operation of these smoke refuges.

Partnering with a major shopping centre operator, the research team commenced indoor air quality monitoring at a very large Western Sydney shopping mall in December 2024 with the installation of ten low-cost sensors. Due to the relatively good air quality sustained in this area thus far, the monitoring period has been extended for a second bushfire season (2025-26). This extended monitoring will also allow for the evaluation of the impacts of filter upgrades implemented at the centre in October 2025.

Significant Insights:

- Strong stakeholder interest exists in smoke refuges, but operational knowledge is limited.
- Public buildings (e.g. libraries, shopping centres) can provide moderate protection with upgrades.
- Low-cost sensors are effective for monitoring and informing intervention performance.

Overall Achievement: Advanced evidence on the feasibility and design of cleaner indoor air centres, supporting scalable, equitable solutions to reduce bushfire smoke exposure.

IP4.05.05- Methodology for review of ambient air quality standards in Australia

This project was proposed by DCCEEW to develop the methodology to review Australian ambient air quality standards and commenced in July 2025.

Significant Insights:

- After extensive engagement with the agencies involved in the previous regulatory update, the team has identified an approach to guide the review process.
- The team has completed the consultation phase, engaging all relevant state and territory stakeholders, including EPAs, health departments, and key national working groups.

Overall Achievement: Completed national stakeholder consultation and developed a draft methodology framework, providing a strong foundation for updating Australia’s ambient air quality standards.

IP5 - Waste impact management research (led by CSIRO and MU)

Project IP5.04.01: Metrics, data and indicators for material flow and stocks, waste and emissions to monitor progress of Australia's circular economy transition

Significant Insights

- The project produced the first consolidated set of state and territory material flow accounts and circular economy metrics for Australia, providing an evidence base for monitoring resource use, waste generation and resource recovery across jurisdictions.
- To ensure robustness and policy usability, the initial dataset was circulated to all state and territory governments for data verification and validation, strengthening the reliability, transparency and comparability of the assembled accounts.
- The 2025 update of the national circular economy indicator set for the *Measuring What Matters* framework, including Australia's circularity rate, per-capita material footprint and material productivity.
- A state-level dataset for Victoria, delivered to Recycling Victoria, enabling the first reporting of nationally agreed circularity indicators at the state level and informing the *Victorian Circular Economy Market Report*.
- A state-level material flow dataset for South Australia, delivered to Green Industries SA to support the development of the state's circular economy strategy.

Overall Achievement: Delivered Australia's first consolidated and validated dataset of national and state-level material flow accounts and circular economy indicators, providing a robust evidence base for monitoring progress and informing policy. Interim results were presented at the International Society of Industrial Ecology Conference in Singapore (July 2025), providing international visibility for the project and strengthening engagement with the global industrial ecology research community.

IP5.02.03: Governing community-based waste management and resource recovery and circular economy initiatives

Significant Insights

- National survey and LGA case studies highlight the importance of **place-based and locally tailored approaches** to advancing circular economy outcomes.
- Findings directly informed **national policy**, including the Productivity Commission Circular Economy Inquiry (Recommendation 7.2 on transition brokers).
- Development of a **structured socio-technical framework and case study database** strengthens comparative analysis and evidence generation.
- Ongoing engagement and knowledge sharing support **translation of research into practice and policy**.

Overall Achievement: Successfully completed key analytical and preparatory components ahead of schedule, including a national survey and three regional case studies, providing a strong evidence

base for place-based circular economy implementation. The project has demonstrated clear policy impact, strengthened collaboration with DCCEEW, and is well-positioned to deliver comparative analysis and fieldwork outcomes through to 2026.

IP5.02.04: Identifying opportunities from waste management and resource recovery and the circular economy for Indigenous communities and businesses

Significant Insights:

- The yarning sessions with the Whadjuk Noongar community highlighted that traditional Indigenous practices inherently supported land stewardship and circular resource use; however, these systems have been disrupted by colonisation and modern consumption patterns.
- The research identified that skills development, capacity building, and knowledge sharing are essential enablers for transforming end-of-life waste into economic opportunities.
- Strong collaboration between communities, local governments, industry, and research partners is necessary to support sustainable waste management and resource recovery outcomes.

Overall Achievement: The study concludes that integrating Aboriginal knowledge into education, supporting community-led waste initiatives, improving awareness through social media, and fostering partnerships among councils, communities, businesses, and industries are essential to achieve tangible, community-level impact and address waste problems. Strengthening these collaborations can revive traditional caring-for-Country values and promote sustainable, locally driven circular economy business models.

IP6 - Safe Circular Economy (led by UNSW)

IP6.05 – Community Engagement in a safe circular economy: Scoping opportunities and barriers for participation

Significant Insight:

- Conducted throughout 2025, the project identified that effective community engagement in the circular economy requires structured frameworks grounded in social science evidence and informed by real-world stakeholder experiences, highlighting both opportunities and barriers to participation.

Overall Achievement: Through a comprehensive literature review and multi-site stakeholder workshops across Western Sydney, Lake Macquarie, and Gippsland, the project established a strong evidence base to inform the development of a practical, people-centred community engagement framework for circular economy transition

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IP6.05.01-A: CE2: Community Engagement for the Circular Economy Transition – led by Prof. Matthew Kearnes (UNSW), Dr. Stefan Kaufman (Monash) and A/Prof. Brian Cook (Uni Melb).

Work toward IP6.05.01A commenced in December 2025, and the project is progressing on track, toward a series of a milestones to be delivered in 2026. An application for human research ethics approval has been submitted and approved.

Research projects

Attachment A lists the projects funded under the SCaW Hub and provides information on the project status, information on outputs and links to products for all projects (where available). Exceptions to the *NESP data and information guidelines* are also noted there.

The following table provides a summary of progress for each major 2025 deliverable across IP areas and Hub:

Responsible IP Area	Deliverables/milestones	Date completed/ Partially completed	Status & Comments
IP1.02.01	Launch of interactive story database using data from first site/community (Tasmania)	31 March 2025	Completed.
IP1.02.01	A tailored plan for indigenous capacity building delivered	29 August 2025	Completed. Indigenous-led project capacity building plan prepared.
IP1.02.01	Workshop bringing together policy-makers, practitioners and researchers to explore the mechanisms, enablers, and barriers to connecting, valuing and creating positive changes for people and nature planned	31 December 2025	Completed. Refer product ID 1 under Attachment A
IP1.02.02	Formulation of living lab working group and project advisory to support future research and governance for living lab (UKTNP) (To be determine by Traditional Owners and partners through in context engagement)	March 2025	Completed.
IP1.02.02	Water conference, shaped by the above workshop outcomes, aimed at creating the conditions for an Indigenous-led review of the work required to transform the architecture of the Australian water sector, including legislation and institutions, to allow the enfranchisement of Indigenous water rights, science and governance.	April 2025	Completed. Water camp was run on 26-28th May 2025 and featured broad participation of indigenous water stakeholders
IP1.02.02	Water conference report	March 2025	Completed. Report approved in 2026 and will be included in the annual output list for 2026

Responsible IP Area	Deliverables/milestones	Date completed/ Partially completed	Status & Comments
IP1.02.02	Establish First Nations scoping panel to identify appropriate Indigenous governance for balance of IP1.02 research program	May 2025	Completed. A First Nations scoping panel was established in mid 2024 to co-develop the architecture for the advisory. A report detailing Final recommendations on proposed structure is near completion. Delays have been experienced due to university procedural requirements which have presented challenges for the administration of such a group- a key project learning
IP1.02.02	Establishment of regional and remote areas advisory and steering group to guide next phase of formulation and scoping of a national platform (at discretion and guidance of end-users)	June 2025	Completed.
IP1.02.02	Co-designed research scopes and methods to address research end-user identified and prioritised capability needs, gaps in knowledge capital and/or improvements to the interoperability of existing knowledge products	August 2025	Completed. Refer product ID 10 under Attachment A .
IP1.02.02	Detailed project scope developed with program partners- regional living lab (at discretion of partners including First Nations communities)	August 2025	Completed. The Remote Water Futures Consortium has been established comprising a number of partners from across the central Desert Region. A details project scope has been established aimed at supporting future living lab establishment.
	First Nations scoping panel report outlining appropriate Indigenous governance for balance of IP1.02.02 research program	October 2025- (Delayed to Feb 2026)	This report is being submitted for End user feedback on 5th February 2026. Delays have been experienced with this project due to university procedural requirements which have presented challenges for the administration of such a group- a key project learning
	Delivery of western water systems workshop series (3) with First	October 2025- Delayed to Mid 2026	These workshops have been postponed for

Responsible IP Area	Deliverables/milestones	Date completed/ Partially completed	Status & Comments
	Nations Water leaders and practitioners		delivery until mid- 2026. This was due to the unforeseen disestablishment of Monash Sustainable Development Institute in late 2026, which significantly limited the capacity of the project team and operations staff to support project delivery in this time.
	Western Systems Workshop(s) Report	December 2025- Delayed to mid 2026	As above, the work informing this report has been postponed until mid-2026
	Global Partners Engagement in Aquanulius Report	December 2025	As above, the work informing this report has been postponed until mid-2026
IP2.02.01	A plan for interception pilot for synthetic grass	30 November 2024- Delayed to 14 March 2025	Completed. Refer product ID 11 & 12 under Attachment A
IP2.02.01	Co-design plan for interception pilot project for microplastic producing precursor materials.	30 June 2025	Completed. Results were presented to DCCEEW RUs in regular meetings. Approved in 2026 and will be included in 2026 reporting annual output list
IP2.02.01	A Preliminary report on the plastic consumption and waste generation; identification of polymer types, sources, and recyclates' application sectors in IOT	15 October 2025	Completed. Final report will be published in 2026
IP2.02.01	Draft report on synthetic grass interception pilot study	30 October 2025	Completed. Results were presented to DCCEEW RUs in regular meetings. Final report will be published in 2026
IP2.02.01	Draft report on microplastics from tyres	15 November 2025	Completed. Final report will be published in 2026.
IP2.02.02	Demonstration of case study 1 – Remote Community Project Progress Report	30 July 2023- Delayed to 24 October 2025	Completed. Refer attachment A, Product ID 16
IP2.02.02	Demonstration of case study 2 – Remote Community Project Progress Report	30 July 2024 -Delayed to 01 March 2025	Completed. Refer attachment A, Product ID 17
IP2.02.02	Demonstration of case study 3 – Remote Community Project Progress Report	30 July 2025	Completed. Results were shared with DCCEEW RUs in regular meetings, Awaiting DCCEEW

Responsible IP Area	Deliverables/milestones	Date completed/ Partially completed	Status & Comments
			RUs approval for publication
IP2.02.02	Annual Technology forecast for evaluated technologies	30 September 2025	Completed. Approved by DCCEEW in 2026. Reporting in 2026 APR.
IP2.05.03	Workshop for co-design of future pathways value added metal recovery	15 September 2025	Completed. Workshop delivered with key stakeholders; priorities and scope for value-added metal recovery confirmed.
IP2.05.03	Report on evaluation of advanced recycling and remanufacturing technologies (lab, pilot, and commercial scales) for value-added metals (metallurgical grade silicon, aluminium 6000 series, copper, silver, etc. and nano metals).	15 December 2025	Completed. Revised version of the report after incorporating RU's feedback has been submitted to the research users. Awaiting final approval. Publication planned for 2026.
IP3.02.01	Preliminary data and reporting for ecotoxicology assessments.	25 May 2025	Completed.
IP3.02.01	Updated sampling guidance for waste	30 April 2025	Completed. Refer attachment A, Product ID 18
IP3.02.01	Final IP3.02.01 reporting	30 June 2025	Completed. Refer attachment A, Product ID 19 to 29
IP4.02.01	Progress report on the MRFF funded air quality and health study in East Arnhem, NT Summaries of any meetings and workshops throughout RP2024-25 will be provided	15 May 2025	Completed. The MRFF funded study team circulated a newsletter updating the investigators on progress. The team met monthly to check in on progress with yarning circles. Progress is being made in NSW and NT. A new collaborator from the Kid's Insitute in Perth, WA has been contracted to support WA based activities.
IP4.02.02	Progress report for RP2024	15 March 2025	Completed. Refer attachment A, Product ID 31
IP4.02.03	Interventions deployed and evaluated in Armidale, NSW, Mt Barker, SA and Snug, TAS	01 September 2025	Completed. Refer attachment A, Product ID 32
IP4.02.04	HEPA decision tool report and plain English guidance pieces report	15 July 2025	Completed. Refer attachment A, Product ID 33

Responsible IP Area	Deliverables/milestones	Date completed/ Partially completed	Status & Comments
IP4.02.04	LCS/HVAC/HEPA options for safer air refuges report, including EMCR activities related to the evaluation of the additional resilience centres	05 December 2025	Completed. Interim report generated and approved by the DCCEEW RUs. Final version will be reported/published in 2026
IP5.04.01	2025 Australian Material Flows, Waste and Circularity Report launch and presentation	28 February 2025 (original date)-Delayed to 22/01/2026	Completed. Report approved in 2026. Reporting will be in APR 2026
	Publication of key results in a peer-reviewed journal	30 June 2025	Manuscript finalisation postponed to align with the refined dataset following state government validation and to ensure methodological robustness and policy relevance of the analysis. Rescheduled for early 2026.
IP5.02.03	Survey report and presentation at Circularity 2023	Nov 2023- Delayed to 2025	Completed & report approved by DCCEEW RUs for sharing. Publication pending
IP5.02.03	Publication of three regional LGA in depth case studies	November 2024 (original date- Delayed to August 2025	Completed. Internal documents shared with DCCEEW for commentary on academic publication, and edits on the policy brief.
IP5.02.03	Generate socio-technical profile, research design and recruit trial participants	Dec 2025- Moved to 2025	Completed. Internal documents presented in project meetings and agreed with DCEEW.
IP5.02.03	Case study database design and deployment	30 September 2025	Completed. Presented in project meetings and agreed with DCCEEW.
IP5.02.03	Share learnings and resources from cases and trials via online community, publications, webinars and events	30 November 2025	Ongoing
IP5.02.04	Yarning circles on waste management priorities and possible circular economy solutions	27 Feb 2025	Completed. All planned yarning circles on circular economy business solutions have been completed.
IP5.02.04	Report on the community consultation and presentation to the participating Aboriginal	30 May 2025- Delayed to October 2025	Completed. Report approved in 2026.

Responsible IP Area	Deliverables/milestones	Date completed/ Partially completed	Status & Comments
	communities for feedback and suggestions		Reporting will be in 2026
IP6.05	First stage of desk-based research complete, initial locations for co-design workshops selected.	30th June 2025	Completed. Initial desk-based research commenced, together with project planning and workshop selection.
IP6.05	Workshop planning commences, first workshop facilitated	10th July 2025	Completed. *Urban Community Engagement in Circular Economies* workshop held at Casula Powerhouse. Co-hosted with Liverpool City Council,
IP6.05	Second and third workshop facilitated	29th August 2025	Completed.
IP6.05	First stage of desk-based research complete, initial locations for co-design workshops selected.	30th June 2025	Completed. Report approved by DCCEEW RUs. Awaiting Publication in 2026.

Cross-cutting initiatives

We adopted an Initiative champion strategy to make sure all cross-hub activities were progressing. In this model, different researchers and IP leaders leading a cross-hub collaboration coordinate the activities under the guidance of Hub Leader, Professor Veena Sahajwalla.

Various key cross-hub activities and internal SCaW Hub cross collaboration progressed this year, with a focus on ensuring synergies and alignment between IP areas:

- The collaboration between **IP2.02.01** and the MAC Hub led to the development of a comprehensive national field and laboratory manual for microplastic monitoring, consolidating best-practice methodologies across sampling, analysis, and reporting. Developed with contributions from over 40 researchers, the manual establishes harmonised protocols that enable consistent and comparable data collection.

  This work strengthens the reliability and interoperability of microplastic data, supporting coordinated national monitoring efforts and providing a robust evidence base to inform environmental management, policy development, and actions to address microplastic pollution in marine and coastal ecosystems.

- **IP2.05.03** strengthened cross-hub alignment by linking its solar panel recycling roadmap with broader circular economy and waste infrastructure initiatives, while contributing shared

methodologies and data frameworks. By providing insights on technology readiness, staged recycling processes, and high-value material recovery, the project supports more coordinated infrastructure planning and strengthens the integration of technology, policy, and implementation pathways across the Hub.

- **IP4.02.02** continued engagement with the climate adaptation cross-cutting program of the Climate Systems Hub. Datasets have been shared.
- **IP5.04.01**- The project contributes to several cross-cutting analytical priorities within the NESP program by strengthening the evidence base on the environmental pressures associated with Australia's material use. The project developed datasets and analytical frameworks linking Australia's material use to environmental pressures, providing a strong quantitative basis for DPSIR-based analysis and integrated environmental assessments.
  These outputs are highly relevant for State of the Environment reporting, enabling more systematic tracking of resource-related environmental impacts and supporting evidence-based policy on resource efficiency and the circular economy, although their full integration into departmental frameworks remains an opportunity for enhanced impact.

- **IP5.02.03** links to Impact Priority 6 by addressing governance capacity, cross-jurisdictional coordination, and enabling conditions for system transitions, complementing IP6's focus on scalable, policy-relevant interventions. Regional case studies provide transferable insights on institutional design, transition brokering, and capability gaps relevant to community engagement (IP6.05.01-A) and business transition (IP6.05.01-C). Its database and maturity rubric also support implementation effectiveness, performance monitoring, and adaptive management, strengthening integration across the Hub.

The work of the Initiative Lead was supported by the evolving governance and agreed operating principles of the SCaW Hub that foster collaborative networks within the Hub and horizontal integration of research topics. The integration of the Initiative Lead and the waste impact management research agenda is a key role of the Hub leadership team. As partnerships within the SCaW Hub further mature, the impact of the Initiative Lead role will continue to grow.

Emerging priorities

Each year, specific emerging priorities may be identified by the Department, hubs or third parties for delivery as research projects. If endorsed by the Department, a hub will develop research project/s to address the emerging priority.

Hubs are flexible and adaptable to respond to emerging priorities, with the ability to rapidly scale output, bring in external expertise or respond if additional resources are made available. Hubs are required to set aside 5% of NESP funding for 2025 (in any category) so they can respond to emerging priorities; these funds can be rolled into the subsequent year if they are not used. Emerging priority projects are developed outside a hub's annual research proposal process. Once emerging priority projects have been approved, a hub's research plan and activity budget for the relevant calendar year will be amended, and emerging priorities will be included in the hub's annual progress reports.

EP Progress towards research delivery:

In 2025, an emerging priority project (EP4.01) **"Developing a real-world testing protocol for evaluating particulate and greenhouse gas emissions from Australian wood heaters"** was completed.

Standards Australia sought support to renew national wood heater standards, leading to an EP project that designed and evaluated a new emissions testing methodology for Australia. Using the University of Tasmania's purpose-built, non-commercial FireLab3 facility, the team developed the Tasmania Protocol—a reproducible, community-aligned approach to hardwood burning across diverse appliances, with clearly defined testing procedures and reporting requirements.

Results demonstrate that a practical and feasible protocol for testing ultra-low emission wood heaters can be implemented using existing laboratory infrastructure. The project has successfully designed and evaluated a new methodology for wood heater emissions testing for Australia. delivered an evidence-based methodology, with the final report published and the proposal currently under consideration by Standards Australia.

Project EP2.03 "Plant and Plastic Wastes in Regional and Remote Communities:

The initial phase of the project involved harvesting samples and analysis of materials sourced from landscapes undergoing preparation for cultural burning, assessing their viability for its potential use in supporting sustainable land management and regional development opportunities. Progress was impacted by complex contract negotiations, including a variation executed in May 2025, and challenges related to Indigenous Cultural and Intellectual Property (ICIP).

Key outputs include completed technical and regulatory reporting, establishment of workflows, and delivery of analytical data to communities via Firesticks in line with its Data Governance Framework (https://firesticks.org.au/wp-content/uploads/Firesticks_Indigenous-Data-Governance-Framework.pdf). A draft scope for stage two and three has been outlined for communities who wish to engage further. Drawing on lessons from this and other collaborations, Firesticks is developing a Research Agreement Making Framework and checklist to guide future research partnerships and agreement making. Final reporting will be published in 2026

Performance against milestones

Performance against funding agreement milestones

All milestones for the reporting period and to date have been met as per the funding agreement (Milestones 1 (Signing of Agreement by the Department) to milestone 24 (delivery of draft Research Plan 2026 to the department

Performance against the research plan milestones

Information on project progress and performance is provided in Attachment A.

Measuring success

Hub outcomes and outputs

With the Hub in its fourth year, the focus was on mobilising teams, ramping up research, and continuing the collaboration with project partners and research-users. Outputs were delivered in line with the Research Plans for 2022, 2023, 2024 and 2025. Outcomes for 2025 focused on delivering best-practice research to deliver practical solutions and impacts. As the research progresses over the next three years, the outcomes will become more evident to demonstrate the impact delivered by the Hub to governments, industry, and communities, including Indigenous.

IP1 – Sustainable people–environment interactions (led by UTAS and MU)

IP1.02.01 Nature Connection

Key Outputs

- Four academic publications under the Nature Connection stream and report based on national survey results
- Approximately 100 new nature connection stories published on the public website.
- Several conference presentations across relevant forums.
- A stakeholder-focused workshop convening policy makers, politicians, academics, and practitioners.

Key Outcomes

- Strengthened evidence base on nature connection through survey data, storytelling, and academic research. Facilitated intergenerational learning, cultural knowledge sharing, and community empowerment in Indigenous-led projects.
- Enhanced engagement and collaboration among diverse stakeholders to advance a Nature Connected Future.
- Established and strengthened relationships between researchers and Indigenous communities.
- Delivered on-Country workshops supporting youth engagement with cultural practices (including burning) and contributing to wellbeing framework development.

IP1.02.02 Water Sensitive and Liveable Communities

Key Outputs

- Establishment of the Anangu Kapi Taskforce and development of a Kapi (water) planning framework for Uluru–Kata Tjuta National Park and RTD Petermann Indigenous Protected Area in the Northern Territory
- Formal endorsement of the Taskforce by the Parks Australia Board (2025)
- Establishment of the Remote Water Futures Consortium
- Design and delivery of WaterCamp25 and knowledge product documenting the pilot and enabling replication
- Scoping panel report with recommendations for a First Nations water research governance framework

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Key Outcomes

- Support for Traditional Owner–led water planning framework.
- Advancement of water education, training, and capability development in remote communities (via living lab model)
- Progress toward establishing a **First Nations Water Embassy**
- Contribution to nation (re)building and resistance to aqua nullius through knowledge sharing and practice

IP2 – Reduced impact of plastics and other materials (led by UNSW)

IP2.02.01: Understanding Microplastics

Key Outputs

- **AS ISO 24187**: Principles for the analysis of microplastics present in the environment.
- **AS ISO 5667.27:2025**: Standard for microplastic sampling in water.
- Technical reports, Factsheets including investigations on tyre and road wear particles and their environmental pathways, microplastics formation and liberation from artificial turf, identification of microplastics from waste capturing guard from different local government areas.
- Methodology reports for identifying locations for microplastic sampling and case studies.
- Scientific publications and review papers on microplastic occurrence, analysis, and impacts.
- Environmental monitoring datasets from stormwater and urban catchment studies.

Key Outcomes

- Improved scientific understanding of microplastic sources, particularly artificial turf, tyre and road wear particles and degraded plastic materials from packaging, etc.
- Enhanced knowledge of environmental pathways.
- Better understanding of microplastic characteristics such as polymer type, size distribution, and particle morphology.

- Strengthened capacity for accurate environmental monitoring through advanced analytical methods.
- Improved consistency and reliability in microplastic research through the development of national standards.

IP2.02.02: Finding fit for purpose technological recycling solutions for regional and remote communities across Australia

Key Outputs

- Technical reports on recycling technologies and circular economy solutions for regional and remote communities.

- Technology roadmap for implementing decentralised recycling systems and resource recovery strategies in regional Australia.
- Case study reports demonstrating microrecycling solutions for multilayer packaging waste in the Northern Territory.
- Community-focused research demonstrating the production of Green Ceramic flooring from mixed waste materials in the Wellington Aboriginal community.
- Factsheets and guidance documents defining regional and remote classifications and supporting the implementation of recycling technologies in these areas.

Key Outcomes

- Improved understanding of waste management challenges and recycling barriers in regional and remote Australian communities.
- Identification of fit-for-purpose recycling technologies that support circular economy systems in decentralised locations.
- Demonstration of innovative recycling approaches for recovering materials from complex waste streams.
- Development of practical case studies showing how waste materials can be transformed into valuable products for community infrastructure.
- Strengthened collaboration between researchers, industry partners, and local communities to implement sustainable waste solutions.

IP2.05.03: Creating value from metals and alloys of waste solar panels: Technological roadmap to capture economic benefits and lower carbon emissions

Key **Outputs:**

- Delivered a stakeholder co-design workshop with DCCEEW.
- Produced a comprehensive global review of PV recycling technologies (Milestone 2 report).
- Compiled comparative analysis of technology readiness levels and industrial-scale case studies.

Key Outcomes:

- Established a shared vision for high-value solar panel recycling through stakeholder co-design.
- Provided an evidence-based technical foundation for advanced PV recycling in Australia.
- Identified scalable pathways to increase recovery rates toward national 2030 resource recovery targets.

IP3 - Management of hazardous waste, substances and pollutants (led by CSIRO and Monash)

IP3.02.01: Quantifying mass and potential release of chemicals of potential concern in our wastes and recovered resources

End of life tyres, recycled rubber, and products with recycled rubber content remained a priority focus for IP3 remains. Given that tyres are also a focus in both IP2 and IP5, discussions related to the amalgamation of the tyre research story at the SCaW Hub level have continued.

IP4 - Air quality, forecasting and assessment (led by UTAS and CSIRO)

All four IP4 projects have been designed with input from stakeholders, the Department and collaborators.

IP4.02.01: Let's yarn about smoke

Key Outputs

- Yarning circles conducted with Indigenous communities across NSW, WA and NT
- Capacity building through support of Indigenous research fellow and officers
- Conference presentation at the 2025 Lowitja International Indigenous Health and Wellbeing Conference
- Ongoing co-designed engagement activities and knowledge exchange forums

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Key Outcomes

- Strengthened Indigenous-led research partnerships and culturally appropriate engagement
- Improved understanding of smoke impacts on Aboriginal communities
- Foundations established for culturally relevant air quality communication and future research roadmap

IP4.02.02: How will a changing climate and emissions reduction measures impact sources of air pollution and secondary pollutant formation?

Key Outputs

- Peer-reviewed publication in Atmospheric Environment (2025)
- Multiple national and international presentations (Abidjan, Perth, Wollongong, and webinars)
- Contributions to scientific forums on emissions and air quality modelling

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Key Outcomes

- Enhanced evidence base on future air quality under changing climate and emissions scenarios
- Improved capacity for government and stakeholders to plan air quality and health responses
- Increased international visibility and collaboration in emissions research

IP4.02.03: Wood-heaters: developing and testing novel solutions to a persistent problem.

Key Outputs

- Published report on interventions across Mount Barker, Snug, and Armidale
- Implementation of community-driven initiatives (education, behaviour change, heater replacement)
- Demonstration of diverse intervention models across different regions

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Key Outcomes

- Improved community awareness and behaviour change regarding wood smoke pollution
- Strengthened local partnerships and place-based solutions
- Evidence supporting effectiveness of tailored, community-led air quality interventions

IP4.02.04: Evaluation of interventions to reduce air pollution in safe havens and use of Low-Cost Sensors to identify areas of concern.

Key Outputs

- *Published report on low-cost sensor networks and air quality interventions*
- *Development of plain English guidance on HEPA filters and indoor air quality*
- *Intervention studies conducted in indoor settings (including schools)*

Key Outcomes

- *Increased awareness and capability to manage indoor air quality*
- *Improved guidance for use of low-cost sensors and filtration technologies*
- By providing comprehensive, plain English guidance and conducting intervention studies, the research team helped address gaps in knowledge and resources related to HEPA filters and air quality management.

IP4.05.05- Methodology for review of ambient air quality standards in Australia

This project commenced in July 2025. As per the research plan outputs and outcomes will be reported in 2026.

IP5 - Waste impact management research (led by CSIRO and MU)

Project IP5.04.01: Metrics, data and indicators for material flow and stocks, waste and emissions to monitor progress of Australia's circular economy transition

Key Outputs

- Harmonised national dataset of state and territory material flow accounts and circularity indicators.
- Analytical framework linking material use to environmental pressures (climate, biodiversity, pollution).
- Tailored data products delivered to government partners, including updates to national circular economy indicators (Measuring What Matters) and state-level datasets (Recycling Victoria, Green Industries SA).
- Contribution to Australia's circular economy knowledge infrastructure for reporting, policy evaluation and benchmarking.
- Dissemination of interim findings at the International Society of Industrial Ecology Conference (Singapore, 2025).

Key Outcomes

- Delivery of tailored data products to government partners, enabling the application of circular economy metrics in policy development and reporting.
- Progress toward a nationally coherent system for monitoring resource efficiency and circular economy performance.
- Enhanced capacity to integrate resource-use data into environmental and sustainability assessments.
- Strengthened evidence base supporting government policy development, reporting and circular economy strategies.
- Outputs will provide both a policy-oriented synthesis and a peer-reviewed methodological contribution to the international industrial ecology literature.

Project IP5.02.03: Governing community-based waste management and resource recovery and circular economy initiatives

Key Outputs:

- National survey report on regional and remote local government circular economy initiatives
- Three in-depth regional LGA case studies
- Validated socio-technical profiling and research design framework
- Formal submissions to the Productivity Commission inquiry (cited in Report No. 107)

Key Outcomes:

- *Evidence base influencing national reform on regional circular economy development*
- Research directly informed national reform through formal submissions to the Productivity Commission inquiry, with findings cited in Report No. 107 and reflected in Recommendation 7.2 on place-based plans and transition brokers.
- *Identification of the need for neutral coordination mechanisms across stakeholders*
- *Increased emphasis on capability building alongside infrastructure investment*
- *Direct policy impact with SCaW Hub research shaping nationally endorsed reform directions*

Project IP5.02.04: Identifying opportunities from waste management and resource recovery and the circular economy for Indigenous communities and businesses

Key Outputs:

- Final project report (December 2025) and project factsheet
- Five yarning sessions with Whadjuk Noongar community to explore waste challenges, identify locally appropriate solutions, and validate findings.
- Five business case studies were documented, showcasing practical circular economy initiatives, including textile reuse, tyre repurposing, container refund schemes, and biochar production.
- Multi-stakeholder engagement across community, government, and industry partners

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Key Outcomes:

- Strengthened evidence base for culturally appropriate, community-led circular economy solutions
- Enhanced cross-sector collaboration between Indigenous communities, government, and industry
- Actionable policy and implementation recommendations for the NESP Sustainable Communities and Waste Hub

IP6 - Safe Circular Economy (led by UNSW)

Project IP6.05 – Community Engagement in a safe circular economy: Scoping opportunities and barriers for participation

This project included the completion of a literature review, drawn from relevant social science scholarship and associated grey literatures, designed to identify existing frameworks and approaches to engaging communities in the transition to a circular economy. Three workshops were also conducted with a range of organisations active in implementing circular economy projects. These workshops were held in Western Sydney, Lake Macquarie and Gippsland.

IP6.05.01-A: CE2: Community Engagement for the Circular Economy Transition

This work commenced in Dec 2025. Outputs and outcomes will be reported in APR 2026.

Short- to medium-term outcomes – quantitative measures

Table A: Quantitative performance measures (short- to medium-term outcomes) Note: For the third year of NESP2 hubs, the reporting period is 1 January 2025 to 31 December 2025.

Unless specified otherwise, the term 'Research-user' refers to Departmental and/or external users.

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
1	Proportion of projects (active or completed in the reporting period) for which there is a research-user actively engaged in the project: a) co-design b) research delivery c) use and research uptake	# co-designed projects / # total projects a) Hub 18 /18 IP1- 2/2 IP2- 3/3 IP3- 1/1 IP4- 5/5 IP5- 3/3 IP6- 2/2 EP-2/2	**Sub Point a)** **IP1-** There are three main projects underway in **IP1.02.01**: Nature connection, Nature based solutions and urban greening, and Indigenous-led research. All of these have been co-designed with DCCEEW research users, achieving research delivery and are impacting policy and practice. There are 2 major projects currently underway as part of the two **IPI.02.02** projects stream, comprising both place-based/Country-centred programs and nationally focussed initiatives. All of these are co-designed with end users, ensure their engagement throughout and support use/uptake of research outputs. **IP2**- All Project co-designed with DCCEEW through regular meetings.

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
		# projects with research delivery / # total projects b) Hub -14/18 IP1- 2/2 IP2- 3/3 IP3- 1/1 IP4- 3/5 IP5- 3/3 IP6-1/2 EP-1/2	**IP3** – has completed all proposed projects between 2021-2025 and DCCEEW is the primary research user for this project. The research plan for RP3/4 was co-designed with our research users at DCCEEW. Meetings are on a regular basis. Findings, data and information are routinely communicated, and input provided by research users to ensure the continuity and relevance of research undertaken in IP3. Our research users are critical for delivery of IP3 research to their internal and external stakeholders. The sampling guidance prepared by IP3 is being circulated for feedback with our research users and their internal and external stakeholders. The sampling guidance is expected to be used when planning sampling events for other complex waste materials not otherwise investigated through IP3 (e.g., biosolids, organic waste). The multiyear project for IP3 is now completed.
		# projects achieving end use / # total projects c) Hub 8/18 IP1- 2/2 IP2- 1/3 IP3- 1/1 IP4- 2/5	**IP4-** co-design of project IP4.02.01 continues to engage and interact with relevant Indigenous researchers and organisations through regular workshops (twice yearly) and through established newsletters circulated by the MRFF Indigenous grant funded team at Menzies School of Health, the ARC funded Healing Country and the HEAL network. The smoke messaging project includes communities in NSW, WA and NT. IP4.02.02 is a cross hub collaboration. IP4.02.03 collaborating with local government to evaluate different interventions to reduce reliance upon wood heaters.

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
		IP5- 1/3 IP6- 0/2 EP-1/2	IP4.05.05 is reviewing the methodology used to update the National Environment Protection Measures (NEPM) Ambient Air Quality Standards. This process has been co-designed with DCCEEW. **IP5**- IP5.02.04- the project team was actively involved with the community and business organisations throughout the co-design, research delivery (validation) and end-user feedback. **IP6** – This includes scoping study project and IP3.05.01-A, total two project reported. **Sub Point b)** **IP4-** IP4.02.02 has published a peer-reviewed manuscript. IP4.02.03 and IP4.02.04 has generated reports. **Sub Point c)** **IP4-** IP4.02.03 has published a progress report on the interventions evaluated in three states. IP4.02.04 HEPA decision tool report and plain English guidance pieces report .
2	Research outputs in the reporting period provided to research-users on time and as identified in the approved research plans: a) total number b) proportion	Total Number a) Hub – 38 IP1- 10	**Sub Point a)** **IP1** – During the reporting period, IP1.02.01 delivered 9 research outputs. Outputs include -01 Report; 04 research papers; 03 presentations; 01

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
		IP2- 7 IP3- 13 IP4- 3 IP5- 4 IP6-0 EP-1 # outputs delivered on time/overall RP2025 expectation b) Hub -38/43 IP1- 11/11 IP2- 07/07 IP3- 13/13 IP4- 6/6 IP5- 0/4 IP6- 0/1 EP-1/1	workshop. IP1.02.02 delivered 01 outputs that includes 01 Presentation on program overview. All outputs are available on Hub's website IP2- During reporting period IP2.02.01 published three research articles, 01 report and 01 factsheet. IP2.02.02 published two reports. All outputs are available on Hub's website. IP3- During reporting period IP3 delivered 02 reports, 02 research articles and 09 factsheets as additional outputs. **IP5-** IP5.04.01 published one research article and generated 03 Datasets **Sub Point b)** **IP2**- All outputs were delivered 3 months within the expected date. **IP3** –All milestones were delivered as planned **IP4** – All four projects delivered the RP20245milestones plus additional outputs. These met the KPI. Emerging project(- EP)- An emerging priority project "Developing a real-world testing protocol for evaluating particulate and greenhouse gas emissions from Australian wood heaters" has published one report and this EP project completed in 2025.

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
3	Proportion of completed research projects that are confirmed to meet the needs of departmental research-users as identified at project co-design stage	# completed projects meeting DCCEEW end-user needs / overall completed research projects IP3- 01/01 IP6.05- 01/01 EP4.01- 01/01	Completed project in 2025. ○ IP3.02.01 ○ EP014.01 **IP6.05**-Scoping study (final report approved by DCCEEW RUs, report publication in 2026)
4	Number of projects that: a) are Indigenous-led b) meet research and management priorities of Indigenous stakeholders c) are Indigenous-led projects that also meet research and management priorities of Indigenous stakeholders.	a) Hub -2 IP1- 0 IP2- 0 IP3- 0 IP4- 0 IP5- 0 IP6-0 EP-1 HIP.04-1 b) Hub -7 IP1- 2 IP2- 1	NOTE: Indigenous-led projects may be a subset of projects with Indigenous involvement. **Sub Point a)** **IP1-** Both IP1 projects have sub-projects/research streams that are Indigenous-led and co-designed to meet the management priorities of Indigenous stakeholders. As per the DCCEEW guidelines in past- IP1 projects have indigenous lead component in them, the projects should be categorised as codesign. HIP.04- This project is stage 2 of the EP-HIP project (EP2.03). HIP.04 did not commence in 2025. **Sub Point b)** **IP3** – The project has a heavy chemical analytical and laboratory-based technical schedule. We consider research and management priorities of

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
		IP3- only indirectly IP4- 1 IP5- 1 IP6-0 EP-1 HIP.04-01 c) Hub -4 IP1- 2 IP2- 0 IP3- 0 IP4- 0 IP5- 0 IP6-0 EP-01 HIP.04-01	Indigenous stakeholders as they arise in Hub meetings. **IP4** – I P4.02.01 This is co-designed with Indigenous researchers and supports an Indigenous post-doctoral fellow and three Indigenous research officers, including an Elder. **IP5**- The IP5.2.04 project was co-designed with Indigenous researchers, communities and businesses. A series of yarning sessions were completed with Aboriginal communities and several business entities during the project. Moreover, the project's findings have been validated through participants' input and feedback.
5	Number of peer-reviewed, NESP-funded publications during the reporting period	11	IP1.02.01 publications have 03 citations in reporting period.

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
			IP2.02.01 publications have 29 citations in reporting period. IP4.02.04 publication has 7 citations in reporting period. IP5.04.01 publication has 8 citations in reporting period.
6	Number of NESP research citations in other researchers' publications during the reporting period	47	IP1.02.01 publications have 03 citations in reporting period. IP2.02.01 publications have 29 citations in reporting period. IP4.02.04 publication has 7 citations in reporting period. IP5.04.01 publication has 8 citations in reporting period.
7	Number of completed NESP products, research publications, datasets and metadata that are discoverable and accessible in accordance with *NESP data and information guidelines* and the funding agreement	38	IP1 – All of the knowledge products produced in 2025 are open access and publicly available. Our survey data is not made publicly available as per our ethics application, but the reports and results will be. **IP2** – All 07 research outputs are available on the Hub website. **IP3** – **0**2 Journal papers; 9 factsheets and one public facing report (sampling guidance update) **IP4** – Publications are open access and available. Reports and guidance tools are available on the Hub website.

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
			IP5- 01 Journal paper and 02 Datasets are publicly available.
8	a) The number of datasets and management tools produced by hub research and made public. b) The number of other datasets and management tools that benefited from hub research and outcomes. Management tools include but are not limited to monitoring systems; web-based decision support systems; environmental management tools for Indigenous communities, waters and land management; plans of management for Indigenous Protected Areas (IPAs), co/jointly managed parks, marine park plans of management, conservation agreements.	a) 4 b) 1	**Sub point a)** **IP1-** IP1.02.01 – the Nature Connection Storytelling project webpage is where we publish (publicly) all the story data: https://thenatureconnectionproject.com.au/. **IP4 -** is still focussed on developing such datasets and tools for public release throughout the life of the Hub. IP4.02.02 has made the dataset available via the publication. The publication was published IP5- IP5.04.01 reported 02 Datasets that are publicly available. **Sub point b)** **IP1-** IP1.02.02- Aqua nullius workshops have supported a workshop report that is publicly accessible as a management tool, and an Aqua nullius water dictionary that is available only to First Nations water practitioners and leaders within the IP!.02 network. A strategic plan to support an Anangu Kapi plan for Uluru Kata Tjuta National park has also been established from hu research outcomes but is not publicly available.

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
			IP3- The datasets generated in this project are not publicly discoverable but meet data and information standards as required by the Hub and research users' needs. Datasets and information generated under IP3 have been used as inputs to the ARChiE database that is being developed by DCCEEW. **IP4 -** is focussed on developing such datasets and tools for public release throughout the life of the Hub.
9	a) Number (full-time equivalent) during the reporting period of PhD students b) post-doc and early-career researchers c) mid-career researchers d) Indigenous researchers e) individual volunteers (total) f) individual Indigenous volunteers (total) g) Indigenous sub-contractors	Hub – 33.13 FTE a) 8.73 b) 11.05 c) 4.6 d) 4.3 e) 2 f) 2.05 g) 0.4	
10	Number of knowledge-sharing and communication events and activities held or shared: a) with on-ground managers (general) b) jointly with Indigenous researchers and Traditional Custodians c) that are Indigenous-led	Hub - 38 a) 22 b) 4 c) 12	On-ground managers are defined as working in a place where practical work is done to manage Country or an environmental or climate change issue; that is, where things are actually happening on-ground (not at a distance or in theoretical manner). **Sub Point a)**

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
			IP1- IP1.02.01 – Our 'A Nature Connected Future' two-day workshop included on-ground managers . **IP1.02.02-** 5 workshops kapi taskforce workshops were held at UKNP throughout 2025. **IP4** – IP4.02.03 is working with three government departments to co-design interventions to reduce wood heater emissions. IP4.05.05 has met with all state and territory EPA's and Dept of Health representatives. They have also met with the Air Quality Working Group for enHealth, Australian Centre for Disease Control and Dept of Environment, Energy and Climate Action (Victoria). IP5- 02.04 has completed a validation session with the community members through Champion Centre as part of knowledge sharing and communication. **Sub point b)** **IP1.02.02-** a water camp and Aquanulius workshops were held in 2025 with Indigenous researchers and Traditional Custodians. **IP2-** Rubbish on the Shore Think Tank event **IP4** – IP4.02.01 have met with Indigenous collaborators twice in person to discuss progress of yarning circles. **Sub point c)** IP1: IP1.02.01 – we hosted five workshops for Indigenous-led projects: three with Tasmanian Aboriginal people (via partner organisation

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
			MTWAC) and two with the Anangu community of Uluru (note that these workshops all included on-ground managers as well). IP1.02.02- 7 indigenous led scoping panel, water camp and Aquanulius workshops were held in 2025. 5 Kapi taskforce workshops were run which are Anangu led with non-Anangu partners and researchers.
11	Proportion of hub staff and researchers who have completed: a) Indigenous cultural capability training b) Indigenous cultural and intellectual property training c) both Indigenous cultural capability training and Indigenous cultural and intellectual property training	a) 37/40 b) 16 / 40 c) 20/ 40	All hub members have undertaken cultural capability training through Your Mob. Few new joinings completed the training in 2026. Any additional training such as ICIP training is at the discretion of IP leads. All IPs are informed when training is offered each year.
12	Proportion of hub projects overall that fall within the categories of the Three-category approach: a) Category 1: Indigenous led b) Category 2: Co-design c) Category 3: Communicate	a) 2 /19 b) 04 / 19 c) 13 /19	**Sub point a)** Category 1: 01 (EP2.03 project), HIP.04-01 **Sub point b)** Category2: IP1=02, IP2=01, IP5=01 **Sub point c)** Category 3: IP2=02, IP3= 01, IP4=05 IP5 = 02, IP6=02, EP04.01=01
13	Proportion of hub projects that have been developed in consultation with the hub Indigenous facilitator or the Indigenous Facilitation Network	6 / 18	Projects are in IP1, IP2, IP4, IP5 and EP2.03

No.	Performance measure	Result for reporting period (numerical only)	Explanation, if any
14	Number of guidelines about best-practice that the hub has produced or co-produced in the reporting period, for: a) knowledge brokering b) Indigenous partnerships and products (including design of flagship engagement activities c) environment and climate management within the scope of the hub's research	a) 0 b) 1 c) 2	**Sub point b)** Watercamp 25 report for IP1.02.02 **Sub point c)** **IP1**- IP1.02.02- WS&LC I Regional and Remote Aus Phase One report. **IP3 -** Updated Sampling Guidance for complex waste materials and associated factsheet on Hub website. Previously leaching and ecotoxicology methods/guidance. Publications and other outputs as identified in product register.

Longer-term outcomes – qualitative measures

This is the fourth year of operation for the Hub and the second year where research continued to be implemented. The longer-term outcomes have been identified and are being realised. The Hub is on an impact pathway that will progress as the research matures over the life of the Hub, towards medium to longer term outcomes for our key stakeholders, namely governments, industry, community, including Indigenous communities. Many outcomes are expected and summarised below.

For IP1.02.01, This project expected longer-term outcomes include:

Our longer-term outcomes focus on policy impact, community benefits, environmental outcomes, and strengthened partnerships. We are actively co-designing our research and outputs with the team responsible for Australia's Strategy for Nature 2019–2030 and collaborating with the Nature Positive Monitoring, Evaluation and Reporting section to ensure our research informs national Nature Positive efforts. Our urban greening and storytelling initiatives support more inclusive environmental decision-making, enhancing liveability, resilience, biodiversity, and wellbeing. Survey findings demonstrate strong positive relationships between nature connection, wellbeing, and pro-environmental behaviour, highlighting potential economic benefits through improved mental health and more effective green infrastructure management. Environmentally, strengthening nature connection supports greater care for and stewardship of natural systems. We continue to deepen partnerships with DCCEEW and other research users, including Indigenous communities, evidenced by cross-departmental and community collaboration, strong engagement at our A Nature Connected Future workshop, our co-produced outputs and submission of several grants to expand and extend this work.

For **IP1.02.02**: The long-term outcomes of this work focus on transformations to water governance systems and institutions through building enduring community-research–policy partnerships, and centring First Nations leadership.

Stream One advances a systems-strengthening model to water security and liveability in regional and remote Australia, co-design in prior phases of reseraach with ethe nd user network. This collectively fosters scalable, place-based mechanisms that connect science, community capability, and policy reform in ways that are sensitive to the unique circumstances of regional and remote communities, and service providers.

In Stream Two, an ongoing First Nations–led practitioner forum in the WaterCamp, and ongoing Aquanulius and western water workshops will contribute to priorities for Indigenous leadership, knowledge integration, and ethical research practice. This network of practice and broader First Nations governance framework embed "Nothing about us without us" principles in the ongoing delivery and impact of this work, strengthening long-term oversight across environmental research.

For IP2.02.01: The *Understanding Microplastics* research contributes to long-term improvements in how microplastic pollution is detected, monitored, and managed across Australia. By generating new scientific knowledge on the sources, behaviour, and environmental pathways of microplastics, the project strengthens the evidence base needed to design effective mitigation strategies and environmental policies. This work helps governments, regulators, and environmental managers better understand where microplastics originate, how they move through ecosystems, and which interventions are most likely to reduce their impacts. Over time, these insights support more informed decision-making, improved environmental monitoring programs, and the development of targeted management actions to limit microplastic pollution across terrestrial, freshwater, and marine environments.

A key long-term outcome of the research is the improved capacity to identify and quantify emerging sources of microplastics, including artificial turf, tyre and road wear particles, microplastics from consumer plastic products. By examining the generation mechanisms, environmental pathways, and analytical methods for detecting these particles, the research helps build a clearer understanding of one of the largest contributors to global microplastic contamination. This knowledge supports the development of improved transport, urban runoff, and environmental management strategies aimed at reducing the release and environmental accumulation of microplastic pollutants.

The project also contributes to advancing analytical capabilities for microplastic and nanoplastic detection. Research outputs have consolidated and evaluated state-of-the-art analytical tools—including spectroscopic, microscopic, and mass-based techniques—to enable more reliable identification and characterisation of microplastics across different environmental media. Strengthening analytical frameworks improves the quality, comparability, and reliability of environmental monitoring data, which is essential for long-term risk assessment and regulatory decision-making related to plastic pollution.

An important longer-term outcome is the contribution to the development and adoption of harmonised analytical standards for microplastic monitoring. The project's work has informed internationally aligned methodologies, including the application of **AS ISO standards for microplastic characterisation and monitoring**, which provide consistent protocols for sampling, preparation, and analysis of microplastics in environmental samples. These standards improve the comparability of results across studies, laboratories, and jurisdictions, enabling the creation of reliable national and international datasets on microplastic pollution.

The implementation of these standards strengthens long-term environmental governance by supporting regulators, researchers, and industry in adopting validated and reproducible methods for microplastic monitoring. This contributes to the development of more robust environmental reporting frameworks, improved regulatory oversight of pollution sources, and more effective strategies to manage plastic contamination in water, soil, and air. Over time, the integration of standardised analytical methods and improved scientific understanding is expected to enhance Australia's ability to assess environmental risks, track pollution trends, and implement coordinated actions to reduce microplastic pollution and its impacts on ecosystems and human health.

For IP2.02.02: This project is driving long-term change by supporting the transition to scalable, region-specific recycling solutions for remote and regional communities. Building on earlier work on waste demographics, technology assessments, and circular economy frameworks, the project contributes to the development of waste management systems that are better tailored to the social, economic, and logistical realities of regional Australia. By identifying practical recycling technologies and demonstrating their application through case studies, the research helps ensure that future waste management strategies are sustainable, locally appropriate, and economically viable.

Through the development of technical roadmaps, technology assessments, and demonstration projects, the IP2.02.02 project contributes valuable evidence to inform policy development and infrastructure planning. These outputs support councils, government agencies, and industry partners in identifying practical approaches to resource recovery and recycling in areas where conventional large-scale waste management systems may not be feasible. The co-design of circular economy frameworks with regional stakeholders further strengthens the relevance of the research by ensuring that proposed solutions reflect local conditions, priorities, and community needs.

Over the longer term, the project contributes to building a strong knowledge base of fit-for-purpose recycling technologies that can be implemented in decentralised settings. This supports increased regional self-sufficiency in waste management, reduces reliance on transporting waste long distances

to urban processing facilities, and promotes the integration of circular economy principles across regional industries and communities. As these technologies and frameworks are adopted, the research is expected to contribute to improved waste processing capabilities, the emergence of new regional business opportunities in resource recovery and remanufacturing, and stronger environmental protections across remote and regional Australia.

For IP2.05.03: This new project project strengthens Australia's long-term capability in advanced solar panel recycling by establishing the technical foundation for a national PV recycling roadmap. Through stakeholder engagement and global technology assessment, the project supports a shift from low-recovery practices to high-value material recovery aligned with circular economy goals.

By identifying scalable pathways for recovering silver, silicon, and other critical materials, the research informs future policy, product stewardship schemes, and infrastructure planning. In the longer term, the project contributes to increased resource recovery, reduced landfill reliance, lower greenhouse gas emissions, and improved resilience of Australia's clean energy supply chains.

In 2025, **IP3** continued to build and affirm the foundation for waste and chemical risk assessment in Australia though the establishment of guidance documents, methodology statements, decision making frameworks, data and a broader network of industry and government agencies.

In addition to the sampling guidance and leaching methodology prepared in 2023 (and updated), a framework for ecotoxicology assessments was developed in 2024 and these guidance documents form the basis of tools available to research users to design and implement high quality assessments for chemicals in waste and products with recycled content. These materials are designed to be transferrable and applicable to materials that are not the core focus of the IP3 research plans.

IP3 continued to build the foundation for a nationally consistent approach to waste and chemical risk assessment within the circular economy, though the establishment of guidance documents, methodology statements, decision making frameworks, novel method development, and engagement with a broader network of industry and government agencies.

All **IP4** projects have established key priorities and actions to support their research.

For IP4.02.01- In the long-term, the air quality and Indigenous health studies that have been leveraged with support from the Indigenous Research Grant will provide air quality and health findings for Indigenous populations. The projects are conducting yarning circles to support the development of appropriate messaging and policies to protect this populations' health from landscape smoke events. The longer-term goals are to ensure that there is capability and capacity within Indigenous communities to undertake research activities that will benefit their health and environment. This foundational work will also ensure that any future activities are co-designed with Indigenous partners.

*For **IP4.02.02***- The air quality models being generated using a range of climate change scenarios will support the selection of appropriate climate change mitigation policies. By demonstrating the benefits of applying a range of climate change policies it will be possible to assess scenarios that will improve air quality. These will support the Department in selecting actions to help meet future air quality targets.

*For **IP4.02.03*** - The team have been able to evaluate a range of interventions that will provide information on the economic and health benefits of implementing different mitigations to reduce the impacts of wood heater emissions. These are the foundations for rolling out any national policies around wood heater change out programs. Funding has been obtained to conduct a wood heater change out in Armidale, NSW. This is supported by local government and Asthma Australia. This will provide the evidence and methodology to conduct a larger scale roll out if national funding becomes available. In partnership with Mt Barker, SA local government and the Snug, TAS community, behaviour change interventions have been evaluated. Findings will support broader application of relevant mitigation methods to reduce wood heater emissions.

For IP4.02.04- Results from the testing of a range of public buildings to evaluate and test their suitability as cleaner air shelters will provide local governments with survey tools which can be used to select appropriate buildings for use as cleaner air shelters during extreme smoke episodes.

For IP4.05.05- By updating the NEPM Ambient air quality methodology it will provide the basis for the complete review of Australia's air quality regulations. The methodology review has been conducted with guidance and input from all states and territories with the intent that future regulations will manage any challenges that they face.

IP5 will realise several longer-term outcomes. For **IP5.04.01-** The knowledge base developed through this project provides a robust foundation for identifying opportunities and priorities for Australia's circular economy transition and for tracking progress over time. By establishing consistent metrics on material use, waste generation, resource recovery and circularity performance across jurisdictions, the project enables a clearer understanding of where material use is most intensive, where resource recovery can be strengthened, and where policy interventions may deliver the greatest environmental and economic benefits.

The datasets and indicators generated by the project also support the measurement and evaluation of circular economy progress in Australia, allowing governments and stakeholders to assess trends in material productivity, circularity rates and material footprints at national and subnational levels. This provides an important basis for benchmarking performance, identifying gaps and informing adaptive policy responses.

Importantly, the project outputs contribute to all stages of the policy cycle. The evidence base helps to frame the problem by quantifying the scale and structure of Australia's material use and associated environmental pressures. It supports policy formulation by identifying priority sectors and material flows where circular strategies can have the greatest impact. The indicators and datasets also assist policy implementation, providing operational metrics that can be used by governments and agencies in strategy development and program design. Finally, the data infrastructure enables monitoring and evaluation, allowing progress towards circular economy objectives to be tracked over time and policies to be assessed and refined based on empirical evidence.

For IP5.02.03- By embedding regional evidence in a major national reform process, the project has strengthened recognition of place-based inequities in Australia's circular transition. The endorsement of transition brokers and locally tailored planning approaches in the Productivity Commission's report creates a pathway for more coordinated regional action, improved collaboration and stronger investment targeting. This contributes to more equitable circular economy outcomes, ensuring

regional and remote communities are not left behind. It also demonstrates how applied research can inform federal policy design at scale, linking local government realities to systemic reform.

For IP5.02.04- Longer-term outcomes reflect systemic and social transformation. These include evidence of Indigenous-led governance of waste and resource systems, increased decision-making authority in regional planning, and community narratives that demonstrate ownership and empowerment (particularly in community empowerment and self-determination). A transition from linear disposal to resource recovery systems, embedded circular procurement, and cross-sector integration signals systemic circular economy change. Cultural integration is reflected in the incorporation of Indigenous knowledge into waste practices, alignment with stewardship values, and intergenerational knowledge transfer. Broader impacts include improved community wellbeing, enhanced environmental health, and strengthened resilience to climate, economic, and social shocks.

For IP6.05-The outcomes of Project include several critical insights, significant for long-term circular economy project implementation and planning:

- *Community Engagement is Foundational*: Effective circular economy transitions depend on empowering citizens and fostering collaboration. Engagement must move beyond information provision to build trust, social licence, and shared ownership of circular economy initiatives;
- *Place-Based Approaches Enhance Effectiveness*: Tailoring circular economy initiatives to local contexts—recognising regional capacities, constraints, and cultural dynamics—supports more relevant and resilient outcomes.
- *Repair and Reuse Practices are Central*: Community-led repair initiatives and social enterprises are vital components of the circular economy transition. These practices not only extend product lifecycles but also foster social connection and local economic development.
- *Equity and Justice Must Be Prioritised*: Procedural fairness, distributive justice, and restorative approaches are essential to ensure inclusive participation and avoid exacerbating existing inequalities.
- *Leadership and Collaboration are Emerging*: Innovative engagement practices are developing across sectors, but expertise remains fragmented. There is a need for cross-sectoral learning and institutional capacity building.

These findings, underpin ongoing research being undertaken within IP6, and will inform long term thinking relevant to the transition to a circular economy and implementation of national circular economy policy goals.

NESP impact stories

NESP impact stories are provided at Attachment B. These stories showcase the contribution of NESP -funded research beyond contributions to academia, including to the environment, the economy, society, culture, public policy and quality of life. Impact stories provided are aligned with our key themes for the Hub.

Collaboration and partnerships

NESP encourages a collaborative, multi-disciplinary approach to environmental and climate research. Key to the success of the hub will be the capacity to foster partnerships across hubs and with a wide range of decision-makers across the Australian community, including Indigenous communities, to achieve positive environmental, social and economic outcomes.

Co-design is a fundamental pillar in how the SCaW Hub engages in research, from planning and design through to implementation. With the breath of issues covered by the Hub comes the need to engage with a wide range of stakeholders and listen and respond to their needs, working closely with our partners to ensure research-user expectations are met and the impact sought, achieved, as shown in Figure 6.

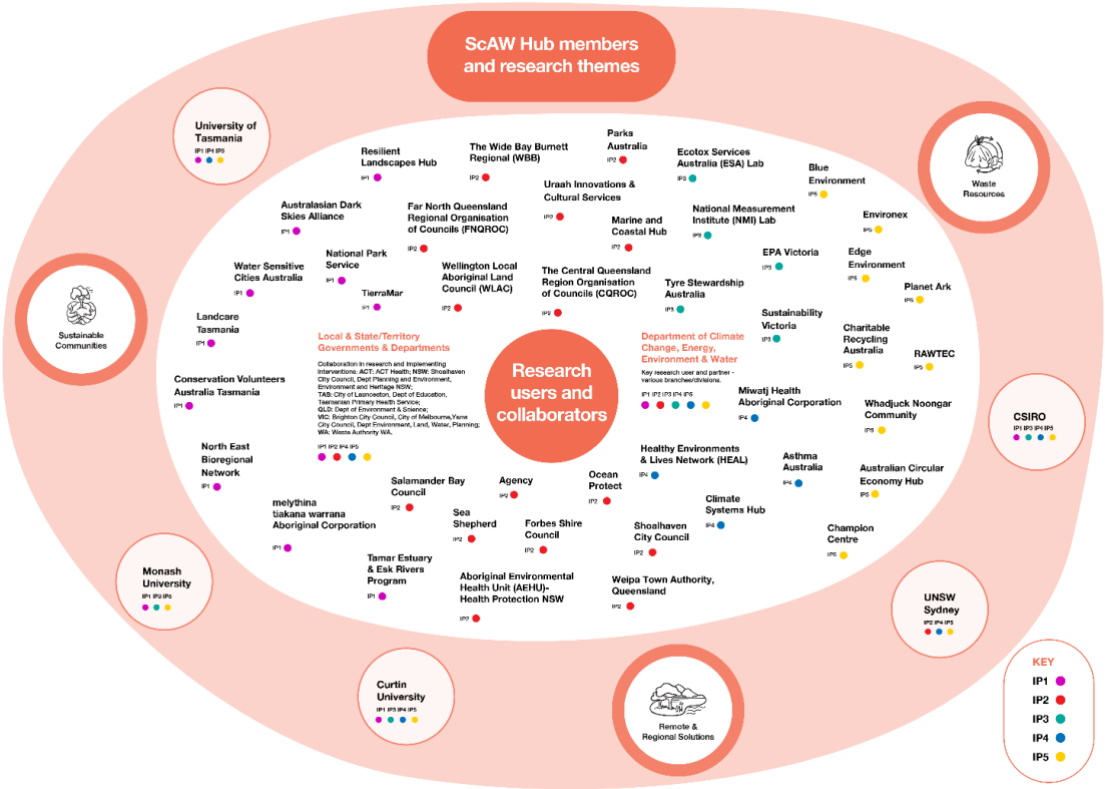

Figure 6: The SCaW Hub Stakeholder Network, which demonstrates the fluid line between hub collaborators and research-users

Table 1 summarises cross-hub collaborations occurred for each IP in their respective projects.

Scaw Hub Project Details	Cross Hub Project Details	Cross Hub Linkage Activities
IP1.02.01: Nature connection **Project leader**: Emily Flies, UTAS	**Project:** 3.17. Improving environmental outcomes on conserved and managed lands **Cross Hub:** Resilient Landscapes **Project:** 4.4: An Indigenous-led approach to advance health and wellbeing of Tebrakunna Country, Coastal Plains nation, North-east Tasmania **Cross Hub:** Marine and Coastal Hub **Project:** 2.5: Regional climate change guidance for local action and proposed project 4.3: Conservation Adapt' - a cross hub biodiversity adaptation knowledge platform **Cross Hub:** Climate Systems Hub	• Stream 1: Not an official cross-Hub stream, though there is and will continue to be collaboration with RL Hub on this stream. • Stream 3: Is an official cross-Hub, Indigenous-led project which will have co-investment of funds across all four Hubs, with a collaborative, cross-Hub codesign process led by our indigenous partners (MTWAC) with data sharing as appropriate.
IP4.02.02: How will a changing climate and emissions reduction measures impact sources of air pollution and secondary pollutant formation? **Project Leader:** Kathryn Emmerson, CSIRO	**Project:** 2.5. Regional climate change guidance for local action **Cross Hub:** Climate Systems	• Project 2.5 is providing IP4.02.02 with the climate change modelling for 2048 -2052 so that IP4.02.02 can calculate changes in air quality. • These data will come from 4 GCMs under 2 SSPs (8 simulations in total for 5 years each)

Table 1: Cross hub collaborations with linkage activities

The SCaW Hub conducts annual reviews of its key strategies. Strategies are updated by each strategy leader and shared with other strategy leads for comment. All updated strategies are reviewed by the Hub Communication Manager for consistency and accuracy. Updated strategies are reviewed by the Operations Manager, Hub Leader and Steering Committee Chair and then sent to the Department for approval. A review of the strategies took place in early 2023 and resulted in very small modifications to the strategies. As a result, all strategies are progressing well, in line with workplans. As the need for cross-hub activities increases the work of strategy leads will expand to work with other hubs to create cross-hub products.

Knowledge brokering

Knowledge brokering continued to play a central role in the Sustainable Communities and Waste Hub throughout 2025, ensuring that research activities remained aligned with the needs of diverse research-user groups and that Hub outputs were translated into accessible, practical, and policy-relevant forms. Guided by the Hub's Knowledge Brokering Strategy and ongoing engagement with the Department, the Knowledge Brokering function focused on enhancing research usability, strengthening internal and external collaboration, and improving pathways for impact.

A key priority for 2025 was the development of **concise, distilled knowledge products** designed to support rapid understanding and uptake of research findings. These included short-format briefs, summary documents, and visual communication materials that presented complex technical and scientific insights in clear, actionable formats. This targeted approach improved accessibility for a

wide spectrum of research-users, including community organisations, practitioners, local governments, industry partners, and policy teams within the Department. By producing materials tailored to the needs and capacities of different user groups, the Hub contributed to more equitable and effective dissemination of knowledge across its stakeholder network.

To further strengthen collaboration and coordination across the Hub, the Knowledge Broker and communication manager led the planning and delivery of the **2025 Hub Day**, which brought together researchers from all SCaW Hub projects for a dedicated day of interaction and collective reflection. This event facilitated cross-project learning, identification of shared challenges, integration of impact priorities, and alignment of research activities with program-level objectives. Hub Day has become an important mechanism to foster cohesion across the Hub and to reinforce a unified approach to research delivery and impact translation.

Throughout the year, the Knowledge Broker continued to support **co-design processes** by working closely with project teams and Department representatives to refine research questions, incorporate research-user priorities, and align milestones with the Department's expectations for applicability and usability. This work contributed to the creation of research plans that were both scientifically robust and responsive to operational, policy, and community needs.

The Knowledge Brokering function also prioritised **knowledge translation activities** aimed at expanding the reach and relevance of Hub outputs. Engagement sessions were conducted with a range of external research-user groups, including community organisations, practitioners, local governments, and potential end-users of Hub-generated knowledge. These sessions facilitated two-way exchange, enabling researchers to better understand context-specific needs while providing stakeholders with clearer pathways for applying Hub findings. Such activities strengthened the Hub's capacity to contribute meaningfully to place-based and practice-oriented outcomes.

Cross-hub collaboration remained an important component of the 2025 program. Regular engagement with Knowledge Brokers from other NESP hubs supported alignment of approaches, sharing of learnings, and increased consistency in how knowledge products are developed and delivered across the broader NESP network. This collaboration contributed to coordinated impact and avoided duplication of effort.

Internally, the Knowledge Broker supported several strategic areas within the Hub, including Indigenous Partnerships and Data Wrangling, ensuring that communication approaches remained culturally respectful, data-aligned, and accessible. By working across leadership portfolios, the Knowledge Broker helped ensure cohesive messaging, clear articulation of impact pathways, and robust engagement with research users, research participants, and wider publics.

Overall, the Knowledge Brokering activities undertaken in 2025 strengthened the Hub's ability to translate research into meaningful outcomes, enhanced collaboration within the Hub and across NESP, and improved the accessibility and usability of Hub knowledge products for a broad range of stakeholders. These efforts contributed to a more integrated, engaged, and impact-focused research program.

Communication

The Hub's communication strategy guides the communication function in conjunction with the Hub's research plans and the strategies of other hub functions. The role of the communications function is to promote and protect the activities and reputation of the Hub and its partners, while supporting the overall objectives and vision of NESP.

The Hub's Communication and Media Manager has worked closely with the Hub leadership team on various levels of stakeholder engagement, including with the Department, the Hub's Steering Committee and its Chair, and all research areas across the Hub. This includes regular and targeted engagement with researchers and collaborating with the other strategy leads.

The Communications Workplan of activities delivers the strategy and 2025 key activities included:

Branding / templates / materials to support IP areas	• Commissioned thematic illustration graphics to bridge the gap of the lack of visual material available from the Hub.
Website	• Major website update delivered, co-designed with project teams and key end users, to improve website accessibility, clarity and usability of the website and project pages. This has garnered widespread positive feedback from internal and external stakeholders. • Implemented new strategy update to co-design a website news article and LinkedIn post for every project output to improve engagement and outreach. • Conducted two website audits to check function of the website and fix errors. • After the home page, the top three visited web pages of 2024 were: 1. Impact Priority 2 - Plastic and waste materials 2. Impact Priority 3 - Hazardous waste and pollutants | Sustainable Communities and Waste Hub 3. Impact Priority 1 - Sustainable people-environment interactions | Sustainable Communities and Waste Hub • Top referrers to the website are: 1. DCCEEW website 2. Typed/Bookmarked 3. Tyre Stewardship Australia website 4. Organic search 5. LinkedIn • Divided outputs into sub-projects on IP webpages to improve accessibility. • Co-designed and delivered three website landing pages to describe the Hub's three thematic research areas and link to relevant research. • Consolidated and improved long standing webpages to improve useability and findability. • Populated scientific papers page, which was previously blank. • Created separate podcasts page to house audio engagements.
News	• Wrote and published 49 news items on website, an increase of +29 from 2024.
Engagement	• The communications and engagement manager designed a "research user journey" framework and a suite of planning products to help researchers better design outputs and synthesis holistically. This was also shared with DCCEEW and other Hubs

	• The Indigenous Facilitator and the Communications manager co-designed an Indigenous audience focused communications guide for researchers to meet the Category 3: Communicate selection of the NESP three category approach This was also shared with DCCEEW and other Hubs • Community events: Hub staff delivered 31 presentations in 2025, promoting the Hub and its work. • The Hub held its first "Hub Day" with internal researchers, key stakeholders and some Departmental staff in Feb 2025.
Media	• SCaW Hub staff and research were mentioned in the media 11 times in 2025.
Videos	Six new videos published onto the website: • Improving indoor air quality in schools with low-cost sensors | Sustainable Communities and Waste Hub • Enabling Sustainability Through Technology: Hub leader takes part in CNBC panel | Sustainable Communities and Waste Hub • Watch in full: Hub leader Veena Sahajwalla's AO addresses the National Press Club | Sustainable Communities and Waste Hub • Hub leader encourages Australians to consider end of life of purchases | Sustainable Communities and Waste Hub • Planet Shapers: Australia's Used Tyres with Tyre Stewardship Australia | Sustainable Communities and Waste Hub • The Hub is supporting the development of a circular economy | Sustainable Communities and Waste Hub

Social media handles (LinkedIn)	• Wrote and published posts for all website news stories and outputs published.
	• Resharing past products and outputs on social media to continue to drive engagement.
	• Significant LinkedIn engagement:
	  ○ Posts: 81 (2024: 69)
	  ○ Impressions: 27, 268 (2024: 15,486)
	  ○ Followers: 2,131 (2024: 1,742)
	• Consolidated social media profiles due to underperformance on X.

Newsletters	• Provided regular NESP news newsletter content for the Department. • Began internal quarterly communications overview newsletter with key website and LinkedIn metrics and top performing content
Knowledge product support and management of approval process with NESP	• Updated publishing workflows to now include the new NESP portal. • Audited and corrected SCaW's projects on the NESP portal.
Internal communications	• Continued quarterly whole-of-hub communications meetings • Reviewed and proofread Hub communication products • Delivered LinkedIn training for researchers to encourage them to engage with the platform to promote and engage audiences with their research.

Indigenous partnerships

The Hub's Indigenous Partnerships Strategy, a live document, was endorsed by the Hub's Steering Committee and approved by the Department on 28 September 2021. It was developed by the Senior Indigenous Facilitator in consultation with the Hub leadership team and reviewed with minor administrative updates made in November 2022. The Hub has continued to deliver key activities against the Indigenous Partnerships Strategy in 2025 including:

Right to Indigenous cultural and intellectual property: Post attendance of True Tracks training, clearer evidence of the management and consideration of Indigenous Cultural and Intellectual Property (ICIP) has been sighted in research publications and in the data management provisions for proposed projects. Further, the Hub have actively reported to the Indigenous Knowledge Broker requests about identifying which projects contain ICIP. Conversations and considerations about ICIP in research discussions now seem to be normalised within the SCaW Hub.

Co-created research: Cultural capabilities have increased, and the Hub in some areas is seeing more effective engagement with Indigenous populations.

Indigenous partnership approach: The three-category approach was revised and has been implemented for the hub. The Senior Indigenous Facilitator has worked together with the Indigenous Knowledge Brokers and other Hub Facilitators as part of the Indigenous Facilitation Network to fine tune the content as well as communicate the changes outwardly. Additionally, the Senior Indigenous Facilitator promoted training sessions available to all hub members in 2025 to ensure understandings of the changes to the Three Category Approach.

Facilitation and governance: The Hub remains actively engaged in the Indigenous Facilitation Network (IFN) through the Senior Indigenous Facilitator. Other key activities undertaken by the Senior Indigenous Facilitator included:

- Intervention and leadership for projects requiring additional cultural guidance and support.
- Development of a communications guide in collaboration with SCaW Hub Communications to ensure the hub address the communicate category in the revised Three Category Approach.
- Review and edits of DCCEEW guides developed by the Indigenous Knowledge Brokers.
- Continued participation in Indigenous Facilitation Network meetings, and monthly catch ups.
- Active involvement in the application of the updated three category approach.
- Ongoing work with the Indigenous Facilitation Network for the revised three category approach roll out and developing a Cultural Security Framework for NESP.
- Provided cultural guidance and edits to outward facing communications regarding the research activities of the Hub.

Data management

In 2025, the Data Management team of the Sustainable Communities and Waste (SCaW) Hub continued to strengthen research data management, improve data discoverability, and support researchers in adopting best practices for publishing and describing their datasets. The role focused on developing methodologies and guidance that assist researchers in managing data responsibly,

identifying opportunities for collaboration across projects and data products, and creating systems that make SCaW Hub research outputs easier to find and reuse.

A key activity during the year involved maintaining regular engagement with research teams and Impact Priority (IP) leaders through quarterly information collection. These communications gathered information on datasets expected to be published by sub-projects, including the number of datasets, expected publication timelines, and the repositories that would be used. This process allowed the Hub to track upcoming data outputs and ensure that datasets are prepared and deposited in accordance with contractual requirements.

The Data Wrangler also continued to support compliance with the National Environmental Science Program (NESP) data policy, which requires datasets to be made publicly available within 12 months of the publication of associated research outputs. New researchers and collaborators were provided guidance on selecting appropriate institutional repositories, such as university library platforms, and on applying the FAIR data principles to ensure datasets are 'Findable, Accessible, Interoperable, and Reusable'. This included advice on metadata standards, persistent identifiers such as DOIs, ORCIDs and ROR identifiers, appropriate licensing (e.g., CC-BY), and preferred open formats for data publication. Where datasets could not be openly shared due to cultural, intellectual property, or sensitivity considerations, researchers were encouraged to publish descriptive metadata and clearly communicate access restrictions and contact details. Support was also provided for specialised data considerations, including Indigenous data governance. Researchers working with Indigenous knowledge or culturally sensitive information were directed to appropriate repositories such as the Aboriginal and Torres Strait Islander Data Archive (ATSIDA) and provided guidance on incorporating Indigenous Cultural and Intellectual Property (ICIP) considerations into their data management practices.

Another major activity during 2025 was the continued implementation and updating of Research Activity Identifiers (RAiDs) for Hub projects. RAiDs act as persistent identifiers linking research activities, outputs, datasets, and organisations, ensuring that SCaW Hub projects can be more easily discovered and connected within national research infrastructure. In addition to repository-based publishing, the Hub also launched a National Environmental Science Program (NESP) research portal on the BioCollect platform in 2025. This portal provides a centralised location where NESP projects and associated activities can be viewed and explored. BioCollect, developed by the Atlas of Living Australia, is a data collection and management system designed to support scientists and environmental researchers in recording, managing and sharing ecological and natural resource management data. The NESP Research portal enables Hub projects to present project information, monitoring activities, and associated resources in a structured and accessible environment, improving transparency and providing stakeholders with a clearer overview of ongoing research activities.

In parallel, the Hub continued its collaboration with the Australian Research Data Commons (ARDC) to develop the Sustainable Communities and Waste Hub Domain Data Portal within Research Data Australia. This initiative aims to bring together distributed datasets from across Hub institutions into a single discoverable platform supported by consistent metadata and persistent identifiers. By improving the visibility and accessibility of Hub datasets, the portal will help ensure that research outputs are FAIR and can better support policy, environmental management, and future research.

Looking ahead to the final year of the Hub, key priorities include continuing to track upcoming dataset publications, ensuring compliance with NESP data requirements, updating RAiDs for all active projects, completing the remaining ARDC contractual deliverables, and finalising a comprehensive guidance document to help researchers deposit datasets and integrate metadata across institutional repositories. Outreach activities, including researcher guidance sessions or webinars, will further support engagement with the new data infrastructure and promote consistent adoption of good data management practices across the Hub.

Hub-level risk management

All risks identified in the Hub's risk management plan are being actively managed.

A risk management framework is in place for the Hub, having been approved by the Steering Committee and the Department as a part of the RP 2021, RP2022, RP2023, RP2024 and RP2025 signoff. Risks are identified, managed and reviewed on a monthly basis by the Hub Host leadership team. Risks can be identified through discussions with Node and Impact Priority leads or through notification from the Department. Where new risks are identified appropriate mitigation measures are developed and communicated to Node and Impact Priority leads as required. Updates are also provided to the Hub's Steering Committee and the Department as required.