

IP5.02: Waste Impact Management Initiative (led by CSIRO & Monash)

For RP2, Waste Impact Management Initiative research will implement activities that were initiated through the engagement and the co-design process under RP1. Through engagement with the Department and other research-users three key research priorities for Impact Initiative research were identified:

- to provide information, data and management tools
- to inform design for repurposing waste and circular economy
- to inform the institutional and governance needs of community-based resource recovery and circular economy initiatives and to work on waste management and resource recovery opportunities for Indigenous communities
- to create an evidence base for decision makers based on novel science contributions and informing solutions for problems of national significance.

To address these issues, IP5 proposes four multiyear projects. In addition, a cross-cutting initiative for an integrated project has been proposed and will be scoped during RP2. Funding for project IP5.02.05 is not yet included in the budget and requires further cross-hub planning and decision-making.

The waste impact management research will deliver a series of knowledge products that include metrics and data on material flows, waste, emissions, resource recovery and circular economy for decision makers in federal, state and local governments and for businesses in the waste management and resource recovery sector; it will identify novel approaches for specific resource recovery problems achieved through novel science and engineering contributions and amenable to be put to national and local use; and it will foster a science-based understanding of the institutional and governance arrangements to enable regional community based circular economy initiatives and networks that encourage value add to materials to occur many times over resulting in economic and employment benefits. The science informs business decision and communal approaches that result in reduce primary material requirements, increased secondary content in products and infrastructure, and workable cycles arrangements leading to tangible reduction in material use, waste to landfill and emission and also reducing the environmental impacts (climate change, natural resource depletion, biodiversity loss, toxic waste issues) that are related to natural resource use creating significant and measurable environmental benefits.

Project	Milestones - Outputs	Timeline (from Jul 2022)	Due date	Responsible person
IP5.02.04-D1	A list of key Aboriginal stakeholder groups identified for co-design process and further engagement		Sep-22	Heinz Schandl / Timothy Baynes / Yingying Lu
	Culturally appropriate community presentations developed			Heinz Schandl / Timothy Baynes / Yingying Lu
IP5.02.04-D1	Development of a shortlist of two locations for further research and analysis of local issues in a scoping and co-design process		Sep-22	Heinz Schandl / Timothy Baynes / Yingying Lu
IP5.02.01-D1	Comprehensive material flow dataset for the Australian economy including material input and output		Dec-22	Heinz Schandl / Timothy Baynes / Yingying Lu

Project	Milestones - Outputs	Timeline (from Jul 2022)	Due date	Responsible person
IP5.02.01-D2	Dataset and visualisation of the complex material interactions within the Australian economy		Mar-23	Anna Kaksonen / Naomi Boxall / Ka Yu Cheng
IP5.02.01-D3	Australian Circular Economy Gap Report		May-23	Heinz Schandl
IP5.02.02-D1	Report on regulatory and policy settings, environmental impacts of tyre and conveyor belt disposal, material flow and processing capacity analysis for used tyres and conveyor belts in WA and evaluation of market potential for products derived from used tyres and conveyor belts.		May-23	Heinz Schandl / Timothy Baynes / Yingying Lu
IP5.02.03-D1	A report summarising needs and capabilities for three LGAs		May-23	Heinz Schandl / Timothy Baynes / Yingying Lu
IP5.02.03-D2	Presentation of proto-type networked governance model for regional community-led CE activities at a Town Hall event co-convened with the ACE Hub		May-23	Anna Kaksonen / Naomi Boxall / Ka Yu Cheng
IP5.02.03-D3	A register of existing information resources relevant to regional community-led CE activities, detailing type of data and reliability		May-23	Heinz Schandl
IP5.02.04-D2	Report on the identified waste management issues and scope of circular economy practices among Aboriginal communities in Western Australia. Community reports circulated to the participating Aboriginal communities for feedback and suggestions		May-23	Anna Kaksonen / Naomi Boxall / Ka Yu Cheng
IP5.02.04-D2	Report on the stakeholder engagement and codesign outcomes and list of priority research issues for each Hub		May-23	Anna Kaksonen / Naomi Boxall / Ka Yu Cheng
IP5.02.01-D4	Identification of priority material supply chains and sectors for additional analysis		Jun-23	Heinz Schandl
IP5.02.04-D3	Community consultation report on waste management priorities and		Sep-23	Anna Kaksonen / Naomi Boxall / Ka Yu Cheng

Project	Milestones - Outputs	Timeline (from Jul 2022)	Due date	Responsible person
	possible circular economy solutions			
IP5.02.04-D4	Community reports and presentations to the participating Aboriginal communities for feedback and suggestions		Feb-24	Heinz Schandl
IP5.02.02-D2	Report on best practice case studies (from other Australian states/territories or overseas) of tyre and/or conveyor belt recycling that could provide learnings for implementation in WA		May-24	Anna Kaksonen / Naomi Boxall / Ka Yu Cheng
IP5.02.03-D4	A descriptive categorisation of CE needs and capacities of regional and remote LGAs suitable for use by State agencies and DAWE and for aligning with technological solutions identified in IP2.		May-24	Heinz Schandl
IP5.02.03-D5	Submission of a refereed journal article on the development of the networked governance model with publication of a plain English version on the ACE Hub local government web portal		May-24	Heinz Schandl
IP5.02.04-D5	Community resources developed (as required)		May-24	Heinz Schandl
IP5.02.02-D3	Presentation of research findings at a conference, workshop or webinar		Jun-24	Heinz Schandl
IP5.02.03-D6	A report reviewing implementation of the networked governance model in targeted LGAs		May-25	Heinz Schandl
IP5.02.04-D6	Report on the circular economy implementation strategy for urban and rural Indigenous communities		May-25	Heinz Schandl
IP5.01-04	Conference presentation and journal articles		Ongoing	Heinz Schandl