SMI Impact Pathway

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

Impact Statement: Sustainable Minerals Institute

Understand and optimise the role of resources in global sustainability

Participation: Who we need to reach across the various parts of the pathway

Inputs	Activities	Outputs	Outcomes	Impacts
SMI staff; Broader UQ; Funding bodies	Funding bodies; SMI; UQ; Community	Funding bodies	Broader UQ; Funding bodies; Community	Broader UQ; Funding bodies; Community
	2023-2028		2023-2032	
What we invest	**What we do**	**Our deliverables**	**Uptake, adoption, consumption of our work**	**Benefits to business and society**
Staff	Applied Research – externally-sponsored and through competitive grants	Publications	Shorter term (1-3 years)	Long term (8 years +)
Funding • UQ • Industry • Granting bodies	Research Translation/Sprint Research – application of our existing knowledge and capability to resource sector challenges	Reports	SMI seen as leader in sustainable resource activity in Australia and worldwide. SMI is the place of choice for students to study in this area and is the source of choice for holistically trained HDR graduates.	***Resource Regions*** • Improved coexistence of resource operations, community and environment • Demonstrably better rehabilitation and reclamation of mining legacies • Better protections and safeguards for people exposed to risk • Improved sustainability in use of local minerals and materials
External research partners	Strategic Programs – cross-disciplinary initiatives addressing key resource sector challenges	Data	Adoption of SMI tools, strategies and insights by resource industry stakeholders	***Resource Operations*** • Substantially reduced footprint of mining and mineral processing • Better outcomes - mine closure and diversification • Substantial reduction/elimination of what is now considered mine waste
UQ collaborators	Training a new generation of cross-disciplinary resource professionals	Software and Products	New services and tools delivered through existing or new commercial businesses developed as a result of SMI research	***Resource Leaders*** • A new generation of industry leaders • Positive sector change - social, cultural, economic, political • Transformed resource governance and leadership • Transformed sector health and safety outcomes
Background IP	Knowledge transfer to Industry	Training and Teaching	Improved industry practices across social, safety, environment, geoscience and mineral processing	***Resource Technology*** • More trusted autonomous systems • Future minerals for decarbonisation - increased discovery and ability to access • Groundbreaking knowledge from geoscience and mining data • Innovation for decarbonisation and climate change
SMI and UQ Support		Advice and Thought Leadership	Better informed resource stakeholders regarding source risks, project value, effective resource organisations, decarbonisation	
		Research partnerships		
			Mid Term (4-7 Years)	
			Improvements to project development approaches leading to increased access to inaccesssible mineral supply	
			Better social, environmental and organisational performance of the mining industry without sacrificing economic performance	
			A mining industry where concepts of sustainability and circular economy have transitioned from the leadership team to the operations	
			Better economic, social and environmental outcomes for mining-adjacent communities	
			Policy and regulatory decisions and frameworks are fit for purpose to balance the needs of future mineral supply and protection of communities and the environment	

Assumptions
- Continued support within UQ for existence and growth of SMI
- Economic climate conducive to ongoing Industry investment in research

Risks
- Deterioration of internal support for SMI
- Inability to attract funding

The Counterfactual (absence of our work)
- Poorer systainability outcomes for mining-affected regoins
- Decreased ability to responsibly access energy transition mineral supply