



Mission Area: Sustainable Energy & Resources

We have been working with collaborators from across industry, research and government to co-design this mission. This summary reflects the mission in development and will continue to evolve.

Transform Australian mineral commodities into higher-value products

The mission aims to create more economic value from our critical energy metals resources by 2030. The mission would aim to help transform Australia's mineral resources into higher-value products that support the global energy transition, creating new manufacturing jobs and export-ready technologies.

Opportunity

The global energy transition will depend on the sustainable supply of dozens of metals and related minerals. A recent World Bank analysis revealed how annual demand for lithium and graphite—critical battery elements—could increase by as much as 500% by 2050.

Australia is well positioned to capitalise on this surging demand given our strong resource base. But we can realise even greater economic benefits through sustainably producing refined metals, pre-cursor chemicals, alloys and high-end engineered products.

This mission will seek to unlock the full economic potential of our energy metals by creating and demonstrating the breakthrough technologies that allow those outcomes. In the process, we will help establish new, resilient, and sustainable processing and manufacturing industries and high-technology jobs.

We are collaborating with the Critical Minerals Facilitation Office on an Australian Critical Energy Metals roadmap; supporting the Australian Critical Minerals Strategy to catalyse innovation and to guide Mission priorities in terms of technology investments and collaborations.

Proposed Impact

- New high-technology jobs and industries
- Technology and intellectual property exports
- Lower environmental footprint of energy minerals and metals going into new energy technologies making them more sustainable
- Supply chain sovereignty and resilience
- Ethical provenance of metals for energy technologies

Proposed mission focus

- Strategic analysis
- Advanced processes
- Alternatives

Partners

We invite you to join the initial alliance of:

- Critical Minerals Facilitation Office
- Regional Growth NSW Development Corporation

If you are interested in learning more or collaborating with us please contact Jerad Ford via CSIROEnquiries@csiro.au.