Critical Raw Materials Sustainability, Traceability and Provenance Verification: Australian Pilot of the UN/CEFACT Project

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# ABSTRACT

The increasing range of sustainability reporting requirements and compliance regulations drive the standartisation imperative for critical mineral traceability and provenance verification. This imperative is further fuelled by the escalating global demand for critical minerals within the context of ensuring a secure and resilient supply chain.

The UN/CEFACT Critical Raw Materials Traceability and Sustainability Project (CRM Project) offers the supply chain traceability and sustainability reporting tools for national policy makers, critical mineral industry actors to respond to business, regulatory, governmental and consumer requirements for higher quality sustainability and conformity reporting information. The project is the foundational initiative of the emerging UN Transparency Protocol and delivers a efficient and scalable protocol to provide interoperability between traceability tools and a core library for sustainability reporting needed for CRM supply chain actors with a consideration to the confidentiality of sensitive information.

The protocol data includes 3 key components (product, traceability event, and conformity) to enable a supplier to access a market or get a premium price. This involves identifying practices to enhance compatibility, aiming to establish a framework for international data exchange to foster trust and traceability throughout the cross-border supply chain with developed interoperability standards,  and ensure guarantee of origin (provenance verification) for compliance regulations. The project provenance verification framework is supported by a material fingerprinting tool developed by the Future Battery Industries CRC Trusted Supply Chain project, which utilises comprehensive physical and geochemical characterisation of battery minerals and materials to identify and validate the provenance through the battery supply chain.

The Critical Raw Material Transparency Protocol is ready for industry, technology and producer collaborations, and currently being implemented through pilot project focused on the Congolese cobalt, Australian Lithium and Canadian Copper to materially demonstrate due diligence, guarantee of origin and sustainability reporting compliance respectively.