



Circular Economy Strategy Consultation
Circular Economy Strategic Policy Unit
Department of Climate, Energy and the Environment.
Tom Johnson House,
Haddington Road.
D04 K7X4
By email only to: CircularEconomyConsultations@dcee.gov.ie

4th November 2025

Re: Public Consultation on the Whole of Government Circular Economy Strategy 2026-2028

Dear Sir/Madam,

The Institute of Geologists of Ireland (IGI), the chartering body for geologists in Ireland, is committed to promoting and advancing the science of geology and its professional application across the island. The IGI warmly welcomes the inclusion of the Critical Raw Materials Act in the Whole of Government Circular Economy Strategy and offers the following observations.

In a world of exponentially increasing demand and corresponding waste, transitioning to Circular Economy principles is essential to sustaining future generations.

However, the rising demand for minerals—particularly metals—far exceeds current recycling capabilities. This demand will grow further if the energy transition is to be fully realised. The shift from fossil fuel technologies to renewable and electric alternatives is, at its core, a transition from oil and gas to metals such as copper, nickel, lithium, and Rare Earth Elements.

Current recycling rates are constrained by challenges in collection, gaps in technical expertise, and the energy and chemical costs of recovery. Achieving 100% recovery is unlikely, as minor losses occur at each stage. While some metals—like copper and aluminium—are recycled successfully at high rates, much of the existing stock remains in use and will likely continue to be for the next two decades. As a result, primary mining will remain essential for the foreseeable future.

Presentation of the Circular Economy may sometimes inadvertently frame recycling as an alternative to mining, rather than a necessary complement. While the Strategy notes the optimisation of every aspect of a product's lifecycle, including extraction, there is a need to emphasise that the extractive industry encompasses many different commodities with varying levels of rarity, associated waste, processes, and recycling potential based on current technologies and material properties. Their downstream products also carry their own complexities.

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Within the extractive industry, mineral waste is most commonly associated with metal mines in the form of tailings. The aggregate industry (and other industrial minerals) does not typically produce waste during extraction, as any excess material is reused in onsite restoration activities.

With increasing volumes of extracted materials, declining ore grades, and heightened supply needs, the focus on mineral waste is becoming more acute. Safe storage of mineral waste presents technical, environmental, and social challenges depending on the nature and classification of the material. Nevertheless, several approaches aligned with Circular Economy principles are progressing in the mining industry. These include precision mining—minimising waste during extraction—and redefining waste as a usable product, such as material for road construction.

Recovering metals from existing mine waste offers a promising opportunity. In theory, this could enable environmental remediation alongside the recovery of economically valuable metals. In practice, however, it presents significant technical hurdles. Metals residing in waste often form new minerals that are more resistant to processing than those originally mined. Each waste recovery site is unique and requires tailored solutions. Current technologies are proprietary and held by a limited number of companies. Support for research institutions and innovative enterprises is urgently needed to unlock this potential.

Raw material extraction is often viewed as the beginning of a linear “take-make-waste” economy—a step to be eliminated from the Circular Economy. This perspective overlooks reality. It is far more constructive to recognise the fundamental need for extraction and its potential role within a truly circular system.

Should you wish to engage further, representatives from the IGI are available to meet and discuss the challenges and opportunities of applying Circular Economy principles to mined raw materials.

Please feel free to contact me with any questions. I look forward to hearing from you.

Kind regards,

Emer Blackwell PGeo

Chair, Minerals Information Working Group
Institute of Geologists of Ireland