

# Briefing on transition minerals

## By Friends of the Earth Scotland



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Transition minerals, such as lithium, nickel and copper, are vital for replacing fossil fuels with more sustainable energy systems. However, Scotland's climate and energy policies are increasing demand for transition minerals without considering the social and environmental harm created by their extraction. There is also a risk that Scotland's energy transition will not be successful if the materials needed to deliver them are not reduced. The Scottish Government must create a **resource justice strategy** with **consumption reduction targets** to ensure the fair and sustainable use of materials.

### What are transition minerals?

Transition minerals, sometimes known as critical minerals, are vital to meeting Scotland's energy and climate commitments. Transition minerals must be mined and processed before they can be used in energy infrastructure and electric vehicles. Supply chains for these materials are often global and complex, with extraction often occurring in countries in the Global South, before being used in countries in the Global North, including Scotland.

The rapidly increasing demand for transition minerals has led to an international race between countries for security of supply and an avoidable competition for resources which is exacerbating injustices around transition minerals.

### The social and environmental impacts of transition minerals

Mining is associated with conflict because mineral resources are located in a fixed place, which means any existing communities and natural systems face disruption. Despite the claims of mining companies that they work with local communities, the Responsible Mining Index found that the performances of even the best-scoring companies fall considerably short in all areas. Common social issues include loss of land and displacement of communities, loss of livelihoods, food and water insecurities, health impacts, and safety issues for workers. Conflicts often arising from these issues including human rights abuses, such as murder, forced labour and slavery. Larger mining projects are often associated with greater levels of injustice.

Mining is an extremely energy intensive process, which results in high carbon emissions. There are around 1,600 mining operations in key biodiversity areas and a further 2,000 in protected areas. Mining is a leading cause of deforestation. The high volumes of water required for the mining process can often lead to concerns about water stress. Mining generates large amounts of waste, which is often toxic. Mining waste is usually stored permanently in tailing dams, which have seen a number of tragic failures. These issues are not just confined to the mine site. All along supply chains, from processing, refining or smelting, through to production or assembly, there can be further social and environmental impacts.

Our report, *Unearthing Injustice*, documents the link, for the first time, between Scotland's demand for transition minerals and countries where these impacts are occurring.

### The failure of voluntary due diligence schemes

Mining companies are not meeting their minimum, internationally recognised responsibilities to protect human life and the environment as endorsed by the UN Human Rights Council in 2011, which requires that companies 'do no harm'. There is overwhelming evidence of widespread and continued failure of mining companies to protect people and the environment, showing that voluntary schemes cannot replace binding, democratically developed legislation with mandatory compliance for companies.

### Scotland's demand for transition minerals

Policies which are fundamental to Scotland's future, including those in the **Climate Change Plan**, the **Energy Strategy and Just Transition Plan** and **National Planning Framework 4**, will increase

demand for transition minerals, yet do not account for the materials required to fulfil their aims. This lack of consideration of material requirements by policy makers means there is a risk of failure to meet these policy goals: if the necessary materials are not available in the required timeframe, the energy transition won't happen.

Additionally, if the social and environmental impacts of Scotland's material demands are not addressed, the goal of a just transition to a world with a liveable climate will be undermined. As the Just Transition Commission has said, Scotland's national just transition strategy must have at its heart a strategic priority of "do no harm" to "ensure that objectives are not met by transferring carbon emissions, exploitation, human rights abuses or economic precarity to other Jurisdictions".

### **The solution: demand reduction and circular economy**

While the impacts of mining can and should be minimised, they cannot be eliminated. Mining will always carry the risk of social and environmental impact. This means reducing demand is essential to reducing the impacts of mining and transition minerals.

Decarbonisation paths with policies focused on material demand reduction and shared public services have the greatest potential savings in materials. For example, replacing all of Scotland's fossil fuel cars and buses, like for like, would require 20,200 tonnes of lithium but, if the proportion of journeys in Scotland taken by bus increased to the level seen in London today, lithium requirements would be 13,800 tonnes (32% less).

Scotland's scrap steel could be managed more locally and sustainably by investing in electric arc furnace technology, taking advantage of Scotland's low carbon electricity grid to produce some of the greenest steel in the world. This would require significant investment and planning by the Scottish Government to support the development of a modern steel processing plant, similar in technology and scale to the CELSA plant in Cardiff, and associated wind turbine production supply chains. Such a move could create much needed decent, green jobs, both in recycling and manufacture which are essential to the just transition.

### **Recommendations**

Careful consideration and collaboration on transition minerals is required to create a sustainable and fair future, which avoids the worst impacts of climate change.

The Scottish Government must create a resource justice strategy for Scotland, which includes within it a plan for fair and sustainable consumption of transition minerals. The aim should be to ensure Scotland's consumption of materials is fair and sustainable, as soon as possible and no later than 2045. The resource justice strategy should be based on five pillars:

1. Commitment to a globally just material transition
2. Consumption reduction targets
3. Demand reduction policies
4. Clear and transparent data
5. Fair and collaborative policy process

The Scottish Government has committed to introduce a Circular Economy Bill to Parliament this year. The Bill should include statutory and science-based consumption reduction targets for 2045, with 2030 interim targets to ensure action begins as soon as possible. Successfully meeting these targets will require measures which focus on demand reduction, circular economy principles and a commitment to a global just transition.

Scotland's Circular Economy Strategy and Waste Route Map, should be embedded in the resource justice strategy framework. Existing policies should be adapted and new policies aligned with the resource justice strategy. These recommendations must be adopted urgently and in full for Scotland to meet its climate goals and to create a more sustainable and fairer future for all, where material consumption is minimised.

**This briefing is based on *Unearthing Injustice*, a Friends of the Earth Scotland report on the impacts of Scotland's demands for transition minerals. Read the full report at [www.foe.scot](http://www.foe.scot)**