

FAST FACTS



On Critical Energy Transition Minerals

1. Limiting global temperature rise to 1.5°C and reaching the goals of the Paris Agreement depends on the accessible and affordable supply of minerals, which are critical for a transition from fossil fuels to clean energy sources.
2. Critical energy transition minerals are naturally occurring substances, such as lithium, nickel, cobalt, copper and rare earth elements, that are essential components of renewable energy technologies, including wind turbines, electric vehicles, solar panels and battery storage.
3. Renewable energy technologies use significantly more minerals than other energy sources. For example, an electric car requires six times the mineral inputs of a conventional car. Therefore, as the demand for renewable energy technologies grows, so does the demand for these minerals.
4. In 2023, the market value of critical minerals was \$325 billion, with lithium demand growing by 30 per cent, and demand for nickel, cobalt and graphite expanding by 8-10 per cent.
5. In a world heading to net-zero emissions by 2050, demand for critical minerals is projected to almost triple by 2030, and up to six times by 2050 with market value reaching \$400 billion (USD).
6. Global supply and investment plans are not yet prepared to support an accelerated energy transition. Supply from existing mines and projects under construction is expected to provide only half of projected lithium and cobalt needs and 80 per cent of copper requirements by 2030.
7. Certain regions and countries have large reserves of critical minerals. Roughly 25 per cent of global reserves are found in African countries, including 19 per cent of those needed to produce electric vehicles. An estimated 54 per cent of critical minerals are located on or near indigenous peoples' land. As extraction accelerates, ensuring the countries and communities endowed with these resources are the ones to benefit most is critical.
8. Many developing countries play an important role in supplying these resources. Currently, the Democratic Republic of the Congo is responsible for 68 per cent of cobalt exports, Indonesia for 48 per cent of nickel exports, and Chile for a significant portion of lithium exports.
9. For the transition to clean energy to be truly just, these minerals must be extracted, processed, and transformed sustainably and equitably. As mineral extraction accelerates to meet demand, there must be guardrails in place to ensure responsible mining, circularity, and enhanced accountability and transparency across value chains.

Sources: [UNEP](#) (1, 2, 9), [IEA](#) (3, 6), [IEA](#) (4), [IEA](#) (5), [IRENA](#) (7, 9), [UNCTAD](#) (7, 8, 9)

