

"Lithium and rare earths will soon be more important than oil and gas", [European Commission](#) President Ursula von der Leyen said last September.

The Commission chief pronounced these words as **Europe** was reeling from an energy crisis accelerated by Russia's war in Ukraine and which led to the bloc pledging to wean itself off fossil fuels — most of which it has traditionally supplied from Russia — and accelerate its transition towards "homegrown" renewables and other green tech.

These, however, rely on so-called rare earths which are needed to produce everything from the latest generation batteries to the materials needed to manufacture photovoltaic panels.

"The urgency now is securing [lithium] supplies, it's really really urgent," Dr Evi Petavratzi, a senior mineral commodity geologist at the British Geological Survey told Euronews.

The **United States** Geological Survey estimates that Europe is home to 7% of global [lithium](#) deposits, enough to cover 80% of European battery needs.

### **Why are new mines so hard to open?**

New mines currently take decades to get approved, due to fierce opposition by local people and politicians who are concerned about environmental and social consequences.

An example of this is the Norra Kärr rare earth element project in southern Sweden. Despite this deposit being found in 2009 and a 25-year mining licence being granted in 2013, no metals have been extracted.

The licence granting led to large protests over environmental concerns and the extraction licence was overturned in 2016 and a mine leasing application was rejected in 2021.

Speaking about the environmental impact of hard-rock mining, Dr Simon Jowitt, an economic geologist and associate professor at UNLV Department of Geoscience said:

"There's always a certain potential impact on the environment, on ground and service water."

"Every mine is a little different in terms of that potential, but there's always some. There's also the risk posed by dust from mines."

Most **lithium** is extracted by one of two methods: solar evaporation and hard-rock mining. The [solar](#) evaporation method, which is famously used in Argentina, Bolivia, and Chile, involves pumping brine solution to the surface and leaving it to evaporate.

The biggest concerns with this form of extracting lithium are its high water usage, possible depletion of groundwater levels, and the waste salt which is left behind. Approximately 2.2 million litres of water is needed to produce one tonne of lithium using this method.

The other most common way of extracting this precious metal is through more traditional hard-rock mining, typically using opencast pits.

Not only are such pits an eyesore, but dust from such mines can also spread to surrounding

areas sparking health and environmental concerns. Furthermore, the processing of the mined material can also use significant amounts of [water](#).

However, it is important to put the risks involved in precious metal mining in the context of the benefit they bring from reducing fossil fuel extraction.

### **Higher prices enabling more complicated extractions**

Increased demand for batteries — it is set to explode 14-fold between 2020 to 2030 — has pushed up the demand and price of lithium from about \$20,000 per tonne five years ago to \$80,000 per tonne last November and driven innovation into new, more expensive, mining methods that mitigate possible impacts on the environment.

An example of this is the proposed San José de Valdeflórez lithium mine in Spain's Western province of Extremadura.

Originally proposed as an open-pit mine less than a kilometre away from the UNESCO mediaeval city of Cáceres and a natural reserve, the project faced fierce opposition from all quarters.

However, **Extremadura New Energies** (ENE), the Spanish subsidiary of Infinity Lithium, is now planning on building the mine completely underground with the entrance of the mine being located 2 km away from the city.

The material will also be crushed inside the enclosed mine, cutting the risk of dust pollution. It has also unveiled plans to use patented technology which means the mine will not have to use sulfuric acid for lithium extraction, resulting in a zero-flow discharge mine. This dramatically reduces the risk of contaminating surrounding land water sources.

Additionally, the vehicles and mining operations will be powered by renewable energy, including from a new green hydrogen plant.

However, these mitigation methods were only introduced following objections by local people and authorities – highlighting the importance of local engagement in improving lithium mining.

Furthermore, although the deliberations and debates over the San José de Valdeflórez project resulted in a much-improved end project, it has been a long journey since it was first proposed in 2015.

Despite this, the project's environmental impact has never been approved or evaluated. The company is currently seeking approval for an exploration permit and hopes to submit the project for environmental evaluation by April this year.

A local protest group, Salvemos la Montaña (Let's Save the Mountain), has also gained significant support in its campaign against the project.

### **EU mining ambitions**

The Commission wants [Europe](#) to build a more resilient supply chain to reduce its reliance on strategic competitors for imports and processing of rare metals.

In a document published last year, The Commission stated it could introduce targets into legislation, for example, that at least 30% of the EU's demand for refined lithium should originate from the **EU** by 2030. Another goal is to ensure that the time from the start of exploration work to a mine or a refining facility opening is reduced to a matter of years, not decades.

To do that, it plans "to facilitate the roll-out of targeted raw materials projects in the EU" and for the Commission to be empowered to "list Strategic Projects - which would be labelled as of European interest - based on proposals from member states."

Ramón Jiménez, CEO of ENE told Euronews he certainly believes that "it is possible to make this process faster without reducing environmental or social impact reductions".

He said that his San José de Valdeflórez project had enjoyed strong support from the central Spanish government. However, convincing central governments may be the easy part, convincing local residents will be key if the EU really wants to boost its mining output.

Source: [euronews](#).