



Climate, environment and circular economy

Metal recycling

METAL RECYCLING **OUR NETWORKS**

ANR GENERATE project with IRIS

In 2020, IFPEN and the French Institute for International and Strategic Relations (IRIS) published their report on the research carried out as part of the GENERATE (Geopolitics of renewable energies and prospective analysis of the energy transition) project, financed by the French National Research Agency (ANR), which focussed on the evolution of energy geopolitics in the context of the low-carbon transition.

As the energy transition gains pace, and in view of the results relating to criticality, the GENERATE project reveals the key importance of government policy, particularly those promoting sustainable mobility and recycling. They reduce strain on resources and therefore require particular focus. For example, where copper is concerned, the model shows that a shift towards sustainable mobility, in the context of a 2°C scenario, would lead to a reduction of around 20% in the consumption of this metal in the transport sector.

> [Find out more](#)

EuGELI with ERAMET

As part of the European EuGeLi “European Geothermal Lithium Brines” project, led by Eramet from 2019 to 2021, IFPEN has developed a pilot unit in Alsace, France, using a material for selective recovery of lithium from geothermal water.

IFPEN contributed its expertise to the characterization and understanding of this adsorbent in view of its implementation in the geothermal waters of the Rhine river basin. For that purpose, IFPEN worked with ERAMET to develop an innovative process for the direct extraction of lithium, which was trialled on the waters of the salt flats in Argentina. IFPEN then adapted this cost-effective and environmentally friendly process for use in geothermal waters, which are substantially different to those of the South-american salt flats.

> [Find out more](#)

Electrification of the worldwide vehicle fleet and criticality of lithium by 2050 with ADEME

In partnership with ADEME, IFPEN carried out a prospective study on the variations in lithium supply and demand, based on various scenarios for the electrification of the worldwide vehicle fleet by 2050. In this study, IFPEN:

- set out the challenges of criticality in the lithium market,
- created a historical report on this market and performed an analysis of its recent restructure to meet demand in the mobility sector,
- proposed a forecasting model of the market up to the year 2050.

The study concluded that in the long term, although the risk of lithium availability remains minimal from a geological perspective, its supply is likely to be exposed to a variety of other risks.

> [See the report on the Economic, energy and environmental study for French road transport technologies \(E4T\) project, which prompted the lithium criticality study.](#)

CONTACTS



Arnaud Baudot

Program manager "Recycling of battery metals"

arnaud.baudot@ifpen.fr



Magalie Roy-Auberger

Program manager "Recycling of catalyst metals"

magalie.roy@ifpen.fr



Jérôme Sabathier

Head Economics & Environmental Evaluation Department

jerome.sabathier@ifpen.fr



Emmanuel HACHE

Economist-Foresight, Economics and Environmental Evaluation Department, Economics and Technology Intelligence Division,



Issues and Foresight



News

May 2021

Aluminium in the energy transition: what lies ahead for this indispensable metal of the modern world?

Climate, environment and circular economy

Metal recycling

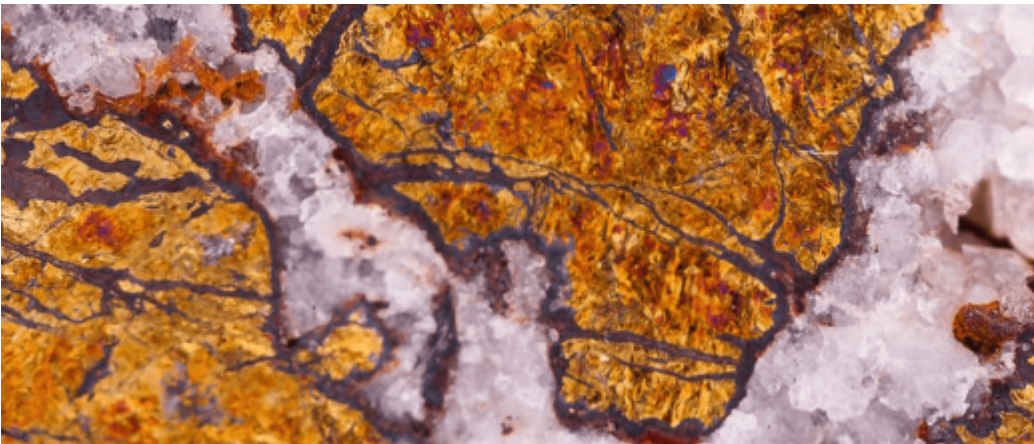


Issues and Foresight

News

February 2021

Lithium in the energy transition: more than a resource issue?

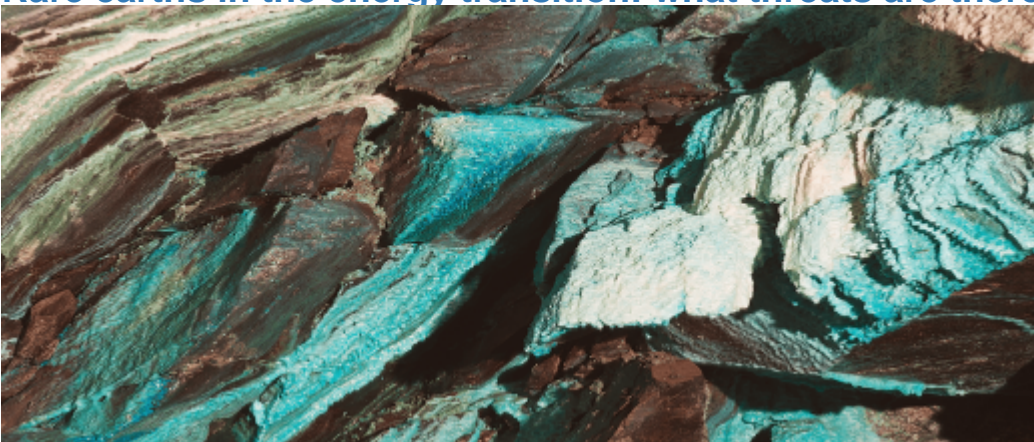


Issues and Foresight

News

January 2021

Rare earths in the energy transition: what threats are there for the “vitamins of



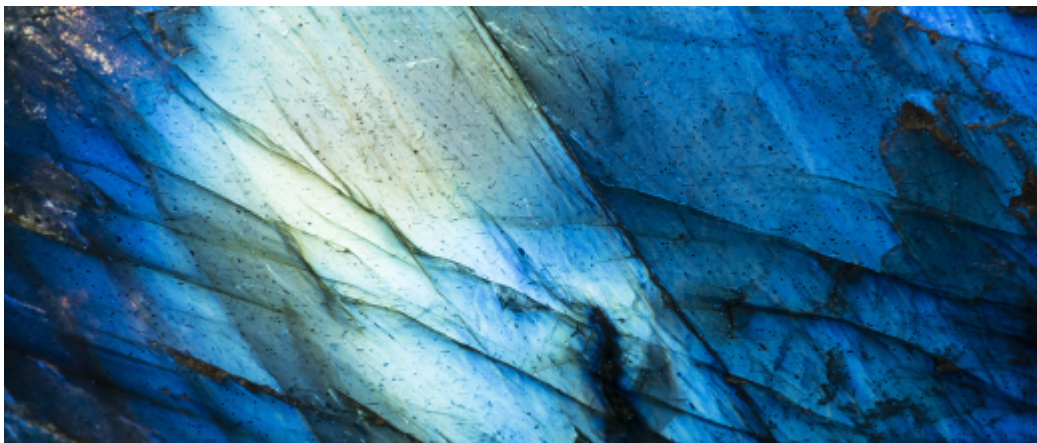
Issues and Foresight



News

December 2020

Copper in the energy transition: an essential, structural and geopolitical metal!



Issues and Foresight



News

November 2020

Cobalt in the energy transition: a closer look at supply risks



Issues and Foresight



News

June 2020

Low-carbon energy transition: what evolutions for energy geopolitics?

Press release

Climate, environment and circular economy

Life cycle analysis (LCA)

Metal recycling

Economics

Forecasting and scenario modeling

Metal Recycling: Our networks

Link to the web page :