

Achieving LiFT on Minerals for the Energy Transition

BLUF²: Addressing the global climate emergency through a transition to a low-carbon energy system requires minerals. For example, electrification of the global transportation fleet will generate a surge in demand for lithium, cobalt, manganese, nickel, and copper³.

Three macro challenges emerge. Getting enough supply, doing it responsibly, and managing the risks and benefits where the production happens.

In some regions, such as the lithium triangle, disappointing past experiences with the last mining super-cycle and a precarious social license for mining show that old thinking, strategies, and systems aren't good enough to manage these challenges. A strategy for energy shift minerals which takes account of responsible sourcing and investing, validates existing good practice, and protects and develops the unique human and natural terrains where these minerals are located, can provide a lift for all stakeholders and offer incentives to responsible actors.

A proactive approach led by miners and those who use minerals in their products is essential before issues fester.

Getting Enough - ensuring sufficient materials for the global energy shift

Renewable energy technologies are materially intensive and require a different set of metals from existing carbon-based technologies. The demand curve is especially steep for lithium, cobalt, manganese and copper, all of which are required for lithium-ion batteries and electric vehicles.

Time is of the essence. Old models of mining investment may fall short of meeting the needs of the global energy shift (see right).

Innovation in climate smart mining investments could help avoid costly delays. For example, this could take the form of connecting manufacturers' long-term material procurement needs to the development of climate smart projects for lithium, cobalt, manganese and other critical materials.

Tesla expects global shortage of electric vehicle battery minerals

Tesla Inc. expects global shortages of nickel, copper and other electric-vehicle battery minerals down the road due to underinvestment in the mining sector, the company's global supply manager for battery metals told an industry conference on Thursday, according to two sources.

The company, a major minerals consumer, has rarely talked publicly about its views on the metals industry. Copper, nickel, lithium and related minerals are key components used to make electric-vehicle batteries and other parts.

[Reuters](#), May 2, 2019

¹ Senior Advisor, RESOLVE, Vancouver, Canada.

² Bottom Line Up Front

³ [The Growing Role of Minerals and Metals for a Low Carbon Future](#), The World Bank, June 2017.

Doing It Right - responsible production and sourcing

Stability of supply matters, too. Mining puts pressure on communities and Mother Nature. The last mining super-cycle saw hundreds of social conflicts in Latin America. Social license problems were mirrored by cancellations of permits in some cases and blockades in others.⁴ Ensuring that producers of energy shift minerals respect the natural and human landscape is the right thing to do and a necessary condition for stability of supply.

Earth's natural systems are stressed to a breaking point due to human pressures. We can't address the climate crisis in ways that exacerbate existing problems. It is also a historical reality that some mining operations have been associated with violent conflicts and human rights violations. It can be different and better for energy shift minerals.

Production of energy shift minerals can and should be clean and smart. We see end-users, investors, and suppliers aligning here. This means designing and retrofitting projects for minimal or positive impacts with respect to carbon emissions, water systems and biodiversity. On the social side, expectations across the board are that mining projects integrate human rights and indigenous rights into their core due diligence and risk management practices - especially in conflict-affected and high-risk areas like the Democratic Republic of the Congo, a major source of cobalt.

Amnesty International on EV batteries

Production of lithium-ion batteries for EVs is power intensive, and factories are concentrated in China, South Korea and Japan, where power generation is largely dependent on coal or other fossil fuels, Amnesty said.

Global automakers are investing billions of dollars to ramp up electric vehicle production. German giant Volkswagen for one plans to raise annual production of electric cars to 3 million by 2025, from 40,000 in 2018.

Amnesty demanded the EV industry come up with an ethical and clean battery within five years and in the meantime that carbon footprints be disclosed and supply chains of key minerals identified.

[Reuters](#), March 20, 2019

Doing it right will mean clean and smart mines (and supply chains) that are earth-friendly and respect the human, social and economic rights of the people they employ and affect. Indigenous communities and their rights to Free, Prior, and Informed Consent (FPIC) are an integral part of this approach.

Who Gets the Risks and Benefits of Energy Shift Minerals?

From Standing Rock to Brumandinho, it looks like governance systems for major projects can't keep up with ever-growing social and environmental complexity. One answer to this is going beyond permitting and social responsibility towards obtaining informed agreement of communities and buy-in from international civil society for energy shift mineral mines. A necessary condition for this is transparency, inclusion and engagement on the risks and benefits of projects for host communities and governments. Risks can range from water availability for local farmers to social stresses like the in-migration of outside workers on traditional cultures. Emissions performance is a critical issue for all industry. It's time for mines and other heavy industry to go low-carbon, a trend that is beginning to take hold with BHP's recent public commitment⁵.

Billions of dollars of commercial value will accrue from the production, sale and transformation of energy shift minerals. Governments will get their take. In many ways, community consent will depend

⁴ [From conflict to co-operation](#), The Economist, February 2016.

⁵ [BHP to invest US \\$400m to address climate change](#), BHP, July 2019.

on the kind, scale, and enduring nature of the benefits allocated to the communities who live where the resource is extracted.

Lifting Lithium with an Upstream-Downstream Handshake

Over half of the lithium needed for the energy shift is projected come from the Lithium Triangle in the high Andes of South America. The RESOLVE initiative LiFT (Sustainable Lithium for a Responsible Energy Transition) to develop a Responsible Suppliers Framework has been launched to assure that lithium production is in line with today's social and environmental concerns and needs as well as the unique environmental and social characteristics of the region. The Framework will be built on a foundation of rigorous assessment of sustainability at site, coherence of requirements along the supply chain, and multi-stakeholder dialogue. LiFT is designed to align with and fit into existing upstream initiatives like Toward Sustainable Mining (TSM) and downstream responsible sourcing initiatives like the Responsible Mining Initiative (RMI, developed by end-users including leading electronics companies).

LiFT is part of the Global Battery Alliance (GBA) of the World Economic Forum. The GBA has rallied significant resources to address child labor in cobalt mining. This is the moment to prioritize collective action on lithium and address risks proactively rather than engaging in crisis response.

Contact

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