

The (Geopolitical) Importance of Critical Minerals

A podcast with Sophia Kalantzakos

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In your article for *The International Spectator*, you point out that a number of raw minerals (among them, rare earths, cobalt and lithium) is becoming increasingly critical from a geopolitical point of view. Can you briefly explain why this is happening? How has the ongoing COVID-19 pandemic further impacted on this, both on the supply and demand side?

“Change is everywhere around us.

First, we have the climate crisis to deal with – which means that it is urgent and imperative to decarbonise the global economy.

Second, for quite some time, we have been gearing up for the fourth industrial revolution, which features Artificial Intelligence and the deployment of 5G networks.

Rare earths, lithium, and cobalt are indispensable materials for all these high-tech applications, including those used in defence systems.

I selected these particular inputs to discuss because not only are they indispensable, but because demand for them raises concerns of resource scarcity for nations and industry. Stock depletion has not yet become an issue for any single mineral, but what we are seeing more frequently are flow disruptions that have come in the form of embargoes, trade wars, and more recently COVID-19.

More importantly, these minerals are highly geographically concentrated and vulnerable to disruption.

To top this off, for quite some time there has been a geopolitical shift underway – we are all witnessing this. China is no longer a rising power. It has arrived.

Its size is unsettling the existing order and it is challenging traditional industrial actors, more particularly the US, the EU and Japan.

These countries have come to the realisation that they are no longer the exclusive drivers of the global economy and its future transformation.

In 2013, China launched the Belt and Road Initiative that sets out to unite Eurasia and Africa and loops in South America into a seamless space of trade and high connectivity, which means land, maritime, air, cyberspace. In this connectivity, it features 5G networks and artificial intelligence.

The BRI has been, in a sense, the icing on the cake.

It gave pause to other industrial actors because China was now aiming to be firmly in the lead of the next economic transformation of a tech-driven world.

As this reality sinks in, we are now witnessing a full-frontal attack against China. COVID's global contagion that has impacted economies, destroyed livelihoods, sickened and killed people has both accelerated the onset of the fourth industrial revolution and the deployment of AI, in work, medicine, schooling, entertainment to name a few areas.

Moreover, it has served as an opportunity to attack China. This is increasingly turning into an alarming situation for global stability.

In terms of supply, COVID-19 interrupted the supply chains and the shipments of the minerals.

When China was first hit, production and refinement of the minerals as well as end products were severely affected by domestic closures, and those then affected the shipments.

As other countries face COVID, overall demand is affected, but this will be short-lived I believe, because post-COVID, all the technologies that require critical minerals will be in even greater demand than before.”

Some pundits and academics – the so-called Cornucopians – argue that, in the long term, resource scarcity is not an issue as new ways of material sourcing, production and recycling will eventually be discovered. Do you think this is a realistic outlook in the case of critical raw minerals?

“One thing I have to say is that it is naïve to underestimate geopolitical developments.

For too long we have relied on the notion that free trade and a globalised economy would mitigate any issues and disruptions - and that, if they occurred at all, they would be short-lived and inconsequential.

But it was not only industrial might that made the US, the EU and even Japan leading actors.

The US and Europe, in particular, have written the rules for global trade, they have created the norms and institutions by which countries deal with each other.

The US has had control of the seas, making them safe for trade, but its financial institutions and the dollar have made it the leader of the global economy.

In other words, politics has contributed to the creation of the status quo and the current system that is in place, and it has allowed traditional industrial actors to dominate the world economy.

Japan too benefited from pax-Americana after World War II, while China went through a bloody revolution, the Mao years, and only began to rapidly develop in the 1980s.

It's really a testament to China's efforts, if you think about it, that it has achieved so much in such a short time.

These minerals, as I mentioned, are highly geographically concentrated. China continues to dominate not only the production of rare earths but also the entire supply chain.

Cobalt, a key ingredient for batteries, smartphones, laptops and electric cars, for instance, comes from the Democratic Republic of Congo, which is one of the poorest countries in the world. The Congo accounts for 60% of the world's production and it boasts the largest reserves in the world.

Lithium too is highly geographically concentrated, mainly in South America. In all these places, China has made inroads and has not only secured the supply but again dominated the entire supply chain upstream and downstream.

Often, we hear that these minerals are not so rare, that they exist in other countries, on the seabed, and in space.

However, how economically feasible is it to extract them in these other possible locations?

Moreover, lead times to bring a mine into operation is not only capital intensive but takes at least ten years.

Industrial labs have been working on reducing dependence on the critical minerals by finding ways to substitute them or reduce the quantity that is necessary in each application.

Still, this not an easy feat, because it's important not to compromise efficiency. The price of the minerals also makes the issue of recycling a problem.

There is no doubt that recycling needs to happen, but again, it's all a question of cost.

When prices for the raw materials are down, recycling costs are prohibitive.

One thing to point out is that with the transportation sector gearing up for full electrification, the recycling of lithium-ion batteries (demand for which will soar) will become a huge problem once they reach end of life. This is going to hit us like a tsunami, and it is an area where both high tech and investment will need to focus their attention.

These days, we hear calls to desinicise supply chains around the world because of the changing geopolitics.

Well, again... it's not easy to do this: it would create redundancies and drive up the costs of production and the price for the consumer.

Not only would it take a long time and be expensive, but China has already made the inroads and the deals with countries in the developing world where most of the critical minerals can be found.

One only needs to consider the close ties and economic investments China has made in both Africa and Latin America to understand the complexity of this undertaking.

Australia, which offers an alternative, has to be careful not to overplay its hand. It is in close geographic proximity to China, it trades mainly with the PRC and needs to walk a fine line with respect to its relations with this powerful actor.”

Your article highlights that the issue of how to procure critical raw minerals is a truly political issue; the People's Republic of China has had an edge so far, because of its state capitalism model. How could liberal democracies address this issue, going beyond their current 'piecemeal approach'? More specifically, how could the issue be addressed in the context of the European Union, especially in light of the European Commission's Green New Deal?

"This is a big question and a problem.

Today, we hear governments making large pronouncements about how they need to outcompete China and how they must desinicise the supply chains, but this requires both large investment, generous subsidies to industry and labs, but also to developing countries where most of the minerals are located.

Will there be a political consensus for this?

Will the taxpayer be willing to put in money to achieve this transition?

Will the consumer agree to pay the higher prices for the end products?

Will supply chains be rebuilt in collaboration with geopolitical alliances – which have also, to make a side note, been fraught in recent years?

Will business agree that geopolitics trump the bottom line?

These are important questions.

In this, China has the upper hand. It can, and often does, combine its state and economic interests. It can do this because of its system of governance.

Japan has also shown flexibility in this regard, but it is not as easy for the United States or the European Union.

The 'green deals' announced first by the European Commission and now also by Presidential hopeful Joe Biden will certainly incentivise industry to pursue technologies that decarbonise the global economy and help achieve what we call a circular economy.

This is key because of the climate crisis.

The next wave of technological transformation is already upon us accelerated by COVID-19, as I said earlier, but now issues of inequality need to also be factored in.

Globalisation is no longer embraced in the same way by societies in the industrialised world, and this is a key political issue for governments.

Already the EU has designated a fund of 100 billion euros from 2021-2027 to help businesses most affected by the greening of the economy to make the transition. It calls it the Just Transition Mechanism.

The EU aims to become the first climate-neutral continent by 2050. Imagine what level of funding such a move requires. It will require both public and private sector investment.

Accordingly, Biden's clean energy plan requires \$2 trillion dollars over four years. And that's only for clean energy! Of course, that is if he wins in November.

Obviously, these changes will only exacerbate the race for critical materials, critical minerals specifically, and raise supply chain concerns.

Who will fund these plans?

Both the US and Europe need to address this question in a more comprehensive fashion, especially since everyone will emerge poorer once the full impact of COVID is felt and assessed.

China has its fingers in every part of the supply chain for all the key technologies and the growing confrontation with the PRC is certainly not healthy for anyone.

To summarise, the race for critical minerals will certainly heat up, and traditional industrial actors need to seriously rethink their strategy in depth. There are many difficult decisions that need to be made moving forward. Not only will our economies be transformed, but current geopolitical configurations will be seriously impacted.

This is not only going to be a business decision.

The EU will need to work closely both with member-states but also industry to even have a prayer in this competition.

So far, it has been left it up to individual member states and individual industries to propose plans of action.

It needs a highly coordinated approach.

I am hopeful because Europe has maintained close ties to the developing world that it will be able to come up with this comprehensive plan, vision and approach. It can energise the ties that it has with the developing world and its traditional allies in a different fashion, in order to make the European Green Deal a success."