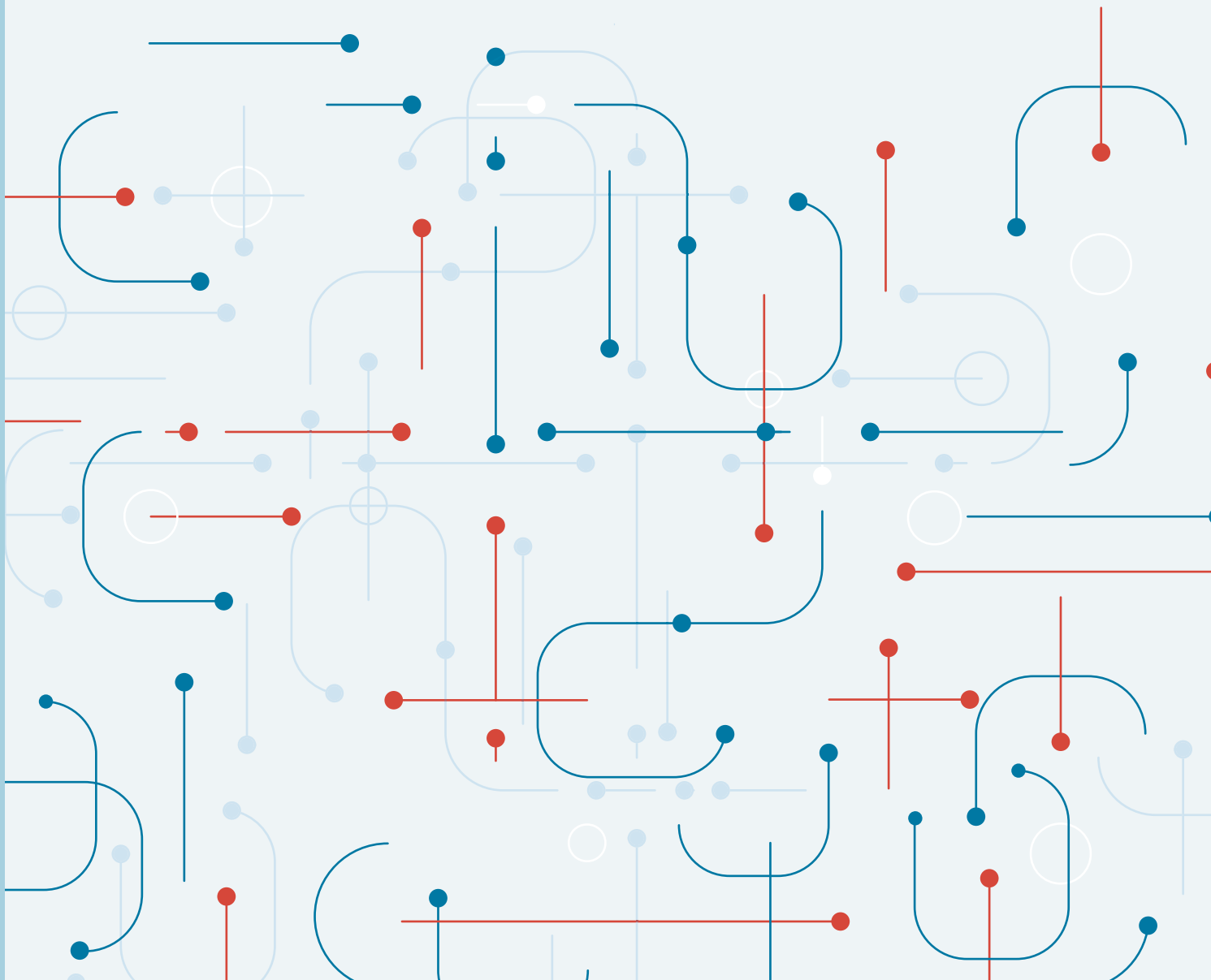




Transition minerals Cooperation over conflict

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Competition over access to minerals needed for the green transition (“transition minerals”) is contributing to geopolitical tensions, particularly between China and the US. But opportunities for cooperation that improves relations and builds trust are abundant – this paper identifies some of the most important and feasible. In our view, improving cooperation over mineral development will be essential to protect supply in the face of near-term climate risks.



The green transition demands international cooperation, but competition over the materials it requires is contributing to geopolitical tension. We need to focus on opportunities for collaboration and trust-building – particularly between the US and China. Developing the assets and infrastructure needed to supply sufficient material is a huge challenge that we can only accomplish by working together.

Conflict over minerals is lose-lose. It increases price volatility and overall material costs while slowing innovation and encouraging zero-sum attitudes. The result could be negative feedback loops in which instability delays the transition, exacerbating near-term climate impacts and deepening instability.

This brief identifies key areas for US–China and broader international collaboration. Several opportunities would benefit the great powers, the wider global agenda, and communities directly impacted by mineral supply chains. Seizing these opportunities will underline the necessity of working together and, most importantly, can build trust between great powers.

THE DANGERS OF CONFLICT AND BENEFITS OF COOPERATION

Transition minerals are now part of wider geopolitical competition between the US and China. China has deployed export controls (e.g. gallium, graphite) while the US has implemented tariffs¹ (e.g. EVs). The US has instigated the Minerals Security Partnership (MSP), and both countries have pursued exclusive bilateral agreements with producer countries.

This fractious geopolitical context brings ebbing faith in global trade and growing emphasis on resource independence. Retreating from globalized systems will inevitably create problems for the rapid expansion of mining and mineral processing activity that is needed for the green transition. For example, it will lead to a duplication of supply chains and capacities that we can ill afford.

Competition is a costly distraction at a time that requires laser-like focus on shared problems like growing water risks and on promoting the sort of standardization needed for recycling. The kind of cooperation needed in mining development, supply chain management and international regulation appears increasingly difficult. We need a pathway to closer coordination at minimum and active collaboration if possible.

In our view, this is such an urgent priority because climate impacts over the next few years – that is this decade – will both make the challenges we face harder to overcome and put pressure on international relations. Our data shows that there will be a very rapid shift in weather regimes that most experts dramatically underestimate. Meeting this challenge will either drive us apart or pull us together. We must ensure it's the latter.

1 Notably these tariffs largely ignore material supply chains heavily dominated by China, which indicates that the US is concerned about escalation impacting access to key materials.

OPPORTUNITIES FOR COOPERATION

There are several areas in which the interests of China and the US closely align. We have identified five areas where cooperation between the two countries would benefit all key stakeholders. Seizing these opportunities could provide steppingstones to closer relations.

1.



Investing in processing infrastructure

Expanding and diversifying processing infrastructure will increase material supply and reduce the risk of supply chain disruption. China dominates mineral processing but is much more active than the US is in investing in infrastructure in producer countries. The US and China could cooperate, for example, to build processing capacity in India, Zambia, Chile, Peru, and other largely neutral countries. They could also coordinate technological innovation in processing, which could be decisive.

2.



Climate adaptation and resilience

Adapting to anticipated climate impacts will require innovations in engineering (e.g. around water management) and mine management (e.g. in maintaining social license to operate) that will require government support and coordination. The development finance institutions of each country could work together here.

Similarly, climate resilience will require a shared picture of relative risk exposure so that investment can be directed proportionately and efficiently. A concerted effort to build social and political cohesion in key areas and countries is also needed. This creates opportunities for cooperation between scientists, risk managers and diplomats.

3.



Logistics and choke points

Logistics challenges and choke points are good examples of problems that will be made more difficult by near-term climate impacts. Notorious choke points like the Panama and Suez Canals or the Straits of Hormuz and Malacca could drive huge disruptions in global trade if rapid adaptation action is not taken.

But there are also very large numbers of ports, railheads, roads, and rivers that are vital to mineral supply chains and highly exposed to climate impacts and political risks. Again, these challenges provide opportunities for cooperation between the US and China that can help build trust and reduce the fallout of trade disruptions when they do occur.

4.



Mine exploration and development financing

We need a very large number of new mines across several commodities, but at present, the leads times for these mines are long and the failure rate is high. Investment is insufficient, which can lead to corner-cutting that harms resilience, social license, and eventual productivity.

This is another area where development finance institutions, companies and research institutions can cooperate to improve local and global outcomes by increasing the pipeline of successful and resilient projects. Both the US and Chinese governments can also do more to work together to support host governments in the design and application of reasonable mining-operations standards, which are also vital for the long-term resilience of mining projects.

5.



Recycling

Recycling rates for transition minerals like lithium and rare earths (i.e. outside base metals) are very low. Increasing the rate of recycling will have benefits in terms of global emissions and local impacts but will depend on rapid technological innovation and standardization in key hardware (e.g. EV batteries). Both processes would benefit hugely from better communication and coordination between China and the US.

Healthy competition between companies, investors and countries is a good thing and should not be avoided. But cooperation is also essential, and the capacity for it must be fiercely protected. The areas identified here for closer cooperation would help improve relations while protecting a rapid transition and, in many instances, improving the local impact of mining and processing activities.

TMP'S CONTRIBUTION

TMP is identifying specific ways for governments and other stakeholders to cooperate on managing risks and improving outcomes. This initiative includes events that will be organized across 15 key countries to promote cooperation at subnational, national, and international levels. We will also release a series of research outputs, datasets, and briefs to help inform a shared picture of urgent risks and how they can be managed in a way that builds collective resilience.

But we are a small organization that is aware of its limitations in influencing diplomacy and great power relations. We want to play a catalytic role in bringing key decision-makers together around identified challenges and risks to agree on mutually beneficial solutions. If you would be interested in finding out more about our work, please reach out to us at minerals@asktmp.com.