US-China Dispute Sharpens Focus on Minerals Policy

As relations have soured between Washington and Beijing, US policymakers are increasingly sounding the alarm that the US relies too heavily on China to supply key industries, including the minerals necessary to deploy renewable power generation and underpin electrification of the transportation sector (NE Jun.6’19). One supply chain overly dependent on China is that for “rare earth elements,” US Energy Secretary Dan Brouillette wrote in an op-ed in Real Clear Energy this week. “We rely on China for 80% of rare earth elements,” Brouillette noted, likening the situation to that of US hospitals obtaining access to personal protective equipment, largely manufactured in China.

The concerns over access to minerals are “not new, but I think there’s a renewed concern because China is now such an important economic competitor to us,” the Hudson Institute’s Thomas Duesterberg said. The raw materials including lithium, cobalt, nickel and graphite comprise nearly 80% of the cost of electric vehicle batteries, according to a study by the Center for Strategic and International Studies. The US is 100% reliant on foreign sources for three minerals critical for solar panels, according to the US Geological Survey and 100% reliant on imports for two of the minerals critical for batteries. Other critical elements necessary to manufacture solar panels, wind turbines and batteries are also imported in substantial quantities.

For years, energy security issues around minerals have not received the same level of scrutiny as those around oil and gas. That’s partly related to renewables’ lower portion of energy generation and partly because the issue is more abstract for renewables. Multiple senators last week drew parallels with the Arab oil embargo, but the reality is that even if the US lost access to critical minerals, solar panels would still generate electricity and electric vehicles could still operate. Instead, the risk is more a medium-term question about whether the US can establish a competitive electrical and battery manufacturing sector, says Joe Bryan at the Atlantic Council’s Global Energy Center. “And if you think big picture, the risk is that we are not at the table when there’s a massive transition. We are just not participating in the manner that many of our competitors are,” he said.

Over the longer term, limited access to minerals could constrain the rate at which new power generation is brought online and new vehicles are available, says Sara Hastings-Simon at the Colorado School of Mines. “Not just from a climate standpoint but from a national manufacturing standpoint and health of our economy standpoint, we should be moving aggressively,” Bryan said, noting that other governments have already worked to shore up their supply chains with the European Commission last year approving more than $3 billion in state aid to develop a battery supply chain (NE Dec.12’19).

As more US policymakers turn their attention to the issue, a slew of initiatives have surfaced in Washington. The US Department of Energy is spending money to figure out alternatives to mining — through extraction from existing coal mines or waste streams from geothermal power generation and recycling of old electric vehicle batteries and computers. And while President Trump may have caused a stir last year when he said the US was interested in buying mineral-rich Greenland, Washington has moved forward in cementing ties with the Danish territory. In May, the US established a consulate in Greenland, with US Assistant Secretary for energy issues Frank Fannon later emphasizing the technical assistance the US was offering to develop the island’s minerals resources.

Getting control of Greenland may not be realistic, but closer coordination with allied countries is, several experts said. “We ought to take more seriously our efforts to coordinate with some of our closest allies, and it is the case especially with Canada and Australia,” Duesterberg said. The US can also push back on human rights and environmental problems associated with lax mining oversight. Cobalt (Kinshasa) mining — for now, important to lithium ion battery production — has an especially bad reputation in Congo, where Chinese companies control most of the mines (NE Apr.5’18). The State Department has begun to do both, establishing the Energy Resources Governance Initiative last year with Canada, Australia, Botswana and Peru last year.

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