

By favoring allies, Inflation Reduction Act could delay decarbonization efforts

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A copper mine in the Democratic Republic of the Congo. Credit: [Fairphone](#), Attribution-ShareAlike 2.0 Generic ([CC BY-SA 2.0](#))

A new supply chain shortage is on the horizon, and it impacts the international effort to curb global warming.

To construct the technologies necessary to reduce [global greenhouse gas emissions](#)—such as electric vehicle (EV) batteries, photovoltaic solar systems, and wind turbines—manufacturers need resources called [critical minerals](#). These materials, such as copper, lithium, nickel, cobalt, and other earth elements, are considered "critical" because they're essential to our [world economy](#) and the shift to renewable energy. Unfortunately, their supply chains are easily disrupted—and new regulations under the Inflation Reduction Act limit the pathways to

acquire them, potentially delaying the clean energy transition.

Global demand for critical minerals will increase 400-600% over the next several decades. Yet only a handful of countries produce, refine and manufacture the world's supply. That includes the Democratic Republic of Congo, with around 70% of global cobalt mining, and China with half of the world's rare earth metal production and about two-thirds of all lithium-ion factories. This concentration is part of what makes critical supply chains so vulnerable to disruption, whether due to political turmoil or pandemics.

The concept of "ally-shoring," or sourcing in friendly and [democratic countries](#), has emerged in the U.S. as a potential pathway to strengthen these brittle supply chains. It requires nations to deepen relationships with trusted allies, and to deliberately source essential materials, goods, and services with countries that share democratic commitments as well as transparent and well-governed trade regimes.

The 2022 Inflation Reduction Act (IRA) attempts to ally-shore critical minerals supply. The bill creates roughly \$369 billion in tax credits and funding to support the production of EVs, [renewable energy](#) technologies, and critical minerals. Undoubtedly, the IRA is a huge win for the climate, with provisions to reduce about a gigaton of greenhouse gas emissions in 2030 and reach net-zero emissions by 2050. But the ally-shoring approach proposed in the IRA fails to support predicted critical mineral demand, and may even delay the timeline for decarbonization.

Let's take a look at how the IRA would impact EV production in the U.S. In order to qualify for a \$7,500 federal electric vehicle tax credit, EV manufacturers must complete final assembly of the vehicle in North America. Manufacturers must also satisfy critical mineral and battery component requirements. Specifically, manufacturers can only claim tax credits if 40% of critical minerals contained in batteries are extracted or

processed in the U.S. or any country with which the U.S. has a free trade agreement.

That sourcing percentage increases to 80% in 2027. For other battery components, manufacturers can claim a tax credit if 50% of components are manufactured or assembled in North America. That rate increases to 100% by 2029.

Now let's consider how these requirements will impact the current supply chain. The IRA would immediately disqualify 70% of the existing 72 electric vehicle brands currently available, according to Alliance for Automotive Innovation CEO John Bozzella. The U.S. is not capable of supplying sufficient critical materials and batteries domestically, Bozzella wrote.

He argues the ally-shoring approach of the IRA is too selective, discounting countries friendly to the U.S.. The EU agrees on this point, claiming the IRA's incentives discriminate against the EU and other U.S. trading partners. The IRA also limits the usage of critical minerals from "entities of concern." If China is granted such a designation, the clean vehicle credit scheme would exclude 75% of the world's battery cell manufacturing capacity.

The IRA's ally-shoring approach does not account for the rapid pace at which critical mineral demand will grow. Lithium demand alone is predicted to increase 40 times by 2040, and the IRA's sourcing requirements discount major sources without a viable means of replacing them.

An argument could be made that the ally-shoring approach helps to ensure that the minerals powering the clean energy transition are sourced from countries with ethical human rights and environmental protection practices. However, free trade agreements do not always guarantee

improved mining practices. If [environmental justice](#) is the goal, the IRA would do better to require minerals to be sourced from mines with a third-party verification of sustainable and ethical practices, similar to LEED certifications for buildings.

But this doesn't mean ally-shoring can't play a role in bolstering critical mineral supply chains. To prevent slowing down the clean energy transition with supply chain disruption, the US should expand its net for countries considered in the IRA's ally-shoring approach. Bozzella suggests including nations with collective defense arrangements with the United States, such as NATO member Japan.

Asian countries such as the Philippines, Vietnam, Indonesia, India, and Bangladesh have the capability to play a larger role in the global supply chain. Some, such as Vietnam, have already emerged as a top choice for U.S. manufacturers seeking to move their supply chain out of China.

Broadening the list of eligible countries will allow the U.S. to reduce reliance on China more quickly. To do this, the U.S. can leverage the private sector leadership of companies such as Google and Apple, which are already diversifying their supply chains away from China and into friendly Asian countries.

By expanding the list of ally-shoring partners and leveraging public-private partnerships, the U.S. can avoid accusations of trade protectionism and bolster the critical mineral supply chains essential to addressing the climate crisis.

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