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In countries across Africa, for example, 85% of students are taught in a language they do not speak at home. But we now know that children learn faster and better — and educators teach more effectively — in a language that children already understand well. This is not saying that other languages shouldn't be taught, but that pedagogy is both more effective and more enjoyable in a familiar language (A. N. Kioko *et al. Multiling. Educ.* **4**, 18; 2014).

The lack of progress across the SDGs is troubling, not least because we are failing to keep a promise made to children and young people now and in future generations. But the goal for education can be achieved. It needs more data at both local and regional levels, especially for LMICs. Equally, extra funding needs to be found. And researchers have a special role: providing data and scholarship, and advocating for evidence-based policies.

The world's costly and damaging fight for critical minerals

Certain elements are crucial for the clean-energy transition. Sustainability, equity and security are all at risk in the rush to break China's dominance over their production.

It's an all-too-familiar statement: in a zero-carbon world, certain chemical elements will be as important as oil and gas are to a fossil-fuel-powered world. These include the nickel, lithium and cobalt used in batteries, as well as rare-earth elements such as neodymium and samarium, which are essential to the magnets of wind turbines and electric motors.

The world is struggling to work out how to equitably meet demand for these elements. Last week, in its inaugural Critical Minerals Market Review (see go.nature.com/44lwkbw), the International Energy Agency counted nearly 200 national policies and strategies surrounding the 'critical minerals' needed to keep the lights on and the wheels turning in a low-carbon world. National strategies are necessary, but they should not exclude international cooperation and coordination — which need to happen fast.

An abundance of critical minerals is so far being mined in only a small number of countries. Most cobalt comes from the Democratic Republic of the Congo (DRC) and most nickel from Indonesia. China dominates in graphite and rare-earth elements. In this sense, the situation is not dissimilar to that of fossil fuels, for which a few countries have tended to dominate supply.

But, unlike with fossil fuels, just one country — China — has become the world leader in refining and processing these crucial elements for use in finished products. The singular exception is Indonesia, which, along with China, dominates nickel processing.

> "Friend-shoring is likely to fuel competition and inflate prices."

China's ascendancy is the result of forward thinking by the country's leadership. But it would be unwise for the rest of the world to rely on just one country for the processing of critical minerals. And as other countries build their home-grown mining, refining and processing capacity, they need to think about putting cooperation front and centre.

China, Europe, the United States and others are all investing billions of dollars to acquire access to critical minerals in Africa and South America. This is potentially exploitative. The countries in which the minerals are being mined know it, and are sensibly refusing to be used solely to provide raw materials for other people's batteries, insisting that the processing of minerals into higher-value products happens within their borders, too. Indonesia, for example, has banned the export of nickel ore.

Groups of mineral-rich countries are discussing establishing cartels to allow them to exert more control over pricing. This includes Argentina, Bolivia and Chile, which are thought to hold half of the world's known lithium reserves. Others are considering 'friend-shoring', whereby supply chains are created between friendly countries. This will inevitably lead to complications. Indonesia and the DRC, for example, are friends and trading partners with both China and the United States. From the perspective of economic security, it is not in the interests of any nation to partner with just one other country or group of countries.

Friend-shoring is also likely to fuel competition, inflate prices and send the many who cannot afford the going rate to the back of the queue. If anyone needs a lesson in the folly of this approach, they need look no further than to the immense damage caused by vaccine hoarding during the COVID-19 pandemic. Despite signing up to a global agreement to cooperate, richer countries outbid each other for vaccine supplies. By one estimate, more than one million lives had been lost by the end of 2021 because a few countries massively over-ordered vaccines, which meant there were not enough for everyone else when they were most needed (S. Moore *et al. Nature Med.* **28**, 2416–2423; 2022).

The authors of a Comment article in *Nature* last week present one component of a better approach to critical-mineral use (Y. Geng *et al. Nature* **619**, 248–251; 2023). They lay out clearly what is needed for a 'circular economy' in rare-earth elements, with an emphasis on reusing and recycling materials, rather than fuelling an ever-increasing demand for raw materials. This makes sense. There's no logic to saving the planet from environmentally polluting technologies by using methods to secure critical minerals that are themselves environmentally damaging.

The international community has established cooperative structures on environmental issues such as climate change and deep-sea mining; if it can do that, genuine cooperation is also possible for the mining and processing of critical minerals. Full-blown intergovernmental agreements are complex and time-consuming to prepare, often pitting national interests against planetary ones. The results might be imperfect, but, without them, the alternative could be much worse.