



How African Countries Can Participate in U.S. Clean Energy Supply Chains

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The United States—driven by both climate goals and geopolitical realities—is building out new clean energy industries and securing the necessary supply chains to sustain them. Recent landmark legislation—including the Inflation Reduction Act of 2022, the Infrastructure Investment and Jobs Act, and the Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 (CHIPS and Science Act)—has codified this priority into discrete objectives. Concurrently, the United States is revamping its relationship with Africa, as demonstrated by the recent strategy document focusing on the continent as well as the commitments made during the U.S.-Africa Leaders Summit in December 2022.



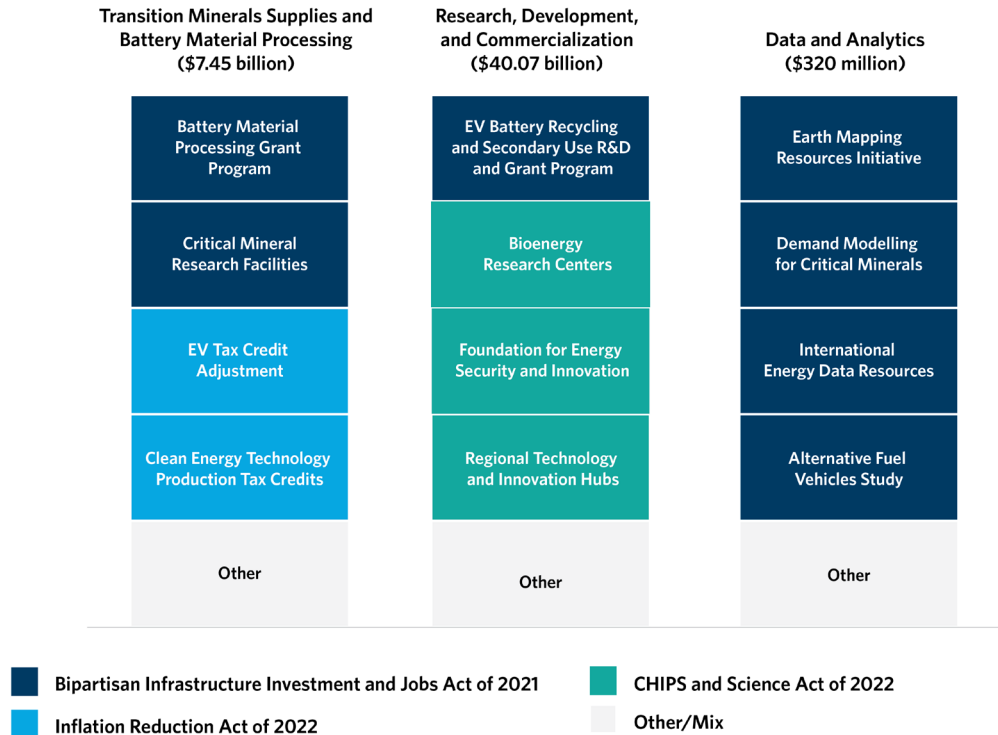
These recommendations are drawn from Zainab Usman and Alexander Csanadi's paper "How Can African Countries Participate in U.S. Clean Energy Supply Chains?," Carnegie Endowment for International Peace, October 2, 2023.

Fortunately, there are significant areas of synergy between these twin objectives of developing new clean energy supply chains and reorienting the U.S. economic and strategic relationship with Africa. African countries might integrate with U.S. clean energy industries along/within three possible domains (see Figure 1). The recent major pieces of legislation mentioned above offer a total of \$47.84 billion in appropriations across these three categories. Although these funds have not been authorized specifically for Africa, they are relevant to efforts to achieve this U.S.-Africa partnership, albeit contingent on other factors such as subsequent regulations and secondary policies.

TRANSITION MINERALS SUPPLIES AND BATTERY MANUFACTURING

There are twenty mineral producing countries in Africa for which the sector accounts for at least 25 percent of exports. There is significant potential for American companies to source processed transition minerals from African producers in these countries to achieve U.S. strategic objectives of diversifying its sources of mineral supplies. Specifically, the thirty-five countries that already have duty-free access to the U.S. market through the African Growth and Opportunity Act (AGOA) could include suppliers of transition minerals that have undergone some processing and refining, provided that both the U.S. and

Figure 1. Highlights of Programs and Initiative Within U.S. Clean Energy Legislations that may be Relevant to African Countries



African sides support certain policy enablers and regulations. These enablers have precedence, and can be achieved through regulations designed by the Departments of Treasury and Energy, as well as by using AGOA as the basis for negotiating a Critical Minerals Agreement, similar to that which exists for Japan.

RESEARCH, DEVELOPMENT, AND COMMERCIALIZATION

Opportunities here can include research and development (R&D) partnerships between U.S. firms and entities in African countries that have strong hydrogen potential—including Morocco, Namibia, and South Africa, where the U.S. presence in this industry is nearly non-existent compared to European engagement. Furthermore, leveraging the USAFRICOM State Partnership and Sister City Partnership programs in U.S. states will facilitate research and knowledge exchanges between U.S. and African firms, as these states will be home

to some of the twenty regional technology and innovation hubs authorized by the CHIPS and Science Act. By coordinating on research, development, and commercialization activities, the United States can further its strategic objectives, while African countries can spur future innovations enabled by their access to the latest technologies through coordinated transfer mechanisms.

DATA COLLECTION AND ANALYTICS

Synergies exist between the United States and African countries on strengthening data collection and analytics on the global supply of transition minerals and in demand-forecasting. One major area for collaboration is in the mapping of transition minerals in Africa through the Earth Mapping Resources Initiative of the U.S. Geological Survey (USGS). A second area of collaboration relates to the U.S. Energy Information Administration's collection and analysis of international energy data.

Improved knowledge on the global allocation of key minerals as well as energy analytics serves the U.S. objective of designing policy to both secure its own supply chains and counter potentially coercive energy diplomacy on the part of competitors.

Many African countries are well endowed with the minerals needed to fuel clean energy industries. This confluence of resource abundance and strategic priorities creates an opportunity for the U.S. to forge a new economic partnership with the continent based upon a sector in which it has been a minor player relative to other global powers (see Figure 2).

Recommendations

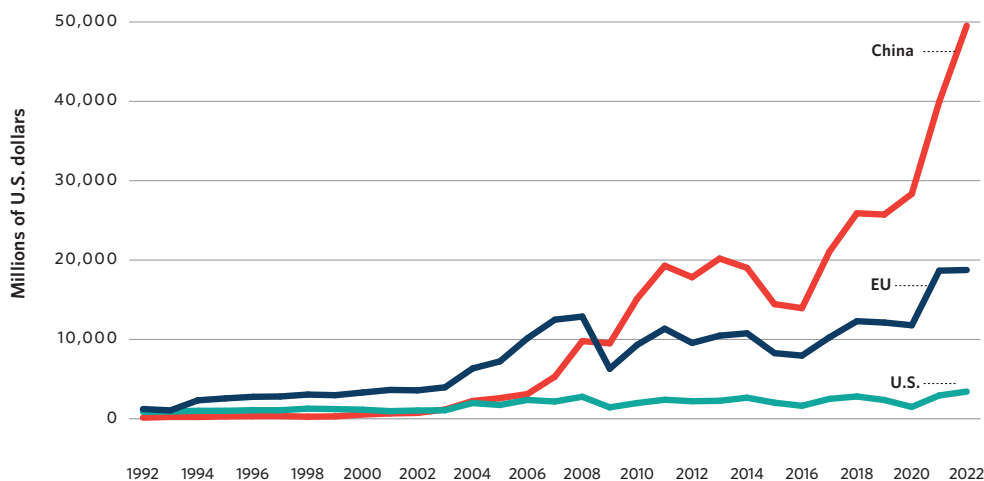
Important actions remain to be taken in order to fully realize the benefits of a new economic partnership between the United States and the African continent predicated on the foundation of clean energy supply chains. We offer policy recommendations to various sets of actors, including the U.S. government, African policy-makers, and various nongovernmental actors.

U.S. GOVERNMENT

1. Leverage and rethink AGOA as the basis for a trade deal for the United States to source transition minerals from African countries to achieve U.S. supply chain security and development of value chains for African countries. As discussions around the future of AGOA pick up, the potential of growing the U.S.-Africa trade in transition minerals should provide a new imperative for its reauthorization as the basis for negotiating a new economic partnership. Specifically, AGOA could be the basis of a trade deal for the United States to source processed minerals from Africa, in the same manner as Japan's Critical Minerals Agreement. AGOA champions should convey clearly to the U.S. House Ways and Means Committee, the congressional entity with jurisdiction over AGOA, the new merits for reauthorizing the program.

2. Extend an offer of membership in the Mineral Security Partnership to select African countries, with a complementary investment promotion strategy for implementation. In expanding the MSP to include African countries, the U.S. government should incorporate a concrete

Figure 2. Comparing 30 Years of Metals Imports from Africa: 1992-2022



Source: Authors' calculations from the World Bank's World Integrated Trade Solution database. [Figure is based on a summation of product codes using HS 1988/92 nomenclature. The following codes were used: 26, 72, 73, 74, 75, 76, 78, 79, 80, 81 and 83.]

private sector investment strategy for its implementation. Specifically, it should help identify, for the private sector, opportunities in the mining value chain in Africa and specify the kinds of support that the U.S. government can provide so that there is a concrete alternative to the elaborate networks of Chinese investments in the mining sectors of African countries.

3. Fund and support the build-out of the African Mineral Development Centre (AMDC) as a world-class center of excellence for natural resources management. The support for the development of the AMDC as an effective agency for coordinating African Union members states' policies on transition minerals should draw on a previously successful American effort to stand up the African Centres for Disease Control and Prevention.

AFRICAN POLICYMAKERS

1. Invest in repositioning African domestic (national, regional, and pan-African) energy R&D, data, and analytics institutions.

Beyond the African Mineral Development Centre, institutions like the African Union Development Agency – the New Partnership for Africa's Development and African Natural Resources Management and Investment Centre will be key bodies for providing thought leadership and technical assistance to member states. There should be a clear definition, and in some cases a refresh, of these institution's statutory and operational mandates. Additionally, these organizations need increased, stable, and sustained funding to effectively execute their mandates.

2. Empower the African diplomatic corps in the United States to better engage American policy and the private sector to participate in clean energy supply chains. Individual country embassies should support a well-resourced cadre of political and economic counselors to actively map and maintain dynamic relations with the crucial U.S. government individual and organizational actors beyond their country desk officers. Political and

economic engagement by African diplomatic representatives must go beyond the federal government to the U.S. states as well as the private sector.

NONGOVERNMENTAL ACTORS

1. The U.S. private sector should make the business and strategic case to the U.S. government for policy and regulatory carveouts to enable the sourcing of transition minerals from Africa. Segments of the U.S. private sector that understand the commercial opportunities in Africa should make a strong business case for the sourcing of processed transition minerals from the continent. The Corporate Council on Africa, the U.S. Chamber of Commerce, and the Presidential Advisory Council on Doing Business in Africa are a few examples of entities well suited for this role.

2. Corporate philanthropies should invest in enabling upstream value-chain development in Africa for these clean energy technologies.

In the United States, these actors can provide grant funding in partnership with government agencies to facilitate private investments for mineral processing and refining in African mineral-rich countries destined for the American market. On the African continent, corporate philanthropies can provide grant funding to strengthen the domestic policy research and development institutions as well as provide seed capital to African small and medium-sized enterprises along the mining value-chain.

3. Scholars should identify and bridge knowledge gaps on clean energy value-chain development in Africa by conducting country-level and subregional analyses. The high-level policy commitments called for above are a critical first step, but actually ensuring successful initiatives will require detailed technical analyses couched in both the physical and sociopolitical contexts of specific countries and subregions.

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