OPEN: POLICY

NDCs, Critical Minerals & Climate Justice Series

MADAGASCAR: NATIONALLY DETERMINED CONTRIBUTIONS, CRITICAL MINERALS AND JUST ENERGY TRANSITION

SARW
Southern Africa Resource Watch

Email: info@sarwatch.org
Phone: +27(0) 10 157 0194
www.sarwatch.org

INTRODUCTION

Madagascar is one of the most climate-vulnerable countries in the world. According to the World Bank's Climate Change Knowledge Hub, from 1980 to 2010 Madagascar suffered 53 natural hazards (including, droughts, earthquakes, epidemics, floods, cyclones, and extreme temperatures), which caused economic damages of over US$1 billion.[1]

Madagascar experiences an average of three cyclones per year.[2] The situation is worsened by the high poverty rates and the lack of functional institutions. In such a situation, the island state's exposure to natural and climatic hazards such as floods, droughts, cyclones, extreme temperatures, and sea level rise are realities that shape the choices it has made in its nationally determined contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC). Co-existing with this vulnerability is Madagascar's potential contribution as a solution country to the emission reduction goals of the Paris Climate Agreement, as a supplier of green technologies critical to the global energy transition.

Critical Minerals and Renewable Energy Technology

Madagascar is rich in mineral resources, including chromite, cobalt, nickel, gold, titanium, zirconium, graphite, mica, nitrogen, ammonium sulphate, and coal. Its mineral wealth (particularly graphite, cobalt, ilmenite, mica, nickel, and zircon) holds the key to economic development amid the global transition to clean energy sources. As the demand for electric vehicles surges, Madagascar's graphite (a critical component in lithium-ion batteries) is integral to the manufacturing of electric vehicles (EVs) batteries and renewable energy storage systems.[3]

As the world shifts towards cleaner energy sources and EV adoption rises, Madagascar's graphite production becomes integral to the supply chain of other green technologies.[4] These include solar panels, wind turbines and components for mobile phones and other electronics. Its mineral wealth presents opportunities for Madagascar's economic development and diversification. Graphite mining in Madagascar contributes to the supply chain of green technologies, aligning with the goals of the just energy transition globally.

Mining and Energy Implications

The mining sector consumes considerable energy, and is heavily dependent to fossil fuel imports. Indeed, most of the electricity demands are fulfilled by diesel power plants which add greenhouse gas (GHG) emissions[5] to the atmosphere. With only 15 per cent of the Malagasy population having access to electricity (only five per cent in rural areas),[6] the country's energy poverty is worsened by the disproportionate share of electricity used by heavy industries such as mining.

The opportunity to increase revenue from critical minerals through value addition and manufacture of finished renewable energy products is a national priority. However, Madagascar's natural resource wealth is not being captured effectively to support industrial transformation, poverty reduction, and sustainable development.[7]

Fighting Energy Poverty

Access to energy is a cornerstone of the government's efforts to lift citizens out of poverty. In its energy plans, the objective of the government is to double energy production within five years, increase access to electricity for at least 70 percent of the population by 2030, improve reliability of supply, and reduce energy prices.[8]

With considerable renewable energy potential, including wind, solar, and hydropower resources, leveraging these resources will reduce the country's reliance on fossil fuels. Expansion of electricity to 70 per cent of the population is in line with the UN Sustainable Development Goal No. 7 and the Paris Agreement goals for a just energy transition. 75 per cent of Madagascar's population lives below the national poverty line, only 10 per cent of the population has access to basic sanitation, and almost 50 per cent of children suffer from malnutrition and stunting.[9]

Mining and Environmental Degradation

In recent years, unregulated mining of precious stones has led to the destruction of thousands of acres of rainforest, including in environmentally protected areas. In respect of critical minerals, Ambatovy, a major industrial operation mining and refining nickel and cobalt in Madagascar, concerns have been raised about the company's bad environmental practices. In particular, the company's impact on fresh-water resources and drinking water has been identified as non-compliant with environmental laws.[10] In the Ambohitsy Haut village in southern Madagascar, graphite mining has been linked to contamination flowing from waste dumps and the tailings storage facility; runoff leading to soil and water pollution; dust pollution due to mine traffic; potential oil and fuel leakages.[11] The blasting at mining sites has raised noise pollution and dust for the nearby communities.

Mining activities are threatening displacements of the local communities as the Malagasy law offers little protection for citizens who do not hold legal claims to land when a mining company comes. Most people in Madagascar don't have formal titles to their land.[12] Madagascar's mining regulations do not compel companies to perform an environmental and social impact assessment before applying for, or receiving, an exploitation license. Madagascar's legal framework for mining development is silent on workers' and human rights.

The surge in the demand for graphite, unlike the previous demand for minerals, is linked to a global sustainability objective: emission reduction expressed through energy transition from fossil fuels to renewable sources. Graphite is a means to the manufacture of green technologies central to the energy transition. The just transition is steeped in international human rights law and standards.

Box 1: Selected Sector Plans Critical to Madagascar's

- The Madagascar Renewable Energy Efficiency Policy (PREREE)
- The Madagascar National Energy Efficiency Strategy (NEEEM)
- The Madagascar National Electricity Access Strategy (NASE)
- The Madagascar National Climate Change Adaptation Strategy and Action Plan (NCCASAP)
- The Madagascar National Renewable Energy Action Plan for Agriculture (NREAP-Ag)
- The Madagascar National Industrial Development Strategy (NIDS)
- The Madagascar National Cleaner Production Strategy (NCPS).
- The Madagascar National Transport Policy
- The Madagascar National Electric Vehicle Development Strategy (NEVDS)
- National Electrification Program (PRONE)

NDC

The government must use the energy transition opportunity to ensure that the production of critical minerals is human rights compliant and respects the integrity of the environment. Revising the mining code provides the government with the opportunity to include the creation of decent jobs, protection of workers' rights including for women miners, living wages, social dialogue, and social protection. Such a situation will yield a social licence for the extraction of mineral resources and, indeed, a social contract for the sustainability of Madagascar's climate action.

The Madagascar Climate Response and Action

Madagascar's National Policy to Combat Climate Change, developed in 2010, has as its primary goal to "strengthen adaptation to climate change." The Ministry of the Environment, of Ecology, the Sea, and Forests (MEEMF) handles coordinating, implementing, and mainstreaming climate change actions in social and economic sectors. Madagascar has put in place several sectoral plans to achieve a just energy transition.

GHG Emission Reduction Targets and the Energy Transition

According to the UNFCCC: protecting the world's forests is crucial for the climate. Forests absorb vast amounts of carbon dioxide and can be a source of greenhouse gas emissions when destroyed or damaged. Countries established the 'REDD+' framework to protect forests as part of the Paris Agreement. 'REDD' stands for 'Reducing emissions from deforestation and forest degradation in developing countries. The '+' stands for additional forest-related activities that protect the climate, namely sustainable management of forests and the conservation and enhancement of forest carbon stocks. Under the framework with these REDD+ activities, developing countries can receive results-based payments for emission reductions when they reduce deforestation. This serves as a major incentive for their efforts.

Madagascar's intended nationally determined contribution (INDC), states that Madagascar aims to reduce its GHG emissions by 14 per cent by 2030 compared to a business-as-usual (BAU) scenario, conditioned on financial support from the international community.[13] Proposed mitigation actions include reforestation, enhanced forest and grassland monitoring, climate-smart rice farming techniques, increased hydropower and solar energy, sustainable cookstoves, and energy efficiency.[14] Madagascar's INDC builds on national policies, including the 2010 National Climate Change Policy, which aims to reduce Madagascar's vulnerability to climate change, mitigate emissions, and reduce deforestation. Madagascar is also working on a proposal for REDD+ readiness. Currently, there are five ongoing REDD+ pilot projects in the country and at least six more are being developed.[15]

In addition to the above, Madagascar, has also been working to put in place policies and frameworks that support the transition to renewable energy projects such as solar, wind, bioenergy and hydro energy harnessing its rivers.

Mobilising Climate Finance

Climate action is funded by a combination of national and international finance. The government of Madagascar is working to improve the regulatory environment for renewable energy and to attract foreign direct investment into the sector. The government has established a number of agencies and departments to support the development of renewable energy, such as the National Energy Agency (ANE) and the National Electrification Agency (JIRAMA).[16]

The OPEC Fund for International Development (OPEC Fund) and the United Nations Industrial Development Organisation (UNIDO) have signed an agreement to provide $1.5 million in grant funding for technical assistance support for Madagascar's National Clean Cooking Transition Programme.[17] The two agencies also signed a declaration to reinforce their partnership in promoting the energy transition and securing access to energy.[18] These form an important pillar for Madagascar's just energy transition efforts. A truly transformed energy transition will have to ensure access to energy for marginalised groups, women, people living with disabilities, and poor members of communities.

Carbon Sinks: Protecting Madagascar's Forestry

As critical mining activities increase, it is important for Madagascar to protect its natural environment and nature-based climate solutions. To this end, Madagascar has signed several agreements under the REDD+ framework. It has signed an agreement with the World Bank to reduce poverty, deforestation and carbon emissions.[19] This is in addition to a related World Bank project called Forest Carbon Partnership Facility (FCPF) which seeks to unlock up to $50

million for carbon emission reduction efforts through taking measures to curb deforestation and forest degradation between 2020 and 2024.[20] An Emission Reductions Payment Agreement (ERPA) is in place and Madagascar is expected to reduce 10 million tons of carbon dioxide emissions from the country's rainforest-rich eastern coast.[21] These efforts will enhance Madagascar's NDC.

But there should be a warning: climate-induced credit or loans must not further weaken an already debt-stressed country. For example, the African Development Bank (ADB) has approved a $43 million loan to finance the second phase of Madagascar's power transmission project.[22] Another loan from the World Bank, of about $400 million, is credit for the Digital and Energy Connectivity for Inclusion in Madagascar Project (DECIM) that will contribute to doubling energy access from 33.7 per cent to 67 per cent and add an additional 3.4 million internet users to promote socio-economic inclusion.[23]

To avoid a debt trap, Madagascar must increase its ability to add value to its critical minerals and diversify the structure of its economy. This includes manufacturing of finished batteries within the country and establishing fiscal linkages to achieve domestic resource mobilisation.

Way Forward

Mining for Inclusive Growth and Global Transition

Madagascar's mineral wealth (especially graphite and cobalt) is crucial for green technologies, and presents economic and social opportunities for local communities. Responsible mining practices, community engagement, and adherence to environmental, social and governance (ESG) standards must inform the pathway to a just energy transition. It is crucial to involve all stakeholders, to prioritise local communities, and to ensure that the transition benefits all segments of society.

Addressing the Severe Impact of Climate Change

Madagascar is severely affected by climate change with frequent cyclones. Attention needs to be paid to the prioritisation of adaptation measures and climate resilience-building. This includes implementing policies to strengthen adaptation challenges to protect communities and biodiversity from climate-induced loss and damage.

Balance Development and Social Equity

Madagascar should revise its mining regulations to include prior environmental and social impact assessments, workers' rights protection, and human rights considerations. The goal is to ensure responsible mining practices that will benefit both the industry and local communities.

In conclusion, Madagascar faces a complex and multifaceted climate challenge as the country strives to achieve a just energy transition. With its abundant critical mineral resources, the mining-energy nexus must underscore the critical role of energy access through the manufacture of renewable energy technologies. The deployment of solar and wind energy will accelerate access to affordable and reliable electricity by off-grid communities.

The current heavy reliance on fossil fuel imports, especially in the mining sector, poses environmental and social risks. However, biodiversity and the existence of nature-based solutions means that Madagascar is one of the climate solution countries.

References

1. World Bank, "Climate Knowledge Portal" <https://climateknowledgeportal.worldbank.org/sites/default/files/2018-10/wb_gfdrr_climate_change_country_profile_for_MDG.pdf> accessed 15 October 2023.
2. WorldBank Group 2021
3. Yager 2022
4. World Bank 2022
5. Praene et al (2017)
6. World Bank 2021
7. ibid
8. International Trade Administration 2021
9. Rodolphe Rakoto-Harisoa and John Garrett 2018
10. Owen, J. R., Kemp, D., Lechner, A. M., Harris, J., Zhang, R., & Lèbre, É. (2023).
11. Malavika Vyawahare, "Madagascar: What happens to villagers when a graphite mine comes knocking?" (27 April 2023)
12. Owen, J. R., Kemp, D., Lechner, A. M., Harris, J., Zhang, R., & Lèbre, É. (2023).
13. Madagascar NDC 2015
14. Ibid
15. World Bank 2021
16. ibid
17. Rebecca Campbell 2023; OPEC Fund financing clean cooking energy transition in Madagascar
18. ibid
19. ibid
20. ibid
21. ibid
22. AFDB 2020. Madagascar: The African Development Bank approves $43 million loan to finance second phase of power transmission project AFDB 2020. Madagascar: The African Development Bank approves $43 million loan to finance second phase of power transmission project
23. World Bank 2023

SARW

Southern Africa Resource Watch