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NDCs, Critical Minerals & Climate Justice Series

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

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INTRODUCTION

Zimbabwe has witnessed climate shocks due to extreme weather events that include cyclones, heat waves, and droughts. This has caused serious loss and damage impacting on infrastructure such as shelter, roads and buildings. Rural and vulnerable populations have lost livelihoods.

In its revised nationally determined contribution (NDC), Zimbabwe seeks to address these extreme effects and, at the same time, contribute to the global effort to cut greenhouse gas (GHG) emissions. This policy brief explores the nexus between Zimbabwe's NDC, critical minerals, and the energy transition.

Critical Minerals Endowment

Zimbabwe is a mineral-rich country with over 60 internationally tradable minerals.[1] These constitute about 11 per cent of the gross domestic product and a 60 per cent share of export earnings. The country has platinum group metals (PGM), chrome, gold, diamonds, and vast coalfields used as thermal power for electricity generation at Hwange mine.

Zimbabwe has minerals that are key to the global energy transition. In addition to PGM and nickel, Zimbabwe has discovered hard rock lithium reserves. According to the government of Zimbabwe, it has the largest amount of the mineral in Africa and has enough of it to supply a fifth of the world's needs. Lithium is central feedstock to the production of clean energy technologies. Lithium is valuable as a part of electronic batteries (used in electric vehicles, mobile phones and computers) and is known as "white gold."[2] The price has gone up by 1100 percent in the past two years alone.[3]

Chaos marked the discovery of lithium in some parts of the country as artisanal miners traded the mineral on the open market. In December 2022, the government of Zimbabwe published Statutory Instrument 213/2922 banning the export of raw lithium, with some exceptions.

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The abundance of lithium and other critical minerals have positioned the country as a solution country. However, there has not been an investment plan to manufacture finished products such as lithium batteries. What is apparent is that Zimbabwe will potentially benefit from the exponential demand for electric cars and the general use of lithium batteries in the storage of renewable energy.

Zimbabwe's Energy Mix

Zimbabwe's energy mix consist of hydropower (70 per cent), coal (29 per cent) and renewables (1 per cent).[4] However, the country's major hydropower station at Kariba has been unreliable due to low generation capacity attributed to the seasonal nature, as well as unreliable rainfalls at the source of the Zambezi River that feeds water into the Kariba dam. The coal-fired thermal power plants in Hwange play a crucial role in the country's electricity generation.

With energy requirements of about 2000MW, Zimbabwe's installed generation capacity of 1800MW is clearly inadequate. The two main power generation sites produce an average of only 1200MW due to dilapidated infrastructure and low levels of water in Kariba. The electricity supply gap is often closed by imports from Mozambique, and at times from South Africa's Eskom.

In response, the electricity company implements load-shedding to limit consumption and to reduce pressure on the grid. The unmet electricity need is high. Only 34 per cent of households receive electricity nationwide (81 per cent in

urban areas and 10 per cent in rural ones). Although progress has been made, country-wide rural electrification is yet to be realised. In its National Development Strategy 1, Zimbabwe has placed energy security high on its agenda. It aims to increase the reliability and availability of low-priced electricity and increase household access from 52.2 per cent in 2017 to 72 per cent in 2030.[6] The mining sector consumes about 12 per cent of the energy, making it the biggest energy consumer in the country. It is one of the main drivers of power demand which is also a key source of revenue and employment.[7]

Zimbabwe's renewable energy investments will not close the unmet energy gap in the short term. There have been delayed investments in the sector. At this point, an irony that must not escape Zimbabwe's renewable energy story needs to be told. In 1996, Zimbabwe hosted the United Nations World Solar Summit,[8] yet the momentum gathered in 1996 was lost along the way, and the country is yet to develop a coherent solar energy policy. However, due to electricity shortages, a new impetus has been gained and solar energy investments are on the rise.

Solar uptake has seen about 32 per cent of all households in the country as consumers turn to rooftop solar power. Measured against a potential for residential solar estimated at 300MW of electricity, a small fraction has been achieved so far. In the near projections, the country is aiming to increase the renewable energy contribution to 1100MW (or 16.5 per cent of the overall electricity supply) by 2025.

A policy framework for the production and use of liquid biofuels in the Zimbabwean transport sector (March 2019), states that, in respect of liquid fuels for automotive use, petrol-ethanol blending has been identified in the NDC as one of the projects for a low-carbon development pathway and mitigation contribution. Ethanol blending is expected to play a key role in substantially reducing GHG emissions by year 2030 at 20 per cent level of blending. The policy presents opportunities for rural communities to participate in the ethanol value chain by supplying the feedstock. How this will be done is not clearly set out in public policy. What is apparent is that biofuels are supplied by a monopoly company, Green Fuel, located at its Chisumbanje sugarcane bio-ethanol plant. In 2013, the government introduced mandatory blending of anhydrous ethanol with unleaded petrol varying between ten per cent and twenty per cent, depending on ethanol supply.

In terms of investment trajectories, renewable energy remains dwarfed by the scale of fossil fuel energy investments. Chinese loans and technical support into the coal-powered thermal stations at Hwange is instructive. In the Cabora Bassa Basin, Zimbabwe has a massive oil and gas exploration project owned by the Australian stock exchange listed company Invictus. For the foreseeable future, fossil fuels will dominate Zimbabwe's energy mix. Against this background, the critical issue of interest is whether Zimbabwe's NDC commitment to mitigate energy-related GHG emissions is being matched in practice.

Zimbabwe's NDC and Climate Action

Zimbabwe's revised NDC set out a target of reducing GHG emissions by 40 per cent by 2030, a significant 7 per cent increase from the 33 per cent reduction in per capita emissions in its intended NDC (INDC) in 2015.[9] The first NDC covered only the energy sector. In its revised NDC, Zimbabwe adopted an economy-wide approach. It articulates plans for the following key sectors: waste; industrial processes and product use (IPPU); and agriculture, forestry and other land-use (AFOLU). Furthermore, the revised NDC outlines the country's climate adaptation action, taking into consideration its high vulnerability to climate-induced loss and damage. Since the submission of its intended NDC in 2015, Zimbabwe has developed policy measures to support its climate action commitments. Some of the key policies are shown in Box 1 below.

Box 1: Policy Measures Supportive of the NDC

1. National Climate Policy
2. Low Emission Development Strategy
3. National Adaptation Plan Roadmap
4. Third National Communication to the UNFCCC
5. 2017 System Development Plan
6. Renewable Energy Policy

7. Biofuels Policy
8. Revised National Gender Policy and Implementation Plan
9. National Water Resources Master Plan, (draft) National Agriculture Policy Framework, Climate
10. Smart Agricultural Investment Plan
11. National Industrial Development Policy
12. Environmental Management Act

Source: Zimbabwe NDC, 2021

Mobilisation of Climate Finance to support the NDC

Article 2 of the Paris Agreement includes a provision to make finance flows consistent with a pathway towards low GHGs and climate-resilient development.

Against the failure by rich countries to meet their Copenhagen pledge to mobilise $100 billion a year from 2020 to support climate action in developing countries, the area of climate finance remains contentious and emotive. It is inconceivable how Zimbabwe, which is under international restrictive measures and in foreign debt arrears that are preventing it from accessing multilateral credit lines, will succeed in achieving its NDC commitments that are conditional on international aid. Zimbabwe needs US$7.88 billion to tackle climate change.

As of 27 January 2022, the Global Climate Fund (GCF) had approved 190 projects with 68 per cent of the projects under implementation stage, worth US$6.8 billion. But Zimbabwe has only received funding for two projects from the GCF: the Integrated Climate Risk Management for Food Security and Livelihoods in Zimbabwe worth US$10 million and the Building Climate Resilience of Vulnerable Agricultural Livelihoods in Southern Zimbabwe worth US$47.8 million.[11] The gap between promise and disbursement is always huge when it comes to climate finance. The GCF is a mechanism under the UNFCCC that provides climate finance[12] to developing countries to limit or reduce their GHG emissions and adapt to climate change. Under the Paris Agreement, developed countries carry obligations to provide "new and additional financial resources".

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Bloomberg states that the global market for carbon offsets is worth about $2 billion and is projected to grow to as much as $1 trillion in 15 years.[13] Zimbabwe is one of the few African countries that have developed mechanisms to attract and regulate carbon trading, a mechanism falling under Article 6.2 of Paris Agreement, carried over from the Kyoto Protocol's Clean Development Mechanism (CDM).[14]

Zimbabwe has taken radical measures to optimise the localisation of proceeds from carbon trading. About 50 per cent of revenue from carbon trading projects will be allocated to the fiscus, 20 per cent to host communities, and 30 per cent to foreign entities.[15] However, a mega carbon offset project in Kariba has been in the media for an alleged incident of massive corruption.

The UN SDG-Fund has approved a $45 million programme to transform Zimbabwe's renewable energy drive.[16] The fund uses a matching model and, in this case, the UN SDG-Fund contributes $10 million, the government of Zimbabwe through the Infrastructure Development Bank of Zimbabwe (IDBZ) and local partners including Old Mutual Investment Group (OMIG), Zimnat Asset Management and CABS are supporting the programme with $35m.[17]

The Way Forward

Clean Energy Acceleration

In the energy sector, Zimbabwe should

incentivise investments into renewable energy projects. The dominance of coal in the country's energy mix is a challenge that must be addressed. Transitioning from coal must be guided by a well thought out transition strategy. Coal producing countries such as South Africa, Indonesia, and Vietnam have each signed Just Energy Transition Programmes (JETP). However, Zimbabwe faces international isolation and cannot broker such a deal given its antagonistic relations with western powers in the Group of 7 industrialised countries. Such a limitation calls for serious consideration of how democratic reforms can mend the political risk perception and evidence of undemocratic practices in Zimbabwe.

To achieve a just energy transition, Zimbabwe must promote off-grid solutions to increase access to electricity for hard-to-reach communities. Public-private partnerships must be promoted and facilitate the development of independent power producers to provide localised power solutions.

Critical Minerals and Industrial Policy and Transformation

Zimbabwe must continue to tighten its prohibition of export of unprocessed minerals. However, such measures are not sufficient without crafting policies and incentives for the establishment of industrial and manufacturing capacity. For a country that faced capital flight and de-industrialisation during the era of IMF-World Bank sponsored Economic Structural Adjustment Programs (ESAP), and poor political and economic governance for some years now, Zimbabwe's industrial capacity is crippled. The energy transition is an opportunity for re-industrialisation through beneficiation of lithium. There is much talk about linkages to electric vehicle value chains through manufacturing of lithium batteries. Talk is cheap. Harare must invest in technical know-how and attract the required investment capital. It must set clear priorities for action in its industrial policy and implementation plans.

Alternatives exist in SADC, regional level, critical minerals value chains. South Africa has an advanced auto industry and the Democratic Republic of Congo (DRC) and Zambia have signed a cooperation agreement for the manufacture of lithium batteries. In the spirit of regional integration, the African Mining Vision and draft African Green Mineral Development Policy, Zimbabwe can beneficiate its lithium, nickel and PMG and feed into regional electric vehicle battery manufacturing initiatives.

Inclusive and Just Transition

The growing demand for lithium, PMG and nickel, among other transition minerals mined in Zimbabwe, is an opportunity to create value chains that benefit local communities, and promote the diversification of livelihoods. Access to electricity must be universal. Green jobs and business opportunities must be premised on deliberate supplier and enterprise development support.

Policy and Legal Reforms

Zimbabwe, like many developing countries, does not have comprehensive climate framework policies and legislation. For example, the European Union has a list of critical minerals and a Critical Raw Materials Act which is linked to its Green Deal Industrial Plan. A review and alignment of climate change related laws is important for Zimbabwe to follow. Such legislative reforms assume that legislators are equipped with various aspects of climate change risks and opportunities to promote informed law-making in Zimbabwe.

Mobilising Climate Finance

Regarding climate finance, Zimbabwe can further mobilise funds through mechanisms such as carbon trading and other domestic and international opportunities. However, transparent and community-engaged partnerships should be a priority to avoid potential disputes.

Carbon Trading Scheme

Zimbabwe must consolidate its carbon offset schemes. The allegations of corruption in its

carbon trading markets point to the need for stricter regulation to monitor and de-risk carbon offset investors. Furthermore, a balance between conservation of Zimbabwe's forestry and regulation of critical mineral activities is important. Unchecked, mining activity degrades the natural environment, including forestry and natural ecosystems.

Conclusion

Zimbabwe's revised NDC signals a more ambitious whole-economy commitment to combating climate change. However, Zimbabwe has not developed a coherent policy to beneficiate its critical minerals. This remains a weakness in the country's industrialisation strategies. Importing finished renewable energy products is a waste of foreign exchange and pushes the cost of renewable energy too high for poor households.

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