REQUEST FOR EXPRESSIONS OF INTEREST

AFRICAN DEVELOPMENT BANK
Immeuble CCIA, Abidjan, Côte d’Ivoire
African Natural Resources Centre
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Department issuing the request: AFRICAN NATURAL RESOURCES CENTRE
Position: INDIVIDUAL CONSULTANCY SERVICES FOR DEVELOPMENT OF AN APPROACH PAPER TO GUIDE PREPARATION OF AN AFRICAN GREEN MINERALS STRATEGY
Place of assignment: Home-based work
Duration of the assignment: 30 Man days delivered in four (4) Months
Tentative Date of commencement: May 2022
Deadline for applications: 30th April 2022
Applications to be submitted to Ms. Promise ADERIBIGBE (P.ADERIBIGBE@AFDB.ORG) With a copy to Ms. Maali HARRATHI (M.HARRATHI@AFDB.ORG)

Any questions and requests for clarifications may be sent to Mr. JERRY AHADJIE (J.AHADJIE@AFDB.ORG ) with a copy to Ms. Promise ADERIBIGBE (P.ADERIBIGBE@AFDB.ORG)
TERMS OF REFERENCE

CONSULTANCY SERVICES FOR DEVELOPMENT OF AN APPROACH PAPER TO GUIDE PREPARATION OF AN AFRICAN GREEN MINERALS STRATEGY

1. Introduction

The African Development Bank established the African Natural Resources Centre (ANRC) to support Regional Member Countries (RMCs) to maximize development outcomes derived from their natural resources. The scope of the Centre combines renewable (water, forestry, land and fisheries) and non-renewable resources (oil, gas and minerals). The ANRC’s desired outcomes are better stewardship of African natural resources through good governance, containment of adverse social and environmental impacts, enhancement of linkages with domestic economies and equitable resources access. To achieve this, the Centre advises the Bank’s RMCs on selected aspects of natural resource management, to enable them maximise the social and economic value obtainable from the exploitation of natural resources.

2. Context

Climate change induced by carbon emissions from the use of fossil fuels has been recognized as a major threat to the earth and livelihoods, and consequently low carbon energy technologies which use minerals classified as critical or strategic are on the rise as alternatives. Over the past decade, the world has witnessed a series of agreements under the United Nations Framework Convention on Climate Change (UNFCCC) on how to reduce greenhouse gases (GHG) and their impact on climate change. The recent 2019 United Nations (UN) Climate Action Summit advocated for further climate action to reduce GHG emissions to prevent the mean global temperature from rising by more than 1.5°C above pre-industrial levels. Achieving this goal calls for a global resolve to embark on development patterns that would significantly be less GHG intensive. By inference, a carbon-constrained future would be characterized by a decline in non-renewable resource development and use. In the current technological development, the alternatives to drive this future are energy storage facilities for energy harnessed from renewable (wind and solar) sources, and electric vehicles (EV) substituting fossil fuel powered Internal Combustion Engines (ICE).

Minerals and metals that are expected to see heightened demand during the energy transition include cobalt, copper, lithium, manganese, graphite, nickel, aluminium, steel, zinc, phosphate and rare earth elements. These minerals are also often referred to as the green minerals. It is estimated that in the most significant scenario of electric storage batteries use, the demand for aluminium, cobalt, iron, lithium, manganese, and nickel will increase significantly to prevent the mean global temperature from rising by more than 1.5°C. Thus, the demand for these minerals is growing strongly and supply is becoming a strategic issue for many countries and continents. This requires innovation to significantly improve the security of supply chains for minerals and materials and facilitate the deployment of clean energy technologies that are essential in addressing the existential threat of climate change.

Africa hosts significant volumes of these strategic/green minerals. According to the United States Geological Survey (USGS) data on global mineral reserves, Africa hosts: Cobalt (52.4%), Bauxite for aluminium production (24.7%); Graphite (21.2%), Manganese (46%) and Vanadium (16%). Undoubtedly, Africa will be the driving force behind the cobalt value chain. There are also significant lithium deposits in the greenstone belts in Zimbabwe, DRC, Ghana and Mali. Globally, the demand for these minerals for the low-carbon energy transition will boost mining activities in resource-rich African countries.

The need for broader energy storage cannot be overemphasized, however battery demand from electric vehicles is expected to increase more than nine times between 2020 and 2030. Thus, the growth of battery demand both within the continent and elsewhere could represent an opportunity for developing the critical mineral value chains in Africa.
based on the abundant mineral resources for renewable energy generation, battery storage technologies and Electric Vehicles. However, having the raw materials is not the only criteria for a successful development of clean energy technologies and battery manufacturing value chains. For example, the DRC is already supplying 70% of the world’s cobalt, but the reigns of the value chain still lie in the hands of other countries. Although China mines no cobalt, China currently controls 85% of the production capacity of refined cobalt sulphate, a high economic value product used in the production of batteries. Thus, besides the abundance of minerals, Africa will need critical infrastructure, investment and skills to leverage the required technology to harness opportunities for the low carbon future. In fact Africa needs a broader strategy for the development of these minerals. Other Continents like the European Union and countries (Canada, Australia, USA) have developed strategies for optimal development of the value chain to cater for their needs.

In addition to the increase in demand caused by the transition to a low-carbon economy, the world is currently in the midst of an upheaval unequalled since 1945. The COVID-19 pandemic has weakened the entire global economy, particularly by breaking supply chains. Thus, several regional economic blocs and nations are putting in place plans for domestic development of renewable technologies and energy storage systems. This is an opportunity to build a greener and more prosperous world and Africa must not miss it.

It is within this context that the AfDB seeks to recruit an Individual Consultant to help develop an approach for the preparation of an African Green Minerals Strategy (AGREMS).

3.0 Study Rationale

In line with the Bank’s objective of transition to green growth, some critical minerals will be needed and these minerals are abundant in Africa. It is therefore important to develop strategies based on the continental mining framework (the Africa Mining Vision) and other contemporary frameworks to underpin mineral based industrialisation in Africa.

The Africa Mining Vision (AMV) and the International Study Group (ISG) report on Minerals for Africa’s Development have set pathways to an enhanced contribution of the extractive sector to Africa’s sustainable development hinged on the aspirational objectives of transparent, optimal and equitable exploitation of mineral resources. Increasingly, stakeholders recognize the validity of the AMV and the ISG report as effective frameworks for designing a resilient, competitive and well-linked African mining sector, breaking away from the enclave model prevailing in many mining jurisdictions on the continent. However, despite some accomplishments, more needs to be done to realize the proposed transformational goals. The current COVID-19 pandemic is also having an impact on the global minerals sector with significant implications for the AMV. These developments require analyses to determine strategic tools for implementation for achievement of the AMV set objectives.

At the sectoral level, the current African Commodities Strategy broadly covers agriculture, energy and minerals. The strategy lays out a vision for commodity-led industrialization: to use commodities as a driver for achieving the structural socio-economic transformation of Africa. However, this strategy does not give prominence to the new global trends relating to climate change and the low carbon future. In effect, the opportunities provided by these global trends would not be efficiently harnessed and associated challenges will also not be sufficiently addressed using the existing framework.

This calls for the development of deliberate strategic framework to guide how Africa positions itself to take advantage of the opportunities provided by the new global trends, whilst addressing the related challenges. There is no doubt that Lithium-ion Batteries (LIBs) are a key solution to the low carbon future due to their advantages over other types of rechargeable batteries. However, the main concern has been whether the current demand for LIBs is for the long haul to ensure the relevance of the LIB metals. Another challenge is the rapidly evolving battery
technology where researchers are finding alternatives for lithium and cobalt. Analysts predict demand is expected to soar but prices are likely to stabilise at some point as more mines are developed to meet that demand. In 100% zero emission vehicles (ZEV), the demand is expected to rise by almost 3,000% for lithium and almost 2,000% for cobalt.

Currently, battery cell and component manufacturing are largely confined to Asia. As new markets for electric vehicles (EVs) grow, manufacturing will also move to these locations. Demand for high-purity battery-grade lithium chemicals is expected to reach 700,000 metric tons by 2025, and 1.6 million metric tons lithium carbonate equivalent (LCE) by 2030. Considering the fact that Africa lies central to the major consumers of LIB, this presents an opportunity for Africa. Unfortunately, based on data tracked by BloombergNEF, there are currently no battery manufacturing plants under development or commissioned in Africa.

Aside battery minerals, Rare-earth elements (REE), such as neodymium, dysprosium and praseodymium, are key ingredients of permanent magnets (powerful magnets that do not lose their magnetic fields), used in high-performance wind turbines and electric motors. Global wind power capacity additions are expected at an annual average of 77GW from 2020 to 2029, according to Wood Mackenzie. This represents a growth of 112% in global installed capacity from 2019 to 2029. In terms of REE consumption, this equates to an average increase in global REE consumption of 15,400 metric tonnes per year in wind turbines alone, a clear indication of robust growth in the global REE market. Africa’s REE potential is mainly found in Burundi, Malawi and South Africa. However, there are also existing projects in several African countries that have delineated some significant resources. These countries include Tanzania, Zambia, Namibia, Kenya, Madagascar and Mozambique.

As captured earlier, Africa has significant reserves of the identified critical minerals. The missing gap is the absence of a coherent and smart strategy to guide development of the critical mineral value chains to take advantage of the opportunities to manufacture products for green energy generation, battery energy storage systems, EVs among others. A coherent and robust African Green Minerals Strategy and a related Action Plan is therefore needed for implementation to guide Africa’s vision of leveraging her critical mineral resources for socio-economic development. The Green Minerals Strategy will capitalize on the opportunities offered by the AfCFTA to promote the emergence of regional markets for mineral resources through supporting development of regional value and supply chains, regional labour market and regional infrastructure.

**The approach paper is therefore expected to identify the scope and the relevant orientation to guide preparation of the green minerals strategy and action plan towards development of the full value chain.**

**4.0 Objectives**
The main objective is to develop an approach to facilitate preparation of an African Green Minerals Strategy (AGREMS) with the aim of stimulating and promoting investments into the green minerals sector.

Specifically, the study will provide orientation of the key thematic areas of the strategy to optimize opportunities presented by the new global issues (climate change, energy transition & low carbon future, recent Russia-Ukraine crisis) towards promoting investments in the mining and allied sectors using Africa’s minerals as feedstock for green energy technologies.

**Guiding Questions**
The following questions will guide development of the Approach Paper:
- Definition of green minerals within the context of critical minerals for the energy transition
• What critical mineral resources does Africa need to implement the low carbon energy transition and the climate change agenda within the context of the Bank’s Climate Change and Green Growth Framework?
• What value chains or developmental opportunities are associated with the critical minerals identified within the context of the rapidly evolving battery technology landscape?
• What practical ways should be adopted by stakeholders to align production technologies and consumption patterns to promote environmental sustainability and maximise resource use efficiency?
• How can Africa position itself in terms of infrastructure and financing to take advantage of the opportunities presented by the energy transition, the AfCFTA among others?
• Are the industrial, trade, technologies, and capacity factors favorable to enhance growth of this new industry? How can they be improved?

5.0 Scope
In order to achieve the objectives, the study will undertake the following:

(a) A concise analysis of Africa’s mineral resources management landscape including:
• Contextualize Africa’s competitive advantages based on its strategic/critical mineral resources
• Assess the current and emerging regional and global issues, challenges and opportunities associated with mineral resource management. The analysis will also consider regional and global policy agenda as appropriate and their implications for mineral resource management in Africa (e.g. Paris Climate Agreement, SDGs, the Africa Mining Vision, the African Continental Free Trade Agreement, the African Union’s Agenda 2063, The African Union Commodity Strategy, AfDB’s Climate Change and Green Growth Framework and other relevant frameworks).
• Conduct Regional (SADC, ECOWAS, ECCAS, EAC, ETC.) value chain mapping and analysis for the African Green Minerals Strategy within the context of the AfCFTA.

(b) Based on the above analyses:
• Make a case for the role of Africa’s critical mineral resources to contribute to the energy transition and fostering inclusive and green growth in Africa. Especially, providing guidance on:
  o Improving knowledge of Africa’s critical minerals through exploration, research & development and innovation to facilitate investment promotion etc.
  o How Africa’s critical minerals can be harnessed to provide products and services to society during the energy transition and beyond. This will include collaborative establishment of battery and Electric Vehicle assembling Plants in Africa with major global companies;
  o Staying ahead/abreast with the changing battery chemistries that may render some minerals non-strategic.

c) Propose key orientations for the Green Minerals Strategy to help stimulate end-to end development of the battery and electric vehicle value chains. This would include:
• Vision and objectives for the Green Minerals Strategy
• Africa’s value proposition for end-to end value creation in the battery and EV sector
• key focus and /or thematic areas. For example:
  o Increasing Geological knowledge on Critical minerals
  o Optimizing benefits through Industrialization
  o Infrastructure and financial requirements
  o Fostering investments through conduct of feasibility studies. The focus would be on providing support and advice on investment terms and agreements, fiscal conditions, in order to promote new investment flows in mineral resources sectors in African countries
  o Minerals and the climate change agenda
- Skills Development. This will involve identification of skill gaps along the critical minerals value chains and propose ways to build capacity of Africa’s youth at all stages.
- Global and Continental Market Risk Analysis and Trade. This will include analyses of risks related to critical minerals global demand and supply and the geopolitical economy of investment as well as ways to leverage the AfCFTA.
- Sustainability Issues including Environmental impacts of green minerals extraction: How can a regional approach address the challenges; Recycling and the circular economy covering, end of life lithium-ion battery management and extracting REEs from magnets. Etc.


6. Approach and Research Methodology

- This will largely be a desk-based activity with virtual interviews of key stakeholders. Focused discussions will be held with key institutions within and outside the continent dealing with extractives, especially strategic minerals\(^1\) for the low carbon future and green technologies.
- This will consist of (i) a rigorous and concise review and evaluation of secondary data to be acquired by the Consultant on critical mineral resources, regional and global context, challenges and opportunities as they relate to the extractive sector (ii) Discussions with Bank’s staff, as appropriate: if needed, meetings will be arranged between the consultant and Bank’s staff.

A pre-assignment meeting with the consultant is planned to agree on the methodology, format and content of the final draft.

7.0 Timelines

The assignment will be conducted for 30-man days within four (4) months.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Deliverables</th>
<th>Timeline</th>
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</thead>
<tbody>
<tr>
<td>Advertise for Consultant (primary agent responsible for drafting the approach paper)</td>
<td>Compile CVs, expressions of interest and proposals (ensure all consultants are duly registered with the Bank-DACON)</td>
<td>3 weeks</td>
</tr>
<tr>
<td>Evaluate submissions and select preferred consultant</td>
<td>Set up internal evaluation committee and review submissions received</td>
<td>1 week</td>
</tr>
<tr>
<td>Conclude final negotiation and contract award.</td>
<td>Contract signed-off indicating commencement of study</td>
<td>1 week</td>
</tr>
<tr>
<td>Preparation of inception report</td>
<td>Report explaining understanding of the TOR and proposed methodology</td>
<td>2 weeks after contract signature</td>
</tr>
<tr>
<td>Meeting for validation of the inception report</td>
<td>Brief report on key agreed issues, conclusions and recommendations of the meeting</td>
<td>3 weeks after contract signature</td>
</tr>
<tr>
<td>Preparation of draft Approach Paper</td>
<td>Draft Approach Paper covering the entire scope of the study</td>
<td>10 weeks after contract signature</td>
</tr>
<tr>
<td>Review of the draft report</td>
<td>Observations, comments and recommendations from reviewers</td>
<td>12 weeks after contract signature</td>
</tr>
<tr>
<td>Peer review (in lieu of validation workshop)</td>
<td>Have draft paper peer-reviewed by knowledgeable experts in green minerals and strategy development.</td>
<td>14 weeks after contract signature</td>
</tr>
<tr>
<td>Preparation of final Approach Paper</td>
<td>Final Approach Paper</td>
<td>16 weeks after contract signature</td>
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\(^1\) Mainly cobalt, lithium, graphite, copper aluminium, nickel, manganese, zinc, vanadium and the REEs.
8. Deliverables
- Inception report detailing the Consultants understanding of the assignment;
- Final report of the assignment (Approach Paper)
- All reports shall be written in English and submitted in electronic versions (word, excel for data analysed and PDF)

9. Consultant Requirement
The consultant must meet the following criteria:
- At least 10 years’ Experience in mining/minerals policy, regulatory and promotion, mining fiscal frameworks, mineral value-chains, regional industrial development, spatial development, mining/beneficiation investment, mineral strategy development;
- A strong publication record on natural resources management and related disciplines in international peer reviewed journals and other peer reviewed publications;
- In-depth knowledge and experience working on mineral resources development issues, preferably in the African region. Knowledge of Continental and ECOWAS regional & industrial development agenda, African Mining Vision;
- Excellent knowledge of continental and national critical mineral strategies;
- Excellent written and oral English or French. Knowledge of the other is an advantage.

10. Consultant Selection Criteria
The Consultant will be selected in accordance with the African Development Bank’s Implementation Manual relating to the Procedures for Acquisition of Consulting Services funded by the Administrative or Capital Expenditure Budget of the Bank Group. The consultant shall be evaluated based on the following criteria:

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>Marks (%)</th>
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</thead>
<tbody>
<tr>
<td>General qualifications and adequacy for the proposed assignment</td>
<td>30</td>
</tr>
<tr>
<td>Similar experience in the area of expertise of the assignment as described in the Terms of Reference and understanding the terms of reference (Brief Proposal to the TOR is required)</td>
<td>50</td>
</tr>
<tr>
<td>Experience with the Bank or other international donors</td>
<td>10</td>
</tr>
<tr>
<td>Knowledge of the Region (environment of the Assignment)</td>
<td>5</td>
</tr>
<tr>
<td>Language capacity (Excellent technical writing in English, French or both)</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
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Only candidates earning 70% and above will be shortlisted and requested to submit financial proposals.

Applicants are to submit a cover letter, resume, copies of academic certificates. Appendix 1 gives a template for submission of CVs.

11.0 Service Conditions
The African Development Bank conditions for retaining short-term consultants will apply.
Appendix 1:

Please attach an updated Curriculum Vitae on the basis of the template below:

MODEL CURRICULUM VITAE (CV)

Title of the Assignment:
Department:
Surname: First Name:
Birth Date: Nationality:
Address: Country:
Telephone: E-mail:

Are any of your family members (spouse/partner, father/mother, Brother/sister, Son/daughter, etc. employed in the African Development Bank?

<table>
<thead>
<tr>
<th>Name</th>
<th>Relationship</th>
<th>Organisation Unit</th>
<th>Place of Assignment</th>
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<tr>
<th>Language Level</th>
<th>Read</th>
<th>Written</th>
<th>Spoken</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Fair</td>
<td>Good</td>
<td>Excellent</td>
</tr>
<tr>
<td>French</td>
<td>Fair</td>
<td>Good</td>
<td>Excellent</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>Fair</td>
<td>Good</td>
<td>Excellent</td>
</tr>
</tbody>
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Key Qualifications:

Please provide (i) a summary of your experience and training highlighting the most relevant for the proposed assignment, and (ii) the responsibilities which you exercised. Utilise one half-page maximum.

Education (University Level and above only):

<table>
<thead>
<tr>
<th>Name of University - City - Country</th>
<th>Period</th>
<th>Diploma Obtained</th>
<th>Main Topic / Major</th>
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<td>From</td>
<td>To</td>
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### Professional Training:

<table>
<thead>
<tr>
<th>Name of Training Institution - City - Country</th>
<th>Type of Training</th>
<th>Period</th>
<th>Certificates or Diploma Obtained</th>
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### Employment Record:

Begin with your most recent employment. For each job since your Master’s Degree achievement, please indicate:
- Name of the Employer
- Type of Activity/Business of the Employer
- Title / Function
- Place of Employment
- Brief Description (three lines maximum) of main accomplishments and responsibilities

### Reference:

Please indicate the name and address of three persons with no family relationship with yourself, familiar with your character and titles.

I hereby certify that the responses which I provided above are all, to the best of my knowledge, true, complete and accurate. I acknowledge that an inaccurate statement or essential omission in a personal declaration or another document required by the African Development Bank might result in the rejection of my application, termination of my Contract or any other administrative sanction by the Bank. The African Development Bank may verify any statements which I made in this application.

Date: ____________

Signature: