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RECOMMENDATIONS FROM CONGOLESE EXPERTS IN SUPPORT OF THE INITIATIVE OF GOVERNMENT OF THE DRC IN RELATION TO THE LOCAL MANUFACTURING OF BATTERIES FOR ELECTRIC VEHICLES

Introduction

The Experts'¹ Round Table to support the Government of the Democratic Republic of Congo's (DRC) initiative for the manufacture of batteries for electric cars, was held in Kinshasa by Southern Africa Resource Watch² (SARW), on 28 February 2022.

In his welcoming address to the experts, Dr Claude Kabemba, SARW's Executive Director underscored that in the face of the challenges of climate change, DRC is a strategic country. As such, it must be able to take advantage of the green economy market that is offered to it. It is in this vein that the context for the holding of this Round Table was given by Mr. Georges Bokonde, the Programs Manager for SARW/DRC. After presenting the context of the 5th edition of AMI organized by SARW in October 2021, he recalled the Congolese Government's conference, DRC-Africa Business Forum, organized in Kinshasa in November of the same year 2021 on the need for manufacturing batteries for electric vehicle (BVE) in the DRC. Following the outcome of the DRC-Business Forum, the Congolese government signed a number of commitments with international partners to enable it to set up one or more BVE manufacturing plants locally in view of the opportunities offered to the country.

Thus, the objective assigned to that brainstorming Round Table was to formulate concrete proposals to submit to the government in order to enable it to successfully carry through the project of manufacturing batteries for electric vehicles. The reflections that were carried out by these experts not only described the country context in this area but also identified the challenges to be faced by the Congolese Government and formulated proposals.

¹ Dr Claude Kabemba, Prof. Donat Kampata, Prof. Arthur Kaniki, Paulin Mawaya, Jacques-Prosper Ngandu, Léonide Mupepele, Mr Georges Bokonde, Mr Fabien Mayani, Prof. Dieudonné Tambwe, Jean Jacques Kayembe, Marie-Anne Mazangu, Pascal Kambale, Gilbert Kabwe Kazadi, Kangu Shemlwango, Onya Shongo and Joseph Cihunda.

² SARW is a pan-African organization that works in the governance of natural resources, with offices in South Africa, DRC, Zambia and Zimbabwe



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General context

The energy transition gives the DRC a great opportunity to participate in the production of batteries for electric cars and to no longer accept being an exporter of critical materials for Africa. This approach is also justified by the fact that Africa is the continent most affected by climate change despite being the least polluting. If Africa is more concerned about climate change, it is in the continent's best interest to consider participating in the value chain of BVE manufacturing to meet the challenge facing the continent.

The DRC has, according to the experts at the Round Table, the mineral resources necessary to enable it to carry out the project on the local manufacture of electric batteries: lithium, cobalt, nickel, aluminum and manganese. On top of those metals directly concerned in the production of electric batteries, it would be important to extend the list to others whose demand is strongly driven by the growth of the electric mobility industry and for which the DRC can, in a near future, claim a leading position in the world of energy transition. This is particularly copper for which the electric vehicle uses a quota three to four times higher than its "ancestor" with a heat engine, and rare earth, some of which are in high demand following their use in the materials for the manufacturing of engines for electric cars.

As for cobalt and copper, they are already being produced and the country is today the major supplier of cobalt in the world with more than 70% of the market share. The exploitation of manganese, formerly ensured by Kisenge-Manganese, a state-owned company, which became SCMK-M, and put on hold at the end of the 1970s following the disruption of traffic on the railroad section Dilolo railway -Lobito, made unavailable due to the civil war in Angola, could soon resume if the technical issues relating to the rehabilitation of the Kolwezi-Dilolo railway section are resolved.

As for nickel and aluminum, their deposits are known and located respectively in Kasai Central and Kongo Central. They must still be documented, and their feasibility remains to be realized. As for the rare earth, they are found in the DRC in an ore called "monazite", which is found in association with cassiterite in some well-known areas in the Grand Kivu. Monazite was exported by the defunct SOMINKI until the early 1990s. Its export has just been relaunched with a first test batch of 10 tonnes,



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supplied by a Canadian company from Goma. Monazite from the DRC is especially sought after for its high neodymium content, which is one of the main components of the materials used in the manufacture of engines for electric vehicles.

Challenges

Despite the abundant strategic resources, DRC has many challenges to overcome to achieve the installation of a BVE industry. It is huge, poor and without basic infrastructures (railways, ports, roads, etc.) and energy.

The first challenge is the one related to the infrastructures for the production and transport of electrical energy, coupled with that of the communication channels. If the mineral resources are abundant and exist, the energy to ensure their extraction and transformation is often lacking on the one hand, and the internal road networks, railways and waterways to transport them to the manufacturing plants and then to ensure their transport and distribution to potential consumers, are either in an advanced state of disrepair or non-existent.

The second challenge is related to governance, serious efforts are needed to improve the business climate in a country undermined by corruption (the said efforts are underway) and which are not visible yet in terms of transparency in the extractive sector. The third challenge is the one linked to the revival of the geological exploration and technological research with a view, on the one hand, to increasing and consolidating the resources and reserves of these strategic substances and, on the other hand, to position the country in the world of green technology development. According to some experts, the world demand for cobalt should increase from 136,100 tonnes in 2020 to 280,000 tonnes in 2030 and we will have to factor in the battery recycling policy, which is developing in industrialized countries, in particular in Europe and in North America.

The 4th challenge is the researchers' trend on the decrease in the cobalt share in NMC cathodes (nickel, cobalt, manganese) which went from 30% (NMC523) to 20% (NMC622) and 10% (NMC811). Research and development work is ongoing to bring this percentage down to 5% (NMC955).



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All options are analyzed to minimize the importance of cobalt in the manufacture of electric batteries. It is therefore important for the DRC to accelerate its initiatives in order to take advantage of the current situation on the international market. DRC's position is in the best position. It only takes a little effort and political will to enable it to pivot towards sustainable development in a short time given its natural resource potential.

At the regional level, the willingness of the African Union (AU) to respond to the challenge in the mining sector in Africa was reflected in the adoption of the African Mining Vision (AMV) in 2009 by the Heads of State and Governments. AMV has already seen the start of its application with support from the Economic Commission for Africa. A number of countries have already brought their legislation into line with the AMV.

One of the pillars of the AMV is the transformation of minerals locally. Through AMV, Africa seeks to retain the bulk of the value chain on the continent. AMV also plans to create upstream and downstream connections with collateral links to ensure the diversification of economic activities from the mining sector. The manufacture of BVE is a clear expression of the implementation of AMV in the DRC.

Experts' proposals to set up a Battery Industry

The experts proposed several actions the Government can take now (because there is no time to waste) to ensure the success of the local BVE manufacturing initiative. Those actions are as follows:

1. Establishment of a technical unit composed of experts responsible for reflecting on the materialization of the initiative to set up electric battery manufacturing plants in the DRC. The mission of this unit would be to support political decision-makers in the implementation of the roadmap that should lead to the establishment of factories in the DRC.
2. The Congolese Government is called upon to make clear choices:
 - To position itself in this sector as a State-entrepreneur where it would itself take the initiative by creating its own chains to produce materials and the manufacture of batteries for electric vehicles, even if it means associating with private partners who would remain in the minority in the share capital structure.



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- To restrict its role to being a State-regulator, which would leave it up to the private sector to organize all or part of the sector's value chain, even if it means supporting them in particular by creating economic zones specially equipped in terms of infrastructure for this purpose.
3. The Congolese Government must immediately carry out the geological research of the resources essential for the manufacture of BVE. This is a prerequisite to be achieved, especially since the Congolese State no longer owns most of the metals used in the manufacture of the BVEs currently in operation in the DRC. Having sold the mining permits held by the companies in the State Portfolio, these resources are the property of the private companies which exploit them and which can thus sell them freely to any customer, because the Congolese State is not in the production share to reserve any right on these resources. This obliges it to invest in the exploratory research of the resources essential to its initiative relating to the manufacture of the BVE or to finance the companies of the State Portfolio which still have these resources in their various mining perimeters which were not subjected to any transfer. This exercise will also help the Congolese State not only to control its reserves of strategic resources, but also and above all to certify them.

Beyond the geological studies, to discover other mineral reserves which will be under State control:

- The Government must instruct the mining companies in the State Portfolio to present the stock-taking of their mining assets (with minerals that contribute to the electric mobility industry (IME)) that can be affected in this manufacturing initiative BVEs;
- The Government must organize consultations with private companies, producers of the metals used in the manufacture of BVEs, to involve them in the initiative to set up BVE factories in the DRC. This involvement can take the form of public-private partnerships in the establishment of the IME (electric mobility industry) or the granting of facilities to private companies to encourage them to invest in the establishment of BVE manufacturing plants in the DRC; and
- The Government must activate article 266 of the Mining Code which provides that "The holder is authorized to export and market his production at the market price, subject to the right for the State to determine the quota of production to be exported according to the



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needs of local industry. Pursuant to the provisions of paragraph 2 of article 266 of the Mining Code, article 559 ter of the Mining Regulations provides that the portion of the production the holder must sell to the national industry is determined by inter-ministerial decree from the Ministers of Mines and Industry, considering the needs expressed in the Strategic Plan for the Industrialization of the Democratic Republic of Congo.

4. The Government must proceed with the identification of Congolese skills and the creation of a data bank of the necessary expertise throughout the value chain involved in the manufacture of BVEs. The development of national skills in this area, through national capacity-building, training and technology transfer by DRC partners is a necessity.
5. The Government must set up a Special Economic Zone (SEZ) for the BVEs and provide it with substantial infrastructure (roads, railways, energy and port). It must be able to attract investors to this SEZ in the various fields that go into the manufacture of BVEs.
6. DRC should place the BVEs manufacturing initiative in a regional context. The regional economic integration of the project is essential so as to pool forces with other countries such as Zambia, South Africa and Zimbabwe to achieve the objective of local manufacturing of BVEs as quickly as possible.
7. While its main objective is the manufacture of BVEs, the Government's approach must be pragmatic. Start modestly with activities for which it has the capacity, in particular the production of BVEs components DRC can export to the rest of the world through private companies. The State must also set up an institution to control the quality of local products to make them competitive on the international market.

Conclusion

To win this bet, the Government must improve the business climate, in particular by securing private investments intended for this project and others. It must improve collaboration between the institutions, i.e. the maintenance of unity of command within the Government. It must also avoid political interference in the mining sector to encourage and incentivize foreign investment. Finally, the Government must fight against the bad campaign fueled on the supply chain (traceability) of Congolese minerals. In short, the Congolese authorities must work to improve the country's perception abroad.