

## Africa's Energy Transition: An Opportunity to Implement Efficient Local Content Policies?

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Due to its vulnerability to the effects of climate change, Africa is facing the cumulative challenges of providing much needed energy to the Continent, while at the same time tackling those effects and coping with their consequences on production, growth, and employment in all economic sectors. While adaptation efforts are already underway, and will continue to be needed, preventing the worst possible impacts of climate change from materializing is also critical. Otherwise, the achievement of the 2030 Agenda for Sustainable Development may be compromised.

Indeed, over the past decade, climate change and extreme weather events have caused unprecedented damage to African countries, ruining infrastructure, threatening economic activity, and destroying jobs. The most visible manifestations are the droughts in southern Africa, floods in West Africa, and desertification of entire areas in the Maghreb region. The mass migrations that the World has witnessed in recent years cannot be dissociated from climate change and its impact on economic development.

It is noteworthy that certain African countries have focused a significant amount of their attention on adaptation to climate change. An increasing number of governments across the Continent consider a sustainable energy transition as a central aspect of their climate strategies. In this regard, realistic and efficient local content policies will certainly have an important role to play.

### Challenges in Africa's Energy Transition

Compared to the majority of fossil fuel-dependent industrialized countries, the energy transition in Africa presents a distinct feature. With the exception of a few nations, such as South Africa, most African countries are not under pressure to phase out coal to meet energy needs through alternative energy sources. Africa's energy transition instead faces two important challenges: modernization and expansion.

Modernization is linked to exploiting the continent's vast endowment of renewable energy resources, including biomass, wind, solar, and hydro-power potential. Africa currently has roughly 1.2 billion inhabitants. And over 700 million people in the continent are using inefficient and hazardous sources of energy, even for daily tasks like cooking, heating, and lighting. In the fossil fuel sector (notably oil and gas), both resource and labor productivity need to be improved. In turn, expansion is about bringing scale-adapted technologies to meet the energy needs of a growing population, where only 30 percent have access to reliable electricity supply.

Globally, we are witnessing a shift in the energy landscape away from fossil fuels and towards less-polluting sources of energy. In Africa, however, a closer look reveals a slightly different picture. On the one hand, there is a clear expansion in energy generation from renewables, including with the recently launched Taiba Ndiaye Wind Project in Senegal that will generate 158-megawatt of additional capacity and the Nzema Solar Power Station in Ghana, the largest installation of its kind in Africa, increasing Ghana's electricity generating capacity by 6 percent and allowing nearly 100,000 homes to benefit from clean energy.

On the other hand, since 2004, there has been a wave of significant oil and gas discoveries and increased interest in countries such as Chad, Ghana, Guinea-Bissau, Mauritania, Mozambique, Sao Tome & Principe, Senegal, and Togo, that also open up the opportunity for domestic gas-to-power projects. According to the Africa Energy Outlook 2014, 30 percent of global oil and gas discoveries made between 2010 and 2014 have been in sub-Saharan Africa. A number of countries that were previously net energy importers will become energy exporters in the upcoming years due to increasing oil exports. Based on certain estimates, sub-Saharan Africa is expected to outpace Russia as a global gas supplier by 2040. In turn, these discoveries have also spurred renewed interest in less polluting gas-to-power projects, including the 450MW gas fired Temane power project in Mozambique. Once completed, the project will increase the supply of efficient and affordable energy to households, businesses, and industries, contributing to social and economic development in the country and the region.

Therefore, while the African energy landscape is changing, it is not in a single direction. The energy transition is complex and has important ramifications for the structure of economies and future development prospects. Climate change is an essential aspect to it, but so are many other key aspects of the sustainable development goals.

### Towards the Emergence of a Skilled Work Force

More than 10 million young Africans are expected to enter the labor market each year over the coming years. Most analysts tend to agree that the traditional public sector will not be able to absorb this new work force. Entrepreneurship and self-employment are indispensable to create quality jobs in large numbers, and the energy transition can play a central role in this regard. For that to happen, skills development and upgrading, entrepreneurship promotion, and enabling policy and governance frameworks are required.

A global review of skills for green jobs in several African countries revealed the existence of a gap between the goals and targets set in environmental policies and the human resources available for their implementation. The same applies in the energy sector. Some skills gaps already exist for technical and engineering positions and could grow as the renewable energy sector continues to expand. Skills gaps could lead to project delays or even cancellations, cost overruns, and faulty installations. Efforts are needed in education and training systems to develop renewable energy curricula, integrate modules into vocational training courses, support apprenticeships, and establish common quality standards. Nonetheless, there are promising experiences. For example, Cape Verde launched a Renewable Energy and Industrial Maintenance Center ("CERMI"), whose main activity is the training of professionals in the areas of design, assembly, and maintenance of photovoltaic installations.

Various intervention models and programs to promote job creation in clean energies have shown a clear advantage of combining technical and vocational training with entrepreneurship training. Particularly for African countries, entrepreneurship and self-employment are becoming priorities in youth employment strategies and policies. In view of Africa's specific business environment, micro-enterprises have an important role to play. In general, micro-enterprises are defined as businesses with up to 10 employees, small businesses as those with 10 to 100 employees, and medium-sized enterprises as those with 100 to 250 employees. In Africa, the majority of job creation is coming from the smallest businesses. This

contrasts with other regions of the globe, such as East Asia and the Pacific region, where job growth is mostly concentrated in companies with 20–99 employees, and Latin America and Eastern Europe/Central Asia, where more than 40 percent of job creation is by businesses with more than 100 employees.

Typically, young entrepreneurs in the energy space face challenges related to (i) access to finance, (ii) lack of technical knowledge, and (iii) lack of experience in business management. It should also be noted that because of the prevalence of unemployment and underemployment, there are some entrepreneurs by vocation, but also a large number of entrepreneurs by necessity.

Nevertheless, many young Africans see the potential associated with the development of micro and small enterprises in the renewable energy sector. Remarkable initiatives are underway throughout Africa, with dynamic companies such as M-Kopa Solar, which operates in East Africa in the distribution and installation of solar kits. Many such small and micro enterprises active in the distribution of energy systems, maintenance and operation, and sometimes in assembly, would benefit from policies to support their integration in value chains and the development of local supply chains. Government policies favoring local content and after-sales services could, among others, contribute to improving the current landscape, if they are developed in a reasonable and sustainable manner.

#### **Lessons Learned from Oil & Gas Local Content Policies**

As governments look for ways to elevate local capacity and bolster economic development, setting adequate and reasonable local content policies and programs can incentivize financial investment and technical and technological transfers that will benefit countries competing to attract the best companies, as well as companies searching for the most attractive markets to maximize efficiencies and manage costs. Contrariwise, setting unreasonable and unachievable local content requirements scares away investors.

Pressure to use local content (e.g., local workers, companies, goods, and services) in large or mega-projects continues to increase throughout the Continent. For growing markets, particularly in Africa, it can be a catalyst for rapid development. However, striking the balance between short-term job creation and longer-term specialization, diversification, and supply chain development is a challenging issue for governments, companies, and communities.

Use of local workers and suppliers can be the most efficient way to execute key aspects of a project, while other jobs require specialized skills not available among nationals. This reality can become a source of socio-economic and political tension when local supply and project demand are not well understood by all stakeholders. This is compounded when there is a “ramping up” to thousands of skilled workers in a very short period of time compared to what is realistically

accessible within the market, or when companies bring their own labor force into the project and leave behind very little that can be transitioned into meaningful local capacities.

Many oil rich countries have used their hydrocarbon resources as a major tool to propel development and improve the living conditions of their people. For example, the discovery in 2007 of oil in commercial quantities in Ghana was embraced with euphoria by many Ghanaians. This optimism was underpinned by the expectation that the new oil resource would contribute tremendously to an accelerated rate in Ghana's economic growth and development. The channels through which Ghanaians expected to benefit from the oil resources include the expansion and deepening of indigenous businesses in the oil and gas sector, increased job opportunities, possible access to cheaper fuel, and revenue from oil and gas resources for national development. However, the minimum threshold of 90% local participation in all aspects of the oil and gas value-chain by 2020 was far from being realistic and achievable.

Despite the expeditious enactment of various Local Content and Local Participation Regulations across the Continent, analysts and industry experts are still not convinced that the majority of the countries have done the necessary preparatory (or follow-up) work to ensure that the capacity of local businesses and companies is duly built up, so as to enhance their capability to deliver the desired quality of goods and services to the oil and gas sector.

Considering the foregoing, and in order to avoid the mistakes in the local content policies which have been adopted in the oil and gas industry across the Continent, African governments should seek to implement more realistic local content targets for long-lasting renewable energy projects. It is also crucial that they realize that channeling State funds to vocational and higher education is key to creating the conditions required for the local populations to take advantage of the new job and business opportunities.

#### **Conclusion**

Africa's energy transition is well underway, structured by national and regional contexts and priorities, as well as global policy frameworks and commitments that countries have made. In the African context, the inclusion of local content provisions in renewable energy legislation may be seen by Governments as a step in the right direction, but it must be carefully addressed if it is to have a successful and meaningful impact.

Although it is natural that the countries try to emulate the actions taken in other sectors, care must also be taken to keep expectations reasonable. Too much local content, too quickly, can lead to the flight of investors and services and goods and projects of dubious quality, with long lasting negative effects on the environment and the economy. We wouldn't be surprised to see lower local content thresholds for renewable projects than those currently applicable to the oil and gas industry. In doing so, and by learning from the mistakes and excesses of the past in other sectors, African governments will be able to create progressive and comprehensive strategies to ensure the successful integration of their nationals and businesses into all the aspects of the renewable energy industry, without scaring away investors.