



Energy regulatory, institutional and legal framework - New approaches and developments

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SUMMARY

Mozambique shows one of the highest potential in power generation in Africa, based on very large resources, ranging from fossil fuels to renewables. While power energy production has been increasing at an annual rate of 6% since 2000, Mozambique's installed generation capacity of around 2,500 MW in 2016 is mainly aimed at industry and exports. Access to electricity in Mozambique is ranking amongst the lower in Africa, with 16% of national coverage, and less than 1% in rural areas. The low access to electricity at national scale, and the energy deficit in the SADC region are strong incentives to increase energy production capacity in Mozambique and become energy production hub for the region, serving national and regional populations.

This paper provides an overview of the power sector, aiming at achieving this ambition. Starting with an overview of the energy mix of resources and generation capacity in Mozambique, it provides a mapping of the regulatory, institutional and legal framework of the energy sector. It also highlights some of the most relevant events of the last two years, from political and legal regulatory changes to ongoing projects, and reflects on the impacts that those have on policy.

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INTRODUCTION

Between 1996 and 2009, Mozambique was the fastest-growing non-oil economy in sub-Saharan Africa. From 2010 to 2015, showed an average GDP growth of 7.5% per year. In 2010, GDP *per capita* stood at US\$458 compared to US\$137 in 1993 in the wake of the civil war. According to data collected from the African Development Bank in 2009, the contribution of gas, electricity and water was only 5.7% of the GDP of Mozambique.



Electrical network in Mozambique. By Mauro Pinto

Mozambique shows one of the highest potential in power generation, based on very large resources, ranging from fossil fuels (coal and gas) to renewables (solar, hydro, wind, geothermal and tidal sources of power). Power energy production has been increasing by annual rate of 6% since 2000. Today, Mozambique’s installed generation capacity amounts to 2,500 MW in 2016. This expansion is largely driven by developments in the natural gas and electricity markets.

Energy resources in power generation (2014)



Source: RECP 2014 and EDM Annual Report 2014

This rapid progress is likely to continue in the next few years as a result of the development of Mozambique’s extensive coal and natural gas resources:

- (i) Coal reserves are among the largest undeveloped resources of their kind in the world, and major international mining companies are in the process of developing world-scale thermal and coking coal mines.
- (ii) Recent offshore gas finds put Mozambique on the map as one of the world’s largest exporters of natural gas. If estimates prove correct, the cumulative natural gas reserves will

rank Mozambique fourth in the world for natural gas reserves, behind the three giants of Russia, Iran and Qatar.

- (iii) The Cahora Bassa dam (“HCB”), with 2,075 MW of capacity, is one of the largest hydropower installations in Africa; Mozambique could build another 5,000 MW of hydropower.

However, the exploitation of these resources for national use is limited. In fact, most of Mozambique’s primary energy demand is met by traditional biofuels such as wood, charcoal and agro/animal waste, which in 2011 accounted for 64% of energy production and 77% of final energy consumption, while the rate of access to electricity among the population is still very low: 26.3% (urban areas 82% and rural areas 1%).ⁱ

Less than 5% of households in Mozambique use a modern form of energy for cooking at home, the remainder use charcoal and wood fuel (INE, 2009; INE, 2010a). In rural areas, where the majority of the population lives, 97% of households rely on daily wood-fetching for their energy needs. In urban areas charcoal has rapidly become the prevailing fuel of choice, accounting for approximately 50% of all energy consumption expenditure.

According to the Energy Strategy (“EE”) approved by the Government through Resolution 10/2009 of 4th June, Mozambique is endowed with considerable hydropower potential, which has been broadly estimated at 12,500 MW, with a corresponding annual energy generation potential of 60,000 GWh per year.

One of the essential instruments towards the social and economic development of Mozambique, which is in line with the view of the Government of Mozambique (“GoM”) in the fight to reduce poverty, and the policies associated with economic development, sustainability, management of resources, science and technology, is the Energy Strategy (“EE”), which establishes guidelines for the sectors of electricity, oil and gas, liquid fuels and biomass.

The EE establishes policy guidelines and relevant principles for the development of the country’s vast energy resources:

- increase sustainable access to electricity and liquid fuels;
- sustainable use of wood fuel;
- promotion of new and renewable sources of energy;
- diversification of the energy matrix;
- joint planning and integration of energy initiatives with development plans and programs of other sectors;
- sustainable development and environmental protection;
- tariffs reflecting real costs and the incorporation of mitigation measures to protect the environment;
- promotion of the concept of the productive use of energy and enlarging the approach to energy supply to include the supply of systems and tools;
- institutional coordination and consultation with relevant stakeholders for better development of the energy sector;
- active participation in international cooperation forums, including the Southern African Development Community (“SADC”); and
- efficient use of energy.

The electric energy subsector is considered fundamental in the context of the EE, given the potential of Mozambique in this subsector, of which South Cahora Bassa (2,075 MW), North Central (1,245 MW), Mphanda Nkuwa (2,400 MW), the Moatize coal plant (1,500 MW) and the Moamba natural gas power plant are examples.

The level of national production capacity referred to above, and the energy deficit in the SADC region of approximately 4,000 MW, are important incentives to increase energy production capacity in Mozambique; the energy production plan should, first, satisfy the growing national needs and, secondly, promote exports to the regional market, preferably to the Southern African Power Pool – SAPP.

CHANGES IN THE ENERGY SITUATION WITH AN IMPACT ON FUTURE POLICY AND REGULATORY AND LEGAL FRAMEWORK

Besides the changes on the political side, the liquefied natural gas project of the Rovuma Basin (“LNG Project”) in northern Mozambique, continues to be of particular importance for the development of the energy market and industry in Mozambique. In this context, the legislative changes brought by the New Petroleum Law, approved via Law No. 21/2014, of 18th August (“NPL”), give particular relevance to domestic gas allocation and the contribution of local content.

The Gas Master Plan (“*Plano Director do Gás Natural*”), approved by the Council of Ministers in June 2014, also states that “*this is a unique opportunity for the industrialisation of the country*”, and [it is essential that the gas] “*be used to industrialise the country at a price that permits the viability and competitiveness of industries*”.

Several projects based on gas have been presented to the Ministry of Mineral Resources and Energy (“MIREME”), and the National Institute of Petroleum (“INP”) and the National Oil Company (*Empresa Nacional de Hidrocarbonetos E.P. – “ENH*”) have been involved in the analysis and selection of the more sustainable projects to be implemented pursuant to the availability of natural gas from the upstream projects. At the beginning of 2016, Sasol, operator and concessionaire of the Temane and Pande Blocks, submitted and obtained approval for its Development Plan, which also provides for a 400MW gas-fired plantⁱⁱ to be located in Temane and to serve the south of Mozambique.

On the renewables side, there are currently two solar projects being implemented that have already received approval from the GoM and which are in the process of obtaining the respective concession contracts, one in the Province of Zambézia and the other in the Province of Nampula.

The appointment of the new Executive at the beginning of 2015, resulting in the merger of the former Ministry of Energy and Ministry of Mineral Resources into a “super” Ministry – the Ministry of Mineral Resources and Energy (“MIREME”) – brought more focus to governmental authorities in respect to the composition, generation and allocation of energy sources and has been actively involved in promoting the development of renewables in Mozambique.

At the same time, the Policy and Strategy for the Development of New and Renewable Energies for the period 2011-2025,ⁱⁱⁱ established as specific measures to be developed the mapping of hydro, wind, solar, biomass, geothermal and wave potential, as well as the identification and mapping of the sites.

In 2014, the GoM published the Renewable Energy Atlas of Mozambique which provides mapping on a technical and economic prefeasibility level, of several hundred projects. Pursuant to the Atlas, the potential of the renewable sources is the following:

- Solar PV: 23GW;
- Hydro: 10 GW;
- Wind: 5 GW; and
- Biomass: 2 GW.

Due to the competitiveness characteristics of the hydro projects, the GoM decided to pay particular attention to investment in some of the dams, and the reactivation of the Hydroelectric Project Implementation Technical Unit, to increase the speed at which investment projects in the areas of power production and transmission are being implemented, and announced the decision had been made to advance projects considered to be of vital importance by the Government, such as the Tete-Maputo transmission line.

Another interesting fact is related to the possibility of implementing Coalbed Methane (“CBM”) projects, which is provided for in the Petroleum Law and the Petroleum Law Regulations. At the beginning of the year, MIREME decided to start the negotiations, and the drafting of a new Engineering, Procurement, Construction and Commissioning (“EPCC”) agreement to cover CBM activities in partnership with some investors and some of the existing coal mining title-holders from the Moatize Basin.

Mozambique’s Constitution, last revised in 2004, contains several important mandates for the energy sector, including oil and gas exploration and exploitation, which influence all sector legislation. One of the most important provisions is Article 98 (“*State Property and Public Domain*”), providing that natural resources in the soil and the subsoil, in inland waters, in the territorial sea, on the continental shelf and in the exclusive economic zone, shall be the property of the State. The law regulates the legal regime of property in the public domain, as well as its management and conservation, and shall distinguish between the public domain of the State, the public domain of local authorities and the public domain of communities, with due respect for the principles of imprescriptibility and immunity from seizure.

The energy sector is primarily regulated by the Council of Ministers, the highest governmental body in Mozambique which includes the President, the Prime Minister and all the other Government Ministers, which is responsible for creating the main legislation for the sector and ultimate responsibility for decrees, policy development, concession-granting and royalty collection.

The Ministry of Mineral Resources and Energy (“MIREME”) is responsible for implementing Government policy in the energy, hydrocarbons and mining sector and oversees the activities of the other State and public institutions. A number of institutions have regulatory functions with respect to power, petroleum and the mining sector including, respectively, the National Directorate of Electricity, EDM, INP, ENH, the National Directorate of Mines (“*Direcção Nacional de Minas*” – “*NDM*”) and EMEM – *Empresa Moçambicana de Exploração Mineira S.A. Mozambique*, have put in place a modern legislative framework for the energy sector in general, and the power sector in particular.

But some aspects are still unclear, particularly the contribution that the energy sector is to make to

poverty reduction. While the legislative framework is considered to be largely in place, implementation and enforcement appear to lag behind considerably. The 1997 Electricity Act no. 21/97 of 1st October 1997 opened up all aspects of electricity production, distribution and sale to private operators through concession contracts. Decree no. 8/2000 of 20th April 2000 determined the legal and financial autonomy of public companies and stipulated that they should function on a commercial basis and be financially viable. But responsibility for the management of the national grid is reserved to EDM.

More recently, the Council of Ministers approved, on 17th October 2014, the Act on New and Renewable Energies Feed-in Regime (“REFIT”). This Act defines the feed-in model for new and renewable energies produced by biomass power plants, wind power plants, hydropower plants and solar power generation plants. In order to face the challenges of the sector, the Electricity Law is currently under review.

According to the petroleum governance structure, INP has core regulatory functions relating to the sector. While being a separate institute, the body is not wholly independent, as it remains subordinate to MIREME and hence subject to political control and management.

Petroleum operations are regulated by the New Petroleum Law, approved via Law No. 21/2014, of 18th August (“NPL”). The Petroleum Law Regulations are still under discussion and have not yet been approved, although a draft of the referred regulations is publicly available at the INP website (<http://www.inp-mz.com/>). The EPCC agreements signed by Anadarko and ENI in 2006 allow exploration, development and at least 25 years of natural gas production in the Rovuma fields. However, the original contract did not anticipate the possibility of production in a local LNG plant for export. Therefore, the GoM submitted to Parliament an Enabling Law, which authorised the issuance of a Decree Law to establish a special regime for the Rovuma LNG Projects (Special Regime) no later than 31st December 2014. This was an adequate and constructive approach, corresponding to modern legislative methodology. The Enabling Law No. 25/2014 of 23rd September was approved by Parliament, and Decree Law for Offshore Areas 1 and 4 was published on 2nd December 2014 (Decree Law No. 2/2014). It provides a clear and comprehensive legal framework for their development, and includes significant concessions on many regulatory issues.

A new Mining Law (“NML”) was approved by Law 20/2014, 18th July, which came into force on 18th August 2014, repealing Law 14/2002 of 26th June (2002 Mining Law), or any other pre-existent inconsistent legislation. The respective regulations were to be approved within 90 days of the new Mining Law taking effect, which to date has not yet happened and the draft of the New Mining Law Regulations is still under discussion.

Some of the highlights of the new petroleum legislation are:

(i) From an institutional perspective, the creation of the High Authority for the Extractive Industry (“*Alta Autoridade da Indústria Extractiva*”), responsible for both mining and petroleum, with responsibilities still to be defined by the Council of Ministers.

(ii) From a local content perspective:

- strengthened requirements for local content;
- a new requirement for association with Mozambican entities to compete in public tenders; and
- an obligation for foreign companies to register on the Mozambique Stock Exchange.

PROPOSALS FOR CHANGES IN LAWS OR REGULATIONS

Electricity is a key issue for all existing and future large energy projects in Mozambique. Industrial and mining projects all depend on the availability of cheap electricity in large quantities while the other projects are engaged in the production of electricity. The energy sector in Mozambique is growing rapidly and the country's energy and mineral resources can contribute to reduce absolute poverty and promote growth, including the development of domestic energy infrastructure within and across regions.

The Government is conducting analysis of the options for using renewable energy sources domestically that could help to reduce energy costs and environmental impacts. It has said that electricity must reach all Mozambicans at affordable prices and be subsidized if necessary, by means of a combination of public, private and donor funds.

On the other hand, Mozambique's natural gas reserves should be seen as a unique opportunity to spur industrialisation and development. In fact, natural gas could be used to promote industrialisation and rural development. The Gas Master Plan says that "Mozambique cannot be just an exporter of raw materials", and that "Priority must be given to projects that add value to the gas and assure the greatest benefits for Mozambican development." The opportunity to negotiate with investors for the use of gas for domestic industry and jobs should not be missed. In this context, the new governmental policies should realise and apply the provisions in the Gas Master Plan developed by MIREME. Clear policy and analytical tools that inform policymakers' decisions in a transparent manner will promote the efficient use of gas and optimise the development of related industries. Further, the Government must ensure that the exploration of natural resources and implementation of projects based on natural resources benefit the communities closest to those projects. Mozambique shall continue to comply with its obligations under the Extractive Industries Transparency Initiative ("EITI"), as EITI remains the best mechanism in place for ensuring that there is clarity and transparency in the primary extractives industry.

As a final remark, the Government of Mozambique is exploring the possibility of creating a national 'content task force' to coordinate the efforts of the public, private and local business sectors to generate a consistent and informed dialogue on national content.

ⁱ Source RECP 2014.

ⁱⁱ A partnership between Sasol and EDM.

ⁱⁱⁱ Approved respectively in 2009 and 2011.