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REPUBLIC OF MOÇAMBIQUE

MINISTRY OF MINERAL RESOURCES AND ENERGY

MOZAMBIQUE REPORT

ENERGY POLICY

by

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TOKYO, JAPAN

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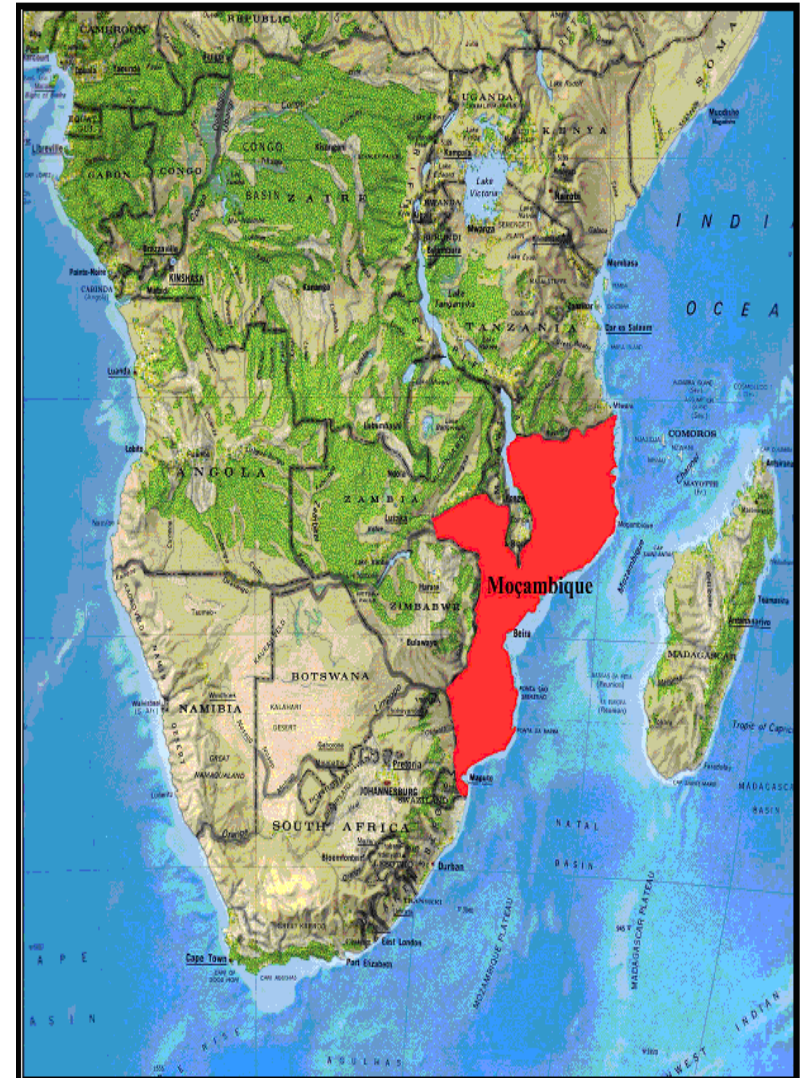


1. General Information of the Country

1.1. Country Profile



- ❑ Location: South-Eastern Africa;
- ❑ Total area: 801,590 km² and common border with 6 countries;
- ❑ Coastline: 2,470 km (1,535 miles);
- ❑ Population: 25 million (estimates-2014); and
- ❑ GDP: 684.1 USD(per capita)





1. General Information of the Country(Cont.)

1.2. Energy Institutional legal framework



The Ministry of Mineral Resources and Energy is responsible for running all mineral and energy resources issues.

One of the main policy documents is the Energy Policy (1998). The Government's Energy Policy is straight-forward, presenting a clear statement on the importance of providing energy to the households and productive sectors.

The Energy Sector Strategy (2000) complements the Energy Policy and focuses specifically on how to implement the Energy Policy, including increasing the role of the private sector, developing more competitive markets, and the need for regulation.

The Electricity Master Plan for Development of the National Grid 2005-2019 focuses on Grid Supply Expansion in the short-to-medium term.

The Natural Gas Master Plan approved by the Cabinet in 2013 is the script for the formulation and adoption of policies, strategic and institutional decisions on the basis of which can be designed and implemented in a coordinated manner future.



1. General Information of the Country(Cont.)

1.3. Energy Resources

1.3.1. Oil and Natural Gas

a) Oil products

Mozambique consumes and imports **918.000 tons** of oil per year, the bulk of which is in the form of diesel. At present there is no oil refinery and as a result, all refined products must be imported.

Distribution and marketing of fuel products and lubricants is carried out by the state owned oil company Petromoc with 42 % of market sharing. Other companies include BP, Total, Pertrogal, Engen, Pess, Puma, Exor, IPM and Ener Invest, Vidagas, Petrogas and Rur Energia. Allover the country there are 351 filling stations.

The country holds 4 main oil terminal, namely Maputo, Beira, Nacala and Pemba ports (figure 1) and the storage capacity of oil products entire the country is about **702.044 tons**.



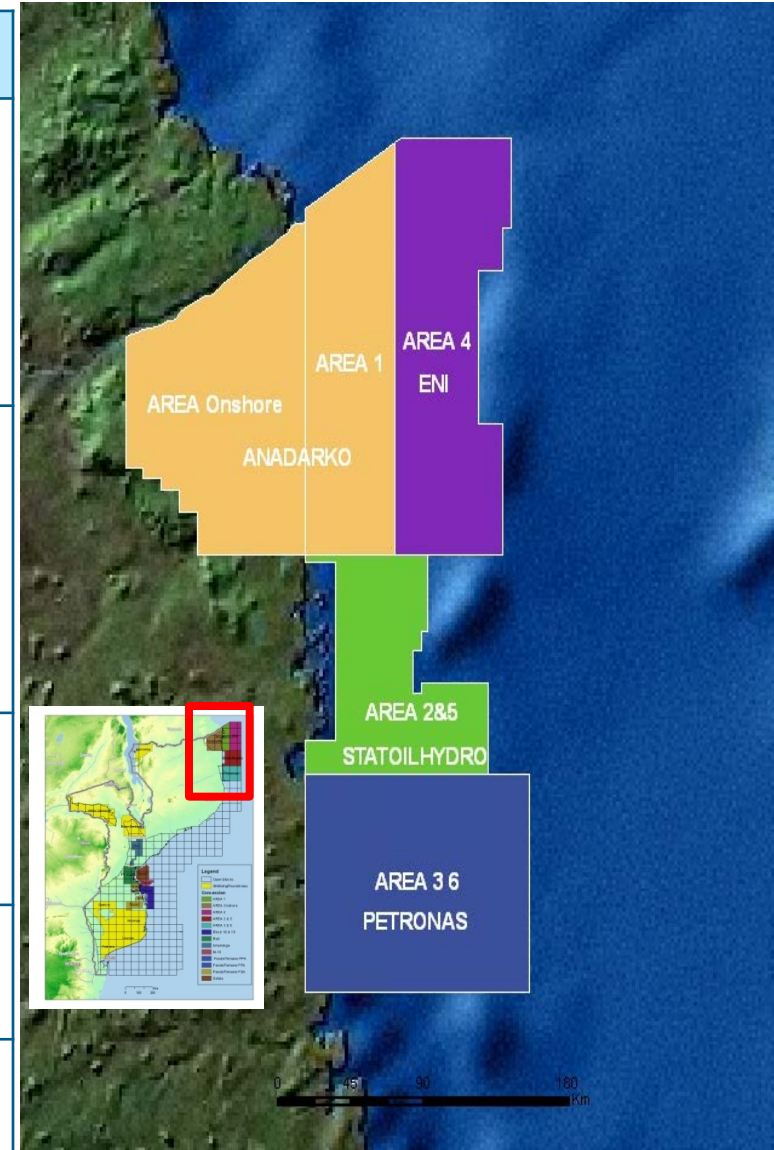
1. Introduction Information of the Country(Cont.)

1.3. Energy Resources

1.3.2. Natural Gas (Rovuma basin reservoirs)



Concessions	Participations
Area Onshore	Anadarko (35.7%), Artumas (15.3%) Maurel & Pron (24%), ENH (15%) & Cove Energy (10%)
Area 1	Anadarko (36.5%), Mitsui (20%), ENH (15%), BPRL (10%), Videocon (10%) & Cove Energy (8.5%)
Area 4	ENI (70%), ENH (10%), KOGAS (10%) & Galp Energia (10%)
Area 2 & 5	Statoil (90%) & ENH (10%)
Area 3 & 6	Petronas (90%) & ENH (10%)





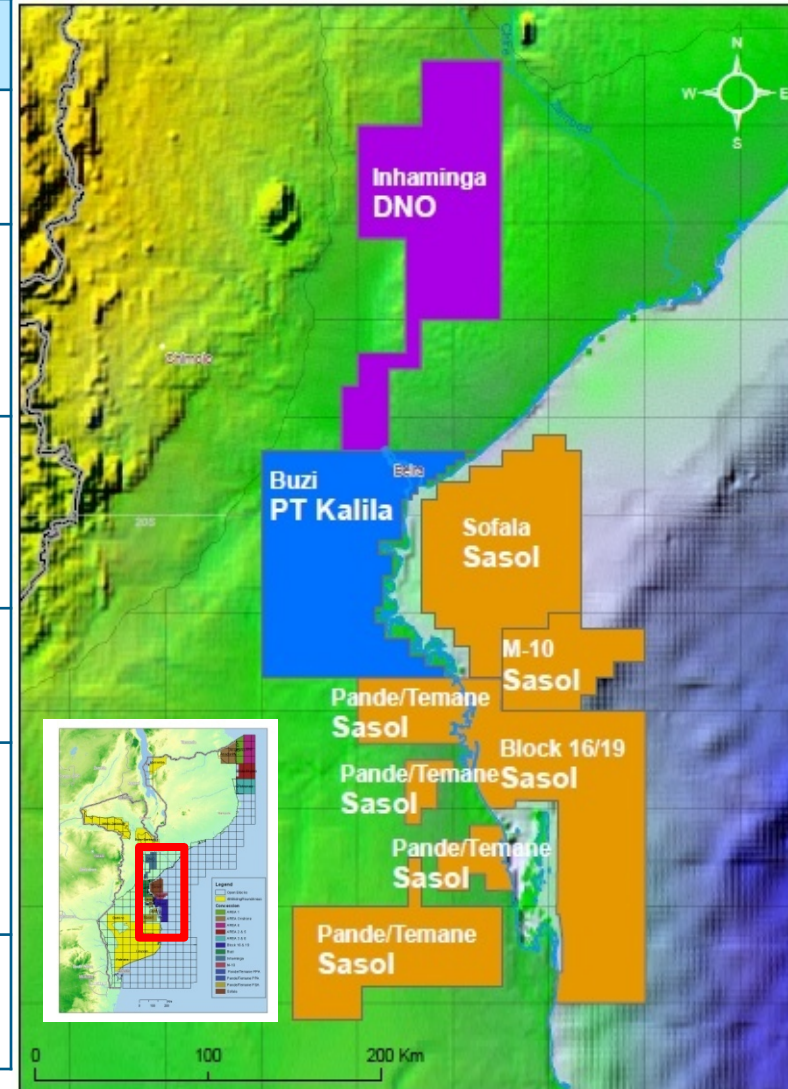
1. Introduction Information of the Country(Cont.)

1.3. Energy Resources

1.3.2. Natural Gas (Temane and Pande reservoirs)



Concessions	Participations
Pande/ Temane	Sasol (85%) & ENH (15%)
16 & 19	Sasol (50%), Petronas (35%) & ENH (15%)
Inhaminga	DNO (55%), New Age (40%) Harmattan (5%)
Bloco de Sofala	Sasol (85%) & ENH (15%)
M-10	Sasol (42.5%), Petronas (42.50%) & ENH (15%)
Búzi	PT Kalila (70%) & ENH (30%)

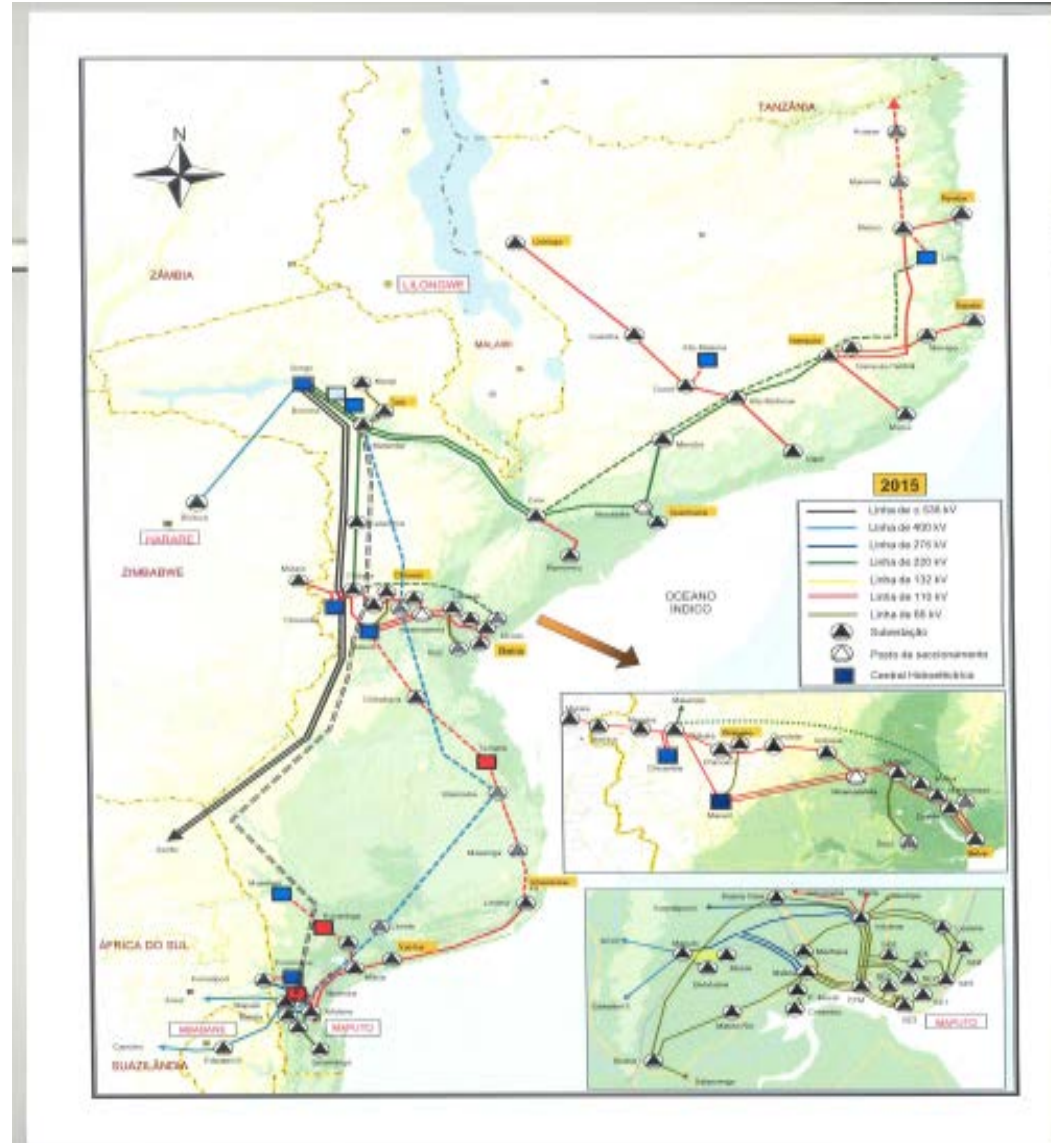




1. Introduction(Cont.)

1.3. Energy Resources

1.3.3. Electricity



1. General Information of the Country(Cont.)



1.3. Energy Resources

1.3.4. Renewables Energy

a) Hydropower

Besides HCB hydropower referred above, the Government has identified roughly 100 locations with hydropower potential including all over the country. As electricity demand across the South African Power Pool (SAPP) grows, developing Mozambique's hydropower potential, and the necessary transmission links to neighboring countries, will be one of the keys to keeping costs and carbon emissions low.

b) Solar

Mozambique has a huge and virtually unexploited solar potential. Annual incident solar radiation, distributed evenly across the country, is about **1.49 million GWh** – thousands of times more than the country's current annual energy demand.



1. General Information of the Country(Cont.)



1.3. Energy Resources

1.3.4. Renewables Energy

c) Wind

In the context of promoting clean energy, measurements of the wind power potential in the country are taking place in the Ponta de Ouro, District of Matutuine, in Maputo Province and Tofinho, city of Inhambane, in the province of the same name. More measurements in other locations to map the national wind power potential are planned.

d) Biofuel

Use of biomass electricity has the potential to generate the most jobs because Mozambique's small and medium sized enterprises can be involved in all stages of the supply and production chain. Bagasse wastes from the sugar and coconut industries and the other sources could enable Mozambique to quickly build up a power industry based on clean, indigenous biomass fuels.





2. Current energy policy and measures



The current energy policy aims are to guarantee:

- ✓ Building new power plants and transmission lines;
- ✓ Production of natural gas and fuels including the building of distribution and storage infrastructures;
- ✓ Distribution and access to electricity, fuels and natural gas;
- ✓ Funding of projects and adjustment of electricity tariff and fuels price.



2. Current energy policy and measures (Cont.)



2.1. Power production and Electricity Transmission

- Resize the HCB hydropower dam mainly oriented to the domestic needs of power to the country;
- Implementation of the Mphanda Nkuwa's project of building new hydropower under zambeze river;
- Construction of power transmission lines all over the country; and
- Increase power access at least to the 50 % of the population;



2. Current energy policy and measures (Cont.)

2.2. Fuel production and building infrastructures



- ❑ The Government has spent on average about 130 million USD a year to subsidize the consumption of oil products, which represents 1.2% of GDP (or 4.0% of total expenditure of the state budget) per year. If this situation is not reversed it will tend to worsen substantially the quality of public transport as well as the financial condition of fuel operators and the consequently the economy of the country.
- ❑ The production of fuels from coal (" Coal to Liquids ") is a less common alternative technology but for high interest for the country so it will be encouraged these kind of projects.
- ❑ Settling a specific incentive package (available gas at competitive price) to attract public and private investment with a view to establishing a natural gas and condensates refinery for the production of fuels(40,000 bbl/day).



2. Current energy policy and measures (Cont.)



2.2. Fuels and natural gas distribution

- Increase the storage capacity of oil products;
- Construction of at least two LPG terminals including storage in Nacala and Beira ports;
- Construction of natural gas distribution infrastructure through pipelines in the main cities of the country.
- Achieve 10 % of the cars powered by natural gas and construction of 100 natural gas filling stations all over the country;
- Giving financial support for conversion and import of vehicles powered by natural gas;





2. Current energy policy and measures (Cont.)



2.2. Projects funding and energy price

- Making the gradual adjustment of electricity tariff in order to achieve the sustainability of the power supply business;
- Making the gradual adjustment of fuel prices to keep its alignment with international market prices and cutting of subsidies given to distributor's oil companies.
- Liberalization of the LPG price in order to encourage investment for distribution infrastructure and allow economies of scale gains.

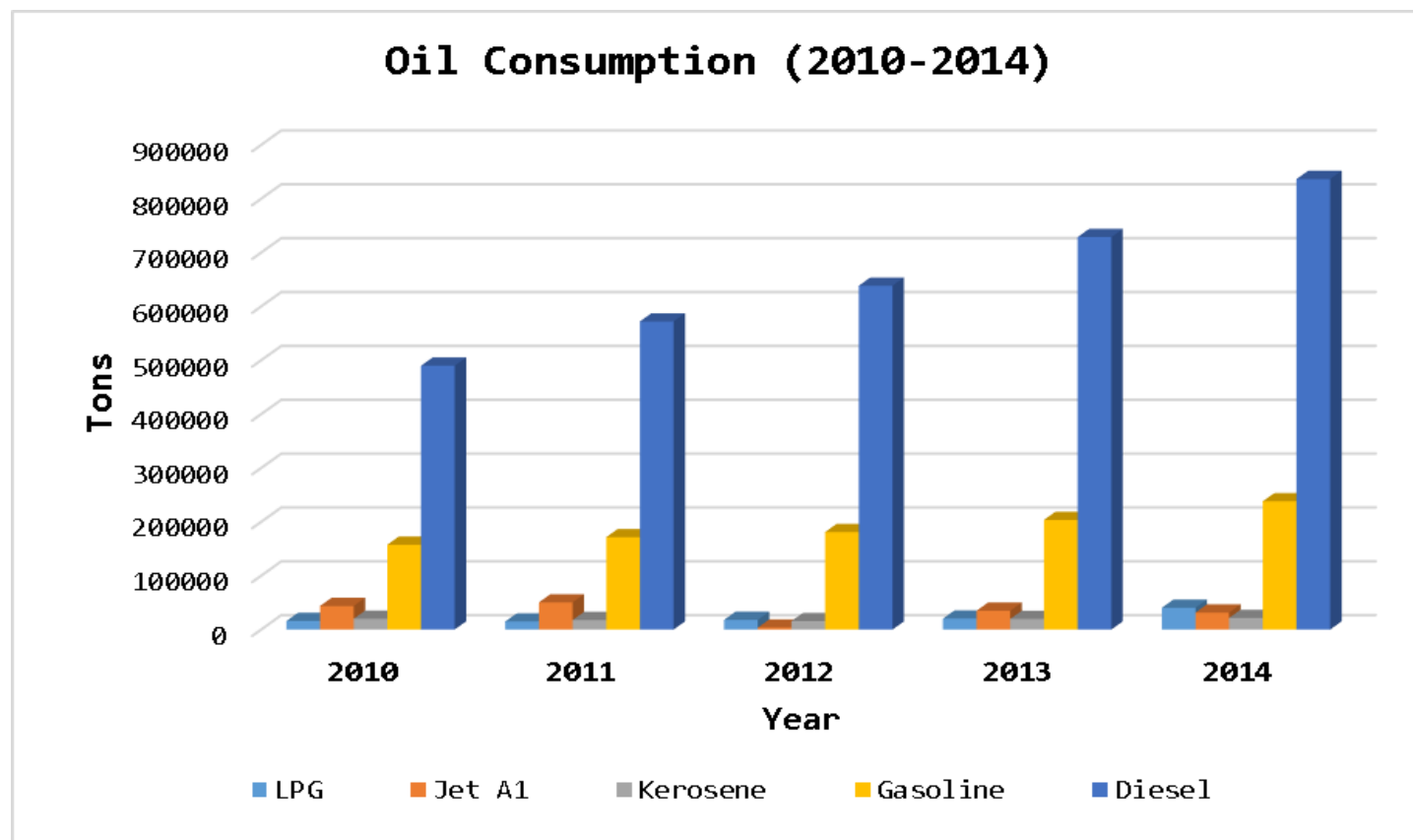




3. Past energy demand and supply (statistics)



3.1. Oil consumption



The average of oil consumption a year is about 918.000 MT which more than 70 % is diesel.



3. Past energy demand and supply (statistics)

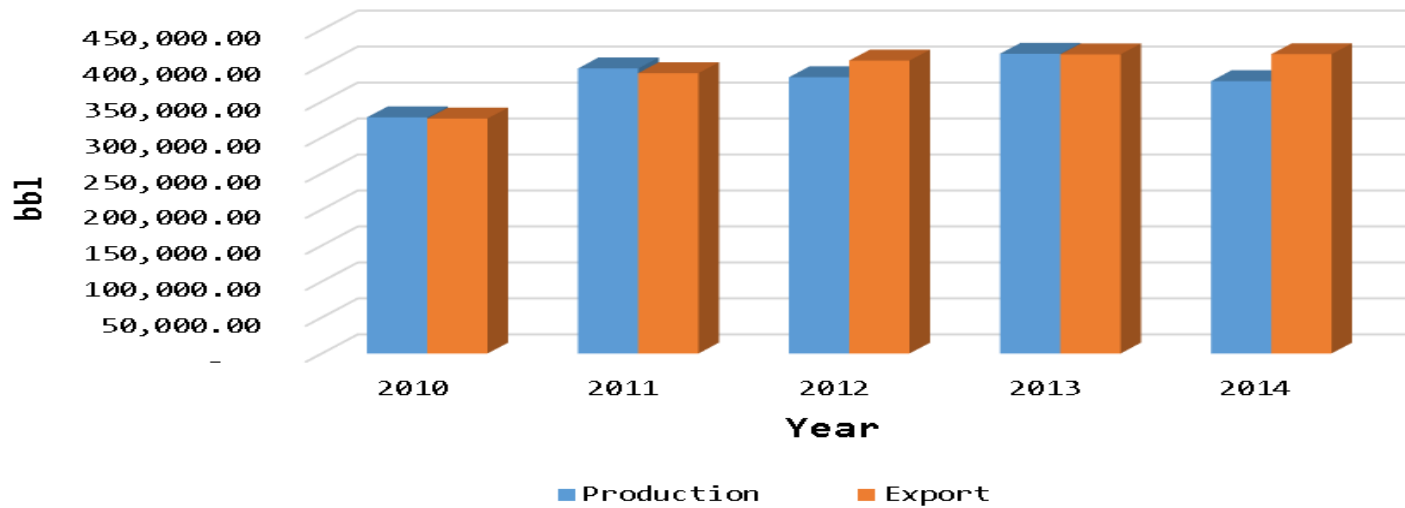


3.1. Natural gas and condensate

Natural Gas (2010-2014)



Natural Gas Condensate (2010-2014)

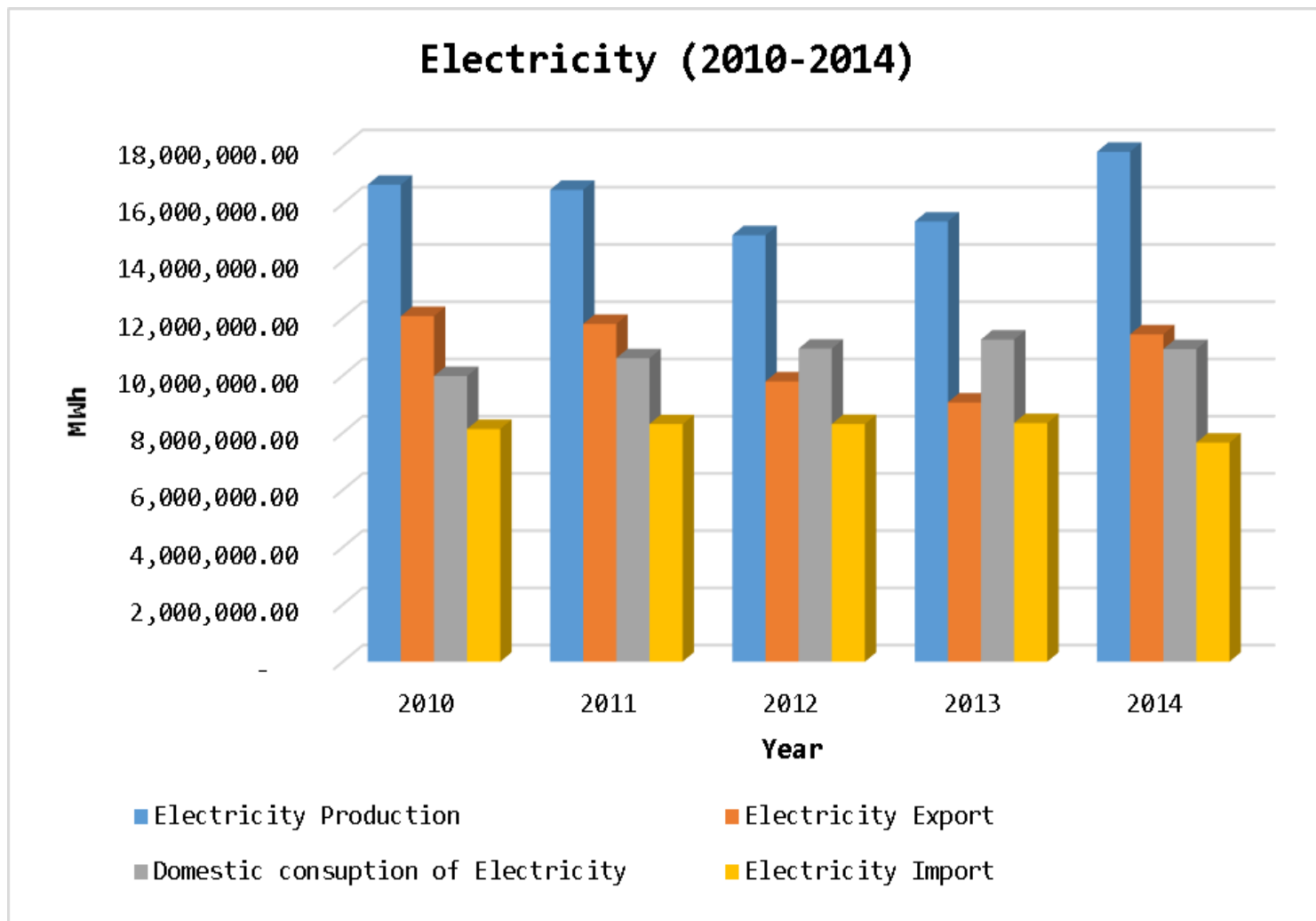




3. Past energy demand and supply (statistics)



3.1. Electricity production, domestic consumption, export and import



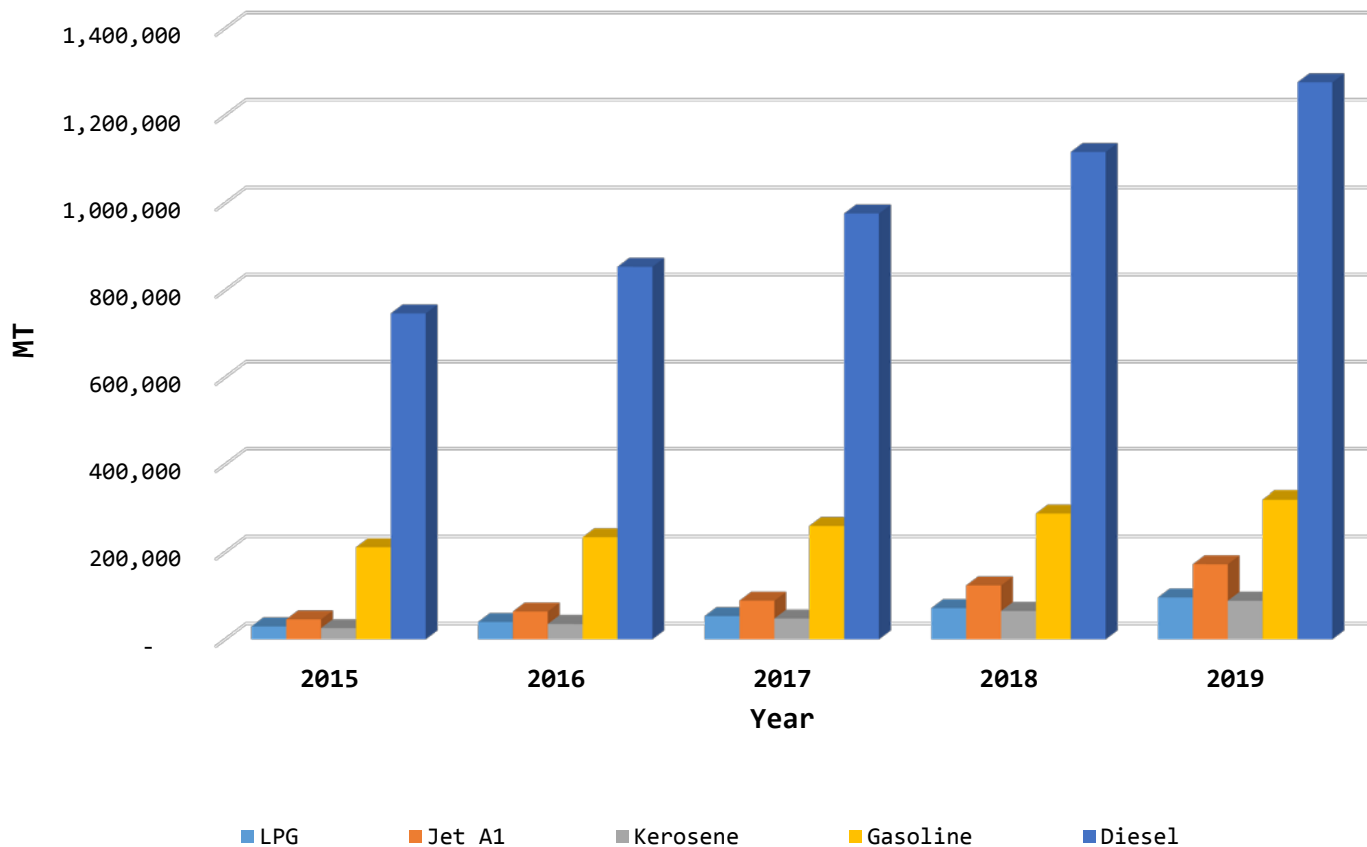


4. Outlook of energy demand and supply



4.1. Oil consumption

Oil Consumption (2015-2019)

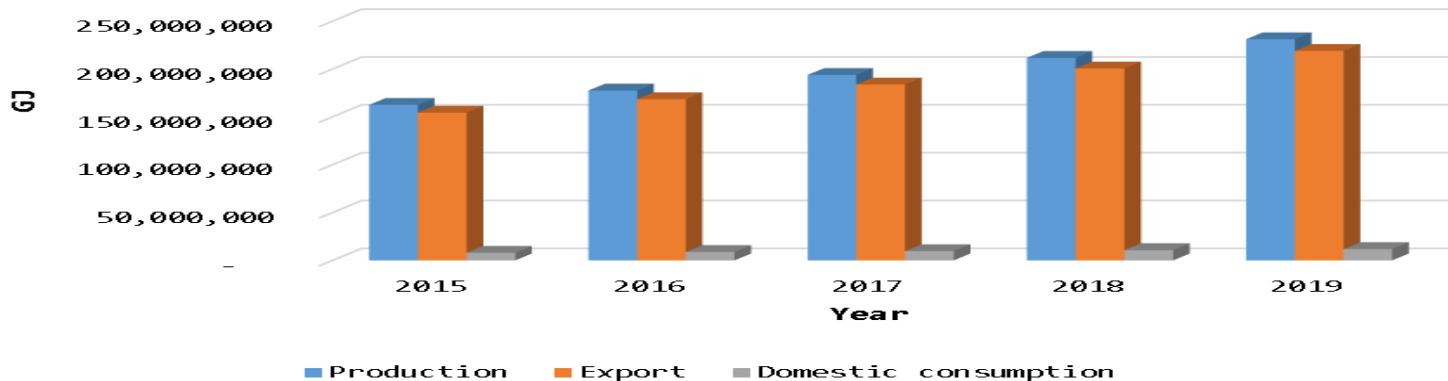


4. Outlook of energy demand and supply

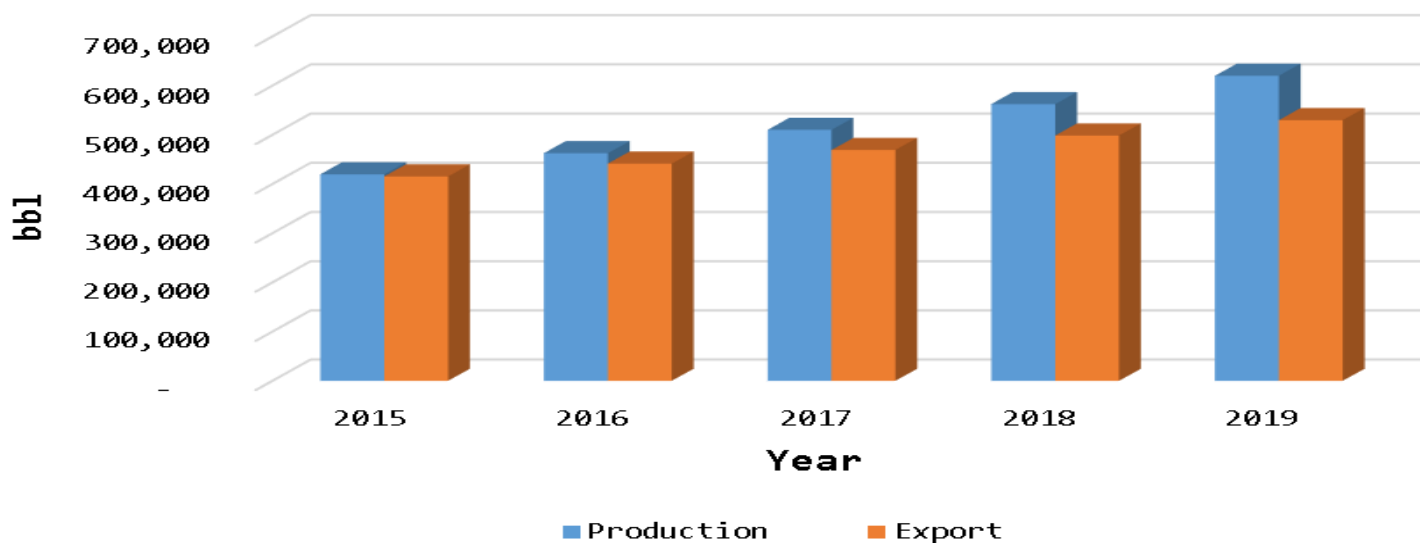
4.2. Natural gas and condensate



Natural Gas (2015-2019)



Natural Gas Condensate (2015-2019)

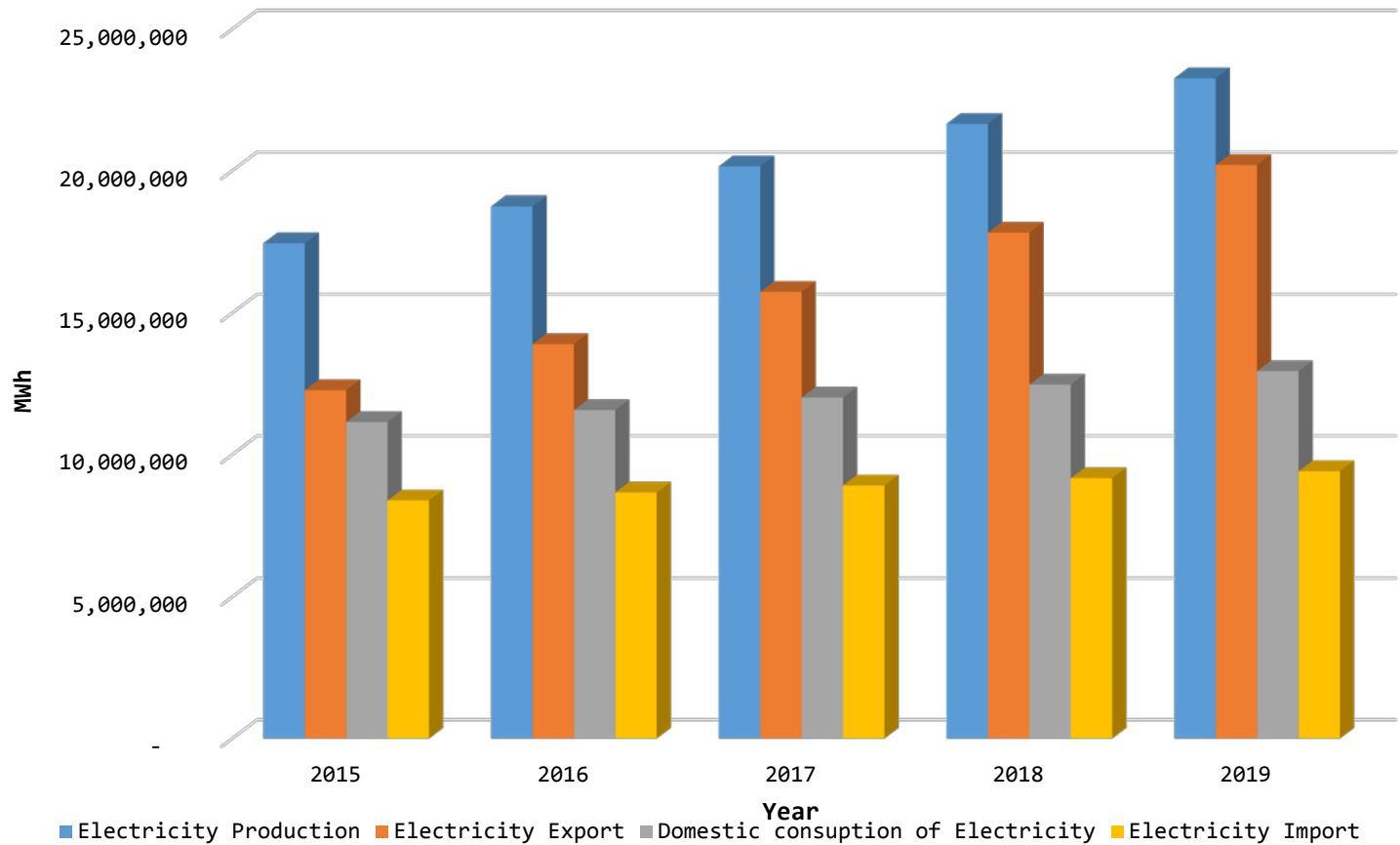


4. Outlook of energy demand and supply

4.3. Electricity production, domestic consumption, export and import



Electricity (2015-2019)





5. Major difficulties and bottlenecks currently faced in formulating energy policies

- ❑ The country has been recording constant interruptions of power supply due to increased energy demand resulting from construction of new industrial, hotel and office buildings and housing. Policy-making for addressing this problem is the lack of funding and coupled with the fact that the electricity tariff be adjusted no longer than 6 years the result is that country has been facing difficulty to invest in the construction of new power transmission lines as well as the lack of funding for new hydro, thermal and other sources to generate energy.
- ❑ The government has been given subsidies to oil distributors companies because of that they do not have financial capacity for funding the implementation of projects aimed at building the distribution infrastructure and storage while there is no fuel price adjustment those will continue to record losses. In this context, the plans formulated by the energy sector are barriers to their implementation as the result of companies do not have funds to increase the storage capacity also coupled with the fact that government did not have funds to build fuel storage infrastructures in ports and other places.



6. Subjects I would like to study in the order of priority and the reason



- subsidies to electricity tariff and fuel prices because this problem hinder the development of policies that contribute for making the companies more competitive as well as for best of electricity and fuels supply services including expansion of those services for in regions where there are still no infrastructure for this purpose.
- Procurement issues to give skill for making terms of reference and bid documents to the energy sector tenders.
- Energy efficiency issues because there are lots of opportunities to save energy in the country by implementation of energy management measures.
- Attracting investments for building of infrastructure for storage fuels storage to reduce the effect oil prices in the international market as well as for new power plant and transmission lines.



THANK YOU!

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