



Republica de Mocambique
Ministerio dos Recursos Minerais e Energia
Direcção Nacional de Energia

Energy Police Course (A): Mozambique Country Presentation

PRESENTED
BY
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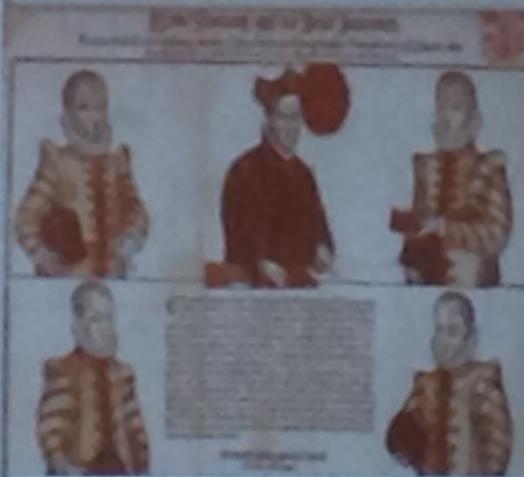
Relação histórica entre Moçambique e o Japão

Yasuke



O primeiro moçambicano chegou ao Japão em 1581

Tensho Kenou Shisetsudan (Missão Tensho)



Os primeiros japoneses chegaram a Moçambique em 1596

Os dois... os





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2. Energy Potencial

3. Energy demand and supply

4. Policy and regulatory framework

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1. Country Profile



1. Location: Southern Africa

2. Population: 30 million

3. n. family : 6 million

4. Area: 799.860 km²

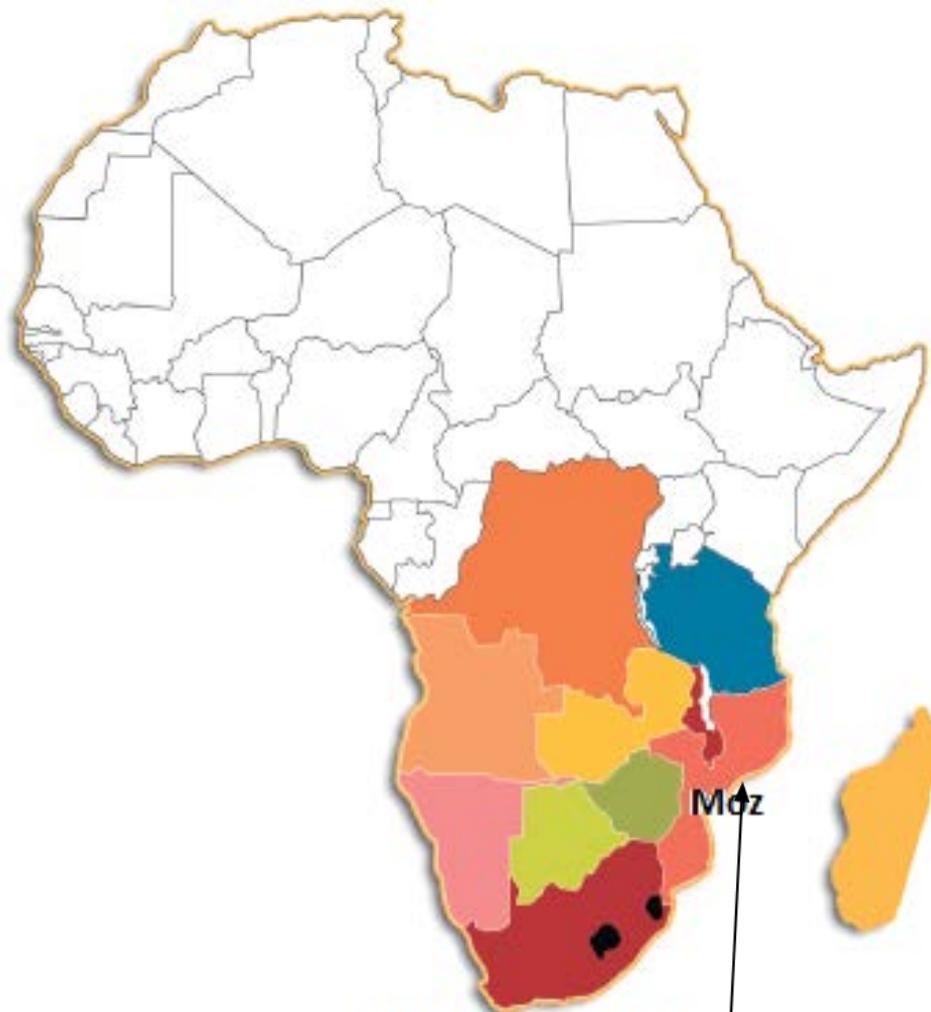
5. GDP per capita 412 USD

6. Currency: Metical
(USD1=60MZN)

7. Energy access: **28%**

**8. Energy access at rural
areas: 5%**

9. Rural population: 68.5%



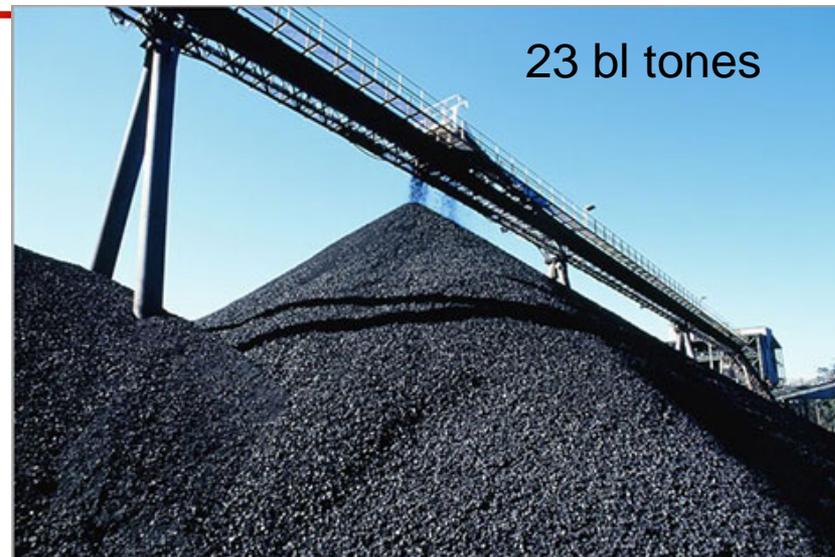
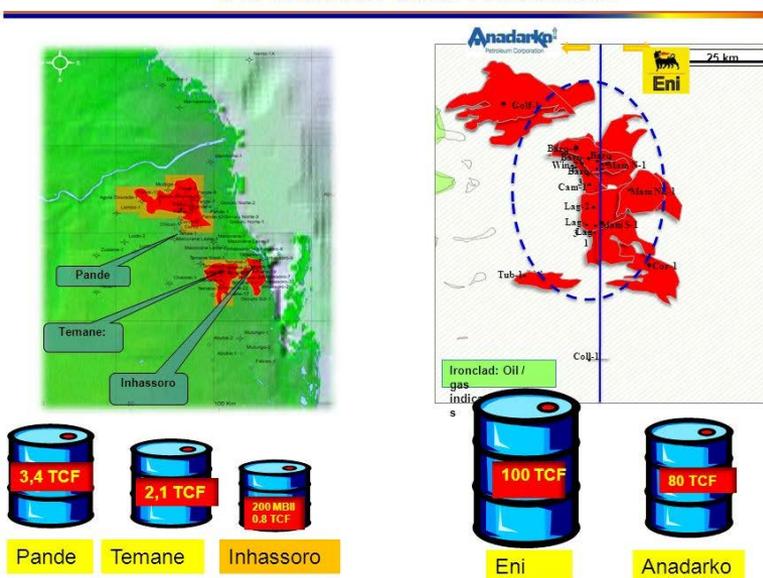
IRENA, Mozambique RRA

Mozambique

2. Energy potencial

In Mozambique, hydropower resources are abundant, but the country has also other energy resources, both renewable and non-renewable to build a more sustainable energy matrix, namely: Coal (23 bl tonnes); Hydropower (18,000 MW), Natural gas in Pande, Temane and Rovuma Basin (over 200 TCF), some of which will be used to generate power

Potencial dos recursos

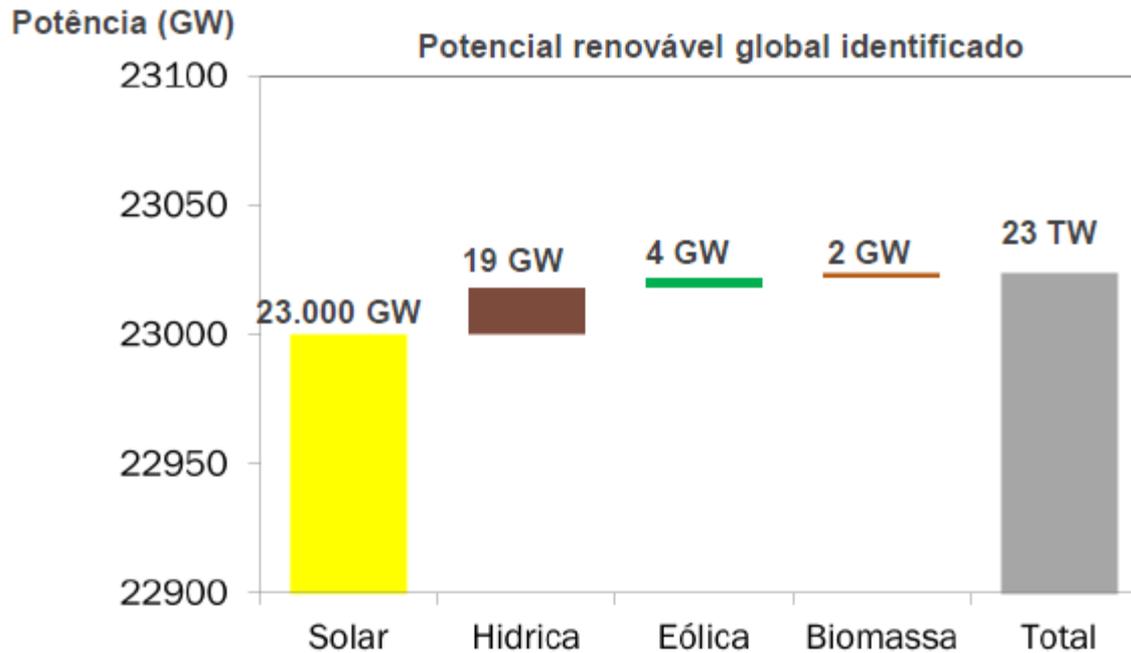




2.1 Renewable Energy Potential

Total

A ENERGIA SOLAR É A FONTE RENOVÁVEL MAIS ABUNDANTE EM MOÇAMBIQUE...

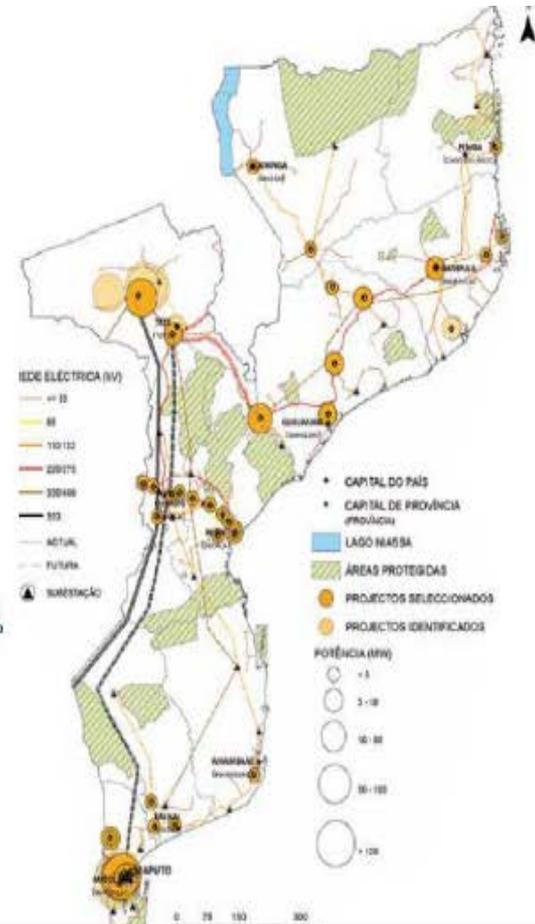
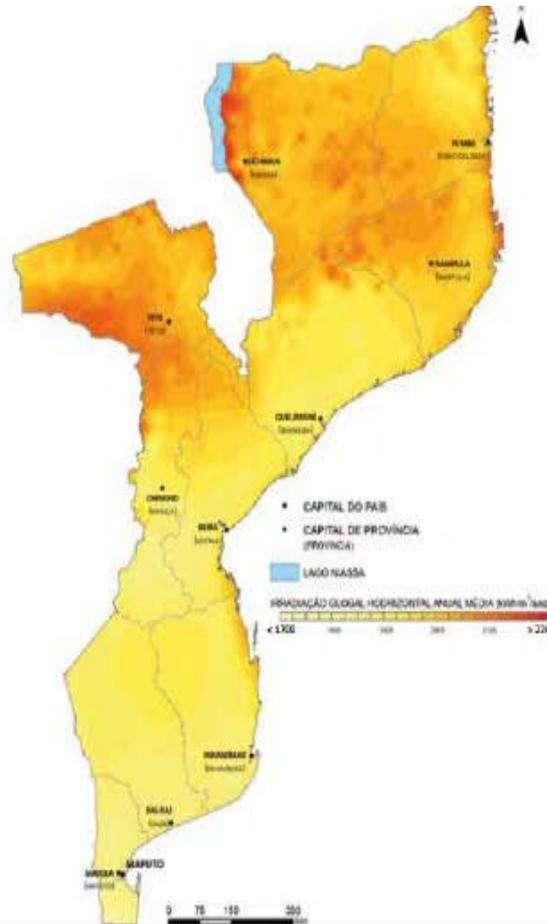
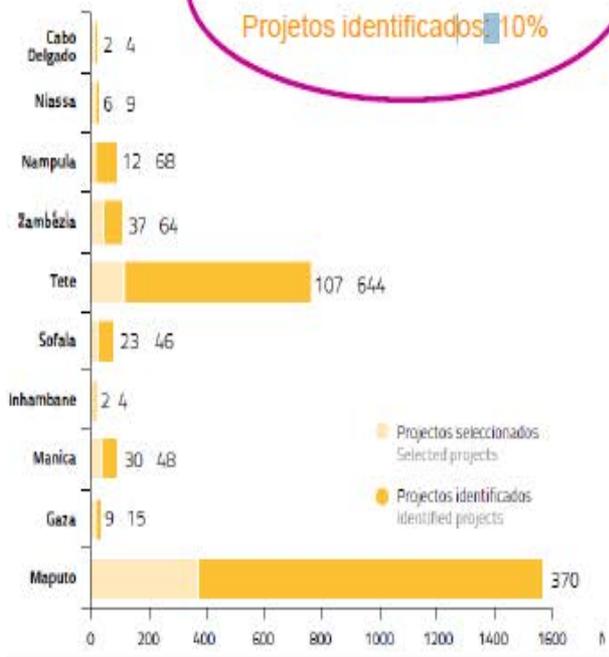


2.1 Renewable Energy Potencial

Solar

Solar Recurso

Potencial identificado: 23 GW
 Projetos identificados: 10%





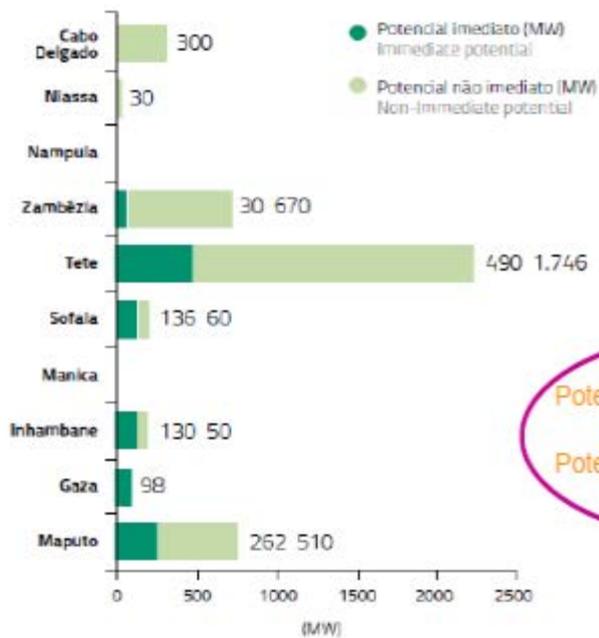
Renewable Energy Potencial

Wind

- Tecnologias de produção de energia elétrica

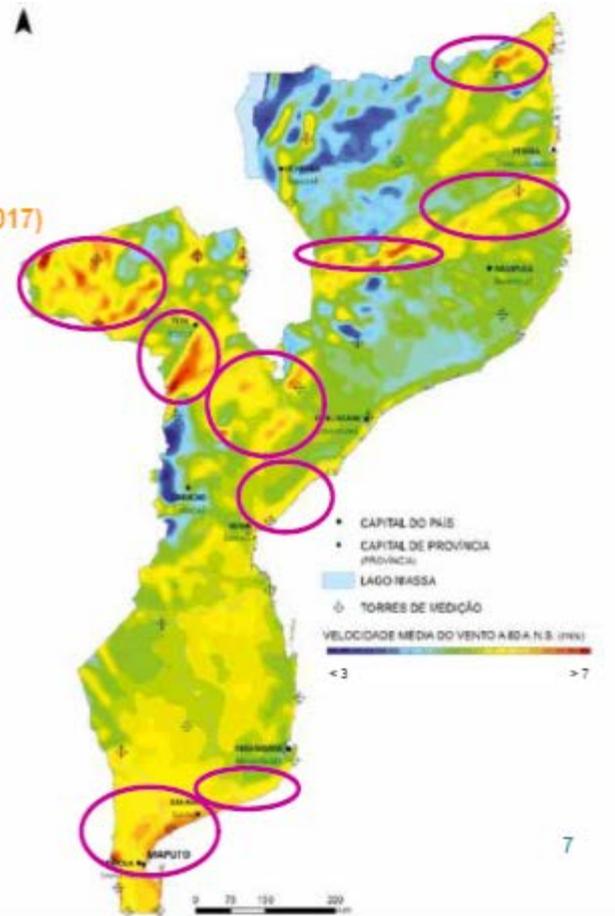
Eólica – Recurso

Estimativa do potencial eólico de Moçambique (ALER, Out. 2017)



Potencial identificado: 4,5 GW
Potencial de ligação à rede: 25%

Fonte: FUNAE - ATLAS 2013



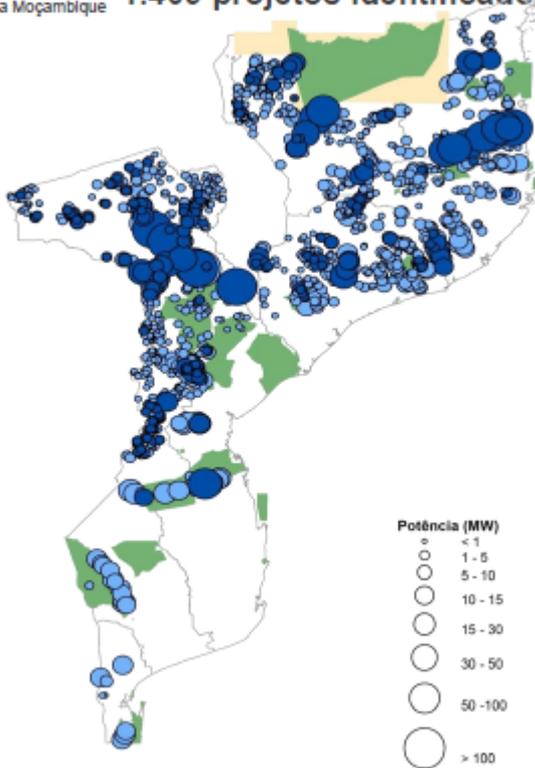


Renewable Energy Potencial in Mozambique

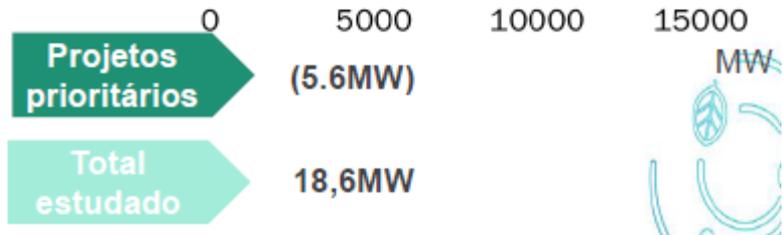
hydro

18,6GW GW ESTUDADOS EM 1.446 PROJETOS HIDRICOS
DOS QUAIS 5,6 GW COM ELEVADO POTENCIAL ECONÓMICO

Energia Para Moçambique **1.409 projetos identificados e simulados...** ... Num total de 18.000 MW



Provincia	Projetos	Potência (MW)
Cabo Delgado	135	543
Niassa	313	758
Nampula	701	1.489
Zambézia	268	943
Tete	2946	11.138
Sofala	179	623
Manica	190	1941
Inhambane		231
Gaza		232
Maputo		88

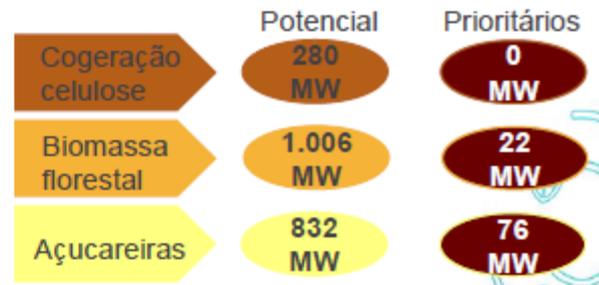
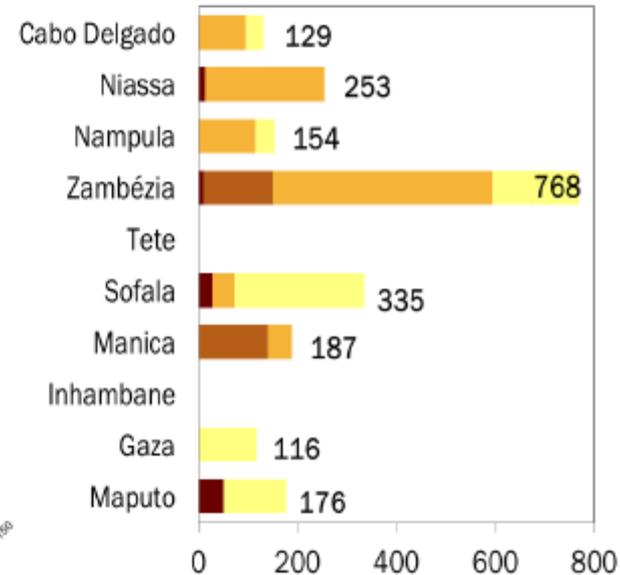
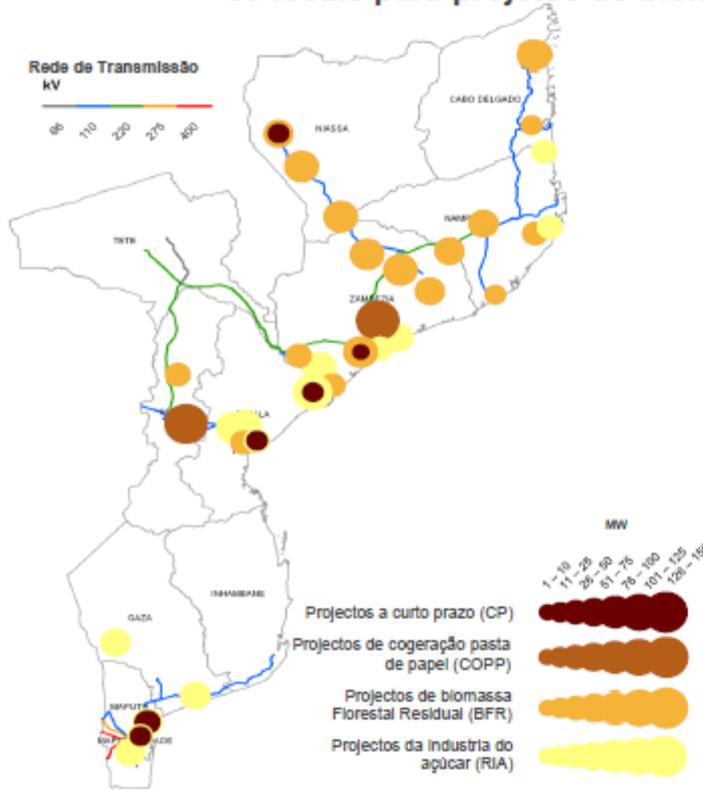


2. Renewable Energy Potencial in Mozambique

Biomass

2 GW DE POTENCIAL DE PROJETOS DE BIOMASSA - COM APENAS 98 MW VIÁVEIS A CURTO PRAZO

33 locais para projetos de biomassa... num total de 2.118 MW

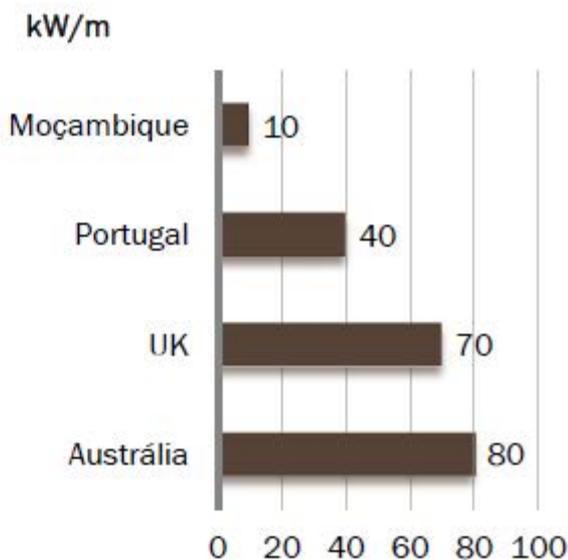




2. Renewable Energy Potencial in Mozambique

Geothermal

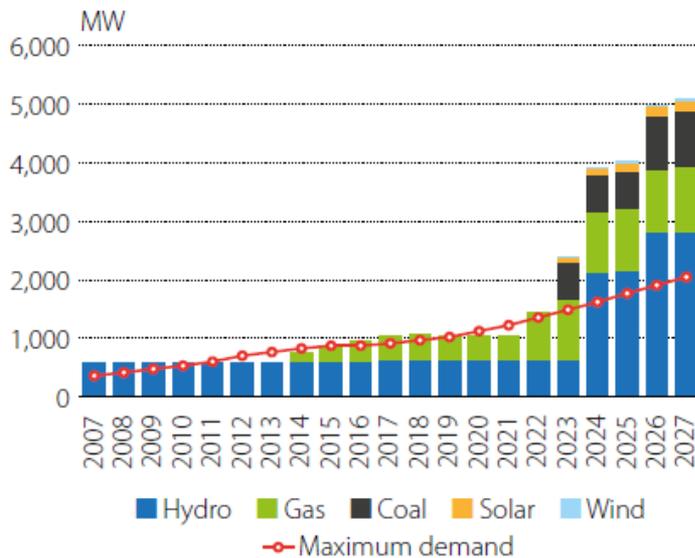
POTENCIAL LIMITADO PARA ENERGIA DAS ONDAS



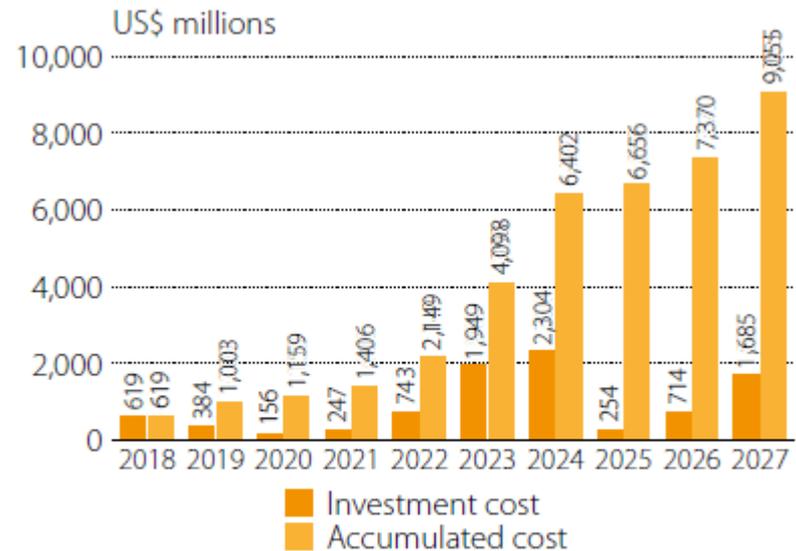


3. ENERGY DEMAND AND SUPPLY

Energy consumption has been increasing from year to year and the average growth of maximum demand is 14% and is above the SADC average (3%). The maximum demand in 2013 was 761 MW, representing a deficit of about 200 MW that means the country needs to import more from South Africa at high costs per MWh, total demand for electricity comprises household, commercial and mega projects.



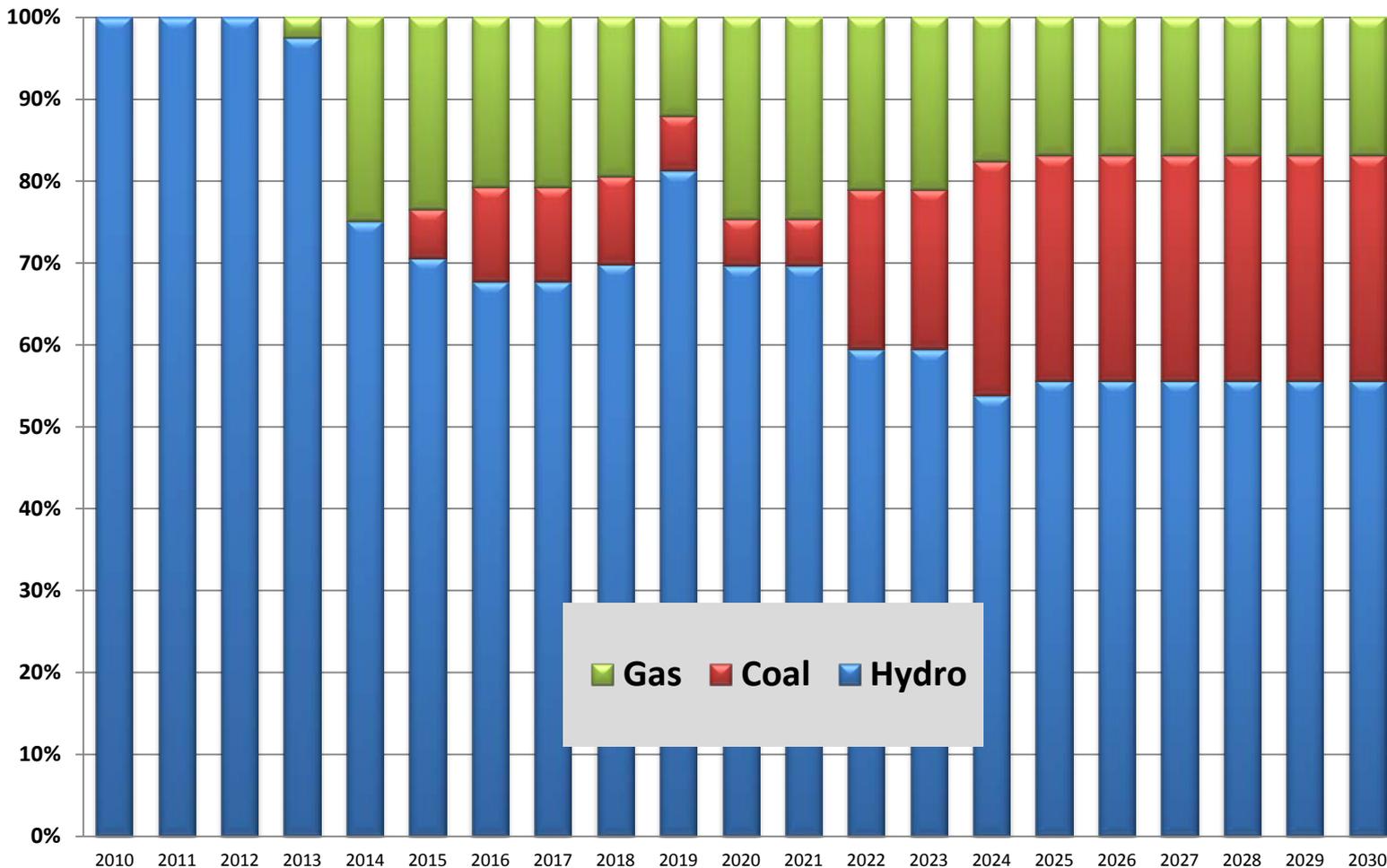
Source: EDM Annual Statistical Reports vs Master Plan



Source: Integrated Master Plan 2017-2042



3. 1 Energy Matrix forecasting





3.2 ENERGY LOSSES

	2006	2007	2008	2009	2010	2011
Distribution Losses Perdas de Distribuição	19.5%	23.0%	19.0%	20.0%	20.0%	19.0%
Transport Losses Perdas de Transporte	7.5%	5.0%	8.0%	7.0%	6.0%	6.0%
Total Energy Losses Total Perdas Energéticas	27.0%	28.0%	27.0%	27.0%	26.0%	25.0%

- Data on energy losses from EDM Annual Statistical Reports 2006-2011

4. Policy and Regulatory framework

Presidential decree n. 11/2015 of 16 March –create MIREME;

Lei n 21/97 de 1 de October – electricity act

Lei 15/2011 de 10 August , revision of electricity act and create ARENE

Lei n. 20/97 de 1 de October – environmental act

Decree 54/2015 de 31 de December – Environment Impact assessment

Decree n. 42/2005 de 29 de November– tariff regulatory

Decree 8/2000 – concession

Decree 58/2014 -REFIT

Policy and strategy of biofuels(2009);

Policy and strategy of renewable energy(2009);

Regulatory of biofuel (2011)

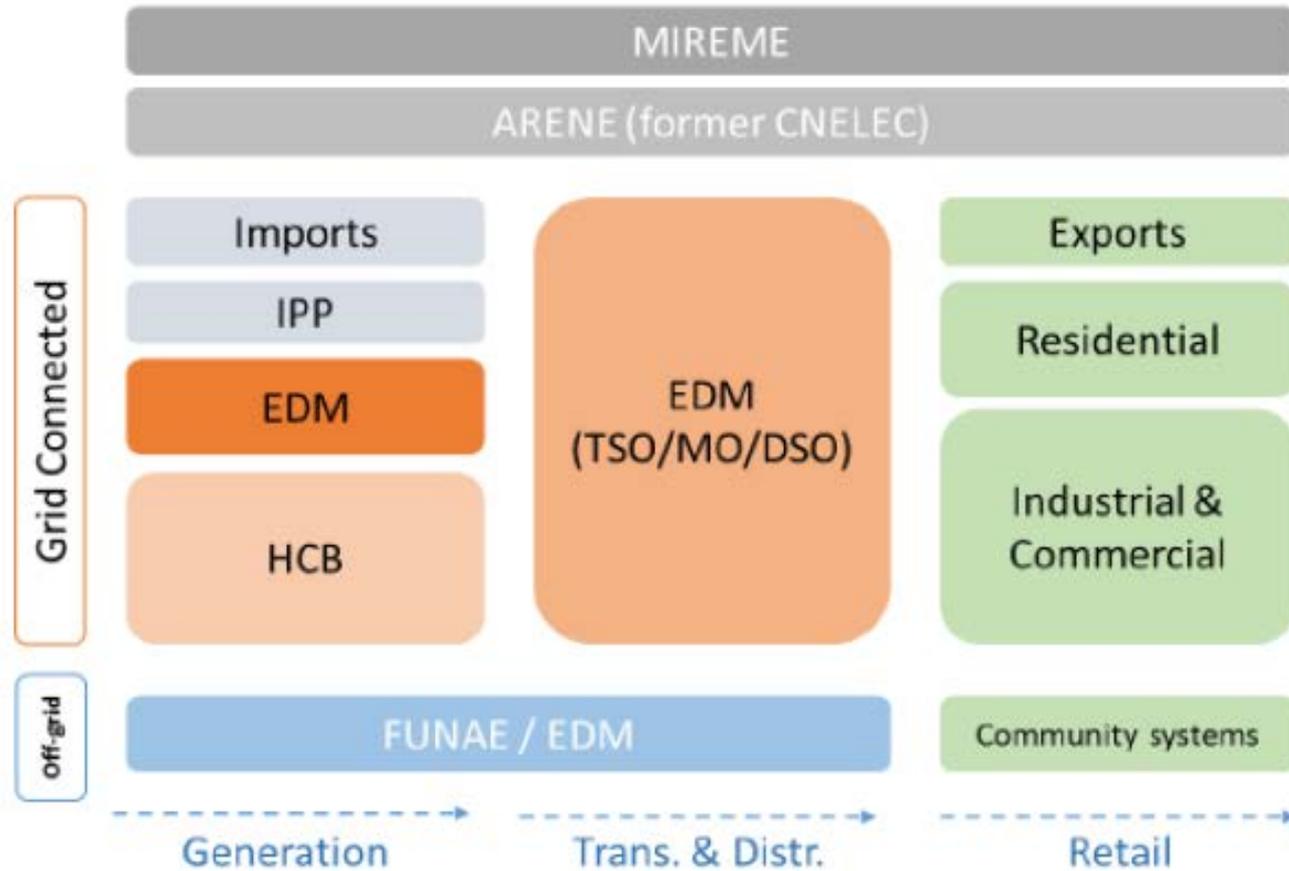
Strategy of development of new and renewable energy 2011-2025 (2011);

Biomass conservation strategy (2013)





Organization of the electric power sector



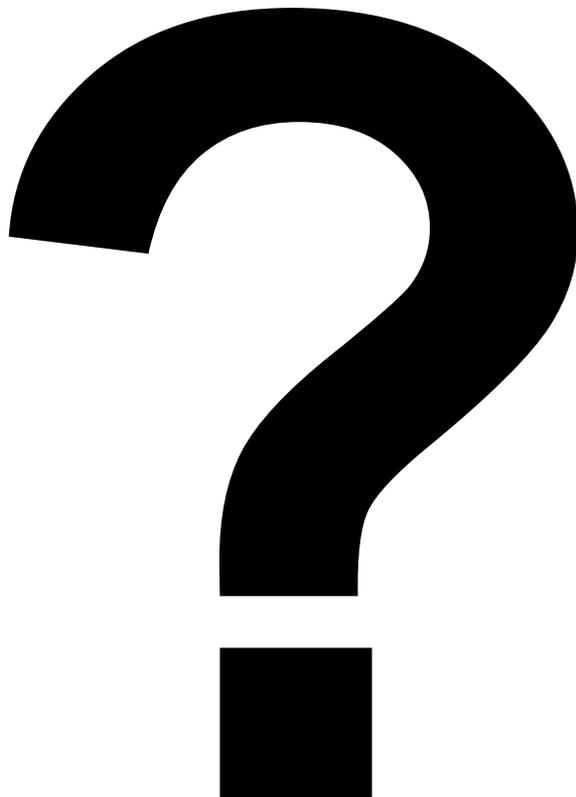


5. Final Consideration

- Energy potential must be explored to promote country development;
- Set up clear and consistent legal regulatory framework;
- Define Tariff policy
- Improve renewable energy regulatory framework
- Operationalize Get-fit
- Improve environment for private sector participation (on off-grid and on-grid);
- Clear definition of procedure to be followed by investor
- Capacity building;
- Institution Strengthen ;
- Set up reliable data base



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Thank you



Átomos para o Desenvolvimento