



## **Theme: Promoting Policies on Renewable Energies and Establishing a Single Regional Market**

### **Case for the Kingdom of Eswatini**

#### **1.0 Introduction**

The Kingdom of Eswatini is a 17,364 km<sup>2</sup> land locked country sharing most its borders with the Republic of South Africa, and with Mozambique to the east. Situated at latitude 26.52°South and longitude 31.47° East the country generally enjoys subtropical weather, with hot and wet summers and cold and dry winters. With an altitude range of 250 to 1400 m above that presents a scenic landscape, the country, despite its size, has six physiographic zones (Highveld, upper Middleveld, lower Middleveld, western Lowveld, eastern Lowveld and the Lubombo Plateau) which show clearly different climatic conditions, ranging from sub-humid and temperate in the Highveld to semi-arid and warm in the Lowveld.

Climate change is no longer just predicted, but also witnessed in the country. We have observed gradually increasing temperatures throughout the seasons and a slight decline in total rainfall amounts is being observed. This observation comes along with an increasing frequency and intensity of extremes which have not left our economy unaffected. In recent years we have seen our infrastructure destroyed by storms, energy supply impacted on, water shortages are on the increase, food systems encountering a serious knock and health systems are not going unaffected.

## **2.0 Energy Sector commitments under climate change**

Increasing the share of renewable energy to 50% in the electricity mix by 2030 relative to 2010 levels through the adoption of solar, wind, biomass, hydro, and solar water heater technologies.

### **2.1. Key measures to be implemented include:**

#### **2.1.1. Electricity Generation**

The share of renewable energy in the national energy mix in 2010 was 16%. This includes both grid-connected renewable energy and sustainable/renewable biomass.

This is the additional installation between 2011-2030

- Solar: 55.85 MW<sup>7</sup>
- Hydro: 80 MW
- Biomass: 95 MW<sup>8</sup>
- Wind: Conduct feasibility studies and assessments

#### **2.1.2 Residential**

- Achieving 100% access to clean modern energy for cooking at household-level by 2030
- Improving by 50%, uptake of energy efficient biomass stoves used for cooking by 2030
- Replacing inefficient wood-based water heating with energy efficiency options to reduce its share by 13% by 2030
- Reduce energy consumption in water heating, through replacing conventional geysers with 1 000 solar water heaters by 2030
- Reducing energy intensity (electricity) by 20%<sup>11</sup> by 2030 relative to 2010

#### **2.1.3 Industry**

o Reducing energy intensity (electricity) by 5% by 2030 relative to 2010

- Commercial and public services

- Reducing energy intensity (electricity) by 3% to 14 % by 2030 relative to 2010 levels

#### **2.1.4 Agriculture**

- Reducing energy intensity (electricity) by 3% to 15% by 2030 relative to 2010 levels

Electricity consumption in all these sectors is expected to continue to increase, but the country is committing to efficiency improvements that will reduce the speed of that growth.

#### **2.1.5 Under transport sector the measures include:**

- Introducing commercial use of 10% ethanol blend in petrol by 2030 and
- Conducting studies to assess the adoption of electric mobility options.

### **3.0 General Overview of the Electricity Supply Situation in Eswatini**

- Electricity system maximum demand is about 250 MW.
- Large proportion (about 80% ) is met through electricity imports (ESKOM- RSA, EDM-Mozambique & SAPP).
- Balance is generated locally from hydropower ( 60 MW), solar PV (10 MW) with additional generation capacity of about 105 MW from biomass (sugar industry) which is mainly for their own use ( about 15 MW of the biomass based generation capacity is exported into the national electricity grid.
- Private companies have installed or are in the process to install solar PV plants ranging from few kW up to 1.5 MW each for own use with a total capacity of about **17 MW licensed by the Energy Regulator**

- Nationally the electricity access is at **82%** (94% urban and 72% rural) which is through electricity grid extension. Off-grid electrification is currently very insignificant but is being considered to electrify inaccessible communities).

#### **4.0 Policy and Framework Promoting Renewable Energy**

- The development of the energy sector in Eswatini is guided by the National Energy Policy and Implementation Strategy (2018). Amongst other policy positions, the Energy Policy clearly advocates for the development of renewable energy to achieve an electricity generation mix of at least 50% by 2030. The Policy also advocates for ensuring adequate security of electricity supply through diversification of electrical power imports in the region and strengthen the national transmission network to facilitate cross border power trading
- Supporting policies include the Independent Power Producer Policy 2016 to facilitate an **enabling environment to promote** the establishment of sustainable renewable energy and **IPP generation.**
- **Other policies are Energy Efficiency and Conservation Policy 2019 and National Energy Efficiency Strategy and Action Plan 2020,**
- **Energy Planning as well as the procurement of new electricity generation capacity is informed by the National Energy Master Plan ( for the long term) and the Short Term Generation Expansion Plan ( in the short to medium term)**

## 5.0 Legislative Framework

- The Electricity Act 2007 which provided for the reform of the Eswatini Electricity Supply Industry essentially liberalised the generation, distribution and supply of electricity thereby allowing participation of Independent Power Producers besides the utility. This act also provides for a transparent and fair process to procure IPPs to facilitate investments from the private sector.
- The Electricity Company Act 2007 provides for the establishment of the Eswatini Electricity Company (EEC) under the Companies Act and also provided for the performance by the EEC of the powers and functions which had been performed by the Swaziland Electricity Board before liberalisation of the electricity industry.
- The Energy Regulatory Act, 2007 established the Energy Regulatory Authority (ESERA) to administer the Electricity Act and whose key functions include issuing licences for undertakings in the energy sector, regulating and approving tariffs, prices and charges and terms and conditions of service provided by licensed entities as well as investigating and adjudicating consumer complaints

## **6.0 Renewable Energy Projects in the Pipeline in Eswatini.**

- The Eswatini Energy Regulatory Authority (ESERA) is finalising the procurement of 75 MW solar PV and 40 MW Biomass which will increase the share of renewables in the electricity mix
- The utility (EEC) is also developing an additional 30 MW hydropower generation capacity

## **7.0 A Single Regional Market**

- Eswatini through the utility (EEC) participates in the Southern Africa Power Pool (SAPP) electricity trading market which facilitates the development of a competitive electricity market in the Southern African region. This regional power market has the potential to provide a market for the electricity generated from renewables within the region.