ISLAMIC REPUBLIC OF MAURITANIA
Electricity Sector

RCREEE meeting, Nouakchott September 6th
General Overview
Main facts:

- Vast and sparsely populated country:
  - 1,030,700 sq km
  - 3.5 million inhabitants

- 10% per year growth of electricity demand

- Low electrification rate:
  - 72% urban
  - 6% in rural

- High Production Costs due to high hydrocarbons costs

- Annual subsidy to the national electricity company to mitigate fluctuations of oil price (till 2014)

- Limited interconnected grid (expensive isolated plants)
Overview

- **Sector Strategy:**
  - Add production capacity from local resource (mainly gas and hydroelectricity);
  - Develop grid and interconnection with neighboring counties;
  - Enhance part of renewable energies in the energy mix;
  - Implement solutions tailored for communities in remoted areas.

- **Main documents:**
  - 2030 Master Plan for Production and Transmission
  - Renewable Readiness Assessment
  - Gas to Power feasibility Study
  - ...

...
Renewable Energies Potential
Wind Energy:
- Winds mainly determined by “Alizés” winds and thermal effects
- Dominant directions North and North-East
- Strongest winds in the northern coastal regions, tapering green south and inland.

Measures have indicated a potential of:
- Nouakchott 7,5 m/s (60m);
- Nouadhibou 8,6 m/s (40m)

Implemented Projects:
- 30 MW plant in Nouakchott
- 4,4 MW plant in Nouadhibou
Solar Energy:

- Geography characterized by:
  - A northern hot desert region crossed by the Tropic of Cancer
  - A southern region near the Senegal River with a hot and humid climate and rainfall up to 400 mm / year

- Radiation GHI range from:
  - 2100 to 2300 kWh/m²/year

- Implemented projects:
  - 15 MW PV plant in Nouakchott
  - 3 MW PV plant in Nouadhibou
Hydro Power:

- Mauritania, Senegal, Mali, and Guinea members River Senegal Organisation (OMVS).
- Shared power production
- Felou hydroelectric dam 60 MW (2012)
- Gouina hydroelectric dam 140 MW (expected 2018)
Key achievements 2010-2016
Key achievements

- Adopted and Implemented a strategy

- On Generation:
  - Secured capacity to cover the national demand
  - 358 MW additional capacity for generation;
    - 35 MW Wind
    - 18 MW Solar PV
    - 18 MW hydroelectricity

- On Distribution:
  - 1500 km Low Voltage lines
  - 750 km Medium Voltage lines
  - 115 newly electrified cities
The share of electricity produced from renewable energy has evolved from 27% in 2010 to 34% in 2015.
Major projects in the pipeline 2016-2020
Gas to Power Project

- Gas off shore discovery 1.2 TCF
- Project under development since 2011
- Restructured in 2015:
  - Meet national and regional demand
  - Up Stream: Tender for a gas operator in 2016
  - Down Stream:
    - 180 MW Dual Plant commissioned 2015
    - 120 MW CCGT with the first gas (2018)
Major projects in the pipeline 2016-2020

- **Generation:**
  - Installed capacity less 1 MW in isolated remoted areas:
    - ✓ 4 hybrid thermal/Wind plants (IRENA/ADFD 1)
    - ✓ 10 hybrid thermal/solar plants (IRENA/ADFD 2)
    - ✓ Hybridation of 7 plants (UAE)
    - ✓ 2 hybrid thermal/Solar (GoM)
    - ✓ ...
  - Installed capacity between 1 and 10 MW with grid covering a range of 120 km:
    - ✓ 1 hybrid thermal/solar plant (French Development Agency)
    - ✓ 2 hybrid thermal/solar plant (AFESD)
    - ✓ ...
  - Installed capacity over 10 MW on grid:
    - ✓ 120 MW CCGT in Nouakchott
    - ✓ 100 MW Wind in Boulanouar (AFESD)
    - ✓ 30 MW Solar PV in Nouakchott (AFESD)
Major projects in the pipeline 2016-2020

- **HV Transmission lines:**
  - North-South backbone (700 km)
  - West – South Est backbone (1600 km)
  - West – North Est backbone (700 km)

- **MV and LV lines:**
  - 2000 km of 33 kV
  - 1500 km of LV lines
Thank You