

Mauritania Power Market Outlook to 2030 - Business Propensity Indicator (BPI), Market Trends, Regulations and Competitive Landscape

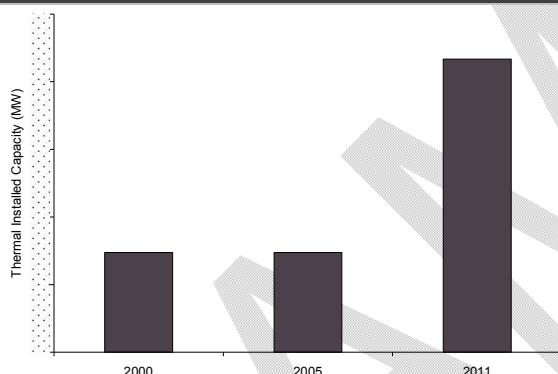
Reference Code: **GDPE0565ICR**

Publication Date: **August 2012**

Thermal Installed Capacity, Dominant source in Power Mix

The Mauritanian power market is dominated by thermal fuel sources, which accounted for XX% or XX MW of the country's cumulative installed capacity in 2011. Oil-fired power plants account for the country's entire thermal capacity. Oil production in Mauritania's Chinguetti oil field is expected to double from XX barrels per day to XX barrels per day in the near future (Petronas, 2011). Although the government has not stated any ambitious plans to increase oil-fired capacity, the expected increase in oil production significantly raises the possibility of greater oil-fired generation. Mauritania's thermal installed capacity is expected to increase from XX MW in 2012 to XX MW in 2030 at a Compound Annual Growth Rate (CAGR) of XX% over the forecast period.

Power Market, Mauritania, Thermal Power Installed Capacity (MW), 2000-2011



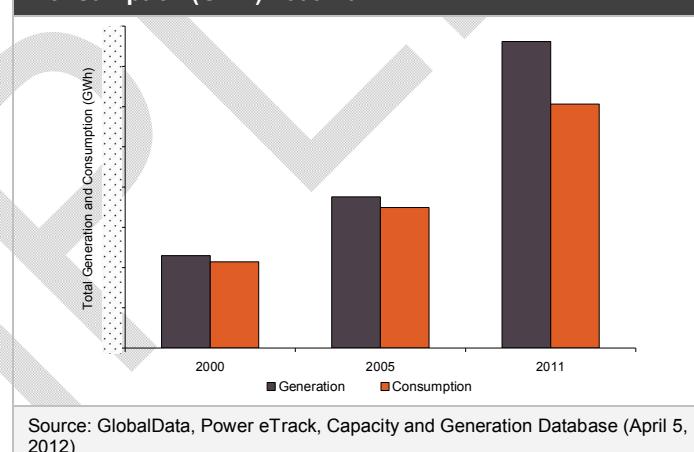
Source: GlobalData, Energy Information Agency

Continued Growth in Power Generation and Consumption

Mauritania's electricity consumption and generation are expected to continue growing due to the increasing electricity demand in the country. The country's electricity generation increased from XX GWh in 2000 to XX GWh in 2011 at a CAGR of XX%. The electricity consumption grew from XX GWh in 2000 to XX GWh at a CAGR of XX%. Electricity generation is expected to increase after the second phase of the Nouakchott oil-fired power plant becomes operational. However, the actual timeline of the commissioning of the power plant is unknown. The country is also planning to set up a gas-fired power plant in Nouakchott in the future. However, the country has a small installed capacity for power generation and has no major plans to increase capacity significantly in the future. Since some of

power plants are not interconnected, it becomes difficult for the country to meet its electricity demand. In this scenario, both power consumption and generation are expected to increase at a slow pace. During 2012-2030, Mauritania's electricity generation is expected to increase at a CAGR of XX% from XX GWh in 2012 to reach XX GWh in 2030. Electricity consumption is expected to increase from XX GWh in 2012 to XX GWh in 2030.

Power Market, Mauritania, Power Generation and Consumption (GWh) 2000-2011



Thermal Power, the Way Forward

The power mix in Mauritania is dominated by thermal sources and this is expected to continue over the forecast period. Traditionally an oil importing country, Mauritania started its own oil production in 2006 after the discovery of the Chinguetti oil field in 2006. Production from the Chinguetti oil field is expected to double in the near future. Moreover, after the Banda gas field, Tiof oil field and Tevet oil and gas field start production, the overall oil and gas production will increase significantly (OECD, 2009). The country has proven oil reserves of approximately XX billion barrels, ranking second in the West Africa region after Nigeria. Since the country has good natural gas and oil potential available, it is likely that the country will focus on thermal-based capacity additions in the future. Since the country has limited hydropower potential, future expansion in hydro capacity is not expected. Therefore, thermal sources will remain the primary source for power generation.

1 Table of Contents

1	Table of Contents	2
1.1	List of Tables.....	4
1.2	List of Figures.....	4
2	Introduction	5
2.1	GlobalData Report Guidance	5
3	Mauritania, Power Market, Business Propensity Indicator Methodology	6
3.1	Methodology for Evaluating the Business Propensity Indicator for Mauritania in Africa	6
3.1.1	Supply Security	6
3.1.2	Regulatory Scenario	6
3.1.3	Infrastructure	7
3.1.4	Macroeconomic Scenario.....	7
3.1.5	Competitive Scenario.....	9
3.1.6	Future Potential	9
3.2	Methodology Adopted to Arrive at Final Rank	10
4	Mauritania, Power Market, Business Propensity Indicator.....	12
4.1	Supply Security	12
4.2	Regulatory Scenario.....	12
4.3	Infrastructure	12
4.4	Degree of Competition.....	12
4.5	Macroeconomic Factors.....	12
4.6	Future Potential.....	12
4.7	Mauritania, Power Market, Business Propensity Indicator Ranking.....	13
5	Mauritania Power Market Analysis, 2000-2030	14
5.1	Mauritania, Power Market, Installed Capacity, 2000-2030	14
5.1.1	Installed Capacity: Breakup by Type of Power Plant, 2011	14
5.1.2	Cumulative Installed Capacity, 2000- 2030	15
5.1.3	Thermal Installed Capacity, 2000-2030.....	17
5.1.4	Hydropower Power Installed Capacity, 2000-2030.....	19
5.1.5	Cumulative Renewable Installed Capacity, 2000-2030	19
5.2	Mauritania, Power Market, Annual Power Generation, 2000-2030	20
5.2.1	Annual Thermal Power Generation, 2000-2030.....	22
5.2.2	Annual Hydropower Generation, 2000-2030	24
5.3	Mauritania, Power Market, Import and Export Scenario.....	26
5.4	Mauritania, Power Market, Annual Power Consumption, 2000-2030.....	26
5.5	Mauritania, Power Market, Power Consumption by sector, 2011	28
6	Mauritania, Power Market, Infrastructure Overview	29
6.1	Mauritania, Power Market, Active Power Projects	29
6.1.1	Leading Thermal Power Projects.....	29
6.1.2	Leading Hydropower Projects	29
6.2	Mauritania, Power Market, Upcoming Power Projects	30
6.2.1	Leading Thermal Power Projects.....	30
6.3	Mauritania, Power Market, Transmission Network Overview	30
6.4	Mauritania, Power Market, Distribution Network Overview.....	30
6.5	Mauritania, Power Market, Grid Interconnection	30
6.6	Mauritania, Power Market, Electricity Trading	30
7	Mauritania, Power Market, Regulatory Structure	31
7.1	Mauritania, Power Market, Regulatory Structure Overview.....	31
7.1.1	New Initiatives	31
7.2	Mauritania, Power Market, Country Investment Scenario	32
7.2.1	Mauritania, Foreign Direct Investment	32
7.2.2	Mauritania, Investment Code and Laws	32
8	Mauritania, Power Market, Competitive Landscape - Snapshot of Top Power Generating Company	33
8.1	Mauritania, Power Market, Market Share of Major Power Generating Company	33
8.2	Key Company in the Mauritania Power Market, Societe Mauritanienne d'Electricite	33
8.2.1	Societe Mauritanienne d'Electricite, Company Overview	33
8.2.2	Societe Mauritanienne d'Electricite, Business Description	33
8.2.3	Societe Mauritanienne d'Electricite, SWOT Analysis	33
9	Appendix.....	36
9.1	Market Definitions.....	36

9.1.1	Power.....	36
9.1.2	Installed Capacity	36
9.1.3	Active Installed Capacity.....	36
9.1.4	Electricity Generation.....	36
9.1.5	Net Electricity Consumption	36
9.1.6	Thermal Power Plant	36
9.1.7	Hydropower Plant	36
9.1.8	Nuclear Power.....	36
9.1.9	Renewable Energy Resources	36
9.1.10	Electricity Consumption.....	36
9.2	Abbreviations	37
9.3	Bibliography	37
9.4	Coverage	38
9.5	GlobalData's Methodology	38
9.5.1	Secondary research and analysis.....	38
9.5.2	Primary Research and Analysis.....	39
9.6	Contact Us	39
9.7	Disclaimer	39

Sample

1.1 List of Tables

Table 1: Ease of Doing Business-Categories and Definitions	8
Table 2: Country Risk-Categories and Sub-categories.....	8
Table 3: BPI Scoring Parameters.....	11
Table 4: Power Market, Mauritania, Cumulative Installed Capacity by Type of Power Plant (%), 2011* 14	14
Table 5: Power Market, Mauritania, Cumulative Installed Capacity (MW), 2000-2030	16
Table 6: Power Market, Mauritania, Thermal Installed Capacity (MW), 2000-2030.....	18
Table 7: Power Market, Mauritania, Annual Power Generation (GWh), 2000-2030	21
Table 8: Power Market, Mauritania, Annual Thermal Power Generation (GWh), 2000-2030.....	23
Table 9: Power Market, Mauritania, Annual Hydropower Generation (GWh), 2000-2030.....	25
Table 10: Power Market, Mauritania, Annual Power Consumption (GWh), 2000-2030	27
Table 11: Power Market, Mauritania, Leading Active Thermal Power Projects, 2011	29
Table 12: Power Market, Mauritania, Leading Hydropower Projects (MW), 2011	29
Table 13: Power Market, Mauritania, Foreign Direct Investment (\$m), 2005-2010	32
Table 14: Societe Mauritanienne d'Electricite, SWOT Analysis	33
Table 15: Abbreviations.....	37

1.2 List of Figures

Figure 1: Weights Assigned to the Six Factors (%), 2000-2020	10
Figure 2: Power Market, Mauritania, Business Propensity Indicator Ranking	13
Figure 3: Power Market, Mauritania, Cumulative Installed Capacity by Type of Power Plant (%), 2011* 14	14
Figure 4: Power Market, Mauritania, Cumulative Installed Capacity (MW), 2000-2030	15
Figure 5: Power Market, Mauritania, Thermal Installed Capacity (MW), 2000-2030.....	17
Figure 6: Power Market, Mauritania, Annual Power Generation (GWh), 2000-2030	20
Figure 7: Power Market, Mauritania, Annual Thermal Power Generation (GWh), 2000-2030.....	22
Figure 8: Power Market, Mauritania, Annual Hydropower Generation (GWh), 2000-2030.....	24
Figure 9: Power Market, Mauritania, Annual Power Consumption (GWh), 2000-2030	26
Figure 10: Power Market, Mauritania, Breakdown of Electricity Consumption, By Sector (%), 2011.....	28

SA

2 Introduction

Mauritania is an under-developed country that is heavily dependent on agriculture. The country is situated in West Africa and is bordered by the Atlantic Ocean to the west, Western Sahara to the north, Algeria to the northeast, Mali to the east and southeast, and Senegal to the southwest. The country has a republican government. Mauritania is the XXnd largest country of a total of XX countries in terms of population, according to the International Monetary Fund (IMF). The country is also the XXth largest country in terms of total area.

Prior to 2000, the country was marked by economic mismanagement resulting from recurrent droughts. This led to a heavy reliance on foreign debt. In February 2000, Mauritania qualified for a debt relief scheme undertaken as part of the Heavily Indebted Poor Countries (HIPC) initiative. Since then, nearly all of its foreign debt has been forgiven. Thereafter, the implementation of a new investment code in 2001 improved the opportunities for direct foreign investment. In 2006, Mauritania and the IMF agreed to a three-year Poverty Reduction and Growth Facility (PRGF) arrangement in 2006 (CIA, 2012). However, the IMF, World Bank and other international organizations withdrew their financial support in August 2008, when the Mauritanian government was overthrown in a military coup. After the presidential elections in 2009, financial assistance started flowing into the country. The government is subsequently making efforts to attract private investment to the country.

With a GDP of \$XXm in 2010, the country registered a GDP growth rate of around XX%. The economic recession coupled with the continued fall in oil output resulted in a food and fuel crisis in 2008-2009. The situation worsened due to the military coup in 2008, which led to political instability in the country (IMF, 2010). The real GDP achieved a negative growth rate of -XX% in 2009.

The services sector is expected to contribute an estimated XX% share to the country's GDP, followed by the industry sector (XX%) and the agricultural sector (XX%). The country has huge deposits of iron ore, which account for nearly XX% of total exports. The major export markets are China, Italy, Japan, Cote d'Ivoire, Spain and the Netherlands.

The Ministry of Energy and Power (MEP) is the apex body overseeing the energy and water sector. The Autorité de Régulation (AER) is the primary regulatory authority in the country and is responsible for supervising activities related to electricity, water and telecommunications. SOMELEC, the state-owned electricity utility, is solely responsible for generation, transmission and distribution activities in the country. Oil is used as the primary fuel for power generation and constitutes XX% of the total installed capacity. Hydro capacity contributes the remaining XX%.

2.1 GlobalData Report Guidance

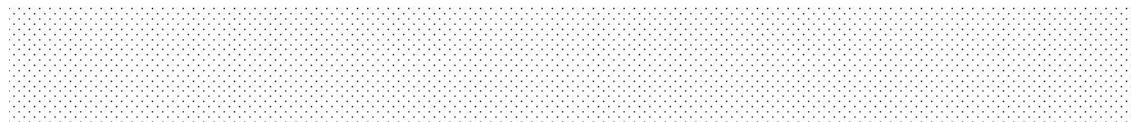
- The report begins with an executive summary capturing the key growth trends in the Mauritania power market.
- Chapter three covers the methodology for evaluating the Business Propensity Indicator.
- Chapter four covers the Business Propensity Indicator for Mauritania.
- Chapter five covers the consumption scenario of the market from 2000-2011 with forecasts to 2030. This is followed by cumulative capacity and power generation information, and segmentation by source of energy from 2000-2011, with forecasts to 2030.
- Chapter six provides information on the power infrastructure of the country including the leading active and upcoming power plants by source of energy, existing and planned developments in transmission and distribution infrastructure and cross-country interconnections.
- Chapter seven provides information on regulatory structure and describes in brief the power regulatory structure and prominent policies influencing the future of the power market.
- Chapter eight describes the competitive landscape of the power market, with a complete description and SWOT analysis of the top companies

NOTE: All 2011 market numbers provided in the report are estimates.

4 Mauritania, Power Market, Business Propensity Indicator

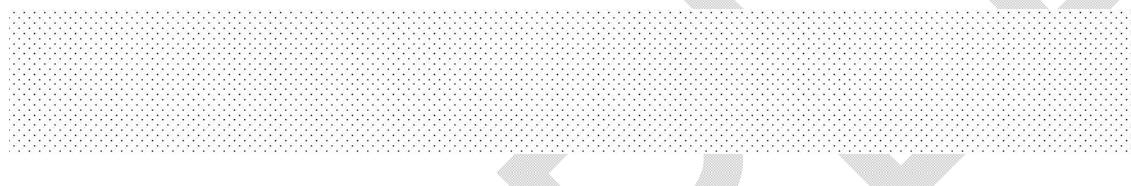
4.1 Supply Security

Mauritania does not currently have a dependence on electricity imports and this is reflected in the import dependency ratio, which stood at XX in 2010. Oil and hydropower sources are the major fuel sources in Mauritania's power mix. The total installed capacity of the country stood at XX Megawatts (MW) in 2011.



4.2 Regulatory Scenario

The Ministry of Energy and Power (MEP) is the apex body overseeing the energy and water sector. The ministry is responsible for policy formulation, sector planning and coordination. The Autorité de Régulation (AER) is the main regulatory authority in the country responsible for supervising the activities related to electricity, water and telecommunications



4.3 Infrastructure

The country had an electrification rate of XX% in 2008 and is directing efforts towards increasing the electrification rate to XX% by 2020.



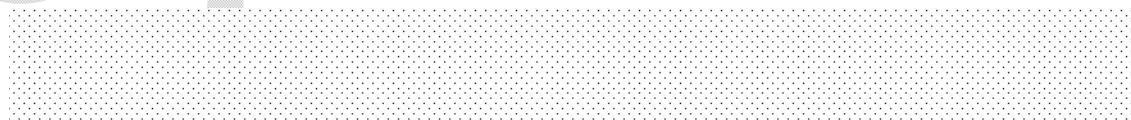
4.4 Degree of Competition

The electricity market is highly consolidated in Mauritania with SOMELEC, the government owned utility, owning the entire installed capacity.



4.5 Macroeconomic Factors

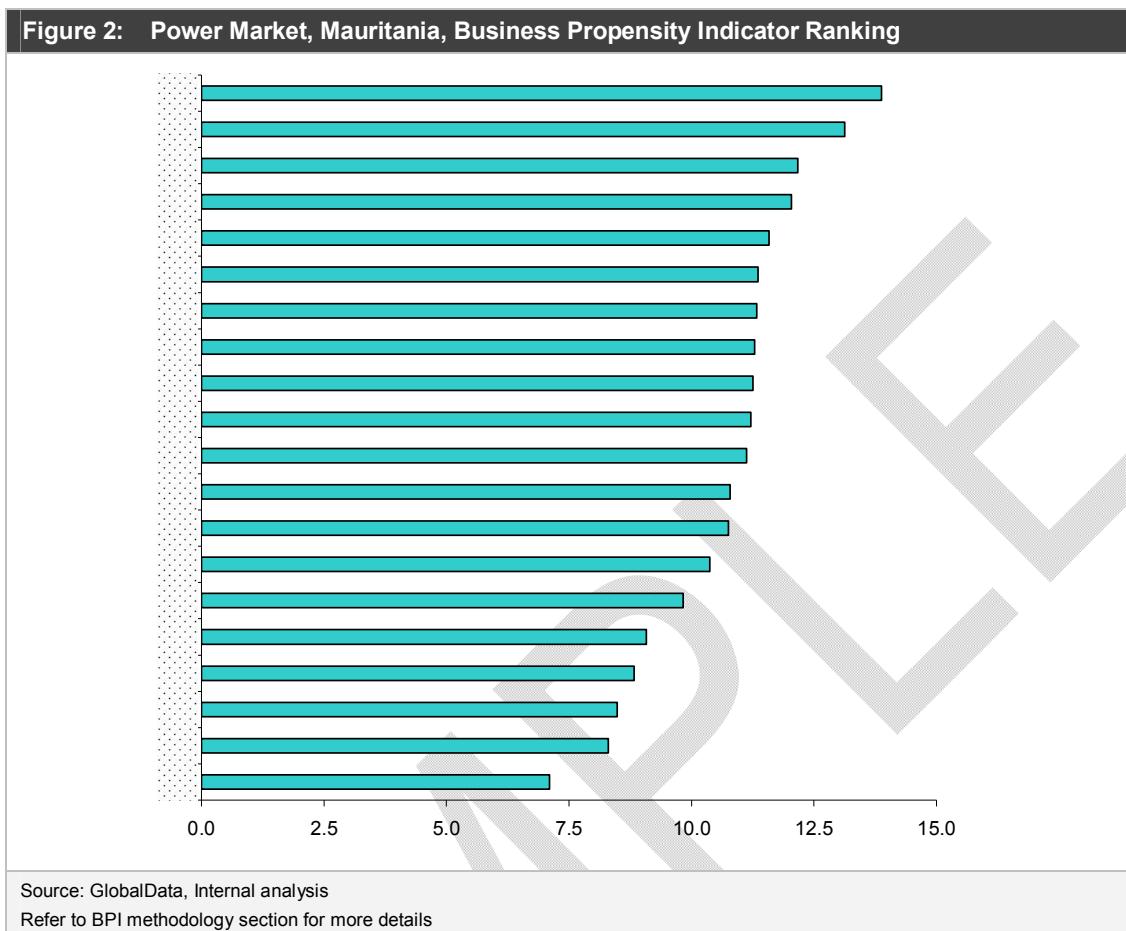
The ease of doing business in the country is ranked XXth globally out of XX countries. Within the ease of doing business ranking, the country ranks high on parameters such as dealing with construction permits, registering property and enforcing contracts.



4.6 Future Potential

In 2020, the thermal installed capacity is expected to retain its majority share with XX% of the total installed capacity.

4.7 Mauritania, Power Market, Business Propensity Indicator Ranking



Morocco ranks XX of the 20 African countries that have been compared.

5 Mauritania Power Market Analysis, 2000-2030

5.1 Mauritania, Power Market, Installed Capacity, 2000-2030

5.1.1 Installed Capacity: Breakup by Type of Power Plant, 2011

Thermal sources dominated the Mauritanian power market in 2011, contributing an estimated XX% share of the total capacity. Oil-fired power plants constituted the entire thermal capacity, while hydropower sources contributed the remaining XX% share of the total installed capacity.

Figure 3: Power Market, Mauritania, Cumulative Installed Capacity by Type of Power Plant (%), 2011*

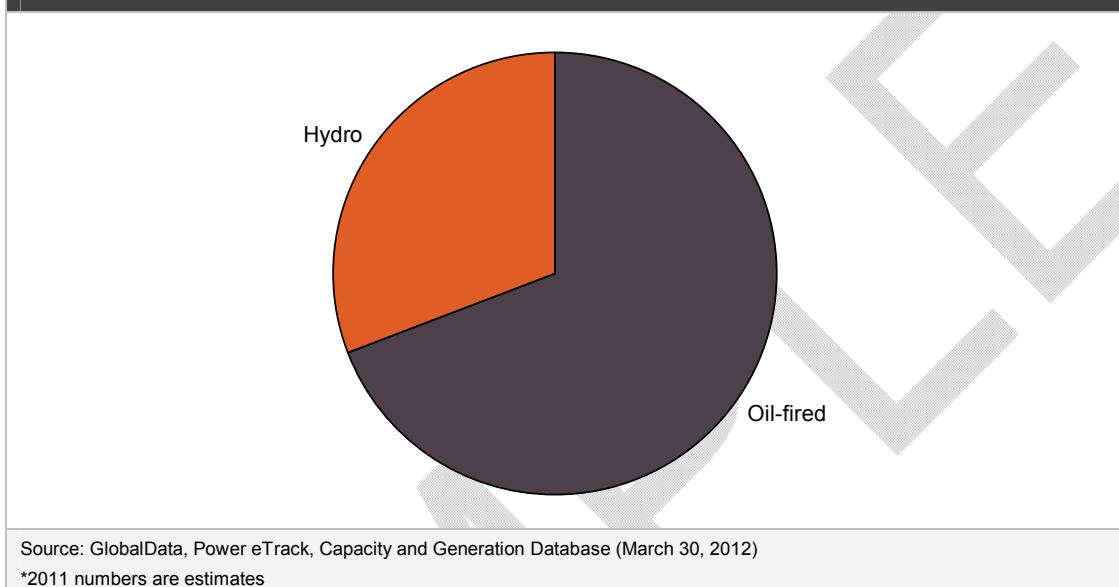


Table 4: Power Market, Mauritania, Cumulative Installed Capacity by Type of Power Plant (%), 2011*

Type of Power Plant	Percentage Share
Oil-fired	
Hydro	

Source: GlobalData, Power eTrack, Capacity and Generation Database (March 30, 2012)
* 2011 numbers are estimates

5.1.2 Cumulative Installed Capacity, 2000- 2030

The cumulative installed power capacity in Mauritania grew from XX MW in 2000 to XX MW in 2011 at a CAGR of XX%. In 2011, the hydropower capacity stood at XX MW, while the thermal installed capacity stood at XX MW.

During 2012-2030, the cumulative installed capacity is expected to grow at a CAGR of XX% to reach XX MW in 2030. Thermal power is expected to grow at a CAGR of XX% during the forecast period and is expected to be the highest contributor with a XX% share in 2030 (XX MW).

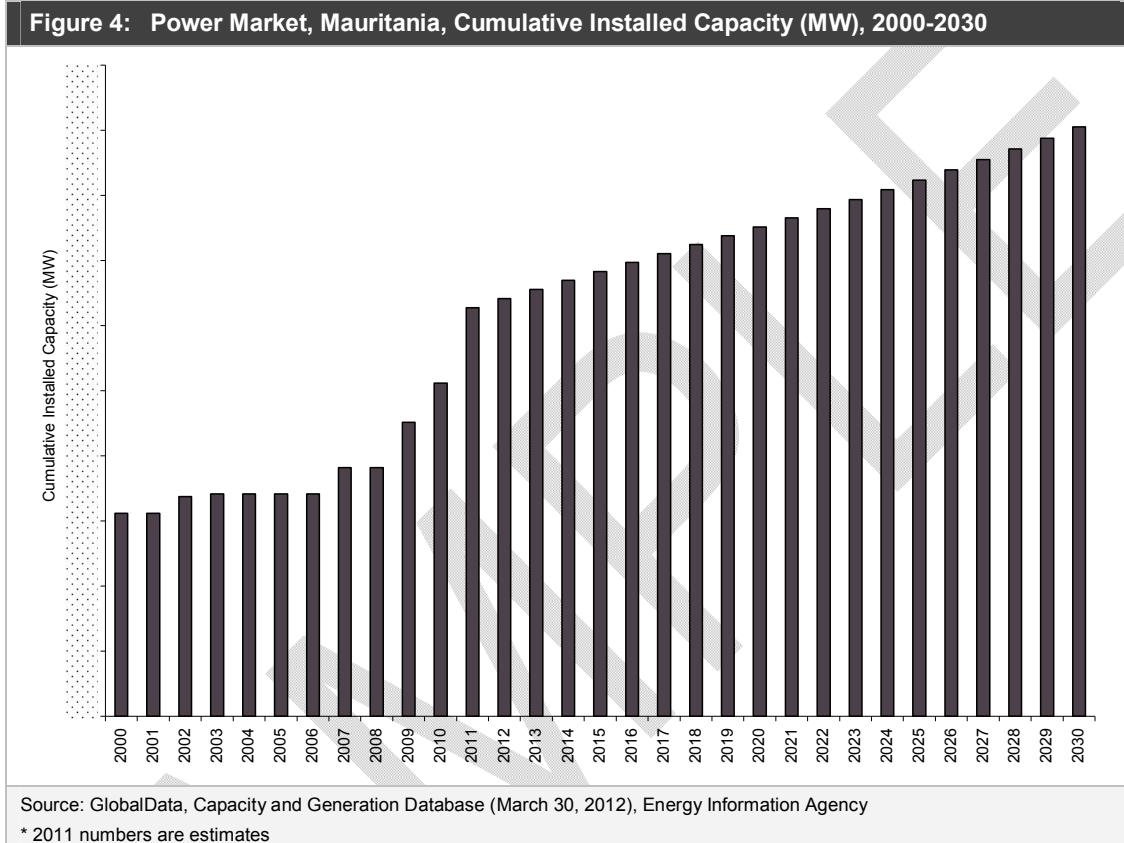


Table 5: Power Market, Mauritania, Cumulative Installed Capacity (MW), 2000-2030

Year	Installed Capacity (MW)
2000	
2001	
2002	
2003	
2004	
2005	
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	
2016	
2017	
2018	
2019	
2020	
2021	
2022	
2023	
2024	
2025	
2026	
2027	
2028	
2029	
2030	

Source: GlobalData, Capacity and Generation Database (March 30, 2012), Energy Information Agency
 * 2011 numbers are estimates

9 Appendix

9.1 Market Definitions

The geographical coverage of the report is Mauritania. The report covers market segments related to installed electricity capacity, generation, consumption, power infrastructure and power regulations. The report covers the whole of Mauritania for a quantitative and qualitative assessment of its power market.

9.1.1 Power

The rate of production, transfer, or energy use, usually related to electricity. Measured in watts and often expressed in kilowatts (kW) or megawatts (MW), it is also known as "real" or "active" power.

9.1.2 Installed Capacity

Installed capacity refers to the generator's nameplate capacity as stated by the manufacturer or the maximum rated output of a generator under given conditions. Installed capacity is given in Megawatts (MW) on a nameplate physically fixed on the generator.

9.1.3 Active Installed Capacity

Active installed capacity refers to that component of electric power that actually performs work. It is given in Kilowatts (kW) or Megawatts (MW).

9.1.4 Electricity Generation

Producing electric energy by transforming other forms of energy. Also refers to the amount of electric energy produced, expressed in Gigawatt hours (GWh).

9.1.5 Net Electricity Consumption

Consumption of electricity calculated as generation, plus imports, minus exports, minus transmission and distribution losses and measured in Gigawatt-hours (GWh).

9.1.6 Thermal Power Plant

A plant in which turbine generators are driven by burning fossil fuels.

9.1.7 Hydropower Plant

A plant in which the turbine generators are driven by falling water.

9.1.8 Nuclear Power

The electricity generated by the use of the thermal energy released from the fission of nuclear fuel in a reactor.

9.1.9 Renewable Energy Resources

Naturally replenishing energy resources limited in the amount of energy that is available per unit of time. For example, biomass, geothermal, solar, wind can all be termed as renewable resources.

9.1.10 Electricity Consumption

Electricity consumption is a sum of electricity generated, plus imports, minus exports, minus transmission and distribution losses and measured in Gigawatt-hours (GWh).

9.2 Abbreviations

Table 15: Abbreviations

Abbreviations	
ADER	Agency for the Development of Rural Electrification
AER	Autorité de Régulation
APAUS	Agency for Universal Access to Basic Services
CAGR	Compound Annual Growth Rate
GEF	Global Environment Facility
GWh	Gigawatt Hour
GWh	Gigawatt Hour
kV	Kilo Volt
kW	kilowatts
MEP	Ministry of Energy and Power
MVA	Megavolt-Ampere
MW	Megawatt
SNDE	Societe Nationale des Eaux
SOMELEC	Societe Mauritanienne d'Electricite
SONELEC	National Company of Water and Power
UNDP	United Nations Development Programme

Source: GlobalData

9.3 Bibliography

- CIA (2012), The World Factbook, Mauritania, Available from <https://www.cia.gov/library/publications/the-world-factbook/geos/mr.html> (Accessed on April 09, 2012).
- Department of Water, Energy, Transport Germany (2009), Country Chapter: Mauritania Available from www.gtz.de/de/.../gtz2009-en-regionalreport-wa-mauritania.pdf (Accessed on April 09, 2012).
- GFDRR, (2001), Connecting Boghe to the Manantali Electrical Grid by the Global Facility for Disaster Reduction and Recovery Available from <http://gfdrr.aiddata.org/project/show/2427614> (Accessed on April 10, 2012).
- IMF (2011), International Monetary Fund, Islamic Republic of Mauritania: Poverty Reduction Strategy Paper Available from www.imf.org/external/pubs/ft/scr/2011/cr11252.pdf (Accessed on April 10, 2012).
- IMF (2010), Mauritania Shows Signs of Recovery After Series of Setbacks Available from <http://www.imf.org/external/pubs/ft/survey/so/2010/car112210a.htm> (Accessed on April 09, 2012).
- INTEC (2011), Available from [http://www.gopa-intec.de/Single-news-Detail.1314.0.html?&tx_ttnews\[tt_news\]=802&cHash=b9b8afe16c54420ae808a702f24e6bdb](http://www.gopa-intec.de/Single-news-Detail.1314.0.html?&tx_ttnews[tt_news]=802&cHash=b9b8afe16c54420ae808a702f24e6bdb) (Accessed on April 09, 2012).
- OECD (2009), Regional Atlas on West Africa By Organisation for Economic Co-operation and Development, Sahel and West Africa Club, Economic Community of West African States, Available from Africabooks.google.co.in/books?isbn=9264055924 (Accessed on April 09, 2012).
- Petronas (2011) via UPI.com, Mauritanian oil field hopes to double production Available from http://www.upi.com/Business_News/Energy-Resources/2011/09/02/Mauritanian-oil-field-hopes-to-double-production/UPI-66191315000349/ (Accessed on April 09, 2012).
- Technische Deutsche (2009), Department of Water, Energy, Transport Germany, Country Chapter: Mauritania Available from www.gtz.de/de/.../gtz2009-en-regionalreport-wa-mauritania.pdf (Accessed on April 09, 2012).

- UNDP (2007), ADRAR Solar Initiative and Decentralized Electrification in the Northern Coastline of Mauritania through Hybrid (Wind/Diesel) Systems Available from <http://www.undp.mr/environnement/adrar.htm> (Accessed on April 09, 2012).
- World Bank,(2012), World Bank Monthly Operational Summary Africa Region March 2012 Available from http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/MAURITANIAEXTN/0,,me_nuPK:362376~pagePK:51173040~piPK:51191638~theSitePK:362340,00.html (Accessed on April 09, 2012).
- World Bank (2009), Costing Power Infrastructure Spending Needs in Sub-Saharan Africa, http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/05/13/000333038_20110513013548/Rendered/INDEX/618110v10WP0BP0Box358352B00PUBLIC0.txt (Accessed on April 09, 2012).

9.4 Coverage

This report gives detailed information on the country's power market. It examines the country's power market structure and provides historical and forecast numbers for generation, capacity and consumption up to 2030. The report provides insights on the market's regulatory structure, import and export trends, competitive landscape and leading active and upcoming power projects. The report also provides Business Propensity Indicator (BPI), which benchmarks the country's power sector against other countries in the region by analyzing the power sector of the country on six broad parameters - supply security, regulatory scenario, infrastructure, macroeconomics, competition and future potential. Each parameter has a weight assigned, and a weighted average score is calculated to obtain the country's ranking in the region.

9.5 GlobalData's Methodology

GlobalData's dedicated research and analysis teams consist of experienced professionals with backgrounds in marketing, market research and consulting in the power industry, and advanced statistical expertise.

GlobalData adheres to the codes of practice of the Market Research Society (www.mrs.org.uk) and the Strategic and Competitive Intelligence Professionals (www.scip.org).

The following research methodology is followed for all country outlook reports.

9.5.1 Secondary research and analysis

The capacity, generation and consumption data is collected and validated using a number of secondary resources including but not limited to:

- Government agencies, ministerial websites, industry associations, the World Bank, statistical databases
- Company websites, annual reports, financial reports, broker reports and investor presentations
- Industry trade journals, market reports and other literature
- Globaldata's proprietary databases like the Capacity and Generation Database, Power Plant Database and Transmission and Distribution Database.

Further to this, the following secondary information is collected and analyzed to project the country's power market scenario through to 2030, analyzing factors such as the following:

- The country's macroeconomic scenario
- Government regulations, policies and targets
- Government and private sector investments
- Contract and deal announcements
- Utility expansion plans
- The sector's historic track record

- Other qualitative insights built through secondary research and analysis of company websites, annual reports, investor presentations, industry and trade journals, and data from industry associations.

9.5.2 Primary Research and Analysis

Secondary research is further complemented through primary interviews with industry participants to verify and fine-tune the market numbers obtained through secondary research and get first-hand information on industry trends.

The participants are drawn from a diverse set of backgrounds, including equipment manufacturers, industry associations, government bodies, utilities, distributors, and academia. The participants include, but are not limited to, C-level executives, industry consultants, academic experts, business development and sales managers, purchasing managers, plant managers, government officials, and industry spokespeople.

9.7 Disclaimer

All Rights Reserved.

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher, GlobalData.

This report is a licensed product and should not be reproduced without prior permission.