



Figure 1: Energy profile of Mauritania



Figure 2: Total energy production, (ktoe)

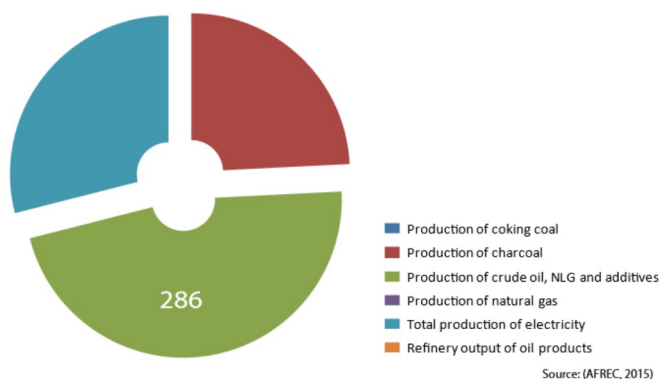
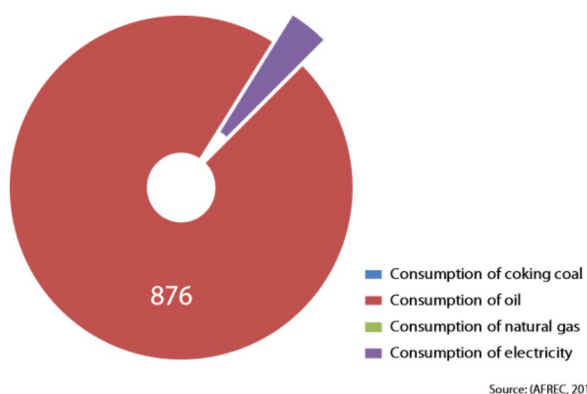


Figure 3: Total energy consumption, (ktoe)



Energy Consumption and Production

The population of Mauritania in 2013 was 3.87 million, as shown in Table 1 (World Bank, 2016). In 2015, total production of electricity was 177 ktoe, of which 80.7 per cent came from fossil fuels, 12.4 per cent from hydro and 6.7 per cent from solar and wind (Table 2). Final consumption of electricity in 2015 was 33 ktoe. Figures 2 and 3 show the main energy statistics.

Table 1: Mauritania's key indicators

Key indicators	Amount
Population (million)	3.87
GDP (billion 2005 USD)	3.27
CO ₂ emission (Mt of CO ₂)	2.31

Source: (World Bank, 2015)

Energy Resources

Biomass

Biomass provides about 60 per cent of Mauritania's energy mix (REEEP, 2012). In 2015, production of charcoal was 148 ktoe (AFREC, 2015). There are opportunities to generate electricity from agricultural residue including rice husks and straw, jatropha and charcoal made from the invasive weed Typha (REEEP, 2012). There is an estimated energy potential of 3.7 GWh from 556,000 tonnes of crop waste (REEEP, 2012).

Hydropower

Electricity from hydro sources comes from energy interconnections with the Senegal River Basin Development Organisation (OMVS). In-country the installed capacity and production in 2011 was 30 MW (WEC, 2013).

Oil and natural gas

Oil supplies 95 per cent of the country's commercial energy needs with the main fuel product being liquefied petroleum gas (LPG). Mauritania, Senegal and Cape Verde combine to represent 90 per cent of the regional trade in natural gas (REEEP, 2012). Production of natural gas at the end of 2011 was 28 bcm (988.8 bcf) (WEC, 2013).

Oil production figures in 2011 were 1,300 thousand tonnes (9.5 million barrels). Offshore oil reserves have been estimated at 1 billion barrels. Production of electricity from fossil fuels in 2015 143 ktoe compared with total electricity production of 177 ktoe (AFREC, 2015).

Table 2: Total energy statistics (ktoe)

Category	2000	2005	2010	2015 P
Production of coking coal	-	-	-	-
Production of charcoal	0	0	0	148
Production of crude oil, NLG and additives	-	-	366	286
Production of natural gas	-	-	-	-
Production of electricity from biofuels and waste	0	0	0	0
Production of electricity from fossil fuels	17	39	50	143
Production of nuclear electricity	-	-	-	-
Production of hydro electricity	3	4	10	22
Production of geothermal electricity	-	-	-	-
Production of electricity from solar, wind, Etc.	0	0	0	12
Total production of electricity	20	43	60	177
Refinery output of oil products	-	-	-	-
Final Consumption of coking coal	-	-	-	-
Final consumption of oil	0	459	650	876
Final consumption of natural gas	-	-	-	-
Final consumption of electricity	18	40	56	33
Consumption of oil in industry	0	0	0	0
Consumption of natural gas in industry	-	-	-	-
Consumption of electricity in industry	0	0	0	0
Consumption of coking coal in industry	-	-	-	-
Consumption of oil in transport	0	0	0	0
Consumption of electricity in transport	-	-	-	-
Net imports of coking coal	-	-	-	-
Net imports of crude oil, NGL, Etc.	-	-	-343	-201
Net imports of oil product	149	1185	718	930
Net imports of natural gas	-	-	-	-
Net imports of electricity	0	0	0	0

- : Data not applicable

0 : Data not available

(P): Projected

(AFREC, 2015)

Peat

There is 60 km² of peatlands in the country (Blyth, 2014); (WEC, 2013)

Wind

Mauritania has registered the highest wind speeds on the continent and has an estimated available wind energy of 7,644 kW/m² per year (REEEP, 2012) indicating good potential for commercialization. In 2015, the electricity utility SOMELEC commissioned a wind plant in Nouakchott with the potential to generate 30 MW of power.

Geothermal

Studies need to be undertaken, but so far indications are that the country has low geothermal potential (REEEP, 2012).

Solar

High levels of solar irradiation and availability of land present Mauritania with ideal conditions for solar energy generation (REEEP, 2012). Already a 15 MW solar power plant in Nouakchott run by SOMELEC, the electricity utility, has improved the country's carbon footprint by displacing more than 20,000 tonnes of CO₂ per annum (Masdar Clean Energy, 2016). In 2015, 12 ktoe of electricity was produced from solar or wind (AFREC, 2015) and there are plans for further investment in the sector.

Tracking progress towards sustainable energy for all (SE4All)

The national electrification rate of Mauritania was 21.8 per cent in 2012 (Table 3 and Figure 4). In rural areas, this falls to 4.4 per cent while in urban areas, it is 46.0 per cent (World Bank, 2015); (World Bank, 2016). National access to non-solid fuels in 2012 was 42.05 per cent. Disaggregated by location, it was 20 per cent in rural areas and 66 per cent in urban areas (World Bank, 2015).

Mauritania's energy intensity increased at a compound annual growth rate (CAGR) of -6.81 per cent over the 20 years between 1990 and 2010 and at 28.07 per cent CAGR from 2010 to 2012. Between 2010 and 2012, the Mauritanian economy's energy intensity (the ratio of the quantity of energy consumption per unit of economic output) increased from 4.8 MJ to 7.8 MJ per US dollar (2005 dollars at PPP) (World Bank, 2015).




The share of renewable energy in total final energy consumption (TFEC) decreased from 40.9 to 33.2 per cent between 1990 and 2012. In 2012, traditional solid biofuels formed the biggest share of renewable sources at 32.2 per cent (World Bank, 2015). Renewable sources contributed 33.1 per cent of the share of electricity capacity in 2012 (World Bank, 2015).

Table 3: Mauritania's progress towards achieving SDG7 – Ensure access to affordable, reliable, sustainable and modern energy for all

Target	Indicators	Year					
		1990	2000	2010	2012	2000-2010	2011-2015
7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.1 per cent of population with access to electricity	12	15	18	21.8		
	7.1.2 per cent of population with primary reliance on non-solid fuels	18	32	40	42		
7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1 Renewable energy share in the total final energy consumption	40.9	42.6	35.1	32.2		
7.3 By 2030, Double the rate of improvement of energy efficiency	7.3.1 GDP per unit of energy use (constant 2011 PPP \$ per kg of oil equivalent)						
	Level of primary energy intensity(MJ/\$2005 PPP)	19.5		4.8	7.8	7.68	7.81

Sources: (World Bank, 2015); (World Bank, 2016)

Figure 4: SDG indicators

Percentage of population with access to electricity	Access to non-solid fuel (% of population)	GDP per unit of energy use (PPP \$ per kg of oil equivalent) 2013	Renewable energy consumption (% of total final energy consumption), 2006-2011, 2012
21.8%	42.05%	NA	33.28%
			

Barefoot Photographers of Tilonia - CC-BY-NC-ND 2.0



Women installing solar panels, Mauritania

Table 4: Mauritania's institutional and legal framework

Basic Elements	Response
Presence of an Enabling Institutional Framework for sustainable energy development and services (Max 5 institutions) most critical ones	<ul style="list-style-type: none"> • Ministry of Petroleum, Energy and Mines (MPEM) • Directorate General of Hydrocarbons (DGH) • l'Agence de Développement et d'Electrification Rurale et l'Agence de Promotion de l'Accès Universel aux Services
Presence of a Functional Energy Regulator	Autorité de Régulation
Ownership of sectoral resources and markets (Electricity/ power market; liquid fuels and gas market)	
Level of participation in regional energy infrastructure (Power Pools) and institutional arrangements	A member of Comite Maghrebin De L'electricite (COMELEC) Power Pool , but not active in the network.
Environment for Private Sector Participation	
Whether the Power Utility(ies) is/are vertically integrated or there is unbundling (list the Companies)	Mauritanian Electricity Company (SOMELEC) 2001
Where oil and gas production exists, whether upstream services and operations are privatized or state-owned, or a mixture (extent) e.g., licensed private exploration and development companies)	<ul style="list-style-type: none"> Hardman Petroleum (France) Dana Petroleum (UK) Woodside Petroleum (Australia) British Borneo Oil and Gas (Malta)
Extent to which Downstream services and operations are privatized or state-owned, or a mixture (extent)	Downstream activities are co-ordinated by both government-owned companies such as the Société Mauritanienne de Commercialisation de Produits Pétroliers (SMCPP) and the Societe Nationale Industrielle et Miniere of Mauritania (SNIM), as well as private companies such as Elf and Mobil.
Presence of Functional (Feed in Tariffs) FIT systems	
Presence Functional IPPs and their contribution	
Legal, Policy and Strategy Frameworks	
Current enabling policies (including: RE; EE; private sector participation; & PPPs facilitation) (list 5 max) most critical ones	Mauritania Strategy of Renewable Energy 2014
Current enabling laws/pieces of legislation (including: RE; EE; private sector participation; & PPPs facilitation) – including electricity/grid codes & oil codes (5 max or yes/no) most critical ones	<ul style="list-style-type: none"> • Decree No. 2001-065 of June 18th, 2001 creating the National Renewable Energy Agency (ADER) • Law 2001-18, establishing the Multisectoral Regulation Authority (ARM) that regulates the water, electricity, telecommunications and postal services • Electrical Code 2001(??)

This table was compiled with material from (REEEP, 2012) and (IRENA, 2015)

Intended Nationally Determined Contributions (INDC) within the framework of the Paris climate Agreement

The energy-related Intended Nationally Determined Contributions (INDC) were formulated in September 2015 and aim to reduce greenhouse gas emissions by 22.3 per cent in 2030 or by 4.2 million tonnes of carbon dioxide equivalent (MtCO₂e).

Institutional and Legal Framework

The *Ministère du Pétrole de l'Energie et des Mines* is in charge of the energy sector (Table 4). The energy regulator is the *Autorité de Régulation*. The state owned *Société Mauritanienne d'Electricité* is in charge of the electricity sector. On a regional level, Mauritania is an active member of the Maghreb Committee for Electricity (COMELEC), via the national utility SOMELEC. It is not interconnected to the COMELEC Power Pool, although a connection is planned from Nouadhibou. The legal framework is provided by the Electrical Code 2001.