



مركز الإحصاء
STATISTICS CENTRE

Energy and Water in Figures

Abu Dhabi Emirate

2016

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Introduction

This publication presents statistics on key energy and water figures in the Emirate of Abu Dhabi for the year 2016, comprising statistics of Oil and Natural Gas, Electrical energy, Desalinated water consumption and Renewable energy. The main sources of these statistics are Abu Dhabi National Oil Company - ADNOC, TAKREER, Abu Dhabi Water and Electricity Company, Abu Dhabi Future Energy Company – Masdar.

Key points

1- Oil and Refined Petroleum

The Oil and gas sector is one of the most important pillars of the Abu Dhabi economy, representing a large share of the GDP. The total production of Abu Dhabi crude oil in 2016 was 1,104,827 thousand barrels, of which 885,474 thousand barrels were exported to other countries. Crude oil exports represented about 80.1% of the production of the same year. The amount of production in 2016 increased by 36,252 thousand barrels or 3.4% compared with 2015 and as a result, the production petroleum products increased in 2016 by 24.5% compared with 2015.

Table 1:Crude oil production and exports

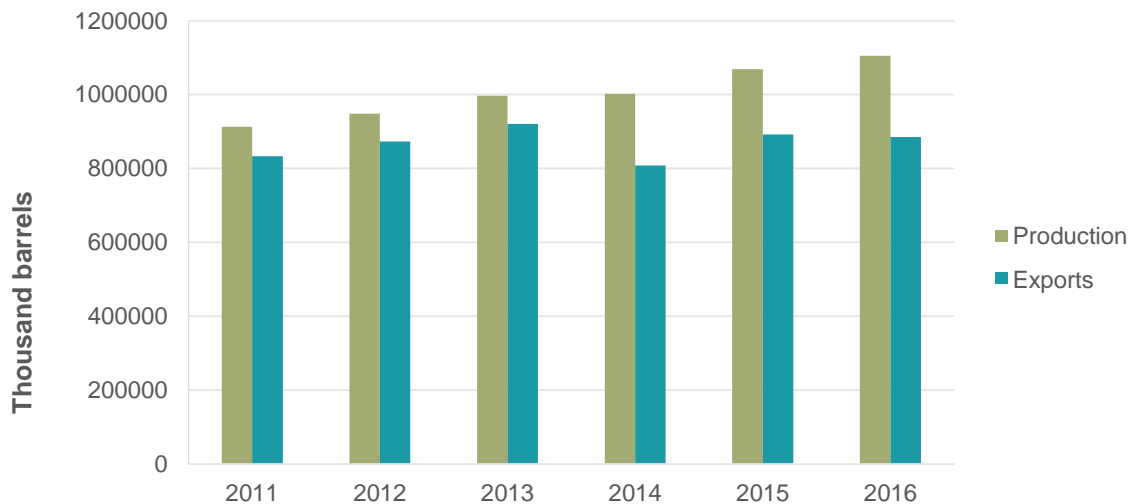
(Thousand barrels)

Year	2011	2012	2013	2014	2015	2016
Production *	913,191	948,200	996,928	1,002,179	1,068,575	1,104,827
Exports	833,070	873,515	920,687	808,131	892,230	885,474

Source: Abu Dhabi National Oil Company - ADNOC.

* Production excludes condensates.

Chart 1: Crude oil production and exports *



Source: Abu Dhabi National Oil Company –ADNOC.

* Production excludes condensates.

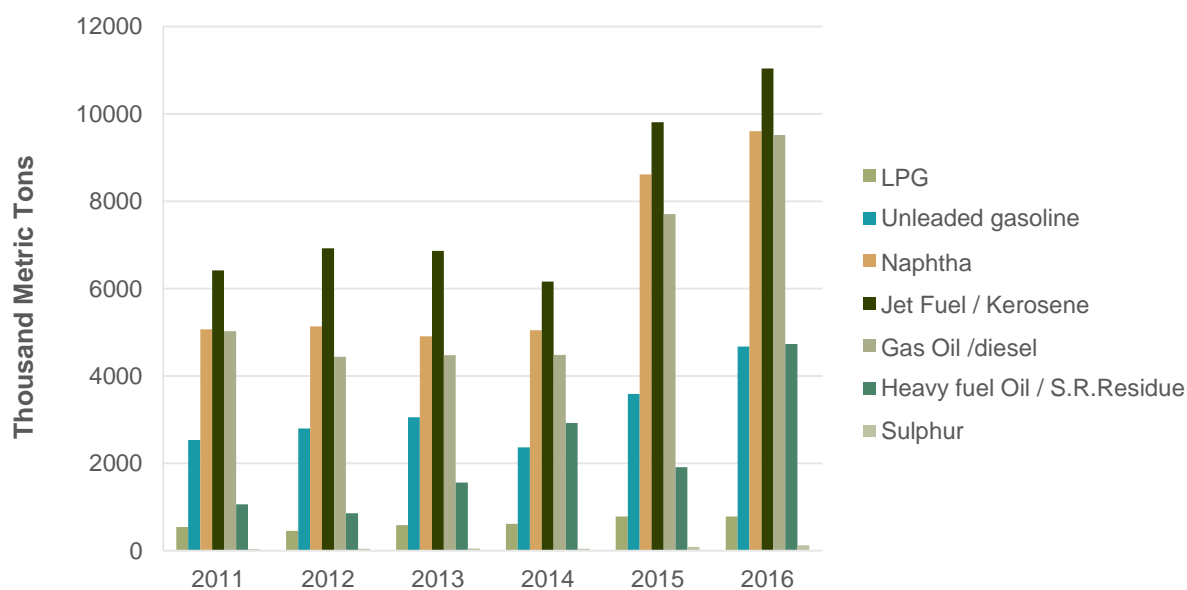
Table 2: Production of refined petroleum products

(Thousand Metric Tons)

Product Type	2011	2012	2013	2014	2015	2016
Total	20,702	20,658	21,516	21,657	32,522	40,489
LPG	540	453	591	618	785	785
Unleaded gasoline	2,537	2,800	3,056	2,371	3,589	4,678
Naphtha	5,071	5,137	4,912	5,048	8,619	9,609
Jet Fuel / Kerosene	6,422	6,921	6,866	6,162	9,810	11,044
Gas Oil /diesel	5,024	4,442	4,477	4,482	7,711	9,517
Heavy fuel oil	1,067	860	1,564	2,927	1,917	4,732
Sulfur	41	46	50	49	91	124

Source: Abu Dhabi National Oil Company – ADNOC, TAKREER.

Chart 2: Production of refined petroleum products



Source: Abu Dhabi National Oil Company – ADNOC, TAKREER.

2- Natural Gas

The importance of natural gas stems from the variation of its uses in the Emirate of Abu Dhabi, such as liquefied fuel and other products including propane, butane and pentane. It is also used in industries such as iron and steel, aluminum and cement. In addition, re-injected into the oil wells to increase productivity and maintain pressure in the oil reservoir. The total production of Abu Dhabi Natural Gas in 2016 was 2,728 billion cubic feet, which is a decrease to 0.2% compared to 2015.

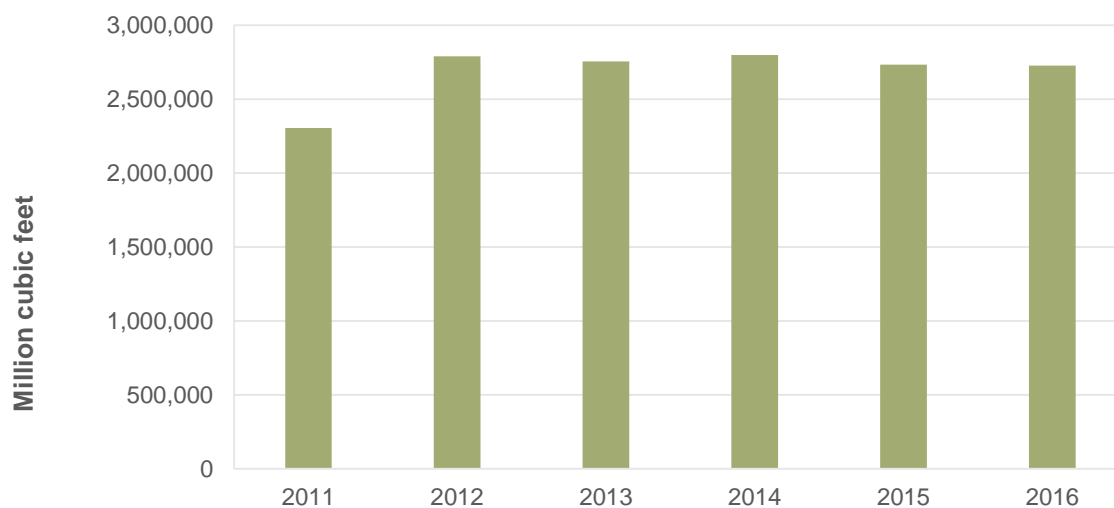
Table 3: Natural gas production

(Million Cubic feet)

Year	2011	2012	2013	2014	2015	2016
Annual Production	2,305,798	2,791,815	2,756,207	2,799,202	2,733,804	2,727,711
Daily production	6,317	7,628	7,551	7,669	7,490	7,453

Source: Abu Dhabi National Oil Company - ADNOC.

Chart 3: Natural gas production



Source: Abu Dhabi National Oil Company – ADNOC.

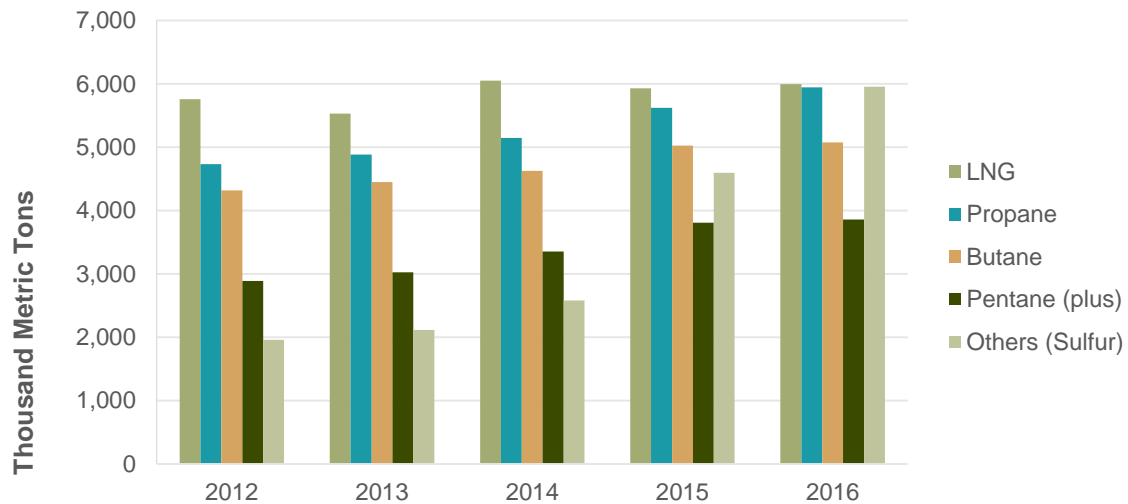
Table 4: Production and Exports of Liquefied Natural Gas Products by product type

(Thousand metric ton)

Year product type	2012		2013		2014		2015		2016	
	Production	Exports	Production	Exports	Production	Exports	Production	Exports	Production	Exports
LNG	5,760	5,601	5,531	5,441	6,050	5,856	5,929	5,728	5,996	5,929
Propane	4,734	4,643	4,885	3,672	5,146	4,509	5,621	4,880	5,947	5,769
Butane	4,317	4,239	4,447	3,375	4,627	4,089	5,025	4,426	5,076	4,828
Pentane (plus)	2,888	2,835	3,024	2,143	3,352	2,876	3,808	3,332	3,860	4,106
Others (Sulfur)	1,958	1,956	2,117	2,187	2,579	2,490	4,597	4,617	5,957	6,101
Total	19,656	19,274	20,003	16,818	21,754	19,821	24,981	22,984	26,835	26,733

Source: Abu Dhabi National Oil Company - ADNOC .

Chart 4: Production of Liquefied Natural Gas Products by Product Type



Source: Abu Dhabi National Oil Company – ADNOC.

3- Electrical Energy

The Water and electricity sector is deemed to be one of the most important sectors supporting development and serving the community. It also provides basic and necessary services for Economic activities, Citizens and Non- Citizens. The total electricity production by companies in the Emirate of Abu Dhabi in 2016 was about 68,183 GWh, an increase of about 47.2 % during the period since 2011. The electric power consumed during the same period increased by 54.5%, reaching 66,811 GWh. This includes the internal consumption by power stations as well as losses through the network. Energy is produced through generators by burning fossil fuels where natural gas forms 99.7% of the total fuel consumed due to economic, technical and environmental considerations.

Table 5: Electrical power statistics
(MWh)

Item	2011	2012	2013	2014	2015	2016
Total electricity production***	46,314,248	50,378,419	51,936,813	58,342,545	66,626,469	68,183,363
Transferred from EMAL & TAKREER	52,655	2,828	27,982	11,802	-4,378,464	-7,747,290
Total electricity available	46,366,903	50,381,247	4,79596,51	58,354,347	62,248,005	60,436,073
Electricity exports****	3,115,984	3,264,421	2,698,226	5,513,310	-731,065	-6,374,748
Electricity consumption *	43,250,919	47,116,826	49,266,569	52,841,037	62,979,070	66,810,821
Electrical consumption per capita**	20.01	20.35	19.77	19.89	22.62	22.97
Electricity planned capacity (MW)	10,875	10,867	10,917	12,571	12,571	15,220

Source: Abu Dhabi Water and Electricity Company - ADWEC.

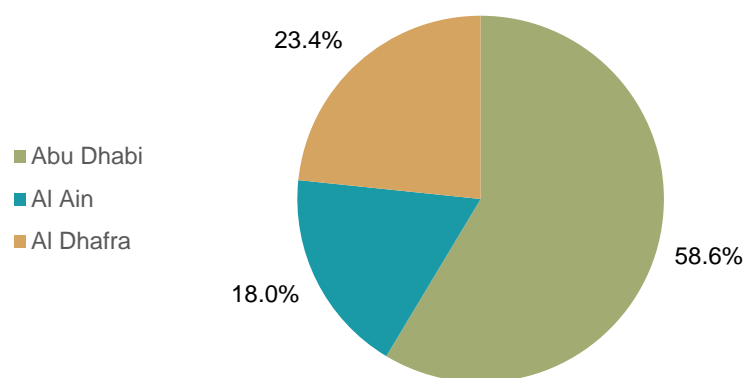
*Consumption includes internal electrical consumption by power stations & technical losses through the network in Abu Dhabi Emirate.

** Data per capita has been updated as a result of updates on population estimates in the Emirate of Abu Dhabi 2006- 2014.

***Solar power data are included since 2015.

****2015 and 2016 represents the electrical Energy imported resulting from (Net export= exports – Imports).

Chart 5 : The relative distribution of Electricity Consumption in the Emirate of Abu Dhabi by region,2015



Source: Statistic Centre – Abu Dhabi.

4- Desalinated water consumption

The Emirate of Abu Dhabi consumed about 1,117 MCM of desalinated water in 2016, with a daily average of 3 MCM of desalinated water and per capita average daily consumption of 1.10 cubic meters. Consumption of desalinated water increased by 16.1% from 2011 as a result of increasing demand for water from various sectors.

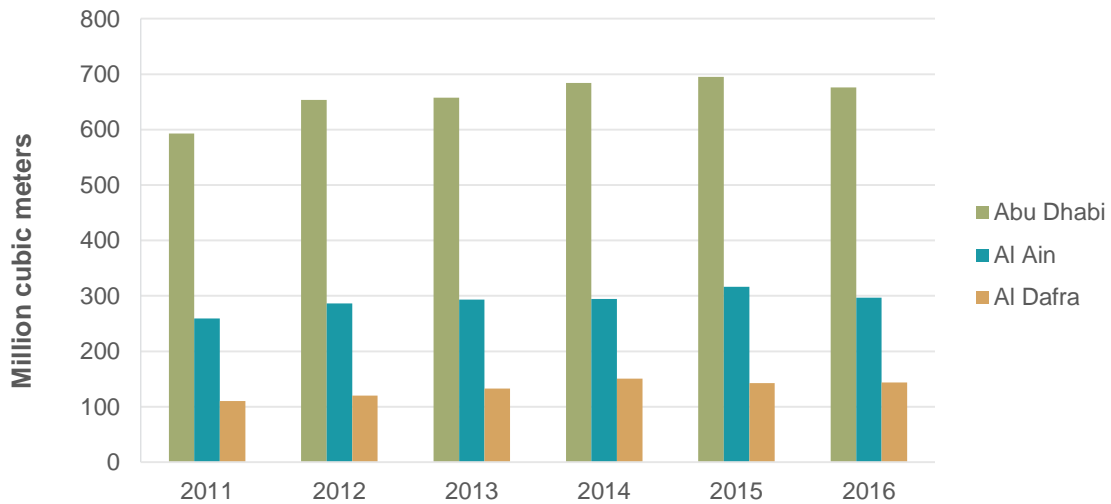
Table 6: Desalinated water consumption by region

(Million cubic meters)

Region	2011	2012	2013	2014	2015	2016
Abu Dhabi	593	654	657	684	695	676
Al Ain	259	287	293	294	317	297
Al Dhafra	110	120	133	150	143	144
Total	962	1,060	1,083	1,129	1,155	1,117

Source: Abu Dhabi Water and Electricity Company - ADWEC.

Figure 6: Desalinated water consumption by region



Source: Abu Dhabi Water and Electricity Company - ADWEC.

5- Renewable energy

In recent years, the Abu Dhabi Government has paid particular attention to renewable energy as part of its efforts to diversify energy resources in Abu Dhabi. This culminated in the implementation of several renewable energy projects, namely electricity generation from solar energy, by Abu Dhabi Future Energy Company – Masdar. As the projects became operational, the production of electricity from solar energy reached 280,085 MWh in 2016, representing a growth of 6.1 % compared with 2015. This increase is due to the commencement of operations of the Shams solar power station in late 2013, while 2014 was a full year of operations.

Table 7: Renewable energy statistics

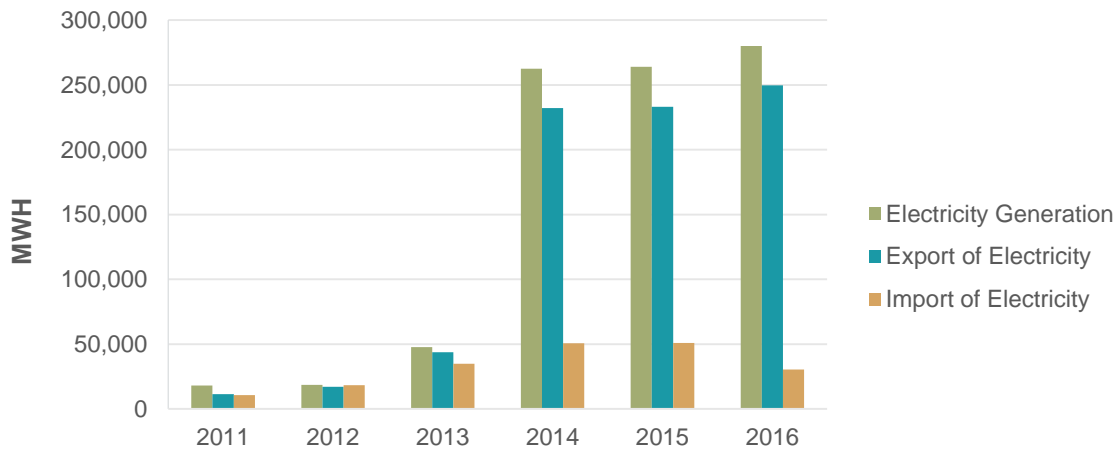
(MWh)

Item	2011	2012	2013	2014	2015	2016
Electricity Generation*	17,986	18,586	47,823	262,667	264,014	280,085
Export of Electricity	11,291	17,131	43,754	232,228	233,147	249,725
Import of Electricity	10,668	18,383	34,903	50,605	50,955	30,360
Electricity planned capacity (MW)	11	11	111	111	111	111

Source: Abu Dhabi Future Energy Company – Masdar

* Shams solar power station data are included since 2013

Figure7: Renewable energy statistics



Source: Abu Dhabi Future Energy Company – Masdar.

Explanatory Notes

Data sources

Data are obtained from Abu Dhabi National Oil Company – ADNOC, Abu Dhabi Water and Electricity Authority – ADWEA, Abu Dhabi Future Energy Company – Masdar, Abu Dhabi Water and Electricity Company, Abu Dhabi Distribution Company, Al Ain Distribution Company and TAKREER. The data are processed and passed to Statistic Centre – Abu Dhabi for further editing and compilation.

Abbreviations used

EMAL	Emirates Aluminum
GWh	Gigawatt per Hour
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MWh	Megawatt per Hour
TAKREER	Abu Dhabi Oil Refining Company

Notes on tables

Value of (percent) in all tables is based on unrounded numbers.

Due to rounding, totals may not equal the sum of component parts.

Unless otherwise indicated, all tables in this publication relate to the Emirate of Abu Dhabi. However, when mentioned in table titles or within table cells "Abu Dhabi" refers only to the Region of Abu Dhabi and not the whole Emirate.

More information and next release

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