



مركز الإحصاء
STATISTICS CENTRE



Energy and Water Statistics

2017

Content list

Introduction	5
The main points	6
Energy and electricity statistics	7
Fuel consumption in water and electricity activity	8
Electricity generated by solar energy	9
Electricity consumption	10
Production of desalinated water	12
Consumption of desalinated water	13
Oil and natural gas statistics	16
Prices of oil ores	17
Petroleum products	18
Natural gas	20
Explanatory notes	21

List of Tables

Table 1.1: Electrical power statistics	7
Table 1.2: Fuel consumption of the electricity and water activity	8
Table 1.3: Electricity generation and consumption from solar energy	9
Table 1.4: Consumption of electricity by region	10
Table 1.5: Percentage of electricity consumption by sector	11
Table 1.6: Percentage of electricity consumption by region and sector, 2017	11
Table 1.7: Production of desalinated water	12
Table 1.8: Consumption of desalinated water	13
Table 1.9: Percentage of desalinated water consumption by sector	14
Table 1.10: Percentage of desalinated water consumption by region and sector, 2017	14
Table 1.11: Consumption of desalinated water by region	15
Table 2.1: Crude oil production and exports	16
Table 2.2: Crude oil prices by type	17
Table 2.3: Production of refined petroleum products	18
Table 2.4: Domestic sales of refined petroleum products	19
Table 2.5: Production and domestic sales of refined petroleum products	19
Table 2.6: Export of refined petroleum products	19
Table 2.7: Natural gas production	20
Table 2.8: Production and exports of liquefied natural gas products	20

List of Figures

Figure 1: Electrical energy production and consumption	7
Figure 2: Fuel consumption of the electricity and water activity	8
Figure 3: Electricity generation and consumption from solar energy	9
Figure 4: Percentage of electricity consumption by region 2017	10
Figure 5: Percentage of electricity consumption by region and sector 2017	11
Figure 6: Production of desalinated water	12
Figure 7: Average daily consumption of desalinated water per capita	13
Figure 8: Percentage of desalinated water consumption by region 2017	15
Figure 9: Crude oil production and exports	16
Figure 10: Production of refined petroleum products 2017	18
Figure 11: Production and exports of liquefied natural gas products 2017	20

Introduction

This publication presents statistics of energy and water in the Emirate of Abu Dhabi for the year 2017, comprising statistics of the water and electricity production sector, oil and gas sector, and renewable energy sector. The main sources for these statistics are Abu Dhabi Water and Electricity Authority – ADWEA, Abu Dhabi Water and Electricity Company, Abu Dhabi Distribution Company, Al Ain Distribution Company, Abu Dhabi National Oil Company – ADNOC, and Abu Dhabi Future Energy Company – Masdar.

The Explanatory Notes section at the end of this publication provides an explanation of the key terms and technical concepts used in the compilation of energy and water statistics. Readers are encouraged to refer to that section while reading the statistics and information outlined in the publication.

The main points.

- The amount of electricity available was 71,504,164 (MWH).
- The electricity consumption per capita was 20.79 (MWH).
- The amount of desalinated water available was 1,112 (million cubic meters).
- The average per capita daily consumption of desalinated water was 1.04 (cubic meters).
- The amount of electricity generated from renewable energy was 271,704 (MWH).
- Annual production of crude oil reached 1,081,743 (thousand barrels).
- Annual crude oil exports reached 876,260 (thousand barrels).
- Annual production of natural gas amounted to 3,096,178 (million cubic feet).
- Exports of LNG products reported 26,845 (thousand metric tons).

Electrical power statistics

- Total electricity generated by companies reached 71,504 GWH in 2017, an increase of 71.42% during the period since 2010.
- The amount of electricity exported to the Northern Emirates was about 11,345 GWH, as shown in Table 1.1.
- Electricity consumption in the Emirate of Abu Dhabi increased to 60,158 GWH in 2017

Table 1.1: Electrical power statistics

(MWH)

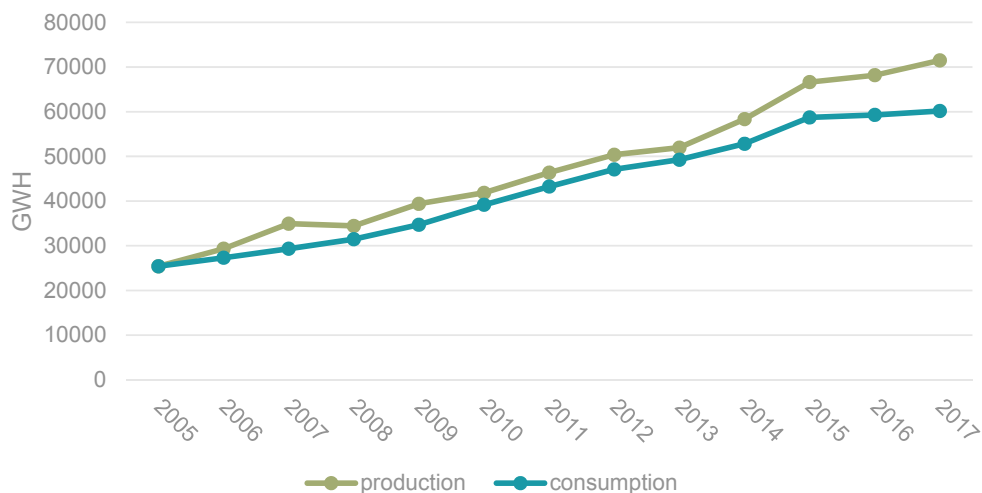
Item	2010	2013	2014	2015	2016	2017
Total electricity production by companies	41,712,189	51,936,813	58,342,545	66,626,469	68,183,363	71,504,164
Electricity transferred from Emal & Takreer	146,594	27,982	11,802	0	0	0
Total Electricity available	41,858,783	51,964,795	58,354,347	66,626,469	68,183,363	71,504,164
Electricity exports from the Emirate of Abu Dhabi	2,685,643	2,698,226	5,513,310	7,890,644	8,897,222	11,345,459
Electricity consumption in the Emirate of Abu Dhabi*	39,173,140	49,266,569	52,841,037	58,735,825	59,286,141	60,158,705
Electricity consumption per capita	18.70	19.77	19.89	21.09	20.39	20.79
generation capacity (MW) Electricity	9,247	10,917	12,571	12,571	12,245	13,647

Source: Abu Dhabi Water and Electricity Company (ADWEC), Statistics Centre _ Abu Dhabi

*Consumption include internal electrical consumption by power stations & technical losses through the network

Note: Electricity consumption data for 2015 and 2016 were updated by source

Figure 1: Electrical energy production and consumption



Source: Abu Dhabi Water and Electricity Company (ADWEC)

Fuel consumption of the water and electricity activity

- The amount use of natural gas in 2017 about 99.8% of the total fuel used in electricity generation.
- The total fuel consumption of all types in 2017 in water and electricity activity are increased 2.0% compared to 2016, and the total consumption reaching 829,751 Billion BTU, as shown in Table 2.1.

Table 1.2: Fuel consumption of the electricity and water activity

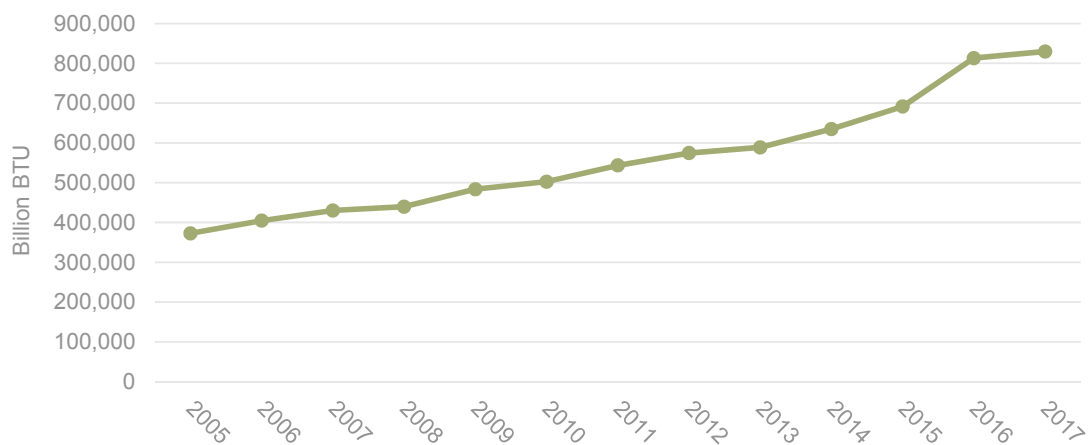
(Billion BTU)

Fuel type	2010	2013	2014	2015	2016	2017
Total	502,487	588,794	634,974	691,471	813,083	829,751
Natural gas	467,126	587,905	633,862	689,368	812,699	827,705
Crude oil	21,918	0	1	984	110	0
Gas oil	13,439	889	1,110	1,119	274	2,046
Fuel oil	4	0	0	0	0	0

Source: Abu Dhabi Water and Electricity Company (ADWEC)

Note: The start of the pilot phase of the Mirfa International Water and Electricity in 2017 led to an increase in the value of consumption of gas oil

Figure 2: Fuel consumption of the electricity and water activity



Source: Abu Dhabi Water and Electricity Company (ADWEC)

Electricity generated by solar energy

- The amount of electricity produced from solar energy was 271,704 MWH in 2017.
- About 92.4% of these were through Abu Dhabi Electricity Distribution Network, while 7.6% were consumed internally in Masdar City.

Table 1.3: Electricity generation and consumption from solar energy

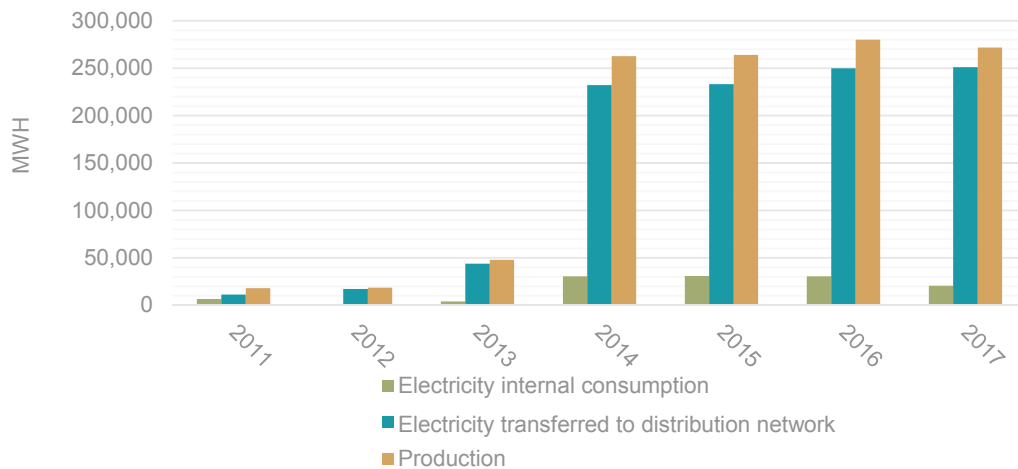
(MWH)

Item	2011	2013	2014	2015	2016	2017
Electricity internal consumption of plant production	6,695	4,069	30,439	30,867	30,360	20,611
Electricity transferred to distribution network	11,291	43,754	232,228	233,147	249,725	251,093
Production	17,986	47,823	262,667	264,014	280,085	271,704

Source: Abu Dhabi Future Energy Company (Masdar) , Statistics Centre _ Abu Dhabi

The production of Shams solar power station started in late 2013

Figure 3: Electricity generation and consumption from solar energy



Source: Abu Dhabi Future Energy Company (Masdar) , Statistics Centre _ Abu Dhabi

Electricity consumption

- The Emirate of Abu Dhabi consumption of electricity was 60,158 GWH in 2017.
- Abu Dhabi region consumed the largest percentage of electricity which reached 59.46%, followed by Al Dhafra region by 22.08% and Al Ain region by 18.46%.
- The consumption of the commercial sector in the Abu Dhabi Emirate accounted for 48.2% of the total consumption followed by the domestic sector by 26.8% and the industrial sector by 11.2%.

Table 1.4: Consumption of electricity by region

(MWH)

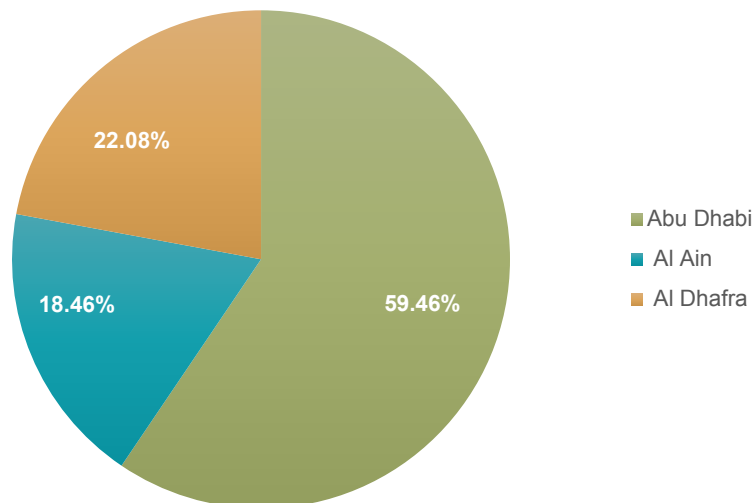
Region	2010	2013	2014	2015	2016	2017
Total consumption*	39,173,140	49,266,569	52,841,037	58,735,825	59,286,141	60,158,705
Abu Dhabi	24,850,010	30,560,312	32,575,456	34,850,296	34,760,574	35,768,512
Al Ain	9,081,380	9,736,976	10,390,745	11,025,323	10,733,791	11,107,187
Al Dhafra	5,241,750	8,969,281	9,874,836	12,860,206	13,791,776	13,283,005

Source: Abu Dhabi Water and Electricity Company (ADWEC)

*Consumption include internal electricity consumption by power stations & technical losses through the network

Note: Electricity consumption data for 2015 and 2016 were updated by source

Figure 4: Percentage of electricity consumption by region, 2017



Source: Abu Dhabi Water and Electricity Company (ADWEC), Statistics Centre _ Abu Dhabi

Table 1.5: Percentage of electricity consumption by sector

(%)

Sector	2010	2013	2014	2015	2016	2017
Total	100	100	100	100	100	100
Domestic	35.9	29.9	29.4	26.9	25.6	26.8
Commercial	32.1	30.0	30.2	48.2	52.1	48.2
Government	16.1	24.1	24.7	9.3	6.6	8.1
Agriculture	8.2	5.6	5.4	5.7	5.7	5.7
Industry	7.2	9.7	10.0	9.7	9.8	11.2
Other Sectors	0.6	0.7	0.4	0.3	0.1	0.1

Source: Abu Dhabi Distribution Company, Al Ain Distribution Company, Statistics Centre _ Abu Dhabi

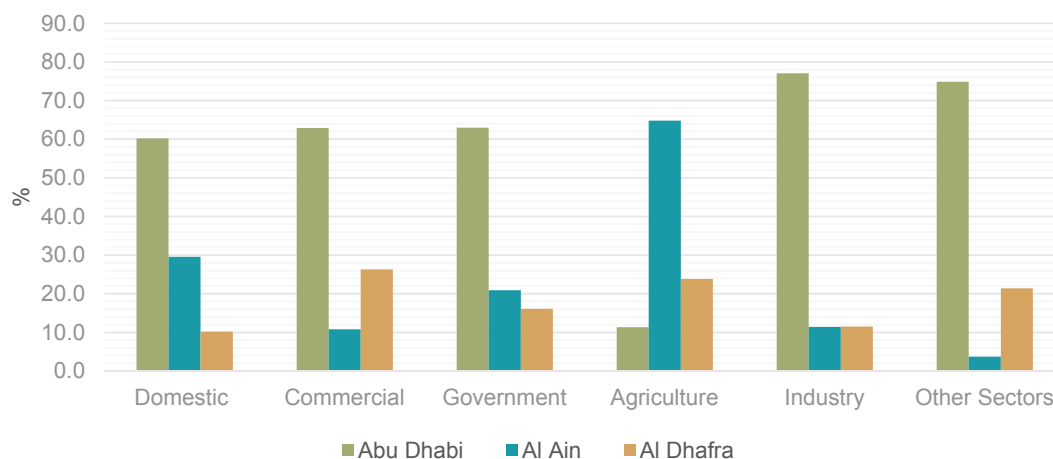
Table 1.6: Percentage of electricity consumption by region and sector, 2017

(%)

Sector	Abu Dhabi	Al Ain	Al Dhafra	Total
Domestic	60.2	29.6	10.2	100
Commercial	62.9	10.8	26.3	100
Government	63.0	20.9	16.1	100
Agriculture	11.4	64.8	23.9	100
Industry	77.1	11.4	11.5	100
Other Sectors	74.8	3.7	21.4	100

Source: Abu Dhabi Distribution Company, Al Ain Distribution Company, Statistics Centre _ Abu Dhabi

Figure 5: Percentage of electricity consumption by region and sector, 2017



Source: Abu Dhabi Distribution Company, Al Ain Distribution Company, Statistics Centre _ Abu Dhabi

Production of desalinated water

- The amount of desalinated water available in Abu Dhabi Emirate was 1,112 million cubic meters in 2017.
- The production of desalinated water reached 895 million cubic meters in 2017, an increase of 0.9% compared to 2016.

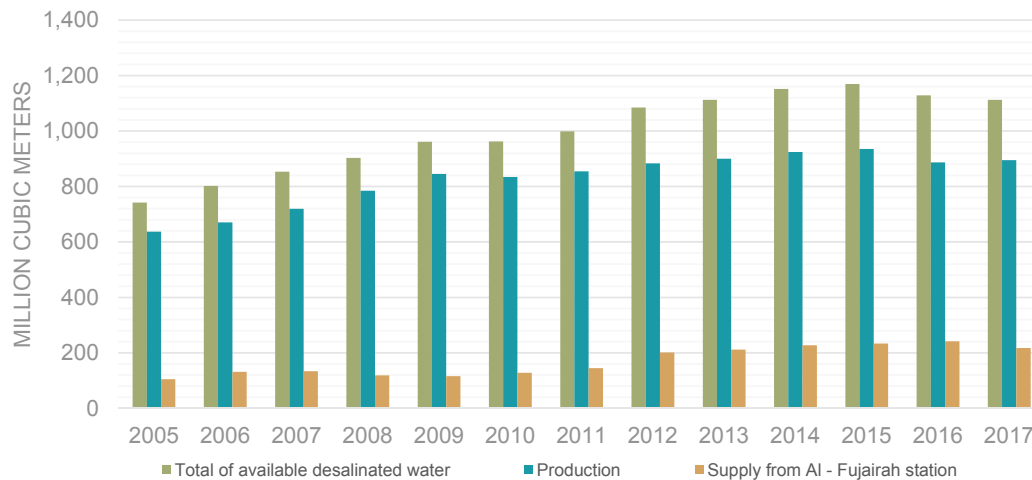
Table 1.7: Production of desalinated water

(Million cubic meters)

Item	2010	2013	2014	2015	2016	2017
Total of available desalinated water	963	1,112	1,151	1,170	1,129	1,112
Production	834	900	924	936	887	895
Supply from AI - Fujairah station	128	212	227	234	242	217

Source: Abu Dhabi Water and Electricity Company

Figure 6: Production of desalinated water



Source: Abu Dhabi Water and Electricity Company

Consumption of desalinated water

- Annual consumption of desalinated water in Abu Dhabi Emirate reached 1,101 million cubic meters in 2017.
- The average daily consumption was 3.02 million cubic meters, and the average daily consumption per capita was 1.04 cubic meters.
- The Abu Dhabi region ranked first in percentage of domestic consumption in the Emirate reaching about 61.3%, followed by Al Ain and Al Dhafra with 26.5% and 12.2% respectively.

Table 1.8: Consumption of desalinated water

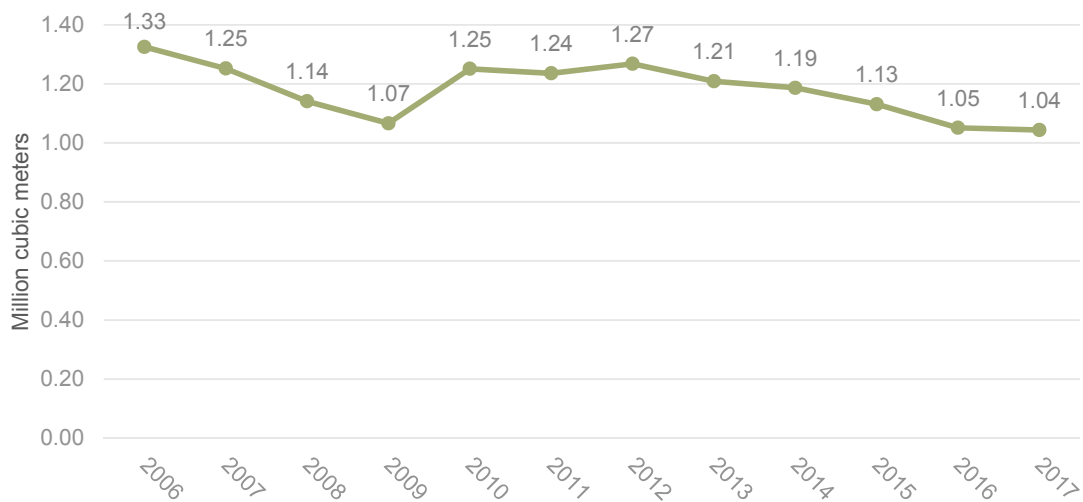
(Million cubic meters)

Year	Annual consumption	Average daily consumption	Average daily consumption per capita
2010	956	2.62	1.25
2013	1,099	3.01	1.21
2014	1,150	3.15	1.19
2015	1,148	3.15	1.13
2016	1,115	3.05	1.05
2017	1,101	3.02	1.04

Source: Abu Dhabi Water and Electricity Company (ADWEC), Statistics Centre _ Abu Dhabi

Note: Consumption data has been updated by the source

Figure 7: Average daily consumption of desalinated water per capita



Source: Abu Dhabi Water and Electricity Company (ADWEC), Statistics Centre _ Abu Dhabi

Table 1.9: Percentage of desalinated water consumption by sector

(%)

Sector	2010	2013	2014	2015	2016	2017
Total	100	100	100	100	100	100
Domestic	55.2	51.9	49.6	47.1	42.6	46.8
Commercial	15.5	14.0	14.7	20.2	22.9	20.3
Government	22.4	26.2	28.0	14.5	12.0	11.3
Agriculture	4.0	5.2	4.9	15.5	19.7	19.0
Industry	1.5	1.8	2.0	2.4	2.6	2.3
Other Sectors	1.4	0.9	0.7	0.3	0.1	0.3

Source: Abu Dhabi Distribution Company, Al Ain Distribution Company, Statistics Centre _ Abu Dhabi

Table 1.10: Percentage of desalinated water consumption by region and sector, 2017

(%)

Sector	Abu Dhabi	Al Ain	Al Dhafra	Total
Domestic	65.5	20.7	13.8	100
Commercial	73.7	14.9	11.3	100
Government	63.3	18.0	18.7	100
Agriculture	46.1	50.2	3.7	100
Industry	74.8	17.6	7.6	100
Other Sectors	0.0	100.0	0.0	100

Source: Abu Dhabi Distribution Company, Al Ain Distribution Company, Statistics Centre _ Abu Dhabi

Table 1.11: Consumption of desalinated water by region

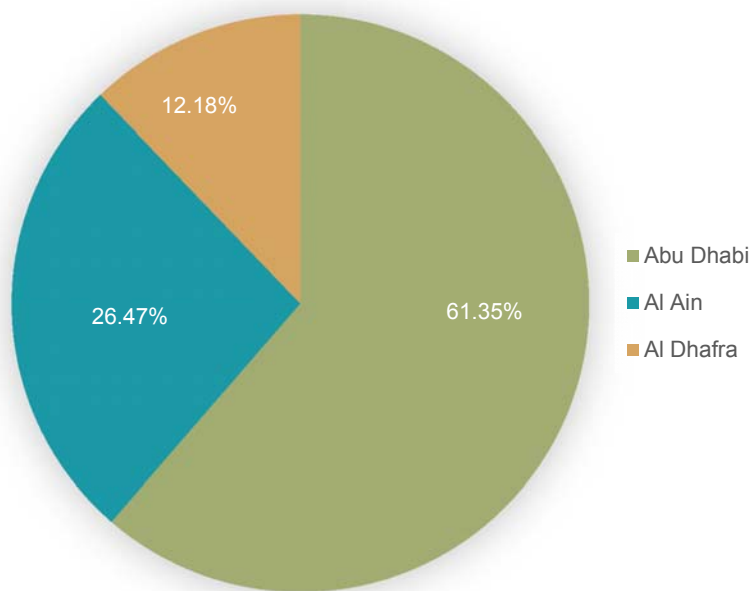
(Million cubic meters)

Region	2010	2013	2014	2015	2016	2017
Total consumption	956	1,099	1,150	1,148	1,115	1,101
Abu Dhabi	598	657	693	692	676	676
Al Ain	251	292	314	313	295	291
Al Dhafra	107	150	142	144	144	134

Source: Abu Dhabi Water and Electricity Company (ADWEC)

Note: Consumption data has been updated by the source

Figure 8: Percentage of desalinated water consumption by region, 2017



Source: Abu Dhabi Water and Electricity Company (ADWEC), Statistics Centre _ Abu Dhabi

Crude oil production and exports

- The Abu Dhabi Emirate's crude oil production reached 1,081,743 thousand barrels in 2017.
- The crude oil exports reached 876,260 thousand barrels.
- Exports of crude oil accounted about 81% of the production volume in 2017.

Table 2.1: Crude oil production and exports

(Thousand barrels)

Year	Production		Exports	
	Daily average	Annual production	Daily average	Annual exports
2010	2,261	825,291	2,040	744,525
2013	2,731	996,928	2,522	920,687
2014	2,746	1,002,179	2,214	808,131
2015	2,928	1,068,575	2,444	892,230
2016	3,019	1,104,827	2,419	885,474
2017	2,964	1,081,743	2,401	876,260

Source: Abu Dhabi National Oil Company – ADNOC, Statistics Centre _ Abu Dhabi

Note: Production excludes condensates

Note: Export include export to other emirates and outside the UAE

Figure 9: Crude oil production and exports



Source: Abu Dhabi National Oil Company – ADNOC

Crude oil prices

- Increased the average price of oil for Abu Dhabi Emirate to US \$ 53.2 in 2017 from US \$ 42.74 in 2016.
- Rising the crude Oil prices at varying rates, and the crude oil produced from Murban recorded the highest price at US \$ 54.6 per barrel.

Table 2.2: Crude oil prices by type

(\$/Barrel)

Type of crude	2010	2013	2014	2015	2016	2017
Murban	79.2	110.1	99.5	52.9	44.4	54.6
Umm Al-Shaif	78.7	109.5	108.5	51.9	-	-
Lower Zakum	79.0	109.9	109.1	-	-	-
Das	-	-	96.4	52.0	43.6	54.5
Upper Zakum	77.3	107.1	96.8	49.4	41.1	53.2
Umm Al Dalakh	-	-	-	-	42.1	53.4
Satah	-	-	-	-	44.3	53.1
Umm Lulu	-	-	-	-	41.0	50.2
Price Average	78.5	109.2	102.1	51.6	42.7	53.2

Source: Abu Dhabi National Oil Company – ADNOC

Petroleum products

- Increased the petroleum products in the Abu Dhabi Emirate in 2017 by 0.32% than in 2016,
- The exports of refined petroleum products in 2017 accounted for 60.4 % of total production, while domestic sales accounted for 35.4 % of total production.

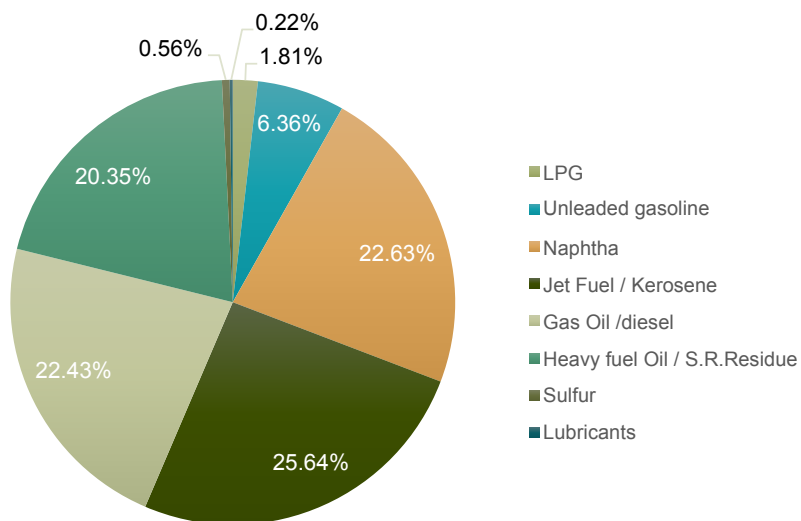
Table 2.3: Production of refined petroleum products

(Thousand Metric Tons)

Product Type	2010	2013	2014	2015	2016	2017
Total	19,223	21,516	21,657	32,522	40,723	40,852
LPG	579	591	618	785	785	740
Unleaded gasoline	2,284	3,056	2,371	3,589	4,678	2,597
Naphtha	4,813	4,912	5,048	8,619	9,609	9,245
Jet Fuel / Kerosene	5,684	6,866	6,162	9,810	11,044	10,474
Gas Oil /diesel	4,775	4,477	4,482	7,711	9,517	9,163
Heavy fuel Oil / S.R.Residue	1,048	1,564	2,927	1,917	4,732	8,313
Sulfur	-	-	-	-	234	230
Lubricants	39	50	49	91	124	90

Source: Abu Dhabi National Oil Company – ADNOC

Figure 10: Production of refined petroleum products, 2017



Source: Abu Dhabi National Oil Company – ADNOC, Statistics Centre _ Abu Dhabi

Table 2.4: Domestic sales of refined petroleum products

(Thousand Metric Tons)

Product type	Abu Dhabi Emirate			Other Emirates		
	2015	2016	2017	2015	2016	2017
Total	9,312	9,764	8,577	4,063	6,645	5,903
LPG	214	215	222	-	-	-
Unleaded gasoline	3,652	4,258	3,192	-	138	105
Jet fuel / Kerosene	3,003	3,149	3,008	1,233	1,660	1,246
Gas oil / diesel	2,430	2,142	2,137	1,119	2,884	2,521
Heavy fuel Oil / S.R.Residue	13	-	-	1,711	1,957	2,025
Lubricants	-	-	18	-	6	6

Source: Abu Dhabi National Oil Company – ADNOC

Table 2.5: Production and domestic sales of refined petroleum products

(Thousand Metric Tons)

Item	2010	2013	2014	2015	2016	2017
Production						
Quantity	19,223	21,516	21,657	32,522	40,723	40,852
Daily average	52.7	58.9	59.3	89.1	111.3	111.9
Domestic sales						
Quantity	10,091	10,985	10,653	13,376	16,409	14,480
Daily average	27.6	30.1	29.2	36.6	44.8	39.7
Exports						
Quantity	8,288	10,003	8,658	20,564	23,204	24,673
Daily average	22.7	27.4	23.7	56.3	63.4	67.6
Refining capacity (Thousand barrels/daily)	505	505	505	920	920	922

Source: Abu Dhabi National Oil Company - ADNOC ,Statistics Centre _ Abu Dhabi

Table 2.6: Export of refined petroleum products

(Thousand Metric Tons)

Type of Product	2010	2013	2014	2015	2016	2017
Total	8,288	10,003	8,658	20,564	23,204	24,673
LPG	-	-	-	1,471	1,126	-
Unleaded Gasoline	-	-	-	6	10	12
Naphtha	4,269	4,833	4,850	7,733	9,658	9,214
Jet fuel / Kerosene	3,219	3,789	2,523	5,433	6,155	5,992
Gas oil / Diesel	679	964	713	3,863	4,606	4,715
Heavy fuel Oil / S.R.Residue	121	417	572	2,057	1,496	4,371
Lubricants	-	-	-	-	152	370

Source: Abu Dhabi National Oil Company – ADNOC

Natural Gas

- The natural gas production in Abu Dhabi Emirate was 3,096,178 million cubic feet in 2017.
- The production increased by 13.5% in 2017 than in 2016.

Table 2.7: Natural gas production

(Million cubic feet)

Year	2010	2013	2014	2015	2016	2017
Production						
Annual	2,174,057	2,756,207	2,799,202	2,733,804	2,727,711	3,096,178
Daily	5,956	7,551	7,669	7,490	7,453	8,483

Source: Abu Dhabi National Oil Company – ADNOC, Statistics Centre _ Abu Dhabi

Table 2.8: Production and exports of liquefied natural gas products

(Thousand Metric Tons)

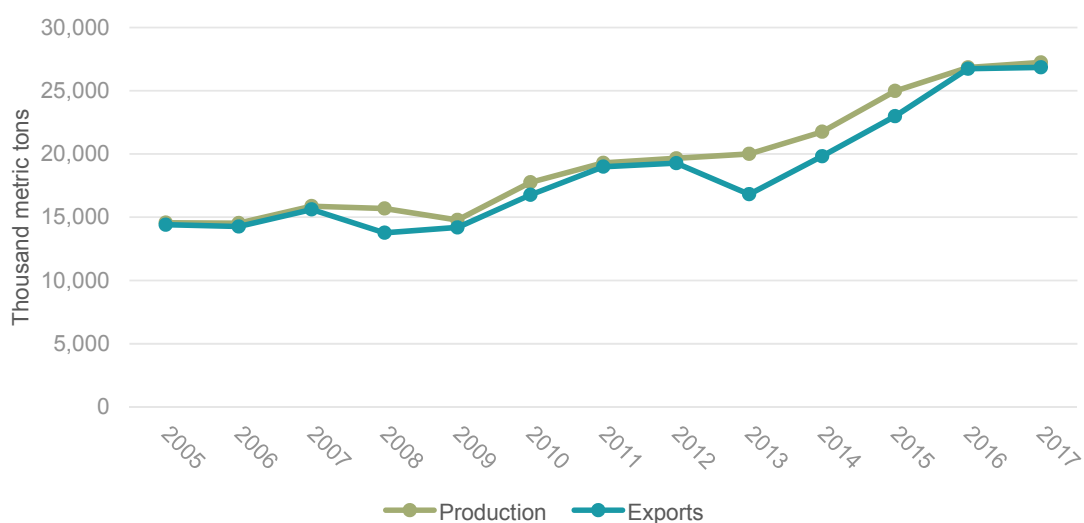
Product type	2015		2016		2017	
	Production	Exports	Production	Exports	Production	Exports
Total	24,981	22,984	26,836	26,733	27,237	26,845
LNG	5,929	5,728	5,996	5,929	5,831	5,565
Propane	5,621	4,880	5,947	5,769	5,702	5,573
Butane	5,025	4,426	5,076	4,828	5,100	4,875
Pentane (plus)	3,808	3,332	3,860	4,106	3,980	4,148
Others (Sulfur)	4,597	4,617	5,957	6,101	6,624	6,684

Source: Abu Dhabi National Oil Company – ADNOC

Note: Export include export to other emirates and outside the UAE

Note: Excluding condensates

Figure 11: Production and exports of liquefied natural gas products, 2017



Source: Abu Dhabi National Oil Company – ADNOC

Explanatory Notes

Data sources

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

Abbreviations used

\$	United States Dollars
BTU	British Thermal Unit
EMAL	Emirates Aluminium
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.

Symbols used

(-) Data not available.

More information and next release

For more information about energy and environment and other official statistics, please visit the statistics link on the SCAD website at <http://www.scad.ae>

The next annual release is expected in November 2019 for 2018 data.

رؤيتنا: الريادة والابتكار في الإحصاء
Our Vision: Leadership and Innovation in Statistics

www.scad.ae

Publications
Library

