



2019



مركز الإحصاء
STATISTICS CENTRE

Energy and Water Statistics

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Introduction

This publication presents statistics of energy and water in the Emirate of Abu Dhabi for the year 2019, comprising statistics of the desalinated water and electricity production sector, oil and gas sector, and renewable energy sector. The main sources for these statistics are Department of Energy, and Abu Dhabi National Oil Company – ADNOC.

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 73,305,188 (MWH).
- The Amount of Desalinated Water Available was 1,068 (million cubic meters).
- The Amount of Electricity Generated from Renewable Energy was 2,163,799 (MWH).
- Annual Production of Crude Oil Reached 1,116,109 (thousand barrels).
- Annual External Sales of Crude Oil 881,172 (thousand barrels).
- Annual Production of Natural Gas amounted to 2,824,432 (million cubic feet).
- Exports of Gas Products Reported 27,738 (thousand metric tons).



ENERGY AND DESALINATED WATER

Electrical power statistics

Total electricity generated by companies reached 72,830 GWH in 2019, an increase of 0.3% compared with 2018.

The amount of electricity exported to the Northern Emirates was about 10,624 GWH, as shown in Table 1.1.

Electricity demand in the Emirate of Abu Dhabi increased to 62,682 GWH in 2019

Table 1.1: Electrical Power Statistics

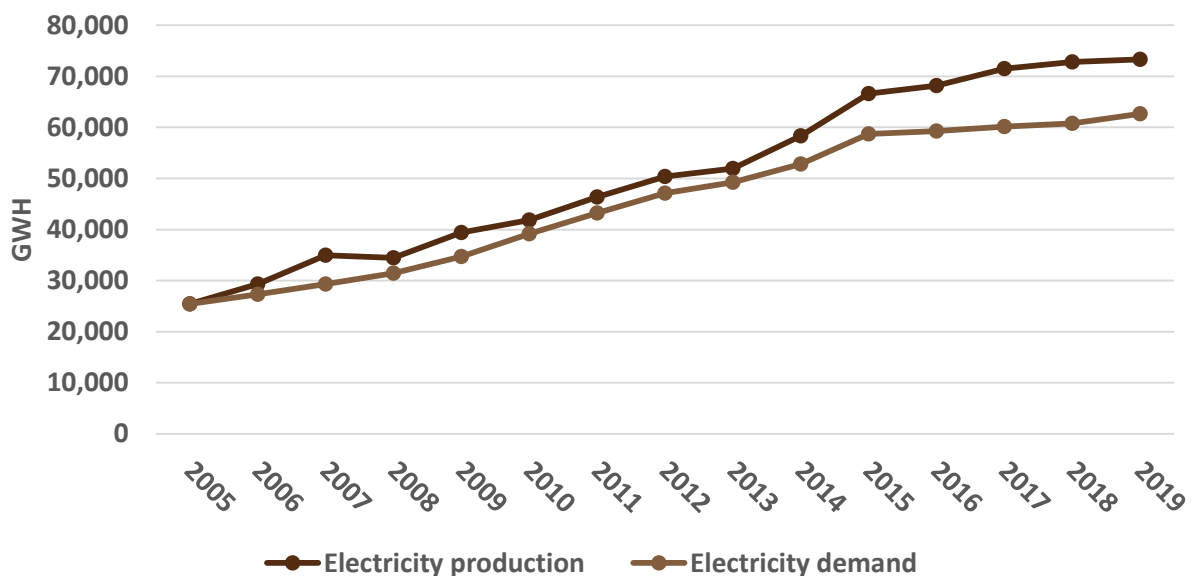
(MWH)

Item	2015	2016	2017	2018	2019
Total electricity production by companies	66,626,469	68,183,363	71,504,164	72,585,807	72,830,075
Electricity transferred from Emal & Takreer	-	-	-	204,700	475,113
Total	66,626,469	68,183,363	71,504,164	72,790,507	73,305,188
Electricity exports from the Emirate of Abu Dhabi	7,890,644	8,897,222	11,345,459	11,983,242	10,623,579
Electricity demand in the Emirate of Abu Dhabi *	58,735,825	59,286,141	60,158,705	60,750,923	62,681,608
Electricity generation capacity (MW)	12,571	12,245	13,648	13,648	14,662

Source: Department of Energy

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

Figure 1: Electrical Energy Production and Electricity Demand



Source: Department of Energy

Fuel consumption of the water and electricity activity

- The amount use of natural gas in 2019 about 99.9% of the total fuel used in electricity generation.
- The total fuel consumption of all types in 2019 in water and electricity activity are decreased 4.6% compared to 2018, and the total consumption reaching 670,222 Billion BTU, as shown in Table 2.1.

Table 1.2: Fuel Consumption of the Electricity and Water Activity

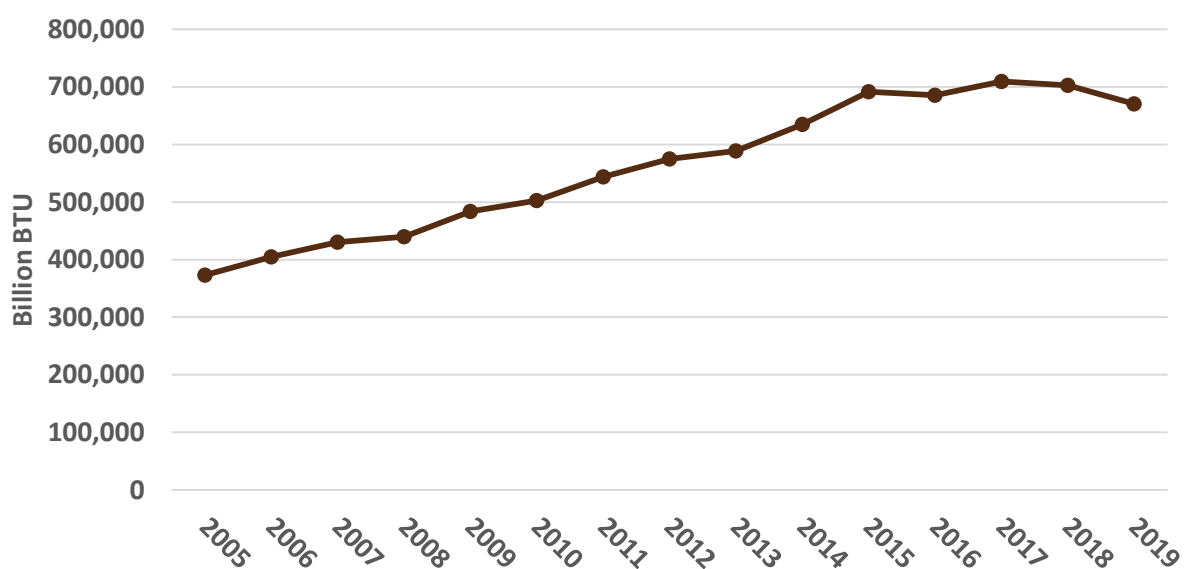
(Billion BTU)

Fuel type	2010	2015	2016	2017	2018	2019
Total	502,487	691,471	685,570	709,553	702,384	670,222
Natural gas	467,126	689,368	685,345	707,571	702,179	670,056
Crude oil	21,918	984	110	-	-	-
Gas oil	13,439	1,119	115	1,982	206	165
Fuel oil	4	-	-	-	-	-

Source: Department of Energy

Note: Data were updated by the source

Figure 2: Fuel Consumption of the Electricity and Water Activity



Source: Department of Energy

Demand of Electricity

- The demand of electricity in Emirate of Abu Dhabi was 62,681 GWH in 2019.
- Abu Dhabi region accounted for the largest percentage of electricity demand which reached 59.9%, followed by Al Dhafra region by 22.4% and Al Ain region by 17.8%.
- The consumption of the commercial sector in the Abu Dhabi Emirate accounted for 39.4% of the total consumption followed by the domestic sector by 23.9% and the agriculture sector by 15.9% in 2019.

Table 1.3: Demand of Electricity by Region

(MWH)

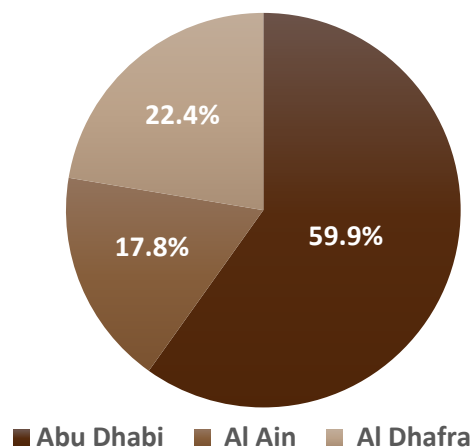
Region	2010	2015	2016	2017	2018	2019
Total *	39,173,140	58,735,825	59,286,141	60,158,705	60,750,923	62,681,608
Abu Dhabi	24,850,010	34,850,296	34,760,574	35,768,512	36,563,133	37,516,215
Al Ain	9,081,380	11,025,323	10,733,791	11,107,187	11,125,417	11,141,566
Al Dhafra	5,241,750	12,860,206	13,791,776	13,283,006	13,062,373	14,023,827

Source: Department of Energy

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

Note: Data were updated by the source

Figure 3: Percentage of Demand of Electricity by Region, 2019



Source: Department of Energy, Statistics Centre _ Abu Dhabi



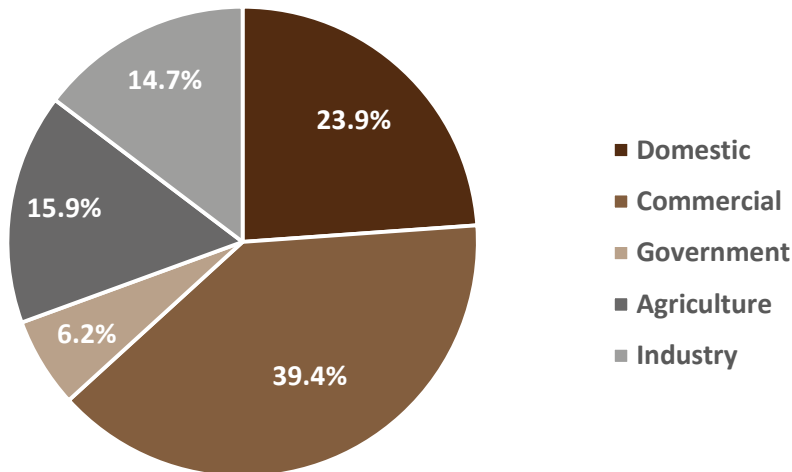
Table 1.4: Percentage of Electricity Consumption by Sector

(%)

Sector	2015	2016	2017	2018	2019
Total	100.0	100.0	100.0	100.0	100.0
Domestic	26.8	25.6	26.8	24.4	23.9
Commercial	48.4	52.1	48.2	49.4	39.4
Government	9.5	6.8	8.1	8.0	6.2
Agriculture	5.6	5.7	5.7	6.0	15.9
Industry	9.7	9.8	11.2	12.3	14.7

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

Figure 4: Percentage of Electricity Consumption by Sector, 2019



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

Renewable energy

- The total amount of electricity the Renewable energy in Emirate of Abu Dhabi was 2,163,799 MWH in 2019.

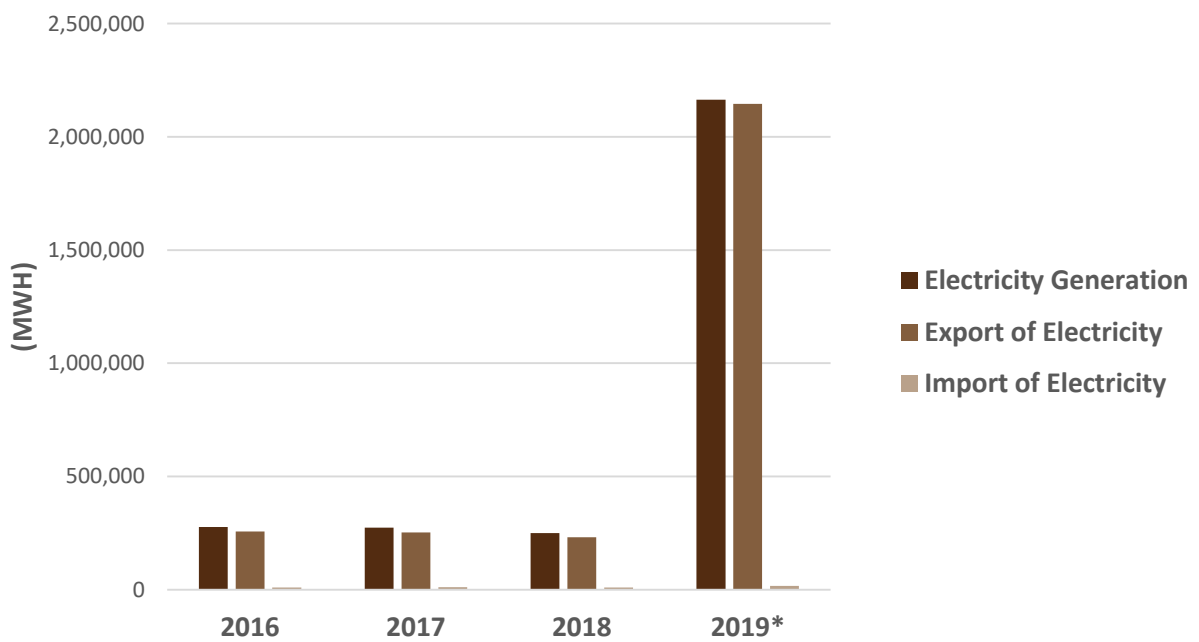
Table 1.5: Renewable energy statistics

(MWH)

Item	2016	2017	2018	2019
Electricity Generation	277,361	273,367	250,390	2,163,799
Export of Electricity	257,681	252,974	232,212	2,146,062
Import of Electricity	10,303	10,539	10,329	16,594
Electricity planned capacity (MW)	110	110	110	1,045

Source: Department of Energy

Figure 5: Renewable energy statistics



Source: Department of Energy



Production of desalinated water

- The amount of desalinated water available in Abu Dhabi Emirate was 1,068 million cubic meters in 2019.
- The production of desalinated water reached 862 million cubic meters in 2019, a decrease of 2.0% compared to 2018.

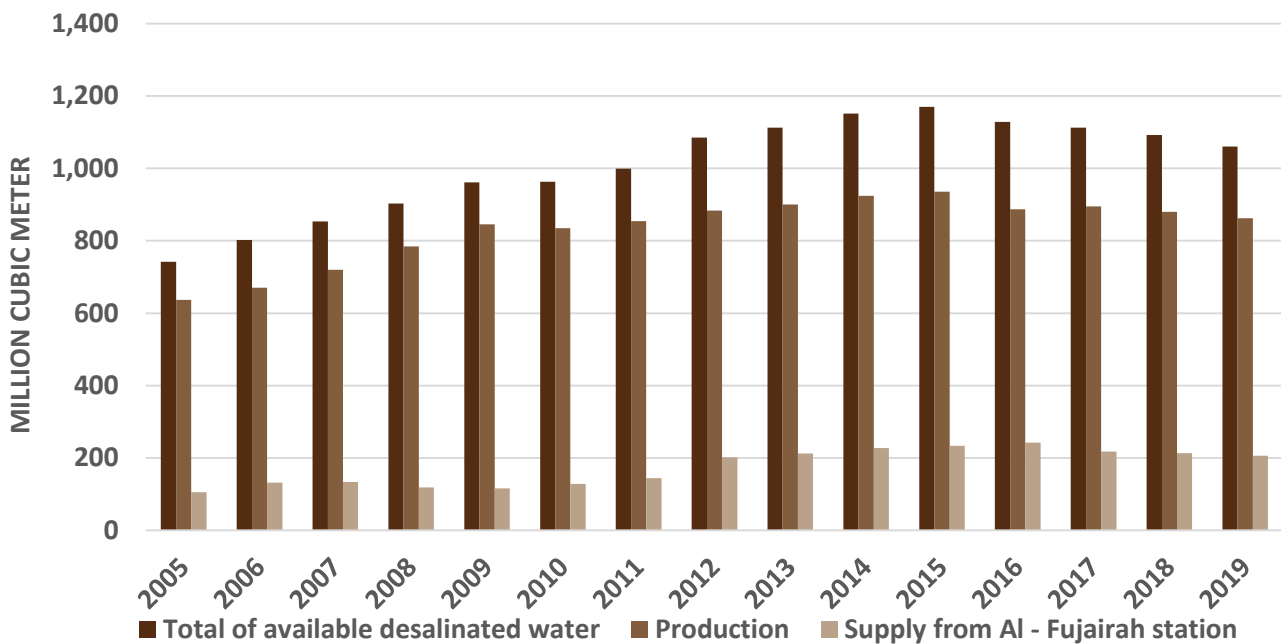
Table 1.6: Available Desalinated Water

(Million cubic meters)

Item	2010	2015	2016	2017	2018	2019
Total of available desalinated water	963	1,170	1,129	1,112	1,092	1,068
Production	834	936	887	895	880	862
Supply from Al - Fujairah station	128	234	242	217	213	206

Source: Department of Energy, Statistics Centre _ Abu Dhabi

Figure 6: Available Desalinated Water



Source: Department of Energy, Statistics Centre _ Abu Dhabi

Supply of Desalinated Water

- The annual desalinated water Supply in Abu Dhabi Emirate reached 1,060.4 million cubic meters in 2019.
- The average daily of desalinated water Supply was 2.9 million cubic meters.
- The Abu Dhabi region ranked first in percentage of domestic consumption in the Emirate reaching about 64.3%, followed by Al Ain and Al Dhafra with 21.9% and 13.9% respectively.

Table 1.7: Desalinated water Supply

(Million cubic meters)

Item	2010	2015	2016	2017	2018	2019
Annual desalinated water	956	1,148	1,129	1,101	1,082	1,060
Average daily of desalinated water	2.6	3.1	3.0	3.0	3.0	2.9

Source: Department of Energy, Statistics Centre _ Abu Dhabi

Note: Data were updated by the source

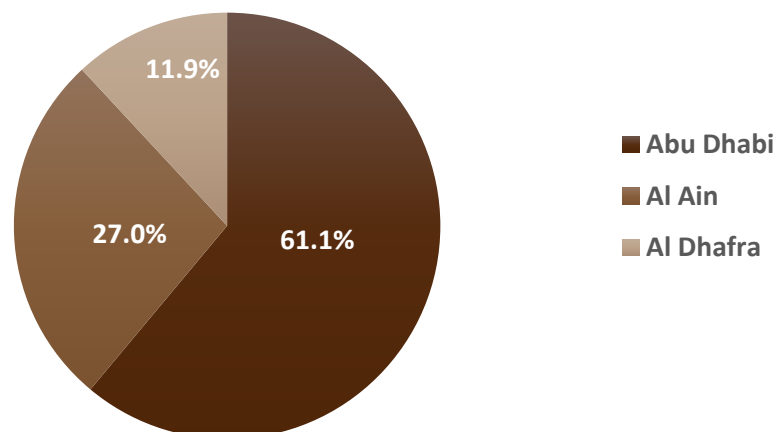
Table 1.8: Desalinated Water Supply by Region

(Million cubic meters)

Region	2010	2015	2016	2017	2018	2019
Total	956	1,148	1,129	1,101	1,082	1,060
Abu Dhabi	598	692	683	676	671	648
Al Ain	251	313	300	291	290	286
Al Dhafra	107	144	146	134	120	126

Source: Department of Energy, Statistics Centre _ Abu Dhabi

Figure 7: Desalinated Water Supply by Region, 2019



Source: Department of Energy, Statistics Centre _ Abu Dhabi

Table 1.9: Percentage of Desalinated Water Consumption by Sector

(%)

Sector	2015	2016	2017	2018	2019
Total	100.0	100.0	100.0	100.0	100.0
Domestic	46.8	42.1	46.9	43.7	44.9
Commercial	20.4	23.9	20.4	19.8	18.5
Government	14.9	12.0	11.3	12.9	12.3
Agriculture	15.6	19.5	19.0	21.2	21.6
Industry	2.4	2.5	2.3	2.4	2.7

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

Table 1.10: Percentage of Desalinated Water Consumption by Region and Sector, 2019

(%)

Sector	Abu Dhabi	Al Ain	Al Dhafra	Total
Domestic	64.3	21.9	13.9	100.0
Commercial	71.7	16.1	12.2	100.0
Government	68.0	14.1	18.0	100.0
Agriculture	48.4	48.5	3.2	100.0
Industry	76.9	18.6	4.5	100.0

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



OIL AND GAS



Crude oil

- The Abu Dhabi Emirate’s crude oil production reached 1,116,109 thousand barrels in 2019.
- The annual external sales of crude oil reached 881,172 thousand barrels.
- The external sales of crude oil accounted about 79.0% of the production volume in 2019.

Table 2.1: Production and External Sales of Crude Oil

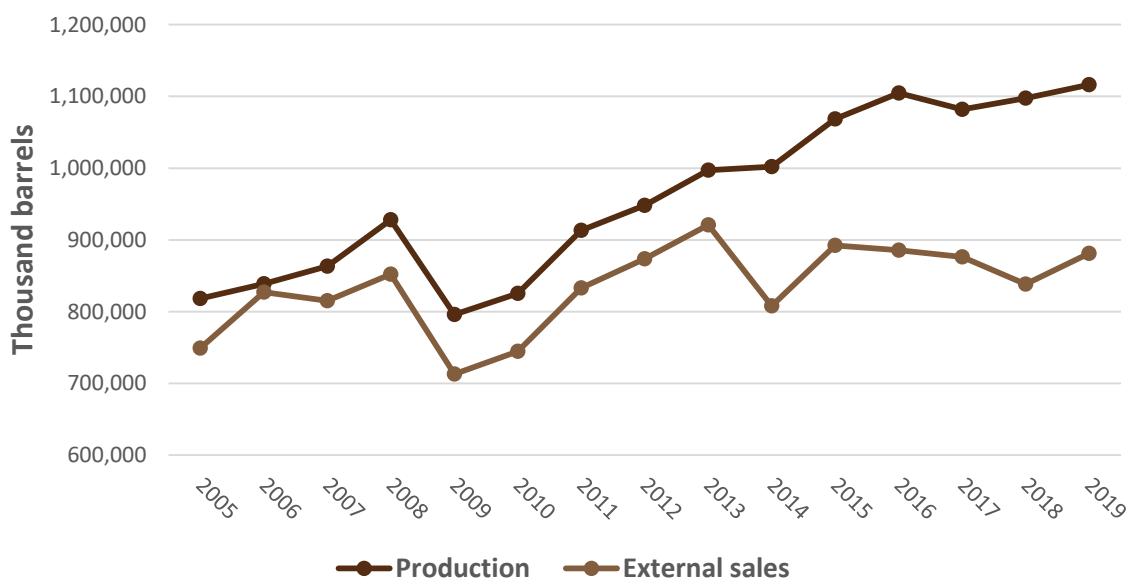
(Thousand barrels)

Year	Production		External sales	
	Daily average	Annual production	Daily average	Annual exports
2010	2,261	825,291	2,040	744,525
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
2018	3,007	1,097,616	2,297	838,223
2019	3,058	1,116,109	2,414	881,172

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

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

Figure 8: Production and External sales of crude oil



Source: Abu Dhabi National Oil Company – ADNOC

Petroleum products

- Decreased the petroleum products in the Abu Dhabi Emirate in 2019 by 5.0% than in 2018.
- The exports of refined petroleum products in 2019 accounted for 79.7 % of total production, while sales within the emirates accounted for 22.7 % of total production.

Table 2.2: Production and Domestic Sales of Refined Petroleum Products

(Thousand Metric Tons)

Item	2010	2015	2016	2017	2018	2019
Production						
Quantity	19,223	32,522	40,723	40,852	43,368	41,190
Daily average	52.7	89.1	111.3	111.9	118.8	112.8
Domestic sales						
Quantity	10,091	13,376	16,409	13,385	9,213	9,358
Daily average	27.6	36.6	44.8	36.7	25.2	25.6
Exports						
Quantity	8,288	20,564	23,204	24,674	34,822	32,816
Daily average	22.7	56.3	63.4	67.6	95.4	89.9

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

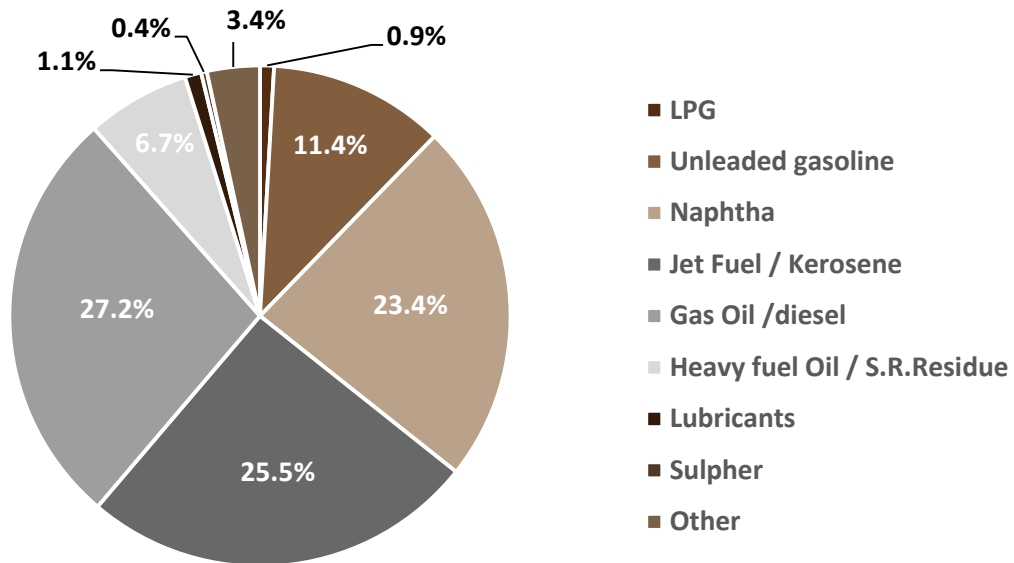
Table 2.3: Production of Refined Petroleum products

(Thousand Metric Tons)

Product Type	2010	2015	2016	2017	2018	2019
Total	19,223	32,522	40,723	40,852	43,368	41,190
LPG	579	785	785	740	560	372
Unleaded gasoline	2,284	3,589	4,678	2,597	2,510	4,683
Naphtha	4,813	8,619	9,609	9,245	9,843	9,644
Jet fuel / Kerosene	5,684	9,810	11,044	10,474	11,394	10,521
Gas oil / Diesel	4,775	7,711	9,517	9,163	9,784	11,221
Heavy Fuel Oil / S.R.Residue	1,048	1,917	4,732	8,313	8,103	2,753
Lubricants	-	-	234	230	453	440
Sulphur	39	91	124	90	97	151
Other	-	-	-	-	624	1,405

Source: Abu Dhabi National Oil Company – ADNOC

Figure 9: Percentage of production of refined petroleum products, 2019



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		
	2017	2018	2019	2017	2018	2019
Total	8,577	6,761	6,522	4,808	2,452	2,836
LPG	222	237	-	-	14	-
Unleaded gasoline	3,192	2,523	2,556	105	1,885	1,807
Jet fuel / Kerosene	3,008	2,335	2,352	1,246	-	489
Gas oil / diesel	2,137	1,636	1,586	2,521	405	471
Heavy fuel Oil / S.R.Residue	-	-	-	930	97	-
Lubricants	18	30	28	6	52	70

Source: Abu Dhabi National Oil Company – ADNOC



Table 2.5: Export of Refined Petroleum Products

(Thousand Metric Tons)

Type of Product	2010	2015	2016	2017	2018	2019
Total	8,288	20,564	23,204	24,673	34,822	32,816
LPG	-	1,471	1,126	-	-	-
Unleaded Gasoline	-	6	10	12	9	174
Naphtha	4,269	7,733	9,658	9,214	9,853	9,569
Jet fuel / Kerosene	3,219	5,433	6,155	5,992	8,476	7,859
Gas oil / Diesel	679	3,863	4,606	4,715	7,935	9,373
Heavy fuel Oil / S.R.Residue	121	2,057	1,496	4,371	8,186	2,779
Lubricants	-	-	152	370	363	361
Others	-	-	-	-	-	2,701

Source: Abu Dhabi National Oil Company – ADNOC

Natural Gas

- The natural gas production in Abu Dhabi Emirate was 2,824,432 million cubic feet in 2019.

Table 2.6: Natural Gas Production

(Million cubic feet)

Year	2010	2015	2016	2017	2018	2019
Production						
Annual	2,174,057	2,733,804	2,727,711	3,096,178	2,987,621	2,824,432
Daily	5,956	7,490	7,453	8,483	8,185	7,738

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

Table 2.7: Production and Export of Gas Products

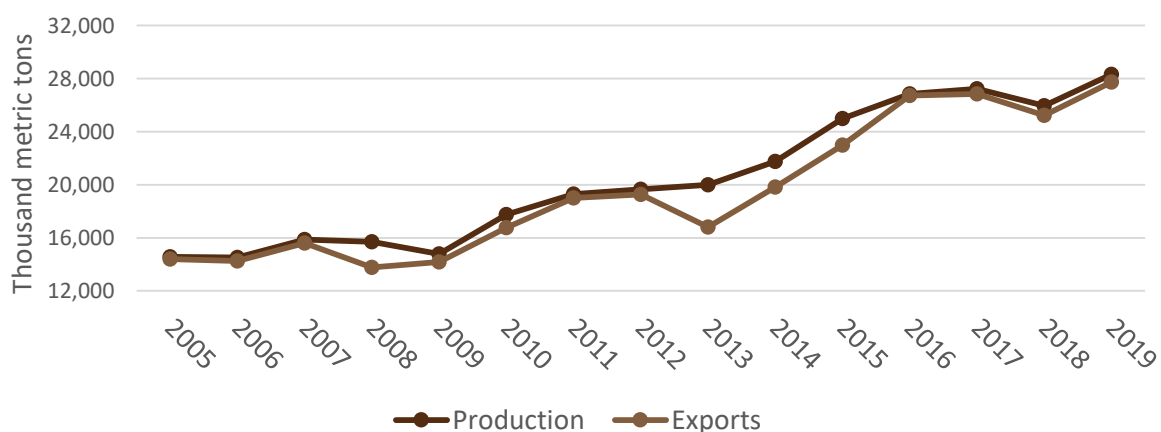
(Thousand Metric Tons)

Product type	2017		2018		2019	
	Production	Exports	Production	Exports	Production	Exports
Total	27,237	26,845	25,947	25,232	28,321	27,738
LNG	5,831	5,565	5,601	5,418	5,937	5,888
Propane	5,702	5,573	5,198	5,159	5,919	5,327
Butane	5,100	4,875	4,689	4,498	5,185	4,408
Pentane (plus)	3,980	4,148	3,663	3,547	4,168	4,512
Others (Sulfur)	6,624	6,684	6,797	6,610	7,112	7,603

Source: Abu Dhabi National Oil Company – ADNOC

Note: Excluding condensates

Figure 10: Production and Export of Gas Products



Explanatory Notes

Glossary

This report contains certain terms specific to Energy and Water and necessary when analyzing the Energy and Desalinated Water statistics of Abu Dhabi Emirate. They include the following terms:

Electricity capacity planned:

The design capacity to generate electricity or the maximum capacity of the production plant, data are provide annually from Department of Energy.

Fuel Consumption of Electricity and Water Activity:

Amount of fuel consumed for production of Electricity and desalinated water, data are provide annually from Department of Energy by type of fuel.

Total electricity production from renewable energy:

The amount of renewable electricity from the energy from natural sources, inexhaustible and constant need of conversion of natural energy to other easy to use mediation techniques, such as solar, wind, water, tides, data are provided annually.

Total available desalinated water:

Production of Abu Dhabi plants of desalinated water plus Supply from Al Fujairah Station, data are provide annually from Department of Energy.

Percentage of Desalinated Water Consumption:

This data refers to the ratio of desalinated water consumption by each of the sectors used by distribution companies, namely: the domestic, and commercial, government, agricultural, and industrial by region, data are provide annually from Department of Energy.

Average daily production of crude oil:

Total annual production of crude oil divided by days of the year, data are provide annually from Abu Dhabi National Oil Company - ADNOC.

Percentage of refining products sales within state:

Percentage of sales within state of petroleum products to the total production of petroleum products, data are provide annually from Abu Dhabi National Oil Company - ADNOC.



Data sources

Data are obtained from Abu Dhabi National Oil Company – ADNOC, and Department of Energy, The data are processed and passed to Statistic Centre – Abu Dhabi for further editing and compilation.

Abbreviations used

EMAL: Emirates Aluminium

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.gov.ae>

The next annual release is expected in November 2021 for 2020 data.



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