مـركـز الإحـصـاء
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Introduction

This report presents statistics of energy and environment in the Emirate of Abu Dhabi for the year 2012, compromising statistics of water and electricity production sector and oil and gas sector. The main sources for these statistics are 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 Explanatory Notes section at the end of this report provides an explanation of the key terms and technical concepts used in the compilation of energy and environment statistics. Readers are encouraged to refer to that section in conjunction with reading the statistics and information outlined in the report.

Water and electricity statistics

Water and electricity production sector has a great significance among the various economic sectors, given its big role in the provision of basic services that are necessary for Citizens, Non-Citizens in additional to other economic activities. Therefore, the Emirate of Abu Dhabi pays attention to the development of this sector.

"Water and Electricity" sector saw a remarkable growth after establishing the Abu Dhabi Water and Electricity Authority (ADWEA) in March 1998, a public supervisory body responsible for implementing government policy regarding water and electricity sector in the Emirate.

(ADWEA) is serving about 2.3 million inhabitants in the Emirate of Abu Dhabi, living over approximately 67,340 square kilometers, and equivalent to 87 percent of the total area of the United Arab Emirates. In 2012, the total electricity production for the Emirate of Abu Dhabi, except Fujairah stations, was equivalent to 10,867 MW, while the total capacity of water desalination was approximately 683 million gallons per day.

Electricity generation

In 2012, the total electricity production by companies was 50,381 GWH, an increase of 98 percent during the whole period since 2005, of which about 3,264 GWH being transferred to Northern Emirates, as shown in table (1.1). Electricity consumption in Abu Dhabi Emirate also increased by 85 percent during the aforesaid period reaching a total consumption of 47,117 GWH in 2012, including internal electrical consumption by power stations and technical losses through the network.

Table 1.1: Electrical power statistics

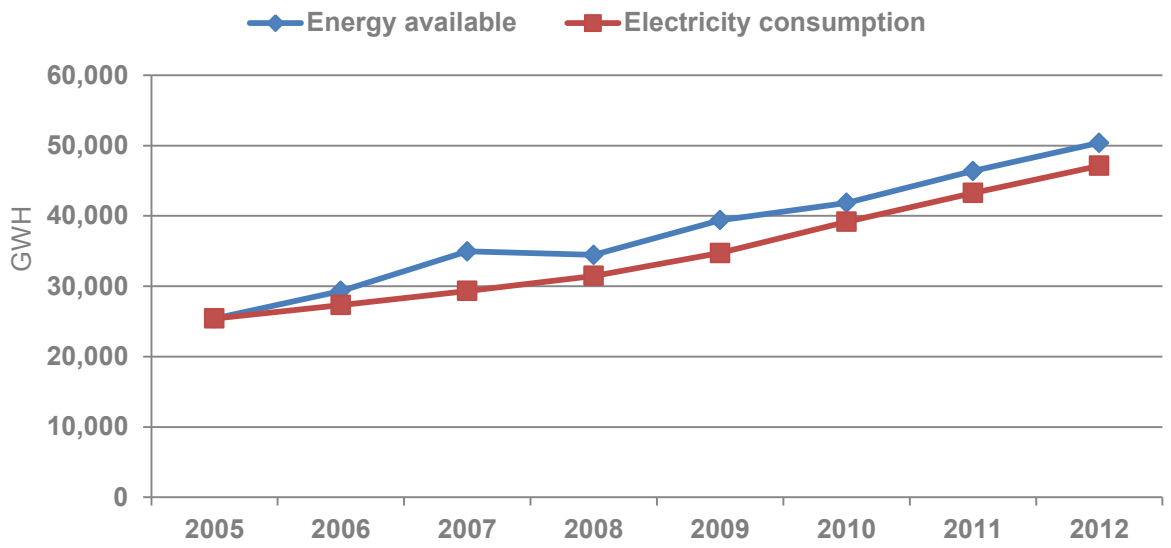
MWH

Item	2005	2009	2010	2011	2012
Total electricity production by companies	25,423,723	39,219,090	41,712,189	46,314,248	50,378,419
Net electricity transferred from EMAL & TAKREER	139	182,934	146,594	52,655	2,828
Total	**25,423,862**	**39,402,024**	**41,858,783**	**46,366,903**	**50,381,247**
Electricity exports to northern emirates	-	4,685,857	2,685,643	3,115,984	3,264,421
Electricity consumption in the emirate of AD *	25,423,862	34,716,166	39,173,140	43,250,919	47,116,826
Electrical consumption per capita	18.50	19.01	19.91	20.01	20.18
Electricity planned capacity (MW)	7,242	9,249	9,247	10,875	10,867

Source: Abu Dhabi Water and Electricity Company

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

Figure (1): Total Electricity power production*



Source: Abu Dhabi Water and Electricity Company

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

Fuel consumption of the water and electricity activity

The demand for electricity and water production increases due to population and economic growth, leading to more fuel burn that is associated with the production of electricity. Power plants use different types of fuel to generate electricity, such as natural gas, crude oil, gas oil (diesel), and fuel oil. Due to economic and environmental considerations, natural gas is the main fuel used in power generation in the Emirate of Abu Dhabi, constituting 99.69 percent of the total fuel types used. In 2012, total fuel consumption in power plants increased by 5.7 percent than 2011, reaching a total of 574,709 Billion BTU, as shown in table (1.2).

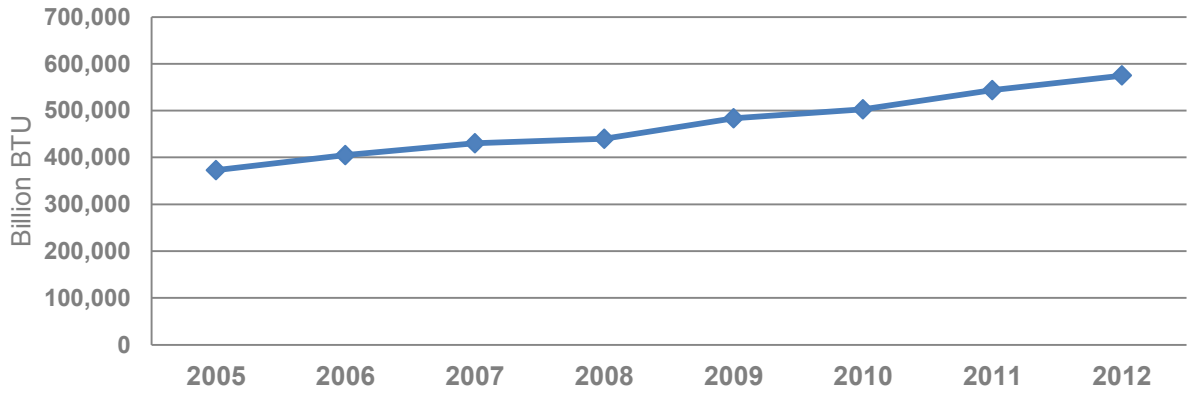
Table 1.2: Fuel Consumption of the water and electricity activity

Billion BTU

Item	2005	2009	2010	2011	2012
Total	**372,818**	**483,597**	**502,487**	**543,643**	**574,709**
Natural gas	370,973	469,726	467,126	528,114	574,499
Crude oil	1,287	7,783	21,918	6,062	0
Gas oil	557	5,239	13,439	9,467	210
Fuel oil	1	849	4	0	0

Source: Abu Dhabi Water and Electricity Company

Figure (2): Fuel Consumption of the water and electricity activity



Source: Abu Dhabi Water and Electricity Company

Electricity generated by solar energy

By the end of 2012, electricity production from solar energy reached about 18,682 MWH out of which 66 percent was transmitted to the distribution network in Abu Dhabi Emirate and 34 percent was consumed internally by Masdar city.

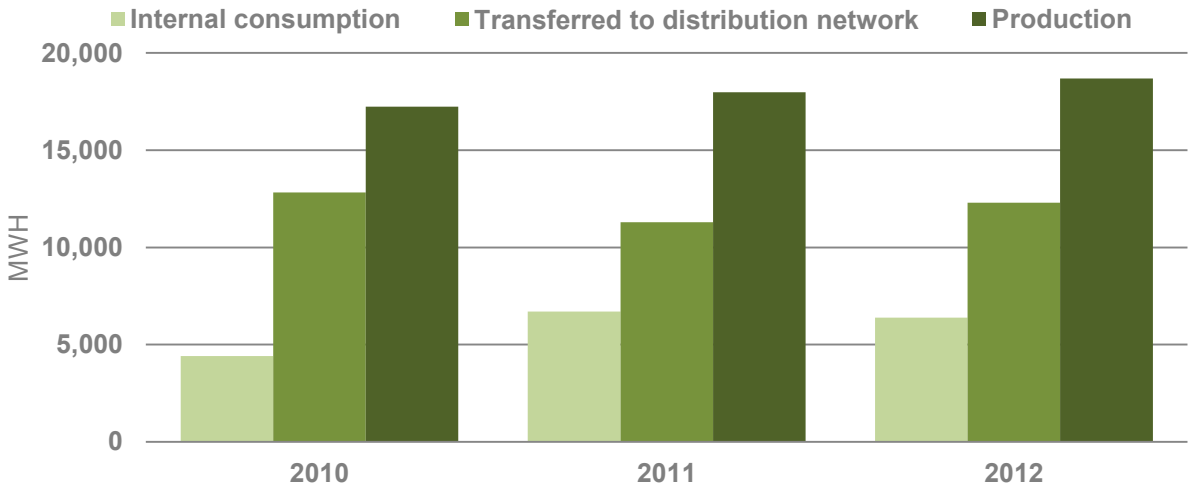
Tabl1.3: Electricity Generation and Consumption from Solar Energy

MWH

Item	2010	2011	2012
Electricity internal consumption	4,411	6,695	6,379
Electricity transferred to distribution network	12,828	11,291	12,303
Electricity production	**17,239**	**17,986**	**18,682**

Source: Abu Dhabi Future Energy Company – Masdar.

Figure (3): Production and internal consumption of solar energy plants



Source: Abu Dhabi Future Energy Company – Masdar.

Electricity consumption

The data presented in the table (1.4) shows that electricity consumption in Abu Dhabi Emirate reached 47,117 GHW in 2012. Abu Dhabi region consumed the largest share 62 percent, followed by Al Ain 21 percent and Al Gharbia 17 percent.

The household sector consumed 31 percent of the total, as shown in table (1.5), followed by commercial sector and government sector. It is worth mentioning that some large industrial facilities contributes in providing the network with their excess of electricity, as these in industrial facilities have their own power plants. TAKREER, Emal and some oil production companies, for example.

Table 1.4: Electricity consumption by region

MWH

Region	2005	2009	2010	2011	2012
Total consumption*	**25,423,862**	**34,716,166**	**39,173,140**	**43,250,919**	**47,116,826**
Abu Dhabi	16,158,411	22,062,262	24,850,010	26,897,768	29,237,489
Al Ain	6,849,131	8,474,342	9,081,380	9,341,749	9,816,642
Al Gharbia	2,416,320	4,179,562	5,241,750	7,011,402	8,062,695

Source: Abu Dhabi Distribution Company and Al Ain Distribution Company

*Consumption includes internal electrical consumption by power stations and technical losses through the network

Table 1.5: Percentage of electricity consumption by sector

%

Sector	2008	2009	2010	2011	2012
Total	**100**	**100**	**100**	**100**	**100**
Domestic	39.6	37.7	35.9	30.7	30.5
Commercial	30.8	31.7	32.1	28.8	29.8
Government	16.9	16.2	16.1	25.1*	23.9
Agriculture	9.1	9.2	8.2	7.0	6.1
Industry	2.4	3.7	7.2	8.0	9.3
Other Sectors	1.2	1.4	0.6	0.4	0.3

Source: Abu Dhabi Distribution Company, Al Ain Distribution Company

*Note: New meters were installed from 2008 and the cumulative reading of those meter were billed in 2011 for Al Gharbia (Al Marfa)

Table 1.6: Percentage of electricity consumption by region and sector - 2012

%

Sector	Abu Dhabi	Al Ain	Al Gharbia
Domestic	63.4	30.5	6.1
Commercial	83.5	13.3	3.2
Government	52.4	17.2	30.4
Agriculture	6.0	68.8	25.2
Industry	70.0	6.0	23.9
Other Sectors	80.3	5.5	14.2

Source: Abu Dhabi Distribution Company, Al Ain Distribution Company

Production of desalinated water

Table (1.7) shows the growth in the production of desalinated water in Abu Dhabi Emirate which reached 1,084.7 MCM in 2012, an increase of 46.2 percent compared with 2005, and an increase of 8.6 percent compared with 2011.

Table 1.7: Production of desalinated water

Million cubic meters

Item	2005	2009	2010	2011	2012
Total of available desalinated water	**742.1**	**961.2**	**962.8**	**999.1**	**1084.7**
Production	636.9	845.3	834.5	854.6	883.4
Supply from Al - Fujairah station	105.2	115.9	128.3	144.6	201.3

Source: Abu Dhabi Water and Electricity Company

Consumption of desalinated water

Table (1.8) shows the annual consumption of desalinated water in Abu Dhabi Emirate reaching about 1,059.2 MCM in 2012, with a daily average consumption of 2.89 MCM and a daily per capita average consumption of 1.24 cubic meters. By region, Abu Dhabi region came first consuming about 56.5 percent of the total water consumed followed by Al Ain and Al Gharbia regions with 31.7 and 11.8 percent respectively.

Table 1.8: Consumption of desalinated water

Million cubic meters

Year	Annual consumption	Average daily consumption
2005	667.1	1.83
2009	790.00	2.16
2010	872.95	2.39
2011	961.51	2.63
2012	1,059.20	2.89

Source: Abu Dhabi Water and Electricity Company, Statistics Centre - Abu Dhabi.

Table 1.9: Percentage of desalinated water consumption by region sector - 2012

%

Sector	Abu Dhabi	Al Ain	Al Gharbia
Domestic	56.5	31.7	11.8
Commercial	78.6	9.6	11.8
Government	66.9	19.5	13.6
Agriculture	14.5	82.3	3.2
Industry	80.4	10.7	8.9
Other Sectors	54.5	37.4	8.1

Source: Abu Dhabi Distribution Company, Al Ain Distribution Company

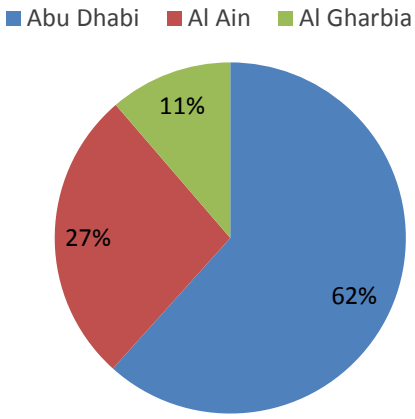
Table 1.10: Consumption of desalinated water by region

Million cubic meters

Region	2005	2009	2010	2011	2012
Total consumption	**667.0**	**790.0**	**873.0**	**961.5**	**1,059.20**
Abu Dhabi	413.9	490.2	529.0	592.6	653.05
Al Ain	161.2	190.9	232.2	259.1	286.36
Al Gharbia	92.0	108.9	111.7	109.9	119.79

Source: Abu Dhabi Water and Electricity Company

Figure (4): Consumption of desalinated water by region - 2012



Source: Statistics Center – Abu Dhabi

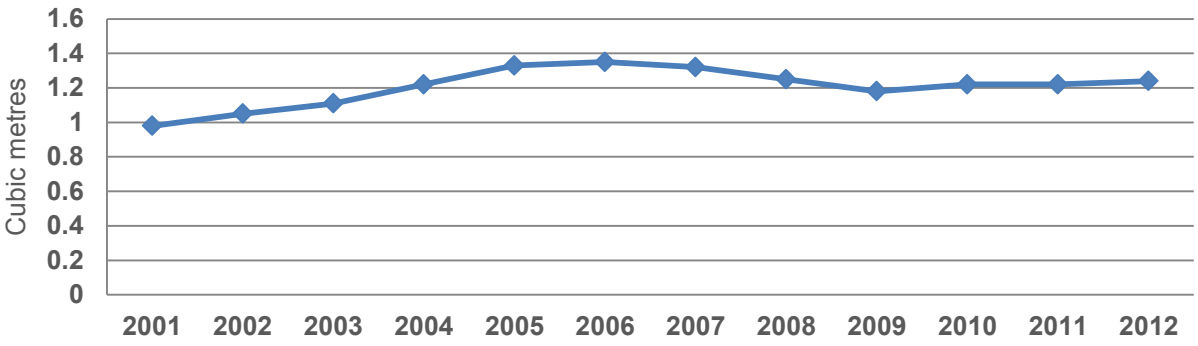
Table 1.11: Percentage of desalinated water consumption by sector

%

Sector	2008	2009	2010	2011	2012
Domestic	68.4	43.7	55.2	54.3	51.8
Commercial	9.6	15.3	15.5	15.7	13.7
Government	16.9	32.8	22.4	22.2	26.5
Agriculture	3.4	5.2	4.0	3.2	5.4
Industry	0.7	1.4	1.5	1.9	1.7
Other Sectors	1.1	1.6	1.4	2.7	1.0

Source: Abu Dhabi Distribution Company, Al Ain Distribution Company

Figure (5): Per capita average daily consumption of desalinated water



Source: Statistics Center – Abu Dhabi

Carbon dioxide emissions

Since 2005, the water and electricity production sector in the Emirate of Abu Dhabi is witnessing in general a decrease in per capita carbon dioxide emissions which reached in 2012 about 13.3 tons. For the same year, total emissions of carbon dioxide from the sector reached about 30.95 million tons.

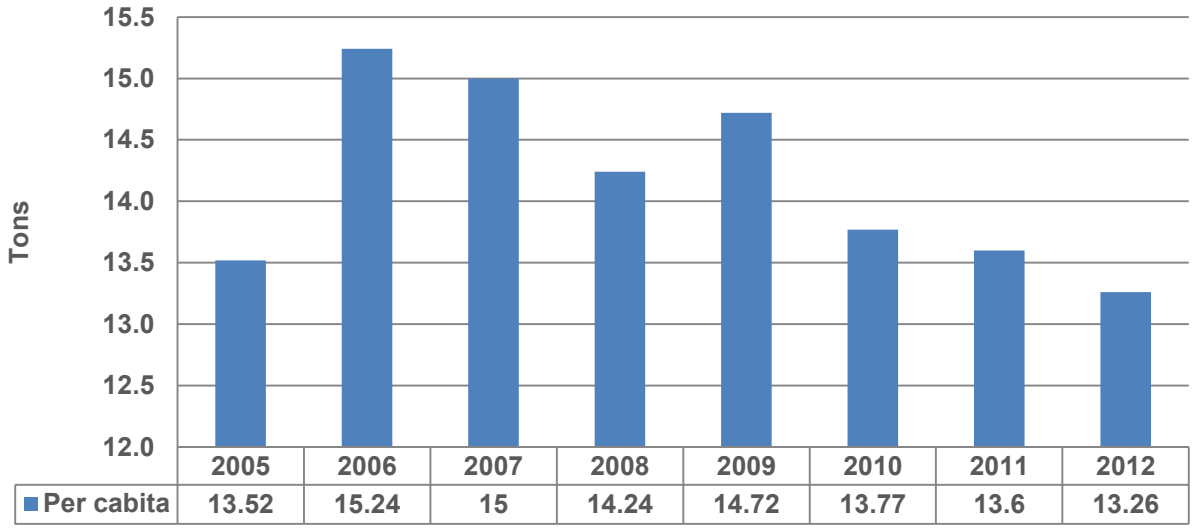
Table 1.12: Carbon dioxide emissions - water and electricity production sector

Million tons

Source	2005	2009	2010	2011	2012
Total	**19.76**	**26.88**	**27.10**	**28.79**	**30.95**
Arabian Power Company	7.25	7.23	8.04	7.23	6.85
Shuweihat CMS International Power Company	2.31	5.25	5.31	4.92	5.02
Emirate s CMS Power Company	2.66	2.39	2.49	2.38	2.55
Gulf Total Tractebel Power Company	3.05	3.87	4.08	4.24	3.99
Taweelah Asia Power Company	3.97	7.00	7.17	8.20	8.60
Al Mirfa Power and Distillation Plant	0.45	1.14	0.01	0.78	1.12
Zayed City Energy Plant	0.07	0.00	-	-	-
Ruwais Power Company	-	-	-	1.03	2.80

Source: Abu Dhabi Water and Electricity Authority - ADWEA

Figure (6): Per capita carbon dioxide emissions - water and electricity production sector



Source: Statistics Center – Abu Dhabi

Air pollutant total emissions

Table (1.13) reflects the total air pollutant emissions, which add up together the total emissions of sulphur dioxide, nitrogen oxides, and volatile organic compounds. Total air pollutant emissions from water and electricity production sector fluctuated over the years since 2005 between increasing and decreasing, however the general trend of these emissions is gradually decreasing. In 2012, the total emissions decreased by 10.8 percent from 15,863 tons in 2011 to 14,152 tons in 2012.

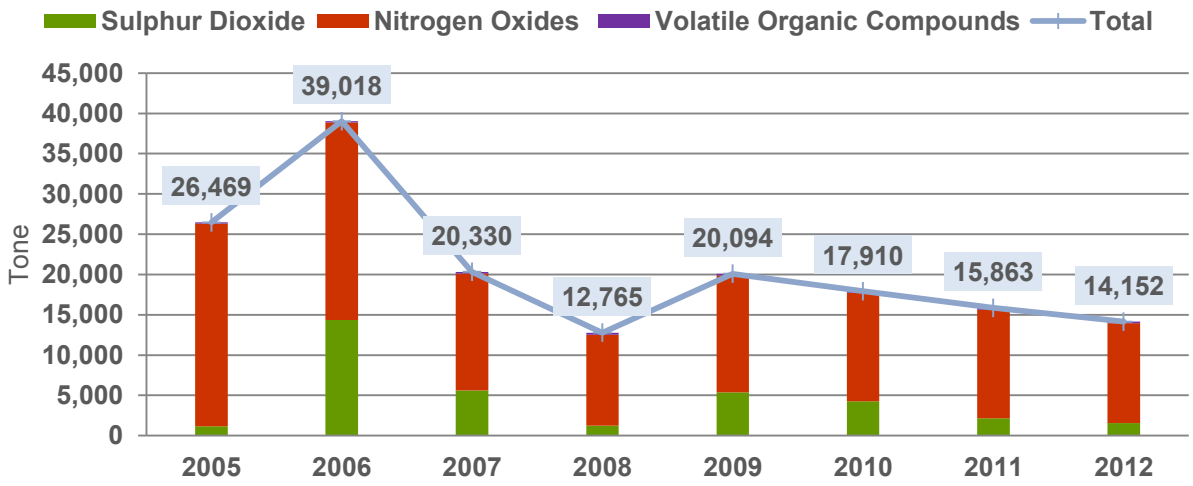
Table 1.13: Air pollutant total emissions - water and electricity production sector

Tons

Year	Total	Sulphur Dioxide	Nitrogen Oxides	Volatile Organic Compounds
2005	**26,469.40**	1,141.07	25,161.27	167.06
2009	**20,093.70**	5,383.04	14,479.63	231.03
2010	**17,910.12**	4,240.03	13,481.09	189.00
2011	**15,863.00**	2,134.00	13,497.00	232.00
2012	**14,151.89**	1,572.10	12,395.00	184.79

Source: Abu Dhabi Water and Electricity Authority – ADWEA.

Figure (7): Air pollutant total emissions - water and electricity production sector



Source: Abu Dhabi Water and Electricity Authority – ADWEA, Statistics Center – Abu Dhabi.

Occupational health and safety

In 2012, the number of Lost Time Injury Incidents in the companies working in water and electricity activity under ADWEA totaled 23 incidents, and there were four fatality incidents in the same year. 2012 witnessed one Road Traffic Incident and 7 Dangerous Occurrence. Lost Time Injury Frequency Rate (LTIFR) was 0.37 injuries for each one million working hours.

Table 1.14: Number of occupational health and safety incidents - water and electricity production sector

Item	2005	2009	2010	2011	2012
Fatality Incidents	1	3	6	0	4
Fatality Non Recordable	0	0	0	0	0
Disability Incident	0	0	1	0	1
Lost Time Injury Incidents	9	19	22	12	23
Medical Treatment Case	5	531	472	8	12
Restricted Workday Case	0	4	1	0	4
Journey Incident	0	3	0	-	1
Reporting Dangerous Occurrence	0	9	4	10	7
Occurrence of Occupational Disease	0	0	0	0	0
Road Traffic Incidents	44	8	3	1	1
Near miss	47	1,495	596	1,355	2,229

Source: Abu Dhabi Water and Electricity Authority - ADWEA

Table 1.15: Rate of injuries and incidents registered per million man-hours worked - water and electricity production sector

Item	2005	2009	2010	2011	2012
Number of Working Hours (*Million Hours*)	9.85	50.57	42.13	36.08	62.05
Lost Time Injury Frequency Rate (LTIFR)	0.91	0.38	0.52	0.33	0.37
Lost Time Injury Severity Rate (LTISR)	2.10	4.70	17.10	7.51	9.40
Total Reportable Case Frequency (TRCF)*	0.10	10.60	11.30	0.50	0.63

Source: Abu Dhabi Water and Electricity Authority - ADWEA

*Includes Fatal Accident Rate (FAR)

Oil and gas statistics

Oil and gas sector is deemed to be an important pillar in the economy of Abu Dhabi as it forms a huge share of its GDP. In 2012, Abu Dhabi produced 948,200 thousand barrels of crude oil, of which 873,515 thousand barrels were exported. The average prices of crude oil increased by 2.4 percent compared with 2011 reaching an average of 112.1 $/Barrel as shown in tables (2.1) and (2.2).

Crude oil production and exports

Exports of crude oil constituted about 92.1 percent of 2012 total production as shown in table (2.1). In 2012, the total production increased by 35,009 thousand barrels, an increase of 3.8 percent compared with 2011.

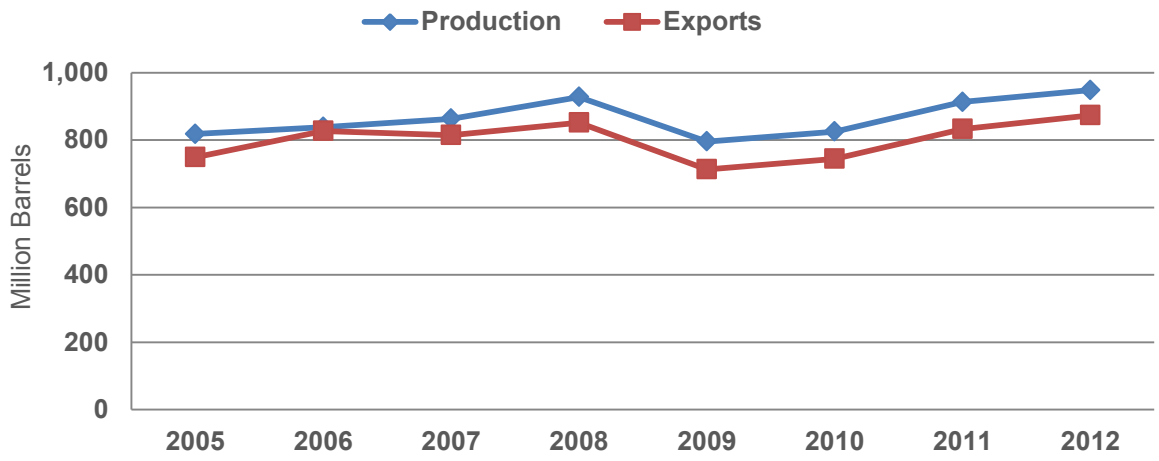
Table 2.1: Crude oil production and exports

Thousand barrels

Year	Production		Exports	
	Daily average	Annual production	Daily average	Annual exports
2005	2242	818,330	2,052	749,080
2009	2,181	795,991	1,953	712,994
2010	2,261	825,291	2,040	744,525
2011	2,502	913,191	2,282	833,070
2012	2,591	948,200	2,387	873,515

Source: Abu Dhabi National Oil Company - ADNOC .

Figure (8): Production and exports of crude oil



Source: Abu Dhabi National Oil Company - ADNOC

Crude oil prices

Figure (2.2) shows the average crude oil prices increasing from 109.5 US$ in 2011 to 112.1 US$ in 2012. Table (2.2) shows that the prices of all types of crude oil increased by the range of 2.0 and 3.3 percent. The crude oil produced from Murban recorded the highest increase at USD 113.0 per Barrel.

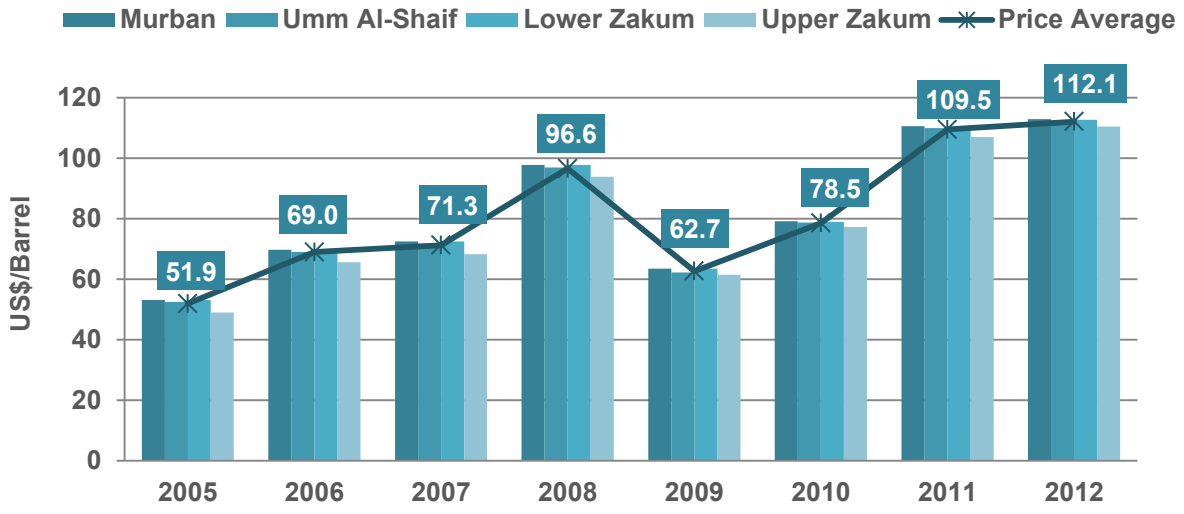
Table 2.2: Crude oil prices by type

US$/Barrel

Type of crude	2005	2009	2010	2011	2012
Murban	53.1	63.5	79.2	110.6	113.0
Umm Al Shaif	52.5	62.3	78.7	110.0	112.3
Lower Zakum	53.1	63.5	79.0	110.4	112.7
Upper Zakum	49.0	61.4	77.3	107.0	110.5

Source: Abu Dhabi National Oil Company - ADNOC .

Figure (9): Average prices of crude oil



Source: Abu Dhabi National Oil Company – ADNOC, Statistics Center – Abu Dhabi.

Petroleum products

Abu Dhabi's production of petroleum products decreased by 0.2 percent in 2012 compared with 2011. Table (2.3) shows the production of by type of product.

Exports of refined petroleum products in 2012 formed 48.4 percent of the total production, whereas sales to other Emirates accounted for about 50.4 percent of total domestic sales as shown in table (2.5).

Table 2.3 :Production of refined petroleum products

Thousand Metric Tons

Product Type	2005	2009	2010	2011	2012
Total	**18,034.0**	**17,461.0**	**19,223.0**	**20,702.0**	**20,658.4**
LPG	488.0	521.4	579.2	540.2	452.7
Unleaded gasoline	1,429.0	2,439.1	2,284.3	2,537.2	2,800.0
Naphtha	4,669.0	3,803.6	4,813.4	5,070.7	5,136.8
Jet Fuel / Kerosene	5,494.0	5,266.6	5,684.0	6,422.1	6,920.9
Gas Oil /diesel	4,217.0	4,367.2	4,775.1	5,024.4	4,441.9
Heavy fuel Oil / S.R.Residue	1,689.0	1,022.2	1,047.8	1,066.8	859.8
Lubricants	48.0	-	-	-	-
Sulphur	-	41.1	38.9	40.9	46.3

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

Table 2.4: Domestic sales of refined petroleum products

Million imperial gallons

Product type	Abu Dhabi Emirate			Other Emirates		
	2010	2011	2012	2010	2011	2012
Total	**7,539**	**8,111**	**8,307**	**2,551**	**2,141**	**2,103**
LPG	152	149	167	-	-	-
Unleaded gasoline	2,419	2,586	2,801	-	-	-
Jet fuel / Kerosene	1,915	1,965	2,121	523	582	591
Gas oil / diesel	3,032	3,377	3,181	1,141	492	688
Heavy fuel Oil / S.R.Residue	18	32	27	887	1,067	824
Lubricants	2	2	9	-	-	-

Source: Abu Dhabi National Oil Company – ADNOC, TAKREER

Table 2.5: Production and domestic dales of refined petroleum products

Thousand metric tons

Item	2005	2009	2010	2011	2012
Production					
Quantity	18,034	17,461	19,223	20,702	20,658
Daily average	49.4	47.8	52.7	56.7	56.4
Domestic sales					
Quantity	3,473	9,360	10,091	10,252	10,410
Daily average	9.5	25.6	27.7	28.1	28.4
Exports					
Quantity	11,049	7,391	8,288	10,002	10,006
Daily average	30.3	20.2	22.7	27.4	27.3
Refining capacity (Thousand barrels/daily)	**480**	**500**	**505**	**505**	**505**

Source: Abu Dhabi National Oil Company – ADNOC

Table 2.6: Export of refined petroleum products

Thousand metric tons

Type of Product	2005	2009	2010	2011	2012
Total	**11,035**	**7,390**	**8,288**	**10,002**	**9,917**
Naphtha	4,628	3,608	4,269	5,209	5,137
Jet Fuel / Kerosene	3,968	2,815	3,219	3,806	4,207
Gad oil / Diesel	1,783	725	679	987	572
Fuel oil	656	242	121	na	89*

Source: Abu Dhabi National Oil Company – ADNOC

* Export prices of S.R residue only

Natural Gas

GASCO and ADGAS, two subsidiary companies of ADNOC, are engaged in the extraction of natural gas which has several uses in the Emirate. From natural gas, liquefied fuels and products such as propane, butane and pentane are produced, with most of them being exported. Such fuels are also used in the industry of steel, aluminum and cement. Some of the natural gas is injected back into oil wells in order to increase their production and stabilize their oil reserves.

Table 2.7: Natural gas production

Million cubic feet

Year	2005	2009	2010	2011	2012
Production					
Annual	2,069,550	1,777,720	2,174,057	2,305,798	2,791,815
Daily	5,670	4,870	5,956	6,317	7,628

Source: Abu Dhabi National Oil Company – ADNOC.

Table 2.8: Production and exports of liquefied natural gas products by product type*

Thousand metric tons

Product type	2005		2009		2010		2011		2012	
	Production	Exports	Production	Exports	Production	Exports	Production	Exports	Production	Exports
Total	**14,566**	**14,404**	**14,778**	**14,193**	**17,759**	**16,765**	**19,582**	**19,231**	**19,910**	**19,606**
LNG	5,647	5,434	5,467	5,410	6,091	5,857	5,888	5,759	5,760	5,601
Propane	3,422	3,444	2,920	2,871	3,679	3,613	4,509	4,423	4,734	4,643
Butane	3,450	3,455	2,832	2,689	3,489	3,336	4,171	4,037	4,317	4,239
Pentane (plus)	2,047	2,071	1,822	1,843	2,427	2,342	2,772	2,822	2,888	2,835
Others (sulphur)	-	-	1,738	1,380	2,072	1,616	2,243	2,190	2,212	2,288

Source: Abu Dhabi National Oil Company - ADNOC

Note: Excluding condensates.

Petrochemical products

Table (2.9) shows Abu Dhabi basic petrochemical products including polyethylene and fertilizers such as urea and ammonia. In 2012, polyethylene shared about 45.3 percent of total volume of petrochemical production whereas urea fertilizer and polypropylene constituted about 27.6 and 25.1 percent respectively.

Table 2.9: Production and Exports of petrochemical products

Metric tons

Product type	2010		2011		2012	
	Production	Exports	Production	Exports	Production	Exports
Total	**2,014,568**	**1,324,453**	**2,789,528**	**2,147,658**	**2,780,681**	**2,124,668**
Ammonia	472,011	75,034	465,159	49,134	397,815	41,649
Urea fertilizer	688,045	557,600	704,590	662,804	627,951	587,122
Polyethylene	716,700	648,411	1,041,747	893,618	1,118,186	963,397
Polypropylene	137,812	43,408	578,032	542,101	636,729	532,500

Source: Abu Dhabi National Oil Company – ADNOC.

Table 2.10: Domestic sales of petrochemical Products

Metric tons

Product type	2007	2009	2010	2011	2012
Total	**113,879**	**81,851**	**99,848**	**145,645**	**256,778**
Urea fertilizer	62,355	29,299	48,394	45,836	34,283
Polyethylene	51,524	52,552	47,617	69,524	126,888
Polypropylene	-	-	3,837	30,285	95,606

Source: Abu Dhabi National Oil Company – ADNOC.

Carbon dioxide emissions

The amount of carbon dioxide emissions generated from oil and gas sector totaled 62.4 million tons, where emissions caused by the exploration and production sector decreased by 3.3 million tons, meanwhile the per capita carbon dioxide emissions in 2012 was 11.3 tons.

Table 2.11: Carbon dioxide emissions - oil and gas sector

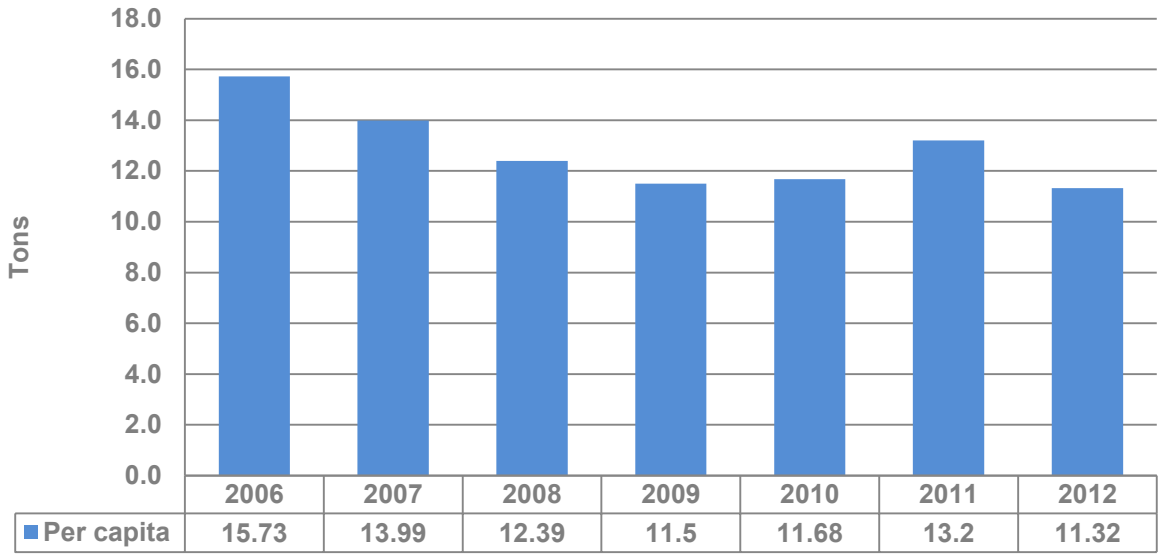
Million tons

Business sector	2009	2010	2011	2012
Total	**21.0**	**23.0**	**27.9**	**26.4**
Exploration and production	14.0	15.0	17.1	16.6
Independent operators*	1.0	1.0	1.0	0.7
Marketing & refining	5.0	4.0	6.3	5.7
Petrochemicals	1.0	3.0	3.4	3.4

Source: Abu Dhabi National Oil Company – ADNOC.

* Shared Services included.

Figure 10: Per capita carbon dioxide emissions - oil and gas sector



Source: Statistics Centre – Abu Dhabi.

Air pollutant total emissions - oil and gas sector

The period (2004-2012) experienced a decline in the total amount of emissions, which include sulfur dioxide emissions, nitrogen oxides and volatile organic compounds resulting from the economic activities related to oil and gas sector. In 2012, the total amount of gas emitted was about 541,303 tons.

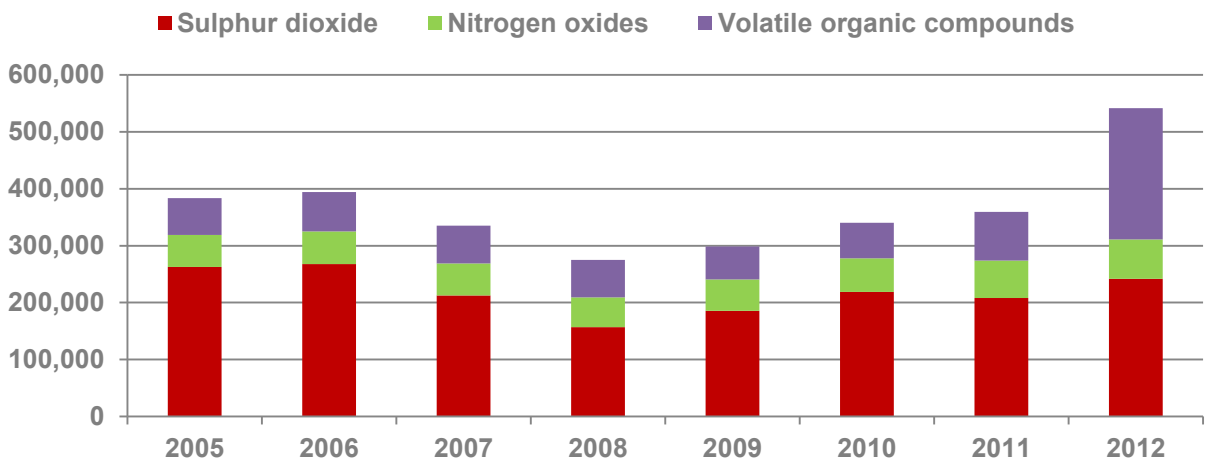
Table 2.12: Total air pollutant emissions - oil and gas sector

Tons

Year	Total	Sulphur dioxide	Nitrogen oxides	Volatile organic compounds
2005	**383,679**	262,539	56,225	64,915
2009	**298,651**	185,870	54,782	57,999
2010	**340,093**	219,022	58,901	62,170
2011	**359,550**	208,025	66,105	85,420
2012	**541,303**	241,799	69,283	230,221

Source: Abu Dhabi National Oil Company – ADNOC.

Figure (11): Total air pollutant emissions - oil and gas sector



Source: Abu Dhabi National Oil Company – ADNOC.

Occupational health and safety- oil and gas sector

In 2012, the number of working hours in the Abu Dhabi National Oil Company totaled 865.0 million hours, an increase of 47.0 percent compared with 2011. This leads to an increase in the number of injuries and incidents in general. However, when analyzing incidents rates as in table (2.14), it is clear that total reportable case frequency (TRCF) decreased to 0.6 and fatality incidents to 1.4 incidents for each one million working hours.

Table 2.13: Number of occupational health and safety incidents - oil and gas sector

Item	2005	2009	2010	2011	2012
Fatality incidents	6	7	4	18	12
Fatality non recordable	-	7	11	19	23
Disability incident	0	1	0	17	3
Lost time injury incidents	53	75	66	110	89
Medical treatment case	123	93	144	279	388
Restricted workday case	41	44	58	1	68
Journey incident	-	-	-	-	-
Occurrence of occupational disease	-	-	-	-	397
Road traffic incidents	171	135	177	284	365
Near miss	-	24,419	30,186	50,624	58,788*

Source: Abu Dhabi National Oil Company - ADNOC
* Includes serious near miss incidents.

Table 2.14: Rate of injuries and incidents registered per million man-hours worked - oil and gas sector

Item	2005	2009	2010	2011	2012
Number of working hours (*million hours*)	171	313	355	588.54	865.0
Lost time injury frequency rate (LTIFR)	0.31	0.24	0.19	0.19	0.10
Lost time injury severity rate (LTISR)	-	-	-	-	-
Total reportable case frequency (TRCF)	1.27	0.68	0.76	0.58	0.63
Fatal accident rate (FAR)	3.50	2.23	1.13	3.06	1.39

Source: Abu Dhabi National Oil Company - ADNOC

Explanatory Notes

Glossary

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

Carbon dioxide (CO2)

Colorless, odorless and non-poisonous gas that results from fossil fuel combustion, and is normally a part of ambient air. It is also produced in the respiration of living organisms (plants and animals), and considered to be the main greenhouse gas, contributing to climate change [(2)].

Carbon dioxide emissions (per capita)

Carbon dioxide emissions per capita is the total amount of carbon dioxide emitted by a country as a consequence of human (production and consumption) activities, divided by the population of the country. This include emissions of carbon dioxide include emissions from consumption of solid, liquid and gas fuels; cement production; and gas flaring. National reporting to the United Nations Framework Convention on Climate Change, which follows the Intergovernmental Panel on Climate Change guidelines, is based on national emission inventories and covers all sources of anthropogenic carbon dioxide emissions as well as carbon sinks (such as forests). Carbon dioxide emissions per capita are calculated by dividing carbon dioxide emissions by the number of people in the national population [(1)].

Nitrogen Oxides (NOx)

Product of combustion from transportation and stationary sources. It is a major contributor to acid dispositions and the formation of ground level ozone in the troposphere [(2)].

Sulphur Dioxide

Heavy, pungent colorless gas formed by the combustion of fossil fuels. It is harmful to human beings and vegetation, and contributes to the acidity in precipitation [(2)].

Desalinated water

Total volume of water obtained from desalination of (i.e., removal of salt from) seawater and brackish water [3].

Occupational health and safety

A discipline concerned with protecting the health and safety of people engaged with work by fostering a safe illness and accident-free environment. In other words, it is a set of procedure and rules within legislative framework aiming at protecting man from injures and possessions from being damaged or lost.

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

$	United States Dollars
AD	Abu Dhabi Emirate
ADNOC	Abu Dhabi National Oil Company
ADWEA	Abu Dhabi Water and Electricity Authority
BTU	British Thermal Unit
EMAL	Emirates Aluminum
GWH	Gigawatt per Hour
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MWH	Megawatt per Hour
na	Not Available
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

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

The next release is expected in November 2014 for 2013 data.

References

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2. United Nation Statistics Division (UNSD). (1997). Glossary of environment statistics (F, No 67). New York
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Tel: +971 2 8100000 - Fax: +971 2 8100800

P.O. Box: 6036, Abu Dhabi, U.A.E.