



مركز الإحصاء  
STATISTICS CENTRE

# Environment

## in Figures 2016

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# Environment In Figures

## Introduction

This report presents statistics on key environmental figures in the Emirate of Abu Dhabi for the year 2016, comprising statistics of climate, air quality, carbon dioxide emissions, desalinated water consumption, Wastewater and non-hazardous solid waste. The main sources for these statistics are the National Centre for Meteorology and Seismology, Environment Agency – Abu Dhabi, Abu Dhabi National Oil Company, Abu Dhabi Water and Electricity Authority, Abu Dhabi Water and Electricity Company, and the Centre of Waste Management – Abu Dhabi.

# Climate



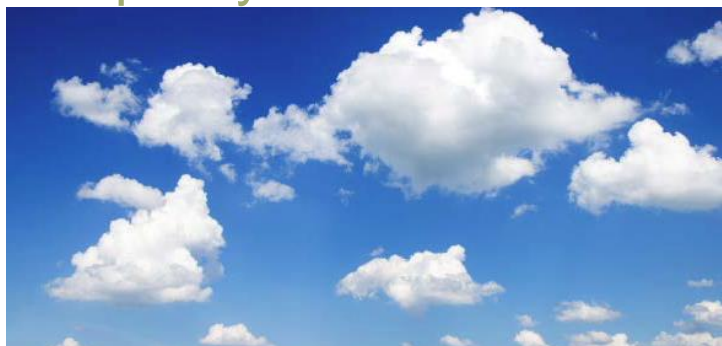
Abu Dhabi Emirate constitutes about 87% of the total area of the UAE, excluding the islands. The Tropic of Cancer runs through its southern part giving it a tropical desert climate with hot summers, moderate winters, and scant rainfall. In 2016, average temperatures ranged between 18.9°C in January to 37.1 °C in July. Average annual rainfall reached 60.7 mm, while average relative humidity was %50.1. Average atmospheric pressure was 1010 Hectopascal.

**Table (1): Climate by month, 2016**

<b>Average temperature (C°)</b>	18.9	20.7	24.0	27.3	33.0	34.9	37.0	37.1	34.3	30.3	25.6	21.1
<b>Average relative humidity (%)</b>	64.2	58.3	55.2	42.9	36.2	40.2	43.3	37.4	48.5	51.9	58.5	65.1
<b>Average rainfall (mm)</b>	5.0	1.8	43.9	4.9	0.0	0.0	0.5	1.1	0.7	2.8	0.1	0.0
<b>Average atmospheric pressure (Hectopascal)</b>	1019.2	1018.8	1014.1	1011.6	1005.9	1001.6	997.8	1000.0	1004.7	1011.3	1017.0	1018.6
	January	February	March	April	May	June	July	August	September	October	November	December

Source: Statistic Centre - Abu Dhabi

# Air quality



Air pollution affects human's health and other living organisms; therefore, laws enacted and standards are set to maintain air quality. In 2016, the annual average concentration of PM<sub>10</sub> ranged between 90.8 and 155.9 mcg/m<sup>3</sup> in the urban areas of the Emirate, while the annual average concentration of Sulphur Dioxide ranged between 6.4 and 15.4 mcg/m<sup>3</sup>, which is below the national maximum allowable limit (60 mcg/m<sup>3</sup>).

**Table (2): Air pollutants annual average concentration in ambient air by region, 2016**  
(Mcg/m<sup>3</sup>)

Indicator (maximum allowable limit)	Sulphur dioxide (60 mcg/m <sup>3</sup> )	Nitrogen dioxide	Ground level ozone	Particulate matter – PM10
<b>Abu Dhabi</b>				
Khalifa School	11.2	27.8	91.2	127.1
Bani Yas School	9.4	32.2	70.9	130.0
Khalifa City	10.4	28.2	93.3	155.9
AlMaqtaa	10.8	38.7	80.7	136.4
<b>Al Ain</b>				
Al Ain School	6.4	32.4	65.0	111.7
Suwaihan	8.1	13.2	90.2	90.8
Zakher	8.1	35.2	-	94.0
Al Tawia	6.4	33.4	92.7	100.1
<b>Al Dhafra</b>				
Bida Zayed	15.4	14.0	95.9	128.7

Source: Environment Agency - Abu Dhabi.

# Carbon Dioxide Emissions



Studies have confirmed the impact of carbon dioxide emissions on global warming, and despite the increasing demand on energy and fossil fuels, there are attempts to find alternative renewable energy to cut down greenhouse gases emissions. In 2016, Carbon Dioxide emissions from the two key energy sectors – oil and gas and water and electricity production – reached 68.7 million tons.

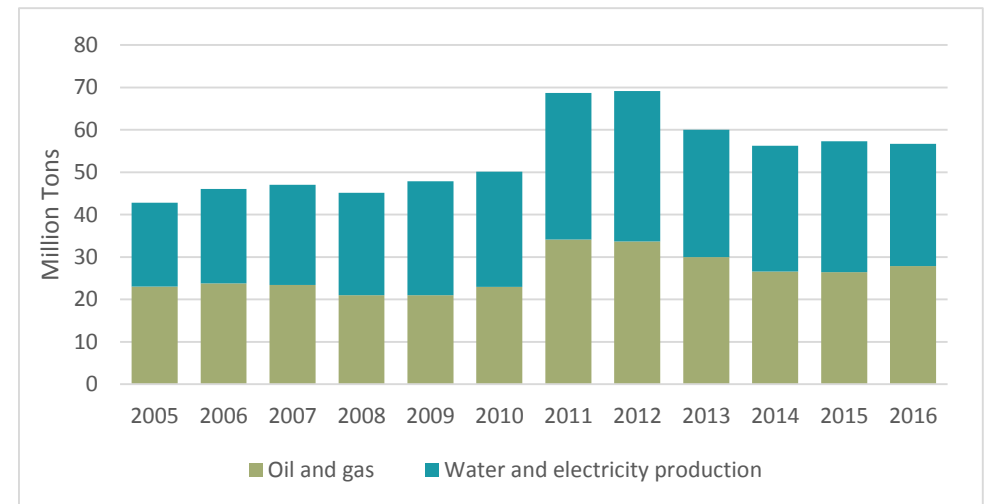
**Table (3): Carbon dioxide emissions from energy sectors**

(Million tons)

Sector	2011	2012	2013	2014	2015	2016
Oil and gas	27.9	26.4	26.6	30.0	33.7	34.1
Water and electricity production	28.8	30.9	29.6	30.0	35.4	34.6
<b>Total</b>	<b>56.7</b>	<b>57.3</b>	<b>56.2</b>	<b>60.0</b>	<b>69.1</b>	<b>68.7</b>

Source: Abu Dhabi National Oil Company, Abu Dhabi Water and Electricity Authority.

**Figure (1): Carbon dioxide emissions from energy sectors**



Source: Statistic Centre - Abu Dhabi

# Desalinated water Consumption



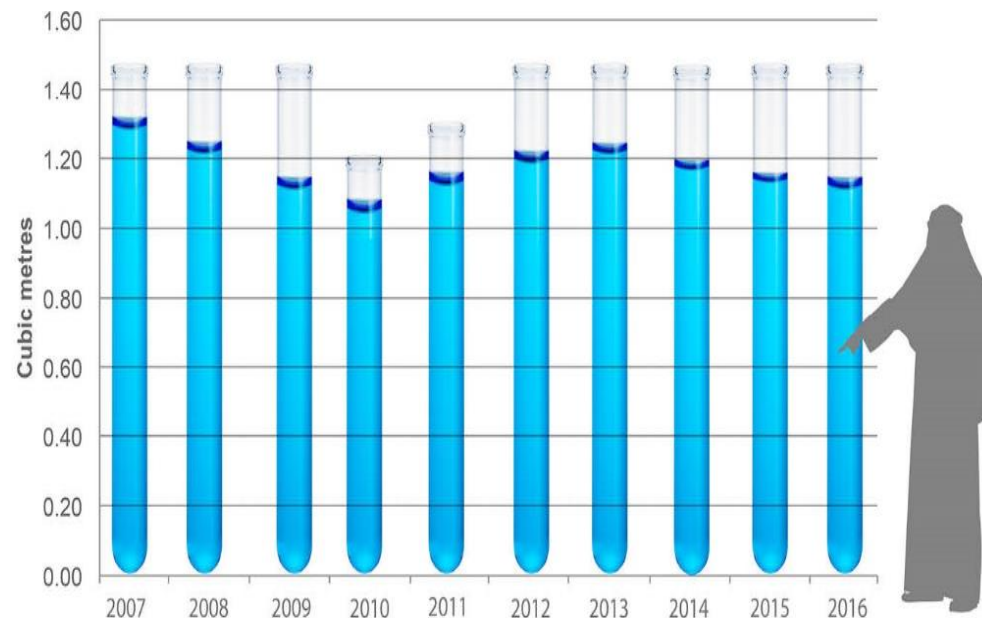
The Emirate of Abu Dhabi consumed about 1,116 MCM in 2016, with a daily average of 3.04 MCM and per capita average daily consumption of 1.09 cubic meters. Consumption of desalinated water increased by 53% from 2006 and this rise is the result of increasing demand on water from various sectors.

**Table (4): Consumption of desalinated water**

Year	Desalinated water consumption	Average daily usage	Average daily usage per capita (cubic meter)
2006	722	1.98	1.32
2007	757	2.07	1.25
2008	774	2.12	1.14
2009	790	2.16	1.06
2010	873	2.39	1.14
2011	962	2.63	1.22
2012	1,059	2.90	1.25
2013	1,083	2.97	1.0
2014	1,126	3.08	1.16
2015	1,154	3.16	1.14
2016	1,116	3.04	1.09

Source: Abu Dhabi Water and Electricity Company

**Figure (2): Per capita average daily consumption of desalinated water**



Source: Statistic Centre - Abu Dhabi.



# Wastewater



In 2016, total amount of treated wastewater produced in Abu Dhabi Emirate about 325.9 million cubic meter with increment Decreased of 1.9% from 2015. 167.0 million Cubic meter of treated wastewater reused which is 51.2% of total wastewater treated.

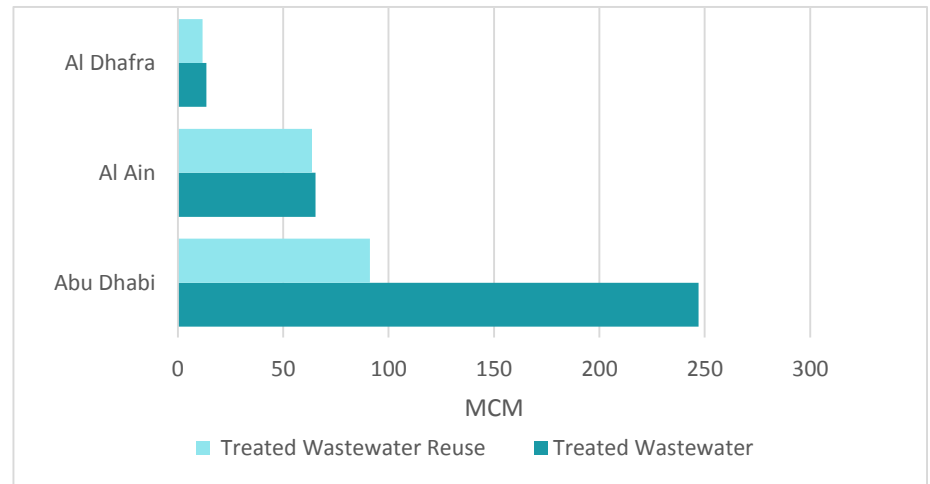
**Table (5): Wastewater Quantity**

(Million cubic metre)

Item	2012	2013	2014	2015	2016
Treated wastewater	265.4	283.0	312.9	332.3	325.9
Treated wastewater reuse	138.8	153.8	191.7	170.8	167.0

Source: Abu Dhabi Sewerage Services Company

**Figure (3): Quantity of treated wastewater and reused treated wastewater by region, 2016**



Source: Statistic Centre - Abu Dhabi

## Solid waste



The total amount of non- hazardous solid waste disposed in 2016 reached 9.6 million tons, where Industrial and commercial waste constituted the largest share with 47%. Construction and demolition waste totaled to about 2.7 million tons, whereas municipal waste reached about 1.7 million during the same year.

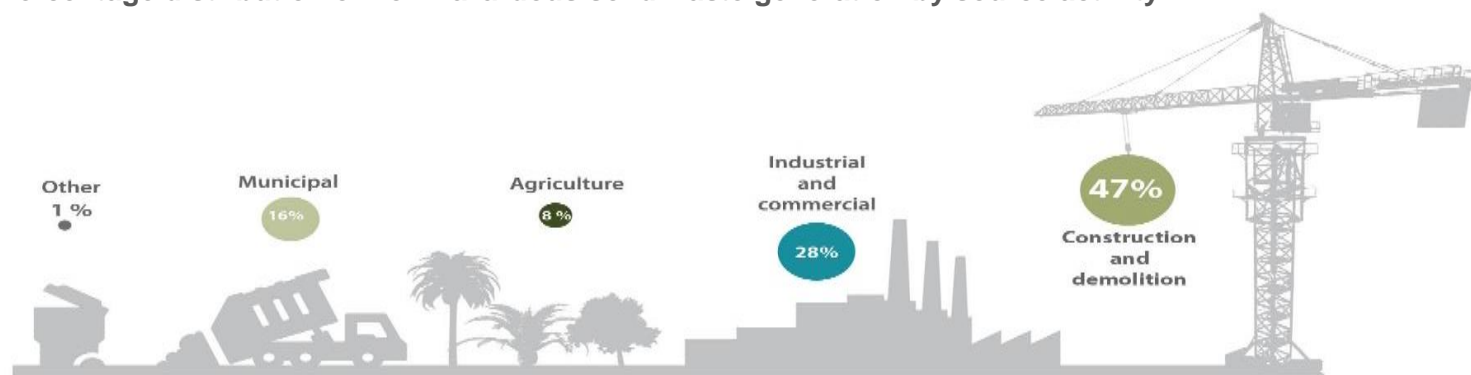
**Table (6): Non-hazardous solid waste generation by region and source activity, 2016**

Region	Total	Daily average	Construction and demolition	Industrial and Commercial	Agricultural	Municipal	Other *
<b>Total</b>	<b>9,598,969</b>	<b>26,227</b>	<b>4,532,379</b>	<b>2,692,768</b>	<b>745,644</b>	<b>1,678,983</b>	<b>66,499</b>
<b>Abu Dhabi</b>	<b>6,498,583</b>	17,756	2,524,436	2,675,649	55,495	1,176,505	66,499
<b>Al Ain</b>	<b>1,863,332</b>	5,091	1,116,692	-	500,447	246,194	-
<b>Al Dhafra</b>	<b>1,237,054</b>	3,380	891,251	17,119	189,703	138,981	-

Source: The Centre of Waste Management - Abu Dhabi , ADNOC

\*Includes oil and gas sector waste

**Figure (4): Percentage distribution of non-hazardous solid waste generation by source activity**



Source: The Centre of Waste Management - Abu Dhabi , ADNOC

\*Includes oil and gas sector waste





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