

مركز الإحصاء  
STATISTICS CENTRE

# Environment

in Figures 2012

Release date:  
August, 2013



# Environment In Figures



## Introduction

This report presents key environmental statistics on the Emirate of Abu Dhabi for the year 2012, comprising statistics of climate, air quality, carbon dioxide emissions, desalinated water consumption 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 scanty rainfall. In 2012, average temperatures ranged between 18.1 °C in January to 37 °C in July. Average annual rainfall was 12.6 mm, while average relative humidity was 53 percent. Average atmospheric pressure hovered around 1,008.4 hectopascal.

**Table 1: Monthly climate data, 2012**

<b>Average temperature</b> (Degrees Celsius)	18.1	19.3	22.7	27.3	33.7	34.3	37.0	36.7	34.5	29.8	25.3	21.3
<b>Average relative humidity</b> (%)	64.5	60.7	52.9	47.9	39.4	44.0	46.2	49.7	47.7	53.5	60.9	68.7
<b>Average rainfall</b> (Millimetres)	0.0	0.0	0.2	6.1	0.2	0.0	0.2	1.3	0.2	0.0	2.0	2.5
<b>Average atmospheric pressure</b> (Hectopascal)	1,017.2	1,015.8	1,014.1	1,009.7	1,005.3	999.4	995.9	998.1	1,003.2	1,011.5	1,014.3	1,016.5
	January	February	March	April	May	June	July	August	September	October	November	December

# Air Quality



Air pollution affects human's health and the biology other living organisms; therefore laws are enacted and standards are set to monitor air quality. In 2012, the annual average concentration of suspended particulate matter (PM10) ranged between 156 and 175 mcg/m<sup>3</sup> in the urban areas of the Emirate, while the annual average concentration of sulphur dioxide ranged between 3-8 mcg/m<sup>3</sup>, which is below the national maximum allowable limit (60 mcg/m<sup>3</sup>).

## Average concentrations of air pollutants annual in ambient air by region and location of monitoring station, 2012

(Microgram/m<sup>3</sup>)

Indicator (maximum allowable limit)	Abu Dhabi		Al Ain	Al Gharbia
	Khalifa school	Baniyas School	Al Ain School	Bida Zayed
Sulphur dioxide (60 mcg/m <sup>3</sup> )	6	3	5	8
Nitrogen dioxide	33	29	27	22
Ground level ozone	55	48	44	49
Particulate matter – PM10	175	174	156	168

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 for energy and fossil fuels, there are attempts to find alternative renewable energy to cut down emissions of greenhouse gases. In 2012, carbon dioxide emissions from the two key energy sectors – oil and gas and water and electricity production – reached 57.3 million tons.

## Carbon dioxide emissions from energy sectors

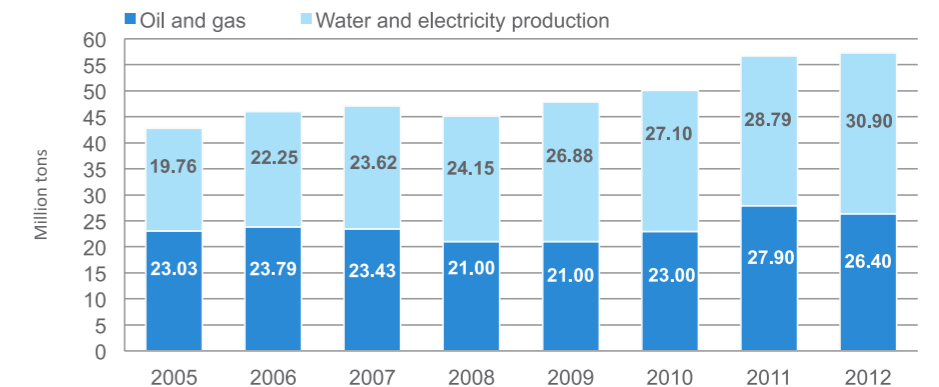
(Million tons)

Sector	2005	2011	2012
Oil and gas	23.03	27.90	26.4
Water and electricity production	19.76	28.79	30.9
<b>Total</b>	<b>42.79</b>	<b>56.69</b>	<b>57.3</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 1,059.2 MCM in 2012, with a daily average of 2.90 MCM and a per capita average daily consumption of 1.24 cubic metres. Consumption of desalinated water has increased by 58.8 percent since 2005 as a result of increasing demand for water from various sectors.

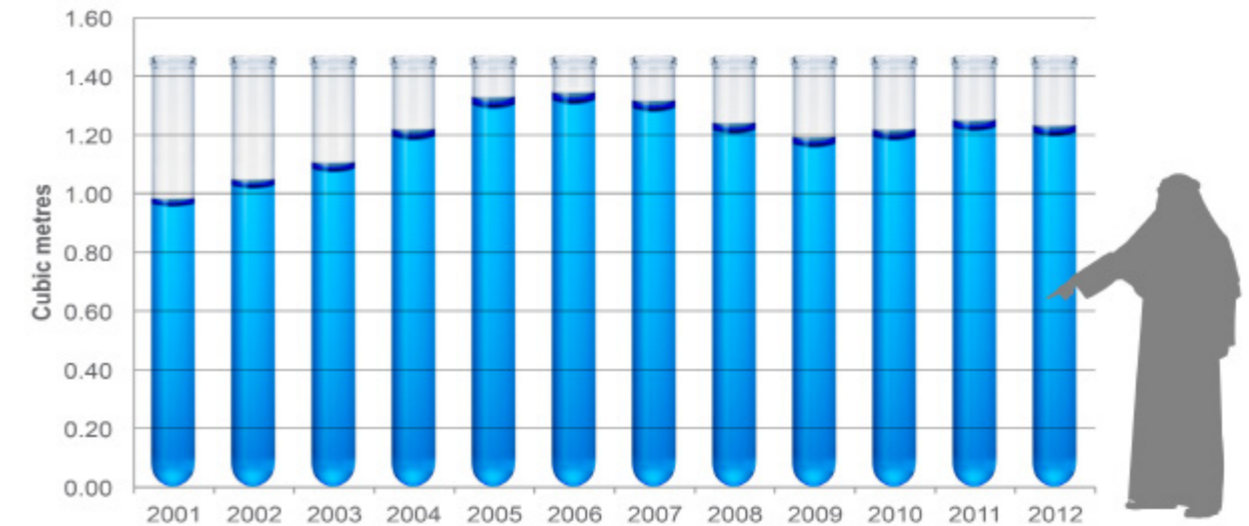
## Desalinated water consumption

(Million cubic metres)

Year	Annual consumption	Average daily water consumption	Per capita average daily consumption (Cubic metres)
2005	667	1.83	1.33
2006	722	1.98	1.35
2007	757	2.07	1.32
2008	774	2.11	1.25
2009	790	2.16	1.19
2010	873	2.39	1.22
2011	962	2.63	1.25
2012	1,059	2.90	1.24

Source: Abu Dhabi Water and Electricity Company (ADWEC) - Statistic Centre - Abu Dhabi

Figure 2: Per capita average daily consumption of desalinated water



Source: Statistic Centre - Abu Dhabi

# Solid waste



The total amount of non-hazardous solid waste disposed in 2012 was 12.8 million tons, the largest proportion of which (75 percent) was generated by construction and demolition activities. Commercial and industrial waste totalled about 804 thousand tons, compared with 1.3 million tons for the municipal waste generated during the same year.

## Non-hazardous solid waste generation by region and source activity, 2012 \*

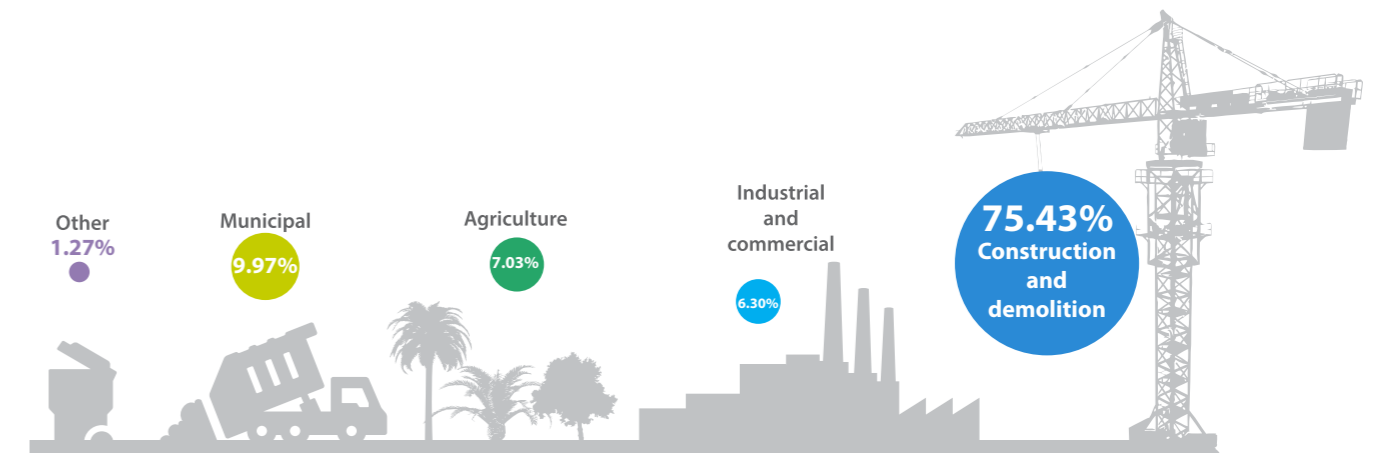
(Tons)

Source	Total	Abu Dhabi	Al Ain	Al Gharbia
<b>Total</b>	<b>12,765,163</b>	<b>8,527,782</b>	<b>2,771,098</b>	<b>1,466,283</b>
<b>Daily average</b>	34,973	23,364	7,592	4,017
Construction and demolition	9,628,309	6,694,919	1,881,040	1,052,350
Industrial and commercial waste	804,173	450,210	201,523	152,440
Agricultural waste	898,258	345,305	383,236	169,717
Municipal waste	1,272,668	892,895	293,042	86,731
Other*	161,755	144,453	12,257	5,045

Source: The Centre of Waste Management - Abu Dhabi

\*Includes sludge and oil and gas sector waste

## Figure 3: Percentage distribution of non-hazardous solid waste generation by source activity, 2012



Source: Statistic Centre - Abu Dhabi



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