

## 6.2. Environment

In light of the rapid economic and urban development and parallel population growth, environment protection acquires a special significance in the agenda and strategic vision of Abu Dhabi Government as it becomes more profoundly recognized as an indispensable requirement if a sustainable, balanced and comprehensive social development is to be achieved.

Large-scale landscaping and tree plantation attest to the formidable effort being made and the achievements attained in this regard.

Although the Emirate of Abu Dhabi is one of the largest exporters of oil worldwide, Abu Dhabi was fast to adopt clean, renewable energy sources, emerging as one of the countries at the forefront of the move towards reducing reliance on conventional energy sources, the underlying cause of increasing carbon dioxide emissions, global warming and climate change. The attention paid to environmental issues by the Emirate of Abu Dhabi has raised the emirate's international profile, especially in the fields of nature conservation, desertification control, protection of land and sea wildlife, establishment of nature reserves and international promotion of research to preserve various species of endangered animals and birds.

As a result, there is an increasing interest on the part of SCAD in providing environmental statistics covering various areas such as climate, air quality, pollutant emissions, water statistics, health and occupational safety and waste statistics. These statistics support policy makers to achieve a sustainable environment in the Emirate of Abu Dhabi.

In 2015, the average minimum temperature of Abu Dhabi Emirate was 22.8 °C, while the average maximum temperature was 35.0 °C. Average annual rainfall increased from 38.5 mm in 2014 to 87.4 mm in 2015. Average minimum relative humidity was 29% while average maximum relative humidity was 77%. Average atmospheric pressure was 1,010 hPA. The maximum daily solar radiation exceeded 8,900 Watt/m<sup>2</sup>/h during summer months.

Regarding air quality, the concentrations of air pollutants in 2015 were within their permissible limits. Annual average concentration of particulate matter, with a diameter of 10 micron, ranged between 101.9 and 144.0 mcg/m<sup>3</sup> in the urban areas of the Emirate.

The quantity of treated wastewater in 2015 was 332.3 MCM, of which Abu Dhabi region accounted for approximately 76%, where Al Gharbia region did not exceed 4% of the total.

In 2014, more than 900 people were diagnosed with transmitted diseases through food and food poisoning, caused by eating food or beverages contaminated with bacteria or viruses. People diagnosed with food poisoning accounted for the largest percentage (38%) of the total number of patients, followed by viral hepatitis A at 24%.

Regarding waste statistics, the Emirate of Abu Dhabi generated a daily average up to 23 thousand tons of waste in 2015, which is up to approximately 8.4 million tons of non-hazardous waste annually. Industrial and commercial waste accounted for the largest percentage 40% of the total amount of waste generated in the Emirate. Regarding waste statistics, the Emirate of Abu Dhabi generated a daily average up to 27 thousand tons of waste in 2014, which is up to approximately 9.9 million tons of non-hazardous waste annually. Construction and demolition accounted for the largest percentage 46% of the total amount of waste generated in the Emirate.

## Location and Area

The Emirate of Abu Dhabi is located in the far west and southwest part of the United Arab Emirates along the southern coast of the Arabian Gulf between latitudes 22°40' and around 25° north and longitudes 51° and around 56° east. The total area of the Emirate is 67,340 square kilometres, occupying about 87% of the total area of the UAE, excluding islands. The territorial waters of the Emirate embrace about 200 islands off its 700 kilometres coastline.

The topography of the Emirate is dominated by low-lying sandy terrain dotted with sand dunes exceeding 300 metres in height in some areas southwards. The eastern part of the Emirate borders the western fringes of Al-Hajar Mountains. Hafeet Mountain, Abu Dhabi's highest elevation, rising about 1,300 metres, is located south of Al Ain city.

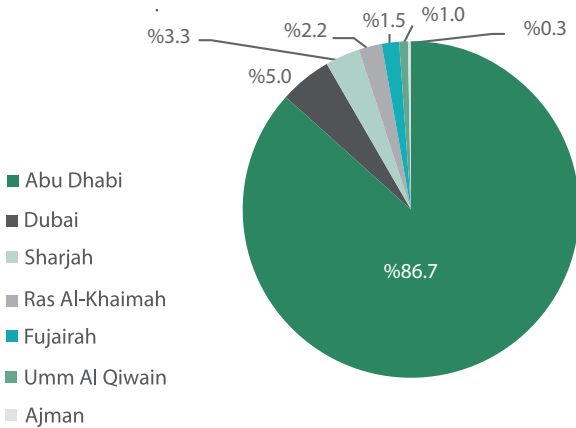
### 6.2.1 Area of the United Arab Emirates \*

Emirate	Sq. mile	Sq. kilometre	%
<b>Total</b>	<b>30,000</b>	<b>77,700</b>	<b>100</b>
Abu Dhabi	26,000	67,340	86.7
Dubai	1,500	3,885	5.0
Sharjah	1,000	2,590	3.3
Ras Al-Khaimah	650	1,684	2.2
Fujairah	450	1,165	1.5
Umm Al Qiwain	300	777	1.0
Ajman	100	259	0.3

Source: Ministry of Economy

\* Excluding islands

Figure 6.2.1 Area of the United Arab Emirates



Source: Ministry of Economy

\* Excluding islands

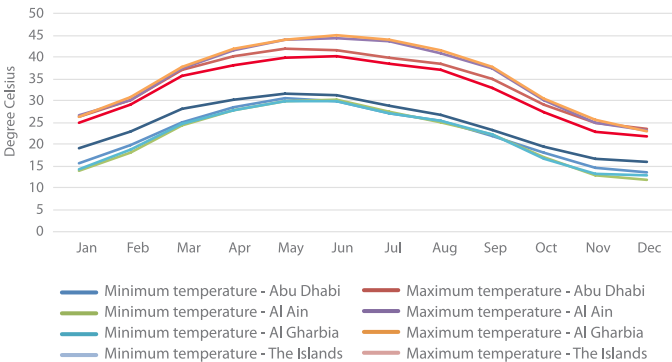
# Climate

The Emirate of Abu Dhabi is located in the tropical dry region. The Tropic of Cancer runs through the southern part of the Emirate, giving its climate an arid nature characterised by high temperatures throughout the year, and a very hot summer. The Emirate's high summer temperatures are associated with high relative humidity, especially in coastal areas. Abu Dhabi has warm winters with occasionally low temperatures. The air temperatures show a variations between the coastal strip, the desert interior and areas of higher elevation, which together make up the topography of the Emirate.

Abu Dhabi receives scant rainfall but totals vary greatly from year to year. Seasonal northerly winds blow across the country, helping to ameliorate the weather, when they are not laden with dust, in addition to the brief moisture-laden south-easterly winds. The winds often vary between southerly, south-easterly, westerly, northerly and north westerly.

Another characteristic of the Emirate's weather is the high rate of evaporation of water due to several factors, namely high temperature, wind speed, and low rainfall. The National Center of Meteorology and Seismology provides Statistics Center - Abu Dhabi with climate data from stations throughout the Emirate of Abu Dhabi. The Statistics Centre - Abu Dhabi then process it and produce climate data classified into four main areas Abu Dhabi, Al Ain, Al Gharbia and the islands.

**Figure 6.2.2 Average maximum and minimum air temperature by month and region, 2015**



**Source:** Statistics Centre - Abu Dhabi

## 6.2.2 Air Temperature by Month - Abu Dhabi Region , 2015

(Degree Celsius)

Month	Absolute minimum	Average minimum	Absolute maximum	Average maximum
January	5.7	13.9	31.5	24.8
February	7.8	16.4	37.4	28.2
March	8.8	18.1	41.7	29.7
April	13.1	21.0	44.8	33.8
May	14.5	25.5	46.2	39.8
June	22.6	28.5	50.1	40.1
July	24.4	30.6	49.1	43.3
August	24.4	30.8	48.7	44.0
September	21.4	27.9	47.7	39.7
October	19.9	25.4	44.2	36.5
November	12.0	21.0	36.5	30.9
December	7.9	15.9	31.5	25.8

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

## 6.2.3 Air Temperature by Month - Al Ain Region, 2015

(Degree Celsius)

Month	Absolute minimum	Average minimum	Absolute maximum	Average maximum
January	4.4	12.0	31.5	25.0
February	5.6	15.4	37.4	28.2
March	8.5	17.6	40.2	31.1
April	12.2	20.9	45.2	37.4
May	18.9	26.1	48.4	41.7
June	24.3	28.2	50.7	43.5
July	26.4	31.1	49.6	44.7
August	25.6	30.6	50.2	44.2
September	22.3	27.3	48.5	41.3
October	17.6	24.3	45.7	37.4
November	13.0	19.0	37.3	30.6
December	8.4	14.2	33.7	26.1

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

### 6.2.4 Air Temperature by Month - Al Gharbia Region , 2015

(Degree Celsius)

Month	Absolute minimum	Average minimum	Absolute maximum	Average maximum
January	5.2	11.6	32.8	25.2
February	6.1	14.1	37.5	29.1
March	6.4	17.7	41.6	31.2
April	12.2	20.8	44.5	37.1
May	19.0	26.3	46.7	42.5
June	23.2	28.2	50.1	43.5
July	25.2	30.2	50.9	45.3
August	26.4	30.3	49.7	44.8
September	21.4	27.3	48.5	41.5
October	19.3	23.6	44.5	37.9
November	13.0	19.7	37.0	31.3
December	6.5	14.4	31.6	25.8

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

### 6.2.5 Air Temperature by Month - The Islands, 2015

(Degree Celsius)

Month	Absolute minimum	Average minimum	Absolute maximum	Average maximum
January	9.8	15.9	32.6	23.1
February	10.7	17.3	36.1	25.5
March	10.4	19.1	41.1	27.5
April	15.9	22.0	43.1	32.9
May	19.6	26.8	45.6	38.9
June	25.1	29.0	45.6	38.8
July	25.7	30.7	47.5	41.6
August	26.2	31.0	48.1	42.4
September	23.9	29.7	44.7	39.2
October	21.7	27.4	41.4	35.7
November	17.0	23.0	36.5	29.8
December	11.9	17.6	29.3	23.9

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

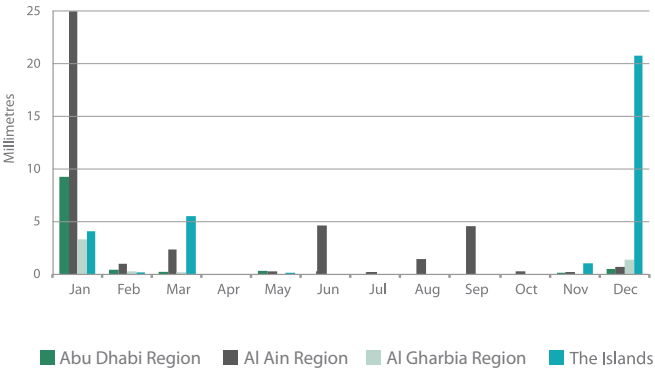
### 6.2.6 Average Rainfall by Month and Region, 2015

(Millimetres)

Month	Abu Dhabi Region	Al Ain Region	Al Gharbia Region	The Islands
January	8.9	24.8	3.3	4.0
February	0.1	1.1	0.1	0.1
March	0.2	2.2	0.2	5.7
April	0.0	0.0	0.0	0.0
May	0.0	0.0	0.0	0.1
June	0.0	4.6	0.1	0.0
July	0.0	0.2	0.3	0.0
August	0.0	1.4	0.0	0.0
September	0.0	4.4	0.0	0.0
October	0.0	0.1	0.0	0.0
November	0.2	0.0	0.1	1.0
December	0.7	0.8	1.8	21.1

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

**Figure 6.2.3 Average Rainfall by Month and Region, 2015**



**Source:** Statistics Centre - Abu Dhabi.

## 6.2.7 Rainfall in Abu Dhabi and Al Ain Regions by Month, 2015

(Millimetres)

Month	Abu Dhabi Region		Al Ain Region	
	Heaviest fall in one day	Total for month	Heaviest fall in one day	Total for month
January	24.4	35.6	47.4	223.2
February	0.2	0.4	2.0	9.8
March	0.2	0.7	13.0	20.2
April	0.0	0.0	0.0	0.0
May	0.0	0.0	0.0	0.0
June	0.0	0.0	25.8	41.3
July	0.0	0.0	1.4	1.4
August	0.0	0.0	4.4	12.7
September	0.0	0.0	20.2	39.9
October	0.0	0.0	0.4	1.0
November	0.4	0.6	0.0	0.0
December	1.6	2.8	3.4	7.6

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

## 6.2.8 Rainfall in Al Gharbia Region and The Islands by Month, 2015

(Millimetres)

Month	Al Gharbia Region		The Islands	
	Heaviest fall in one day	Total for month	Heaviest fall in one day	Total for month
January	7.4	19.7	12.8	15.8
February	0.4	0.4	0.2	0.2
March	0.8	1.2	8.0	17.1
April	0.0	0.0	0.0	0.0
May	0.0	0.0	0.2	0.2
June	0.6	0.6	0.0	0.0
July	0.9	1.5	0.0	0.0
August	0.0	0.0	0.0	0.0
September	0.0	0.0	0.0	0.0
October	0.0	0.0	0.0	0.0
November	0.6	0.6	1.4	3.0
December	6.8	10.8	49.8	63.4

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi



## 6.2.9 Average Atmospheric Pressure by Month and Region, 2015

(Hectopascal)

Month	Abu Dhabi Region	Al Ain Region	Al Gharbia Region	The Islands
January	1019.5	1019.9	1018.8	1020.3
February	1015.5	1015.7	1014.7	1015.3
March	1014.5	1015.1	1013.8	1015.0
April	1010.5	1010.9	1010.2	1011.3
May	1006.5	1006.9	1005.8	1007.0
June	1000.3	1000.3	999.7	1001.0
July	997.5	998.7	997.5	998.0
August	1002.1	1004.0	999.9	1003.9
September	1006.4	1006.9	1005.8	1006.8
October	1011.8	1012.2	1011.3	1012.3
November	1015.4	1016.0	1014.9	1016.3
December	1019.6	1019.9	1016.9	1020.8

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

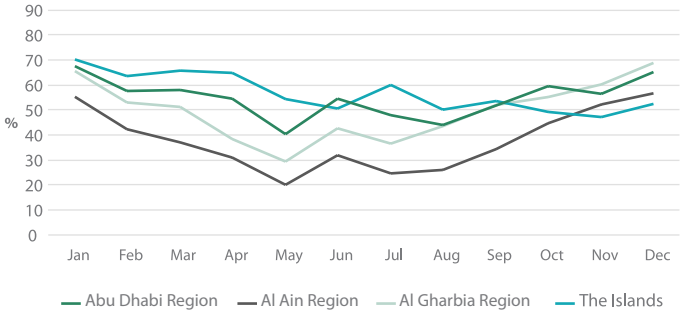
## 6.2.10 Average Relative Humidity by Month and Region, 2015

(%)

Month	Abu Dhabi Region	Al Ain Region	Al Gharbia Region	The Islands
January	65.5	54.8	64.3	68.7
February	55.3	43.6	52.5	63.0
March	55.8	38.2	50.3	64.7
April	54.5	31.2	38.0	54.3
May	41.3	21.1	30.0	49.3
June	54.3	31.1	41.3	59.0
July	46.3	25.5	37.2	50.2
August	43.3	26.8	43.2	53.0
September	54.5	33.3	52.0	48.7
October	60.0	43.1	55.6	49.5
November	57.0	51.5	61.5	48.6
December	63.9	56.8	68.7	51.5

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

**Figure 6.2.4 Average Relative Humidity by Month and Region, 2015**



**Source:** Statistics Centre - Abu Dhabi.

**6.2.11 Relative Humidity by Month - Abu Dhabi Region, 2015**

(%)

Month	Monthly average	Average minimum	Average maximum
January	65.5	39.0	86.3
February	55.3	28.8	79.3
March	55.8	29.3	78.8
April	54.5	28.0	78.8
May	41.3	17.5	67.3
June	54.3	28.5	79.0
July	46.3	19.8	71.8
August	43.3	17.8	67.3
September	54.5	26.3	78.5
October	60.0	33.3	81.3
November	57.0	35.5	76.5
December	63.9	42.6	82.1

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

### 6.2.12 Relative Humidity by Month - Al Ain Region, 2015

(%)

Month	Monthly Average	Average Minimum	Average Maximum
January	54.8	27.2	82.8
February	43.6	20.2	70.6
March	38.2	16.7	66.6
April	31.2	11.0	62.0
May	21.1	8.2	42.0
June	31.1	10.8	57.7
July	25.2	10.3	47.9
August	26.4	13.1	45.1
September	33.0	13.4	58.2
October	43.1	17.9	72.1
November	51.2	29.0	73.7
December	56.6	31.7	81.6

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

### 6.2.13 Relative Humidity by Month - Al Gharbia Region, 2015

(%)

Month	Monthly Average	Average Minimum	Average Maximum
January	64.3	36.5	90.0
February	52.5	24.2	83.3
March	50.3	25.8	80.5
April	38.0	16.2	69.2
May	30.0	13.2	55.8
June	41.3	18.3	69.3
July	37.2	15.7	64.7
August	43.2	19.5	68.7
September	52.0	22.4	81.2
October	55.6	27.0	83.8
November	61.5	38.2	85.0
December	68.7	44.3	90.5

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

### 6.2.14 Relative Humidity by Month - The Islands, 2015

(%)

Month	Monthly Average	Average Minimum	Average Maximum
January	68.7	27.6	85.3
February	63.0	18.5	84.0
March	64.7	23.2	85.0
April	54.3	15.2	79.7
May	49.3	12.0	77.3
June	59.0	19.2	81.3
July	56.7	15.2	82.3
August	59.7	16.8	82.3
September	58.7	18.6	80.0
October	61.3	23.0	79.7
November	61.7	27.0	75.7
December	68.8	31.6	82.6

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

### 6.2.15 Average Wind Speed by Month and Region, 2015

(Knot\*)

Month	Abu Dhabi Region	Al Ain Region	Al Gharbia Region	The Islands
January	10.8	8.4	10.5	13.8
February	13.8	12.1	13.2	11.3
March	13.5	12.6	13.8	17.0
April	12.8	11.8	13.8	17.0
May	13.3	12.4	12.6	15.3
June	14.8	13.2	14.2	16.0
July	12.5	12.2	13.2	15.0
August	12.9	12.3	11.8	13.5
September	12.3	11.0	12.2	11.7
October	11.8	10.3	10.8	13.7
November	12.5	10.3	11.8	17.3
December	11.9	10.4	12.1	17.1

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

\*Knot = 1.15 mph

## 6.2.16 Wind Speed by Month - Abu Dhabi Region , 2015

(Knot\*)

Month	Average	Absolute Maximum	Average Maximum
January	10.8	48.0	21.0
February	13.8	49.0	26.0
March	13.5	49.0	26.8
April	12.8	39.0	25.5
May	13.3	47.0	27.0
June	14.8	51.0	28.8
July	12.5	42.0	26.3
August	12.9	38.9	26.7
September	12.3	40.0	26.8
October	11.8	35.0	24.0
November	12.5	57.0	25.0
December	11.9	51.1	24.3

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

\*Knot = 1.15 mph

## 6.2.17 Wind Speed by Month - Al Ain Region, 2015

(Knot\*)

Month	Average	Absolute Maximum	Average Maximum
January	8.4	59.0	19.0
February	12.1	78.0	25.0
March	12.6	67.0	27.6
April	11.8	60.0	27.3
May	12.4	71.0	28.8
June	13.2	64.0	30.1
July	12.2	58.0	27.4
August	12.3	58.3	28.5
September	11.0	68.0	27.8
October	10.3	49.0	24.4
November	10.3	56.0	23.1
December	10.4	48.6	22.7

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

\*Knot = 1.15 mph

## 6.2.18 Wind Speed by Month - Al Gharbia Region, 2015

(Knot\*)

Month	Average	Absolute Maximum	Average Maximum
January	10.5	54.0	21.7
February	13.2	67.0	26.7
March	13.8	68.0	28.3
April	13.8	51.0	28.5
May	12.6	60.0	29.4
June	14.2	60.0	32.2
July	13.2	57.0	29.5
August	11.8	48.6	28.0
September	12.2	46.0	28.2
October	10.8	44.0	24.8
November	11.8	55.0	24.8
December	12.1	60.5	24.6

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

\*Knot = 1.15 mph

## 6.2.19 Wind Speed by Month - The Islands, 2015

(Knot\*)

Month	Average	Absolute Maximum	Average Maximum
January	13.8	50.0	24.3
February	11.3	52.0	20.3
March	17.0	69.0	31.3
April	17.0	51.0	30.3
May	15.3	55.0	29.0
June	16.0	52.0	30.0
July	15.0	43.0	29.7
August	13.5	42.8	26.8
September	11.7	49.0	24.3
October	13.7	45.0	25.0
November	17.3	61.0	28.3
December	17.1	52.2	27.9

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

\*Knot = 1.15 mph

## 6.2.20 Average Daily Sunshine in Abu Dhabi and Al Ain Regions by Month, 2015

(Hours)

Month	Abu Dhabi Region	Al Ain Region
January	8	9
February	9	10
March	9	10
April	10	11
May	11	11
June	11	12
July	11	11
August	11	11
September	10	10
October	10	10
November	9	9
December	8	9

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

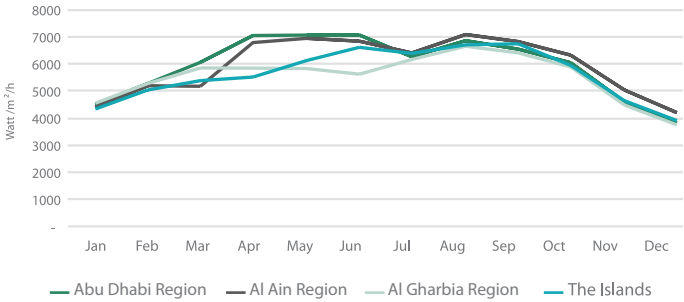
## 6.2.21 Average Daily Total Solar Radiation by Month and Region, 2015

(Watt /m<sup>2</sup>/h)

Month	Abu Dhabi Region	Al Ain Region	Al Gharbia Region	The Islands
January	4581.8	4667.3	4478.2	4562.7
February	5485.0	5448.9	5451.7	5421.0
March	5920.0	6012.1	5703.2	5459.3
April	6965.8	6698.8	6300.5	6153.0
May	7018.5	6892.1	6323.2	6503.3
June	6923.3	7019.5	6259.3	6780.3
July	6541.0	6582.4	6437.2	6471.3
August	6741.5	6918.1	6643.3	6428.3
September	6289.3	6421.3	6159.8	6225.5
October	5500.3	5727.9	5530.2	5518.0
November	4634.5	5023.4	4543.2	4674.7
December	3898.3	4162.4	3980.9	3955.8

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

**Figure 6.2.5 Average Daily Total Solar Radiation by Month and Region, 2015**



**Source:** Statistics Centre - Abu Dhabi.

**6.2.22 Daily Total Solar Radiation by Month - Abu Dhabi Region, 2015**

(Watt /m<sup>2</sup>/h)

Month	Average	Minimum	Maximum
January	4581.8	1231.0	6298.0
February	5485.0	2163.0	7544.0
March	5920.0	2740.0	8447.0
April	6965.8	2414.0	8718.0
May	7018.5	3531.0	8574.0
June	6923.3	5644.0	8240.0
July	6541.0	4971.0	7710.0
August	6741.5	5939.0	7540.0
September	6289.3	5087.0	7080.0
October	5500.3	4446.0	6520.0
November	4634.5	1915.0	5470.0
December	3898.3	332.8	4774.9

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi



### 6.2.23 Daily Total Solar Radiation by Month - Al Ain Region, 2015

(Watt /m<sup>2</sup>/h)

Month	Average	Minimum	Maximum
January	4667.3	892.0	5713.0
February	5448.9	2063.0	6615.0
March	6012.1	3505.0	7850.0
April	6698.8	2357.0	8558.0
May	6892.1	3572.0	8949.0
June	7019.5	5263.0	8515.0
July	6582.4	2503.0	8195.0
August	6918.1	4900.0	8131.0
September	6421.3	3776.0	7430.0
October	5727.9	4165.0	6909.0
November	5023.4	1515.0	5772.0
December	4162.4	2435.4	4984.0

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

### 6.2.24 Daily Total Solar Radiation by Month - Al Gharbia Region, 2015

(Watt /m<sup>2</sup>/h)

Month	Average	Minimum	Maximum
January	4478.2	1364.0	5670.0
February	5451.7	3544.0	6448.0
March	5703.2	1072.0	7452.0
April	6300.5	2158.0	8179.0
May	6323.2	3021.0	8258.0
June	6259.3	2419.0	8111.0
July	6437.2	3585.0	7960.0
August	6643.3	5541.0	7571.0
September	6159.8	3190.0	7269.0
October	5530.2	2917.0	6646.0
November	4543.2	1368.0	5391.0
December	3980.9	239.7	4885.9

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

### 6.2.25 Daily Total Solar Radiation by Month - The Islands, 2015

(Watt /m<sup>2</sup>/h)

Month	Average	Minimum	Maximum
January	4562.7	2428.0	5836.0
February	5421.0	3622.0	6600.0
March	5459.3	745.0	7508.0
April	6153.0	3228.0	7824.0
May	6503.3	2350.0	8391.0
June	6780.3	5566.0	8196.0
July	6471.3	4816.0	7423.0
August	6428.3	4204.0	7778.0
September	6225.5	4946.0	7333.0
October	5518.0	4061.0	6712.0
November	4674.7	1277.0	5378.0
December	3955.8	359.1	4941.0

**Source:**The National Center of Meteorology and Seismology, Statistics Centre - Abu Dhabi

# Air Statistics

Air pollution comes from stationary sources such as power plants and factories and mobile sources such as trucks, cars, and buses. Emissions from these sources reduce air quality, leaving a negative impact on people's health and the balance of ecosystems. Major air pollutants monitored are sulphur dioxide, nitrogen dioxide, particulate matter (PM10), ground level-ozone, and carbon monoxide.

Air quality in the Emirate of Abu Dhabi is generally good. However, readings vary with different locations: readings from stations close to roads record high rates of pollution due to vehicle exhaust emissions. Likewise, readings taken within the vicinity of oil installations and industrial facilities are the highest in the Emirate.

In 2015, annual average concentration of PM10 ranged between 101.9 and 144 mcg/m<sup>3</sup> in the urban areas of the Emirate while annual average concentration of sulphur dioxide ranged between 5.8 and 15.1 mcg/m<sup>3</sup>, which is below the national maximum allowable limit (60 mcg/m<sup>3</sup>).

## 6.2.26 Annual Average of Air Pollution Indicators in Urban Areas by Region and Station, 2015

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

Indicator (maximum allowable limit)	Sulphur dioxide (60 mcg/m)	Nitrogen dioxide	Ground level ozone	Particulate matter - PM10
<b>Abu Dhabi Region</b>				
Khalifa School	8.7	28.3	99.8	118.6
Baniyas School	7.3	30.7	115.4	142.4
Khalifa City	10.0	25.4	114.4	136.1
Al Maqta	8.1	36.9	101.6	144.0
<b>Al Ain Region</b>				
Al Ain School	6.4	34.3	94.5	124.1
Suweihan	6.4	13.8	118.2	132.9
Zakher	8.9	31.5		101.9
Al Tawia	5.8	25.2	97.5	136.2
<b>Al Gharbia Region</b>				
Bida Zayed	15.1	16.5	123.8	134.8

Source: Environment Agency - Abu Dhabi.

## 6.2.27 Annual Average of Sulphur Dioxide Concentration in Ambient Air by Region \*

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

Station location	2012	2013	2014	2015
<b>Abu Dhabi Region</b>				
City centre - Khadija School	5.6	10.6	9.1	8.0
Urban/ residential - Khalifa School	5.7	5.7	5.6	8.7
Road side - Hamdan Street	5.4	4.7	5.0	9.4
Urban/ residential - Baniyas School	3.0	2.7	5.4	7.3
Industrial - Mussafah	5.3	5.4	7.5	11.6
Industrial - Al Mafraq	14.1	5.3	2.4	5.9
Urban/ residential - Khalifa City	-	6.7	9.2	10.0
Urban/ residential - Al Maqta	-	5.1	4.2	8.1
<b>Al Ain Region</b>				
Urban/ residential - Al Ain School	4.9	8.0	7.7	6.4
Road side - Al Ain Street	4.7	9.1	8.7	4.9
Regional background - Al Qua'a	-	13.1	4.3	4.5
Urban/ residential - Suweihan	7.4	5.9	4.1	6.4
City centre - Zakher	6.7	5.5	4.3	8.9
Urban/ residential - Al Tawia	-	9.9	6.4	5.8
<b>Al Gharbia Region</b>				
Urban/ residential - Bida Zayed	7.7	10.2	15.2	15.1
Road side - E11 Road	-	13.0	11.4	-
Industrial - Ruwais	-	19.2	17.6	15.6
City centre - Gayathi School	3.9	4.9	10.2	11.2
Regional background - Liwa Oasis	4.7	3.2	6.5	14.1
Regional background / Industrial - Habshan	-	8.2	11.1	17.0

**Source:** Environment Agency - Abu Dhabi.

\* The annual maximum allowable limit for sulphur dioxide average concentration is 60 mcg/m<sup>3</sup>

Note: Historical data has been modified from data source .

## 6.2.28 Annual Average of Nitrogen Dioxide Concentration in Ambient Air by Region

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

Station location	2012	2013	2014	2015
<b>Abu Dhabi Region</b>				
City centre - Khadija School	33.5	34.7	28.8	35.7
Urban/ residential - Khalifa School	33.3	32.1	27.8	28.3
Road side - Hamdan Street	46.2	56.7	47.7	49.9
Urban/ residential - Baniyas School	29.3	31.3	32.5	30.7
Industrial - Mussafah	43.0	49.3	53.3	49.8
Industrial - Al Mafraq	44.0	41.2	49.8	47.7
Urban/ residential - Khalifa City	-	25.6	34.7	25.4
Urban/ residential - Al Maqta	-	31.0	42.0	36.9
<b>Al Ain Region</b>				
Urban/ residential - Al Ain School	27.0	29.3	36.3	34.3
Road side - Al Ain Street	48.7	42.0	52.0	42.0
Regional background - Al Qua'a	-	3.8	6.5	4.9
Urban/ residential - Suweihan	12.2	10.1	15.1	13.8
City centre - Zakher	40.8	29.0	28.4	31.5
Urban/ residential - Al Tawia	-	18.4	20.5	25.2
<b>Al Gharbia Region</b>				
Urban/ residential - Bida Zayed	22.4	19.8	17.0	16.5
Road side - E11 Road	-	17.9	26.4	-
Industrial - Ruwais	-	21.2	28.7	25.6
City centre - Gayathi School	13.2	12.7	16.8	15.6
Regional background - Liwa Oasis	3.4	2.7	4.6	3.8
Regional background / Industrial - Habshan	-	12.8	17.2	13.8

**Source:** Environment Agency - Abu Dhabi.

**Note:** Historical data has been modified from data source

## 6.2.29 Annual Average of Ground Level Ozone Concentration in Ambient Air by Region

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

Station location	2012	2013	2014	2015
<b>Abu Dhabi Region</b>				
City centre - Khadija School	94.8	96.4	89.2	88.9
Urban/ residential - Khalifa School	73.4	71.1	94.3	99.8
Urban/ residential - Baniyas School	65.2	72.5	103.9	115.4
Urban/ residential - Khalifa City	-	116.1	102.6	114.4
Urban/ residential - Al Maqta	-	102.2	78.5	101.6
<b>Al Ain Region</b>				
Urban/ residential - Al Ain School	68.8	47.7	74.6	94.5
Regional background - Al Qua'a	-	111.3	98.5	117.3
Urban/ residential - Suweihan	21.9	106.2	101.5	118.2
Urban/ residential - Al Tawia	-	106.7	102.5	97.5
<b>Al Gharbia Region</b>				
Urban/ residential - Bida Zayed	66.2	68.6	99.7	123.8
Industrial - Ruwais	-	101.2	117.7	115.4
City centre - Gayathi School	81.0	78.8	100.5	105.7
Regional background - Liwa Oasis	83.1	75.0	104.1	117.8
Regional background / Industrial - Habshan	-	113.1	96.6	106.3

**Source:** Environment Agency - Abu Dhabi.

**Note:** Historical data has been modified from data source.

### 6.2.30 Annual Average of Particulate Matter (PM10) Concentration in Ambient Air by Region

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

Station location	2012	2013	2014	2015
<b>Abu Dhabi Region</b>				
City centre - Khadija School	154.7	134.8	92.8	138.3
Urban/ residential - Khalifa School	174.5	136.7	82.5	118.6
Road side - Hamdan Street	147.5	106.6	123.5	171.6
Urban/ residential - Baniyas School	172.7	144.7	67.8	142.4
Industrial - Mussafah	188.5	163.7	142.3	172.1
Industrial - Al Mafraq	153.9	196.7	163.8	174.9
Urban/ residential - Khalifa City	-	142.0	83.5	136.1
Urban/ residential - Al Maqta	-	124.8	112.6	144.0
<b>Al Ain Region</b>				
Urban/ residential - Al Ain School	158.3	115.0	105.4	124.1
Road side - Al Ain Street	153.7	155.5	97.7	100.8
Regional background - Al Qua'a	-	145.8	95.5	138.1
Urban/ residential - Suweihan	73.4	135.7	92.8	132.9
City centre - Zakher	54.3	79.8	94.2	101.9
Urban/ residential - Al Tawia	-	130.3	100.6	136.2
<b>Al Gharbia Region</b>				
Urban/ residential - Bida Zayed	163.7	146.2	98.7	134.8
Road side - E11 Road	-	104.1	132.4	-
Industrial - Ruwais	-	76.8	121.9	139.7
City centre - Gayathi School	174.3	143.9	95.7	115.9
Regional background - Liwa Oasis	199.5	133.3	110.9	168.3
Regional background / Industrial - Habshan	-	151.2	106.0	208.1

**Source:** Environment Agency - Abu Dhabi.

**Note:** Historical data has been modified from data source.

### 6.2.31 Annual Average of Carbon Monoxide Concentration in Ambient Air by Region

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

Station location	2012	2013	2014	2015
<b>Abu Dhabi Region</b>				
Road side - Hamdan Street	0.9	0.9	1.1	1.8
Urban/ residential - Al Maqta	-	0.5	0.7	0.8
<b>Al Ain Region</b>				
Road side - Al Ain Street	1.2	1.2	0.9	1.0
Regional background - Al Qua'a	-	0.3	0.3	0.6
Urban/ residential - Suweihan	0.1	0.4	0.5	0.7
<b>Al Gharbia Region</b>				
Road side - E11 Road	-	0.4	0.3	-
Industrial - Ruwais	-	0.3	0.3	1.1

**Source:** Environment Agency - Abu Dhabi

**Note:** Historical data has been modified from data source .

### 6.2.32 Annual Average of Noise Level by Region

(Decibels)

Station location	2012	2013	2014	2015
<b>Abu Dhabi Region</b>				
City centre - Khadija School	60.1	67.5	-	-
Urban/ residential - Khalifa School	47.6	58.4	42.8	29.1
Road side - Hamdan Street	-	68.3	65.7	64.4
Urban/ residential - Baniyas School	56.9	52.0	50.2	44.6
Industrial - Mussafah	44.7	69.0	60.7	54.5
Industrial - Al Mafraq	-	60.2	53.0	53.3
Urban/ residential - Khalifa City	-	60.1	49.7	45.1
Urban/ residential - Al Maqta	-	53.7	49.3	47.5
<b>Al Ain Region</b>				
Urban/ residential - Al Ain School	51.2	55.8	51.5	50.3
Road side - Al Ain Street	62.6	64.1	62.0	61.4
Regional background - Al Qua'a	-	54.4	51.5	51.3
City centre - Zakher	-	54.9	49.1	51.3
Urban/ residential - Al Tawia	-	56.7	51.7	51.7
<b>Al Gharbia Region</b>				
Urban/ residential - Bida Zayed	51.3	53.8	45.5	39.2
Road side - E11 Road	-	65.8	61.1	-
Industrial - Ruwais	-	55.6	53.2	51.6
City centre - Gayathi School	65.3	61.3	54.8	51.5
Regional background - Liwa Oasis	47.3	50.8	45.3	42.8
Regional background / Industrial - Habshan	-	59.7	55.1	54.9

**Source:** Environment Agency - Abu Dhabi.

**Note:** Historical data has been modified from data source .



### 6.2.33 Sulphur Oxides Emissions - Oil and Gas Sector

(Tons)

Business sector	2012	2013	2014	2015
<b>Total</b>	<b>241,707</b>	<b>208,121</b>	<b>322,798</b>	<b>363,692</b>
Exploration, Development & Production	63,565	62,078	57,067	52,977
Gas Management	161,153	130,068	252,776	299,588
Refining & Petrochemicals	1,252	1,191	1,235	1,433
Sales & Marketing	15,737	14,785	11,719	9,694

**Source :** Abu Dhabi National Oil Company - ADNOC.

**Note:** Business sectors had been re-arranged by data source.

### 6.2.34 Nitrogen Oxides Emissions - Oil and Gas Sector

(Tons)

Business sector	2012	2013	2014	2015
<b>Total</b>	<b>69,164</b>	<b>68,380</b>	<b>56,708</b>	<b>54,335</b>
Exploration, Development & Production	14,048	15,242	14,648	10,870
Gas Management	21,738	21,371	24,448	22,089
Refining & Petrochemicals	8,713	8,477	10,304	11,037
Sales & Marketing	24,665	23,290	7,308	10,339

**Source:** Abu Dhabi National Oil Company - ADNOC.

**Note:** Business sectors had been re-arranged by data source.

### 6.2.35 Volatile Organic Compounds Emissions - Oil and Gas Sector

(Tons)

Business sector	2012	2013	2014	2015
<b>Total</b>	<b>68,727</b>	<b>72,024</b>	<b>68,886</b>	<b>64,457</b>
Exploration, Development & Production	50,682	54,634	54,222	52,295
Gas Management	6,392	6,333	5,569	7,531
Refining & Petrochemicals	3,644	1,915	2,189	1,837
Sales & Marketing	8,009	9,142	6,906	2,795

**Source:** Abu Dhabi National Oil Company - ADNOC.

**Note:** Business sectors had been re-arranged by data source.

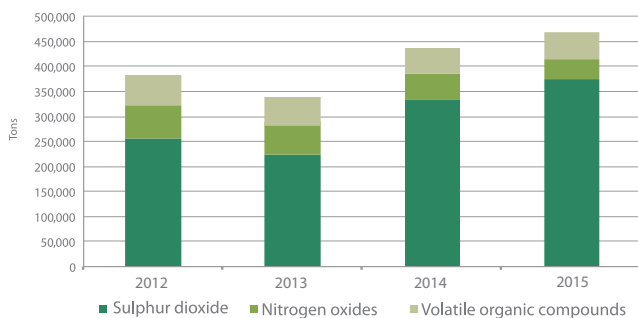
### 6.2.36 Air Pollutant Total Emissions - Oil and Gas Sector

(Tons)

Pollutant	2012	2013	2014	2015
<b>Total</b>	<b>379,598</b>	<b>348,525</b>	<b>448,392</b>	<b>482,485</b>
Sulphur oxides (SOx)	241,707	208,121	322,798	363,692
Nitrogen oxides (NOx)	69,164	68,380	56,708	54,335
Volatile organic compounds (VOC)	68,727	72,024	68,886	64,457

**Source:** Abu Dhabi National Oil Company - ADNOC

**Figure 6.2.6 Air Pollutant Total Emissions - Oil and Gas Sector**



**Source:** Statistics Centre - Abu Dhabi.

### 6.2.37 Per Capita Air Pollutant Total Emissions - Oil and Gas Sector

(Tons)

Pollutant	2012	2013	2014	2015
<b>Total</b>	<b>0.16</b>	<b>0.14</b>	<b>0.17</b>	<b>0.17</b>
Sulphur dioxide (SO)	0.10	0.08	0.12	0.13
Nitrogen oxides (NOx)	0.03	0.03	0.02	0.02
Volatile organic compounds (VOC)	0.03	0.03	0.03	0.02

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

### 6.2.38 Carbon Dioxide Emissions - Oil and Gas Sector

(Million tons)

Business sector	2012	2013	2014	2015
<b>Total</b>	<b>26.6</b>	<b>26.1</b>	<b>30.0</b>	<b>33.7</b>
Exploration, Development & Production	4.4	4.2	4.5	4.8
Gas Management	12.6	12.5	14.1	16.3
Refining & Petrochemicals	7.9	8.1	10.1	11.2
Sales & Marketing	1.7	1.3	1.2	1.4

**Source:** Abu Dhabi National Oil Company - ADNOC.

**Note:** Business sectors had been re-arranged by data source.

### 6.2.39 Per Capita Carbon Dioxide Emissions - Oil and Gas Sector

(Tons)

Business sector	2012	2013	2014	2015
<b>Total</b>	<b>12.2</b>	<b>11.2</b>	<b>11.3</b>	<b>12.1</b>
Exploration, Development & Production	1.9	1.7	1.7	1.7
Gas Management	5.8	5.4	5.3	5.9
Refining & Petrochemicals	3.7	3.5	3.8	4.0
Sales & Marketing	0.8	0.6	0.5	0.5

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

**Note:** Business sectors had been re-arranged by data source.

### 6.2.40 Sulphur Dioxide Emissions - Water and Electricity Production Sector

(Tons)

Source	2012	2013	2014	2015
<b>Total</b>	<b>1572.1</b>	<b>1274.0</b>	<b>1150.0</b>	<b>1910.4</b>
Arabian Power Company	449.3	430.5	401.2	399.7
Shuweihat CMS International Power Company	254.0	245.0	268.0	218.0
Emirates CMS Power Company	73.2	76.5	54.8	78.8
Gulf Total Tractebel Power Company	20.1	20.7	23.1	27.1
Taweelah Asia Power Company	373.0	265.0	237.0	641.3
Al Mirfa Power and Distillation Plant	179.0	61.2	21.2	14.3
Madinat Zayed Power Plant	0.5	-	-	-
Ruwais Power Company	223.0	175.2	144.7	127.4
Shuweihat Asia Power Company	-	-	-	403.8

**Source:** Abu Dhabi Water and Electricity Authority - ADWEA.

### 6.2.41 Nitrogen Oxides Emissions - Water and Electricity Production Sector

(Tons)

Source	2012	2013	2014	2015
<b>Total</b>	<b>12395.0</b>	<b>13391.0</b>	<b>11035.0</b>	<b>14380.6</b>
Arabian Power Company	3250.0	3801.0	2921.0	4195.5
Shuweihat CMS International Power Company	2299.0	2385.0	2098.0	2566.0
Emirates CMS Power Company	310.0	547.9	247.5	478.3
Gulf total Tractebel Power Company	2249.0	2333.0	1868.0	2215.3
Taweelah Asia Power Company	2119.0	2042.0	2319.0	2515.4
Al Mirfa Power and Distillation Plant	680.0	634.5	321.0	270.3
Madinat Zayed Power Plant	13.0	-	-	-
Ruwais Power Company	1475.0	1649.0	1260.0	1241.5
Shuweihat Asia Power Company	-	-	-	898.4

**Source:** Abu Dhabi Water and Electricity Authority - ADWEA.

### 6.2.42 Volatile Organic Compounds Emissions - Water and Electricity Production Sector

(Tons)

Source	2012	2013	2014	2015
<b>Total</b>	<b>184.8</b>	<b>219.8</b>	<b>237.2</b>	<b>248.6</b>
Gulf Total Tractebel Power Company	184.5	190.1	212.1	248.6
Al Mirfa Power and Distillation Plant	-	29.7	25.0	-
Madinat Zayed Power Plant	0.3	-	-	-

**Source:** Abu Dhabi Water and Electricity Authority - ADWEA.

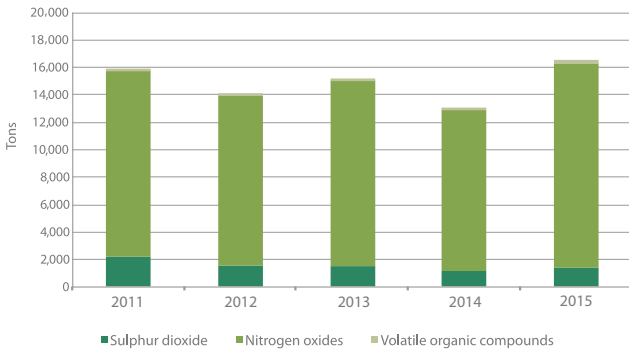
### 6.2.43 Air Pollutant Total Emissions - Water and Electricity Production Sector

(Tons)

Pollutant	2012	2013	2014	2015
<b>Total</b>	<b>14151.9</b>	<b>15357.0</b>	<b>12422.0</b>	<b>16539.7</b>
Sulphur dioxide (SO <sub>2</sub> )	1572.1	1745.0	1150.0	1910.4
Nitrogen oxides (NO <sub>x</sub> )	12395.0	13391.0	11035.0	14380.6
Volatile organic compounds (VOC)	184.8	219.8	237.2	248.6

**Source:** Abu Dhabi Water and Electricity Authority - ADWEA.

**Figure 6.2.7 Air Pollutant Total Emissions - Water and Electricity Production Sector**



**Source:** Statistics Centre - Abu Dhabi.

#### 6.2.44 Carbon Dioxide Emissions - Water and Electricity Production Sector

(Million tons)

Source	2012	2013	2014	2015
<b>Total</b>	<b>30.9</b>	<b>29.6</b>	<b>30.0</b>	<b>35.4</b>
Arabian Power Company	6.9	7.1	6.7	7.5
Shuweihat CMS International Power Company	5.0	4.9	5.0	5.3
Emirates CMS Power Company	2.5	2.5	2.8	2.8
Gulf Total Tractebel Power Company	4.0	4.1	4.5	5.3
Taweelah Asia Power Company	8.6	7.9	8.3	8.2
Al Mirfa Power and Distillation Plant	1.1	0.0	0.0	0.0
Madinat Zayed Power Plant	-	-	-	-
Ruwais Power Company	2.8	3.0	2.6	2.8
Shuweihat Asia Power Company	-	-	-	3.5

**Source:** Abu Dhabi Water and Electricity Authority - ADWEA.

#### 6.2.45 Other Emissions - Water and Electricity Production Sector

(Tons)

Pollutant	2012	2013	2014	2015
Carbon monoxide (CO)	6,997	7,375	6,934	7,995
Lead (Pb)	0.0	0.0	0.0	0.0
Methane (CH)	78	80	99	104
Nitrous oxide (NO)	-	22	25	29

**Source:** Abu Dhabi Water and Electricity Authority - ADWEA.

## Water

The rapid economic and agricultural development and sharp population increase in the Emirate of Abu Dhabi has led to large increases in water demands. On the other hand, reliance on non-conventional water resources, such as desalinated water and reuse of treated wastewater, increased to fill the imbalance between supply and demand.

The Abu Dhabi Region ranked top in the treatment of wastewater accounting for 76% of the Emirate's total treated wastewater in 2015, while Al Gharbia Region came last in this regard, producing only 4% of the total.

### 6.2.46 Total Non-Conventional Water Resources by Type

(Million cubic metre)

Type	2012	2013	2014	2015
<b>Total</b>	<b>1,198</b>	<b>1,236</b>	<b>1,318</b>	<b>1,325</b>
Desalinated water consumption	1,059	1,083	1,126	1,154
Treated wastewater reuse	139	154	192	171

**Source:** Statistics Centre - Abu Dhabi

### 6.2.47 Quantity of Treated Wastewater by Region

(Million cubic metre)

Region	2012	2013	2014	2015
<b>Total</b>	<b>265.4</b>	<b>283.0</b>	<b>312.9</b>	<b>332.3</b>
Abu Dhabi Region	196.4	209.4	231.3	251.7
Al Ain Region	55.9	59.1	67.6	67.6
Al Gharbia Region	13.1	14.5	14.0	13.0

**Source:** Abu Dhabi Sewerage Services Company

### 6.2.48 Quantity of Treated Wastewater Reuse by Region

(Million cubic metre)

Region	2012	2013	2014	2015
<b>Total</b>	<b>138.8</b>	<b>153.8</b>	<b>191.7</b>	<b>170.8</b>
Abu Dhabi Region	75.4	86.5	115.6	95.7
Al Ain Region	54.8	58.0	66.0	64.6
Al Gharbia Region	8.6	9.3	10.1	10.5

**Source:** Abu Dhabi Sewerage Services Company

### 6.2.49 Total Wastewater Treatment Plants Capacity by Region

(Million cubic metre)

Region	2012	2013	2014	2015
<b>Total</b>	<b>405.2</b>	<b>470.5</b>	<b>466.8</b>	<b>470.5</b>
Abu Dhabi Region	328.6	344.4	369.9	369.9
Al Ain Region	65.3	112.7	81.7	81.7
Al Gharbia Region	11.3	13.4	15.2	18.8

**Source:** Abu Dhabi Sewerage Services Company

### 6.2.50 Total Conventional Wastewater Treatment Plants Capacity by Region

(Million cubic metre)

Region	2012	2013	2014	2015
<b>Total</b>	<b>404.6</b>	<b>469.3</b>	<b>461.6</b>	<b>465.3</b>
Abu Dhabi Region	328.6	343.8	365.4	365.4
Al Ain Region	65.0	112.3	81.3	81.3
Al Gharbia Region	11.1	13.1	14.9	18.6

**Source:** Abu Dhabi Sewerage Services Company

### 6.2.51 Total Non-Conventional Wastewater Treatment Plants Capacity by Region

(Million cubic metre)

Region	2012	2013	2014	2015
<b>Total</b>	<b>0.6</b>	<b>1.2</b>	<b>5.2</b>	<b>5.2</b>
Abu Dhabi Region	0.0	0.6	4.6	4.6
Al Ain Region	0.3	0.4	0.4	0.4
Al Gharbia Region	0.3	0.3	0.3	0.3

**Source:** Abu Dhabi Sewerage Services Company



# Waste

Interest in waste management and treatment has increased with the accelerated pace of human and economic development. Waste management refers to the collection, transfer, sorting, treatment and disposal of waste materials produced by human and economic activity, with the aim of reducing their effect on environment, health and landscape.

In 2015 a total of 8.4 million tons of waste were in the Emirate of Abu Dhabi, at a rate of 23 thousand tons per day. Industrial and commercial waste generated had the highest percentage of waste with 40% from total waste generated in the Emirate of Abu Dhabi, followed by construction and demolition waste with a percentage of 34%.

## 6.2.52 Non-Hazardous Solid Waste Generation by Region and Source Activity, 2015

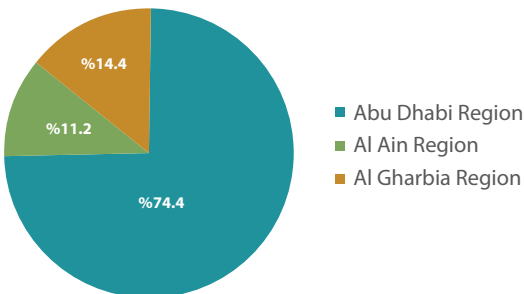
(Tons)

Source	Total	Abu Dhabi Region	Al Ain Region	Al Gharbia Region
<b>Total</b>	<b>8,420,999</b>	<b>6,262,286</b>	<b>942,705</b>	<b>1,216,008</b>
Daily average	<b>23,071</b>	17,157	2,583	3,332
Construction and demolition waste	<b>2,876,313</b>	1,940,760	232,973	702,580
Industrial and commercial waste	<b>3,306,644</b>	3,196,552	105,854	4,238
Agriculture waste	<b>493,106</b>	27,972	249,511	215,624
Municipal waste	<b>1,678,983</b>	1,033,543	353,872	291,568
Other*	<b>65,953</b>	63,459	496	1,998

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

\* includes sludge and oil and gas sector waste.

**Figure 6.2.8 Percentage Distribution of Non-Hazardous Solid Waste Generation by Region, 2015**



**Source:** Statistics Centre - Abu Dhabi.

## Health and Safety

Food safety and occupational health and safety are two major areas that receive a great deal of attention from the government of the Emirate of Abu Dhabi. In 2014, there were more than 900 cases of foodborne illnesses and food poisoning caused by consuming foods or drinks contaminated with bacteria and viruses, comparing to 2013, percentage of illnesses caused by food poisoning and foodborne decreased upto 51% from year 2013.

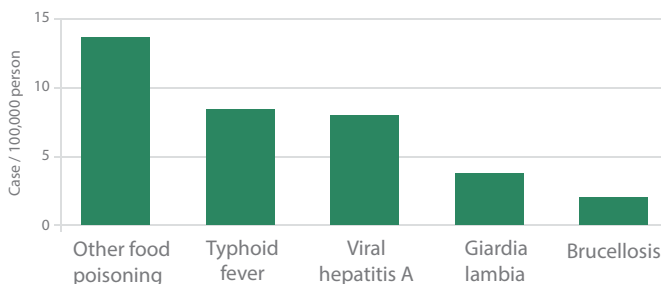
Food poisoning cases reached the highest percentage of 38% followed with 24% cases of Viral hepatitis A. In the area of occupational health and safety, oil and gas sector recorded 4 deaths cases in 2015 compared to 8 cases in 2014. Electricity and water sector recorded 2 deaths cases only in 2015 compared to only 9 case in 2014.

### 6.2.53 Number of Food Poisoning and Foodborne Illnesses by Type

Type	2011	2012	2013	2014
<b>Total</b>	<b>1,356</b>	<b>2,107</b>	<b>1,949</b>	<b>955</b>
Salmonella	-	-	-	-
Other food poisoning	667	1,147	1,237	360
Typhoid fever	394	443	248	222
Viral hepatitis A	138	279	271	224
Giardia lambia	82	103	94	100
Bacillary dysentery	-	-	-	-
Bacterial dysentery	-	-	-	-
Paratyphoid fever	-	-	-	-
Brucellosis	75	135	99	49
Other	-	-	-	-

**Source:** Health Authority - Abu Dhabi.

**Figure 6.2.9 Rate of food poisoning cases per 100,000 person by Type - 2014**



**Source:** Statistics Centre - Abu Dhabi.

### 6.2.54 Number of Occupational Health and Safety Incidents - Oil and Gas Sector

Item	2012	2013	2014	2015
Fatality incidents	12	11	8	4
Fatality non recordable	23	43	32	15
Disability incident	3	-	-	0
Lost time injury incidents	89	66	60	57
Medical treatment case	388	-	-	105
Restricted workday case	68	-	-	0
Occurrence of occupational disease	397	497	589	296
Road traffic incidents	365	-	-	0
First Aid	-	-	-	1,020
Near miss	58,788	-	-	86

Source: Abu Dhabi National Oil Company - ADNOC.

### 6.2.55 Rate of Injuries and Incidents Registered per Million Man-Hours Worked - Oil and Gas Sector

Item	2012	2013	2014	2015
Number of working hours (million hours)	865.0	710.4	533.9	395.8
Lost time injury frequency rate (LTIFR)	0.1	0.1	0.1	0.1
Total reportable case frequency (TRCF)	0.6	-	0.2	0.5
Fatal accident rate (FAR) (per 100 million working hour)	1.4	1.6	1.5	1.0

Source: Abu Dhabi National Oil Company - ADNOC.

**6.2.56 Number of Occupational Health and Safety Incidents - Water and Electricity Production Sector**

Item	2012	2013	2014	2015
Fatality incidents	4	1	9	2
Fatality non recordable	0	0	0	0
Disability incident	1	0	0	0
Lost time injury incidents	23	20	30	7
Medical treatment case	12	24	22	10
Restricted workday case	4	6	2	0
Journey incident	1	0	0	1
Reporting dangerous occurrence	7	9	8	8
Occurrence of occupational disease	0	0	0	0
Road traffic incidents	1	7	0	10
Near miss	2,229	1,813	1,587	2,132

**Source:** Abu Dhabi Water and Electricity Authority - ADWEA.

**6.2.57 Rate of Injuries and Incidents Registered per Million Man-Hours Worked - Water and Electricity Production Sector**

Item	2012	2013	2014	2015
Number of working hours (million hours)	62.0	82.9	72.3	51.0
Lost time injury frequency rate (LTIFR)	0.4	0.2	0.4	0.2
Lost time injury severity rate (LTISR)	9.4	4.1	12.0	3.3
Total reportable case frequency (TRCF)*	0.6	0.3	0.8	0.4

**Source:** Abu Dhabi Water and Electricity Authority - ADWEA.

\*Fatal Accident Rate (FAR) included until 2013