



مركز الإحصاء  
STATISTICS CENTRE



## Waste Statistics



عام التسامح  
YEAR OF TOLERANCE

تدوير  
Tadweer



مركز أبوظبي لإدارة النفايات  
Abu Dhabi Waste Management Center



أديوك  
ADNOC

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## Introduction

This report presents statistics on waste generation in the Emirate of Abu Dhabi for the year 2018, comprising statistics on waste by source activity, composition and method of disposal, in addition to municipal and hazardous solid waste statistics. The Centre of Waste Management – Abu Dhabi and Abu Dhabi National Oil Company (ADNOC) are the main sources of the report statistics.

The “Explanatory Notes” section at the end of this report defines the key terms and technical concepts related to waste statistics. Reader can refer to that section while reading the statistics and information outlined in the report.

## Waste in Abu Dhabi Emirate

Waste known as the unwanted materials caused by the daily activities of human beings, whether domestic or municipal or industrial activities. Waste management and treatment are of particular interest to the government of Abu Dhabi Emirate in order to minimize the waste effects on health.

The amount of solid waste generated in the Emirate of Abu Dhabi totalled about 9.985 million tons in 2018, non-hazardous waste formed 98.2 percent, while hazardous waste accounted for a small proportion of about 1.9 percent as shown in Table 1.

**Table 1: Total Non-hazardous and hazardous solid waste in Abu Dhabi Emirate**

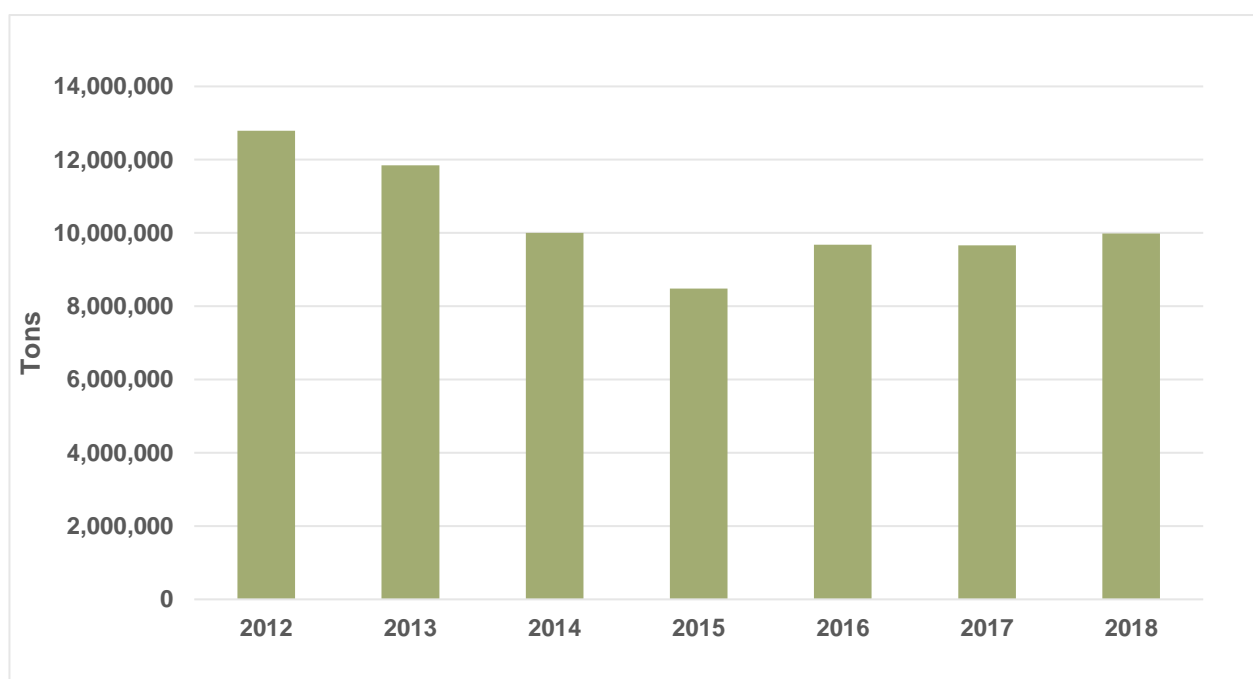
(Tons)

Source	2012	2013	2014	2015	2016	2017	2018
<b>Total</b>	<b>12,786,673</b>	<b>11,845,276</b>	<b>10,001,810</b>	<b>8,478,523</b>	<b>9,675,062</b>	<b>9,657,447</b>	<b>9,985,369</b>
Non-hazardous waste	12,705,902	11,762,602	9,918,590	8,420,998	9,598,969	9,477,037	9,803,432
Hazardous waste*	80,771	82,674	83,220	57,525	76,093	180,410	181,937

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

\* Data of hazardous wastes exports were Included in 2018.

**Figure 1: Total of solid waste in Abu Dhabi Emirate**



Source: Statistics Center – Abu Dhabi

## Non-hazardous waste

Non-hazardous waste refers to materials that cause no serious environmental problems and are easy to dispose in an environmentally safe manner. The economic growth witnessed in the Emirate in various fields such as construction and demolition activities, in addition to industrial, commercial and agricultural activities, which required promoting of waste reduction practices to limit the growth in waste generation amounts

## Solid waste generation

Table 2 refers to the amount of waste generated in the Emirate of Abu Dhabi by source, and economic activity. It also illustrates the change happened between 2012 and 2018. Data shows that the total amount of waste in 2018 decreased by 22.8 %, construction and demolition waste accounted for more than 31.6%. The daily per capita municipal waste was approximately 1.76 kg /day as shown in figure 2.

**Table (2): Non-hazardous solid waste generation by source activity**

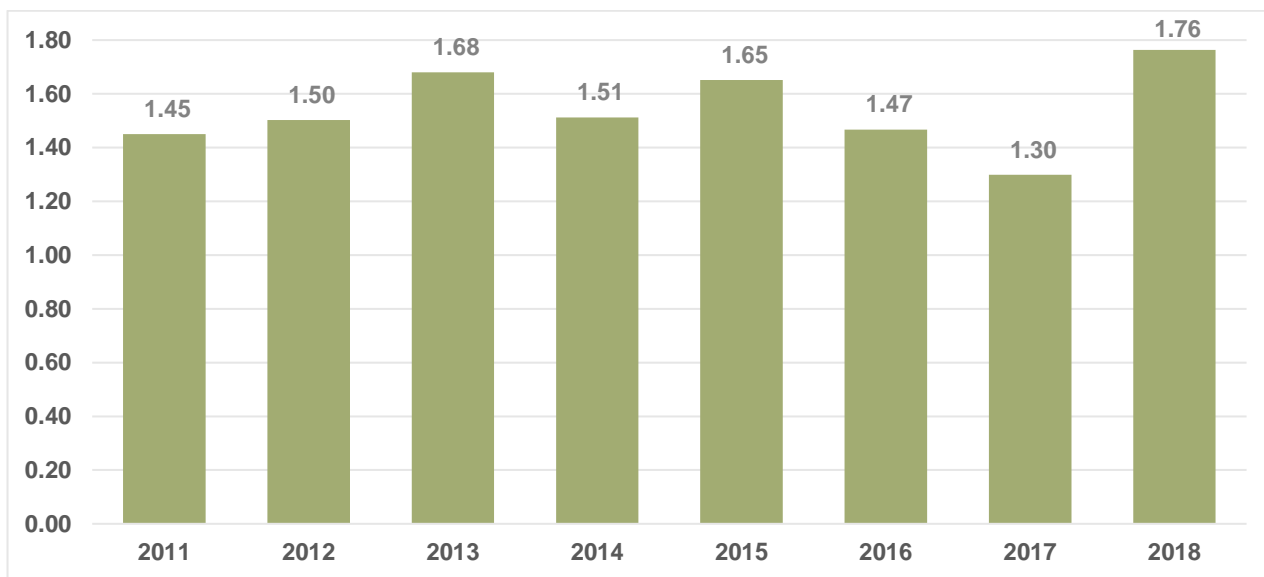
(Tons)

Source	2012	2013	2014	2015	2016	2017	2018
<b>Total</b>	<b>12,705,902</b>	<b>11,762,602</b>	<b>9,918,590</b>	<b>8,420,998</b>	<b>9,598,969</b>	<b>9,477,037</b>	<b>9,803,432</b>
<b>Construction and demolition waste</b>	<b>9,628,309</b>	<b>7,692,921</b>	<b>4,419,665</b>	<b>2,876,313</b>	<b>4,532,379</b>	<b>3,959,319</b>	<b>3,102,631</b>
C & D waste	5,721,367	2,767,342	1,723,497	2,042,883	2,580,914	2,589,660	1,884,940
C & D mixed waste	3,906,942	4,925,579	2,696,168	833,430	1,951,465	1,369,659	1,217,691
<b>Industrial and commercial waste</b>	<b>804,174</b>	<b>1,305,556</b>	<b>3,312,125</b>	<b>3,306,644</b>	<b>2,692,768</b>	<b>3,169,212</b>	<b>3,543,264</b>
<b>Agriculture waste</b>	<b>898,258</b>	<b>999,239</b>	<b>561,991</b>	<b>493,106</b>	<b>745,644</b>	<b>933,505</b>	<b>1,310,721</b>
General agriculture waste	305,749	339,078	320,689	380,465	503,001	567,992	924,281
Mixed agriculture and Animal waste	592,509	660,161	241,302	112,641	242,643	365,513	386,440
<b>Municipal waste</b>	<b>1,272,668</b>	<b>1,528,093</b>	<b>1,466,590</b>	<b>1,678,983</b>	<b>1,561,680</b>	<b>1,372,140</b>	<b>1,793,542</b>
Households, streets, and public gardens waste	1,059,219	1,234,336	1,298,955	1,420,323	1,397,293	1,194,208	1,266,281
Bulky waste	213,449	293,757	167,635	258,660	164,387	177,932	527,261
<b>Other*</b>	<b>102,493</b>	<b>236,793</b>	<b>158,219</b>	<b>65,952</b>	<b>66,498</b>	<b>42,861</b>	<b>53,274</b>

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

\*Include Oil and Gas sector

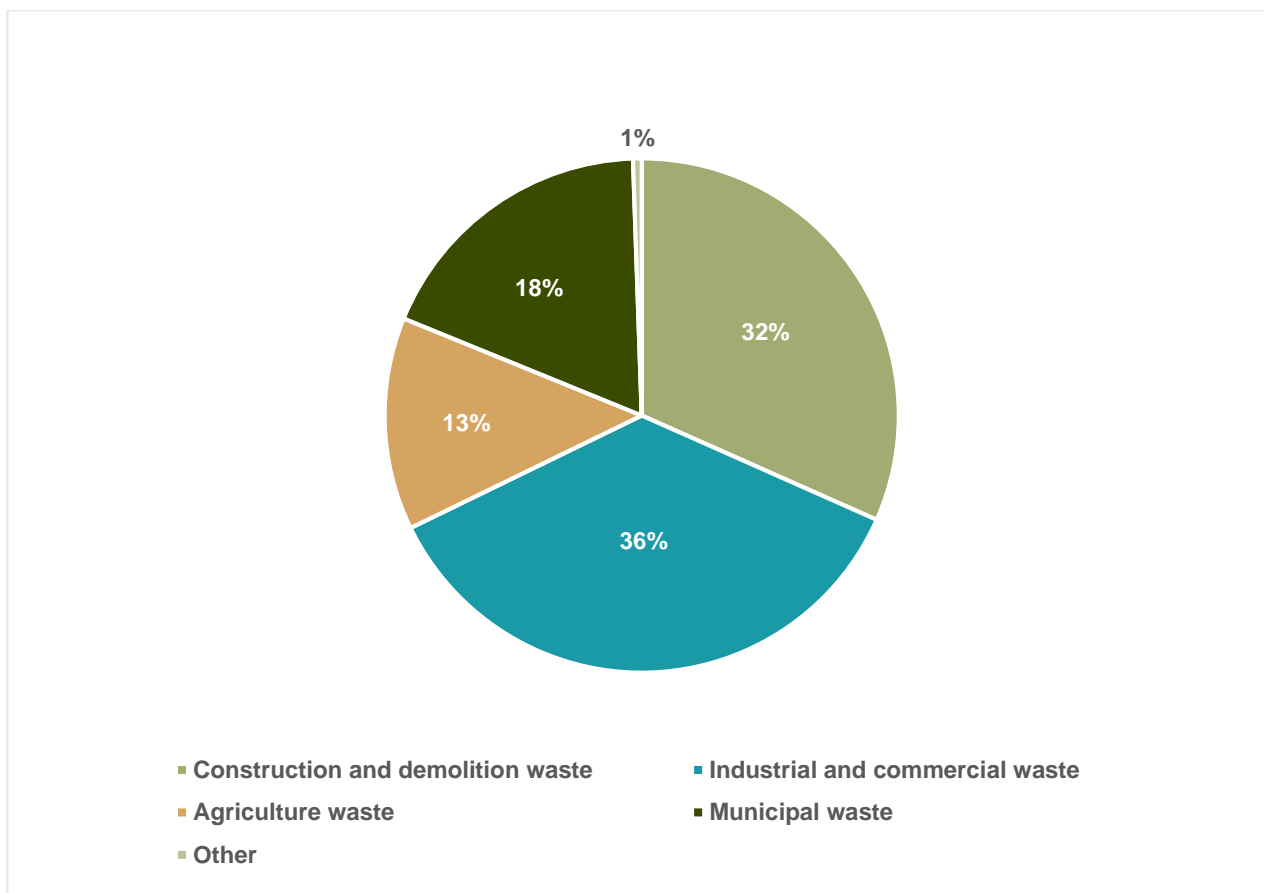
**Figure 2: Amount of municipal waste per capita per day\***



Source: Statistics Centre – Abu Dhabi

**Note:** Municipal Solid Waste excluding data from labour camps and developer of residential projects

**Figure 3: Percentage distribution of Non-hazardous solid waste by source activity - 2018**



Source: Statistic Centre - Abu Dhabi

Table 3 shows the amount of non-hazardous solid waste by region; the average daily production of waste in the Emirate of Abu Dhabi in 2018 was about 26.85 thousand tons / day, while the total amount of waste was about 9.8 million tons in 2018. Abu Dhabi region generated about 62.2 percent Figure 4 shows a comparison of waste generated between regions.

**Table 3: Non-hazardous solid waste generation by region and source activity- 2018**

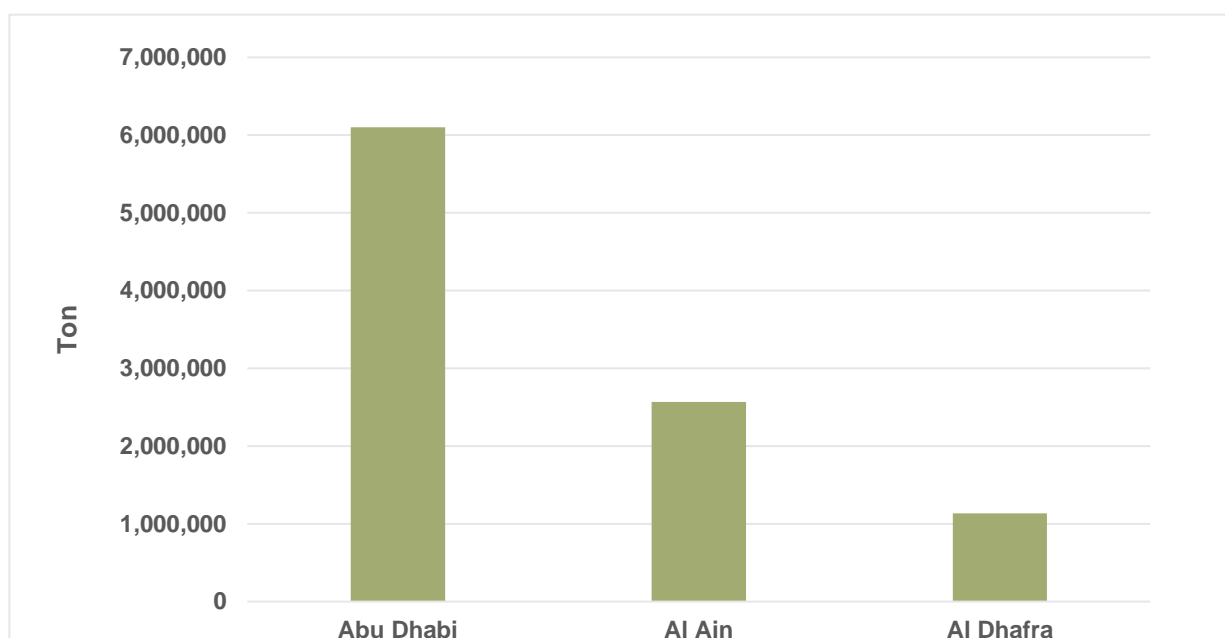
(Tons)

Source	Total	Abu Dhabi	Al Ain	Al Dhafra
<b>Total</b>	<b>9,803,432</b>	<b>6,100,208</b>	<b>2,568,331</b>	<b>1,134,893</b>
<b>Daily average</b>	26,859	16,713	7,037	3,109
<b>Construction and demolition waste</b>	<b>3,102,631</b>	<b>1,598,346</b>	<b>944,654</b>	<b>559,631</b>
<b>Industrial and commercial waste</b>	<b>3,543,264</b>	<b>3,169,453</b>	<b>260,749</b>	<b>113,063</b>
<b>Agriculture waste</b>	<b>1,310,721</b>	<b>328,021</b>	<b>724,734</b>	<b>257,966</b>
<b>Municipal waste</b>	<b>1,793,542</b>	<b>951,113</b>	<b>638,195</b>	<b>204,234</b>
<b>Other *</b>	<b>53,274</b>	<b>53,274</b>	<b>0</b>	<b>0</b>

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

\* Waste from oil and Gas sector.

**Figure 4: Non-hazardous solid waste by region -2018**



Source: Statistic Centre - Abu Dhabi

## Solid Waste Disposal

Table 4 displays the quantity of solid waste by method of disposal, showing that waste recycling contribution in waste disposing was 34 percent in 2018. Solid waste composted is around 1.1 percent from the total waste.

**Table (4): Solid waste generation by method of disposal**

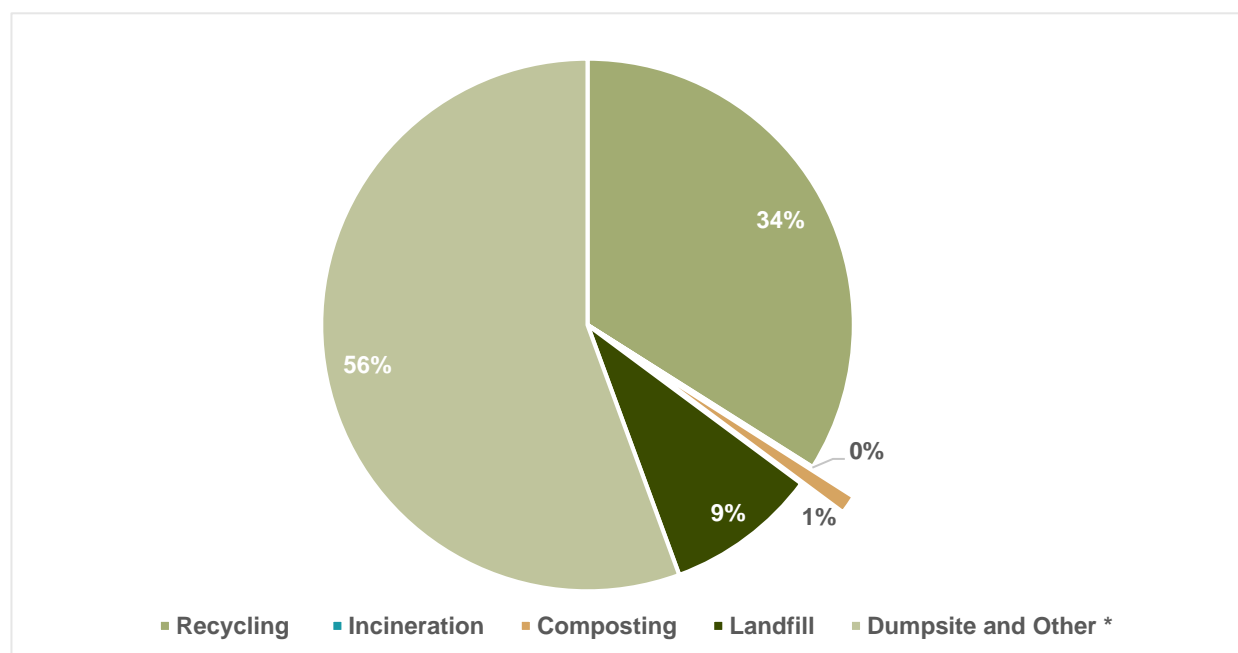
(Tons)

Source	2012	2013	2014	2015	2016	2017	2018
<b>Total</b>	<b>12,705,902</b>	<b>11,762,602</b>	<b>9,918,590</b>	<b>8,420,998</b>	<b>9,598,969</b>	<b>9,477,037</b>	<b>9,803,432</b>
Recycling	3,805,411	3,198,113	1,812,052	2,189,109	2,854,149	2,687,932	3,329,498
Incineration	37,830	40,917	4,774	21,510	9,824	7,514	7,003
Composting	367,273	458,491	463,355	452,627	228,126	209,188	110,351
Landfill	452,704	470,725	149,298	172,794	181,555	561,940	906,164
Dumpsite and Other *	8,042,684	7,594,356	7,489,111	5,584,958	6,325,315	6,010,463	5,450,416

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

\* Disposed through other specialized companies.

**Figure 5: Percentage distribution of solid waste by method of disposal – 2018**



Source: Statistic Centre - Abu Dhabi



## Municipal solid waste

Municipal solid waste in the Emirate of Abu Dhabi totalled 1.79 million tons in 2018, of which 32.7 percent was disposed in dumpsite as shown in Table 5. Figure 6 shows the relative distribution of municipal solid waste.

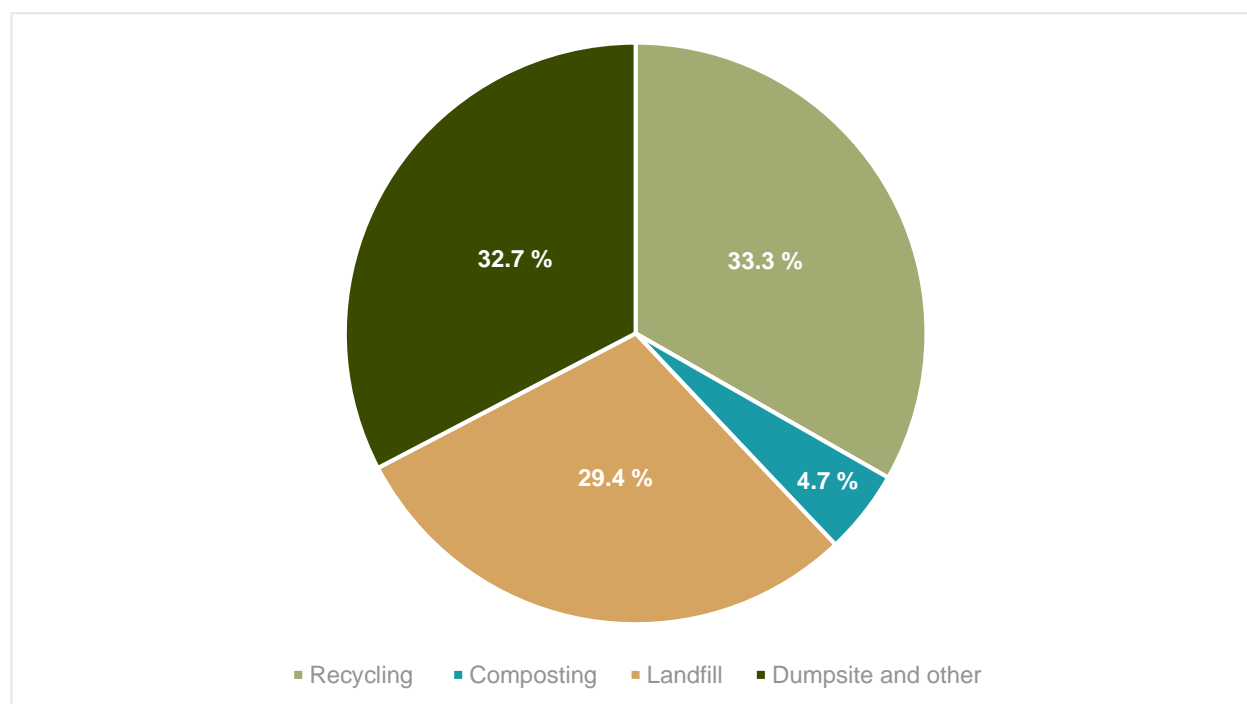
**Table (5): Municipal solid waste by method of disposal**

(Tons)

Method of disposal	2012	2013	2014	2015	2016	2017	2018
<b>Total</b>	<b>1,272,668</b>	<b>1,528,093</b>	<b>1,466,590</b>	<b>1,678,983</b>	<b>1,561,680</b>	<b>1,372,140</b>	<b>1,793,542</b>
Recycling	197,590	244,495	88,555	329,470	266,109	268,302	596,476
Composting	216,000	259,776	146,636	148,246	151,133	148,866	84,068
Landfill	103,120	122,247	149,298	154,209	164,387	177,932	527,261
Dumpsite and other	755,958	901,575	1,082,101	1,047,058	980,050	777,040	585,737

Source: The Centre of Waste Management - Abu Dhabi.

**Figure 6: Percentage distribution of municipal solid waste by method of disposal - 2018**



Source: Statistic Centre - Abu Dhabi

## Hazardous Waste

Hazardous solid waste consists of medical waste in addition to waste generated by industrial and oil/ gas sectors. Hazardous solid waste totalled 181 thousand tons in 2018. Table 7 reveals that 54 percent of the hazardous solid wastes were landfilled.

**Table (6): Hazardous solid waste generation by source activity**

(Tons)

Source	2014	2015	2016	2017	2018
<b>Total</b>	<b>83,220</b>	<b>57,525</b>	<b>76,093</b>	<b>180,410</b>	<b>181,937</b>
Industrial waste	10,463	2,209	391	173	5,486
Medical waste	1,732	4,573	6,316	6,374	9,275
Oil and Gas sector waste	56,305	29,938	17,466	19,655	20,964
Other*	14,720	20,805	51,920	154,208	146,212

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

\* Include sewage sludge (heavy metal) and exported waste.

**Table (7): Hazardous solid waste generation by disposal method and source activity - 2018**

(Tons)

Source	Total	Recycling	Hazardous Waste landfilled	Incineration	Other
<b>Total</b>	<b>181,937</b>	<b>10,254</b>	<b>98,080</b>	<b>2,226</b>	<b>71,377</b>
Industrial waste	5,486	-	5,486	-	-
Medical waste	9,275	-	7,049	2,226	-
Oil and Gas sector waste	20,964	5,335	-	-	15,629
Other waste	146,212	4,919	85,545	-	55,748

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

## Waste Management Plants

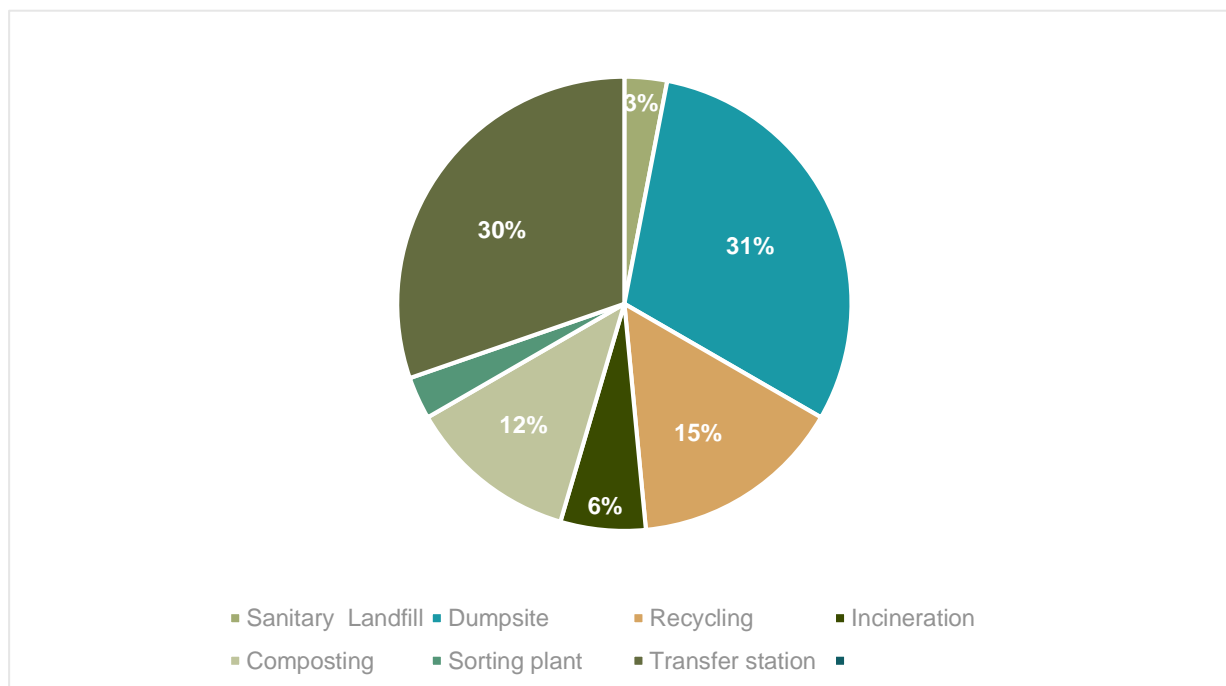
The Government of Abu Dhabi is keen to provide a healthy environment and it pays a special attention to advanced waste treatment methods. The total number of waste management projects in the Emirate of Abu Dhabi reached 33 projects in 2018.

**Table 8: Waste management plants in Emirate of Abu Dhabi - 2018**

Item	Abu Dhabi	Al Ain	Al Dhafra
<b>Total</b>	<b>11</b>	<b>13</b>	<b>9</b>
Sanitary Landfill	-	1	-
Dumpsite	1	1	8
Recycling	2	3	-
Incineration	-	2	-
Composting	2	1	1
Sorting plant	-	1	-
Transfer station	6	4	-

Source: The Centre of Waste Management - Abu Dhabi.

**Figure 7: Percentage distribution of waste management plants by disposal method - 2018**



Source: Statistic Centre - Abu Dhabi

## Explanatory Notes

### Glossary

This report contains certain terms related to waste; these terms play an important role when analyzing waste statistics for the Emirate of Abu Dhabi. The report includes the following terms:

#### **Municipal Solid Waste (MSW)**

The waste that consists of organic materials and trash generated in the kitchen and other households uses. Households and buildings in the residential areas generate MSW.

#### **Commercial and Industrial Waste**

It includes municipal waste generated by restaurants, hotels, shopping malls, labour camps and other public and private facilities.

#### **Industrial Hazardous Waste**

The waste generated from industrial activities, laboratories, workshops and other public and private facilities that deal with hazardous materials.

#### **Medical Hazardous Waste**

The waste generated from hospitals, clinics and medical laboratories. It consists of human parts, tissues, blood, and waste resulting from surgical operations.

#### **Mixed Waste**

The waste composed of household trash mixed with building materials and sand in storage locations and / or during the collection.

#### **Safe Waste Landfill**

The site where waste buried and processed in secure cells. Unlike medical waste landfill, safe waste landfill has no sewage system for contaminated water.

#### **Waste Tires**

Waste tires collected from factories and repair workshops.

#### **Construction and Demolition Waste**

The waste results from construction and demolition activities.

#### **Slaughterhouse Waste**

The waste that composed of animals remains and is generated from slaughterhouses and animal shelters.

#### **Large-scale Waste**

The waste composed of unwanted household items and packaging materials resulted from commercial activities.

## Data Sources

The main sources of the statistics are the Centre of Waste Management – Abu Dhabi, and Abu Dhabi National Oil Company (ADNOC). Data processed in the Statistics Centre – Abu Dhabi (SCAD) for more editing and research.

## Technical Notes

### Methodology

Waste generation data in Abu Dhabi, Al Ain and Al Dhafra regions was calculated based on truck scale reports. In case reports were not available, data calculated based on reports collected from waste contractors and waste sites.

Medical waste data in Abu Dhabi and Al Dhafra regions estimated based on Al Ain data (actual data derived from truck scale reports of medical waste incineration sites).

## Notes on Tables

Changes (levels and percent) in all tables based on unrounded numbers.

## More information

For more information about waste and other official statistics for Abu Dhabi Emirate, please visit the statistics link on the SCAD website at <http://www.scad.ae>

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