



مركز الإحصاء
STATISTICS CENTRE



Waste Statistics 2015

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Introduction

This report presents statistics on waste generation in the Emirate of Abu Dhabi for the year 2015, 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. Readers are encouraged to 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 totaled about 8.5 million tons in 2015; non-hazardous waste formed 99.0%, while hazardous waste accounted for a small proportion of about 1% as shown in Table 1.

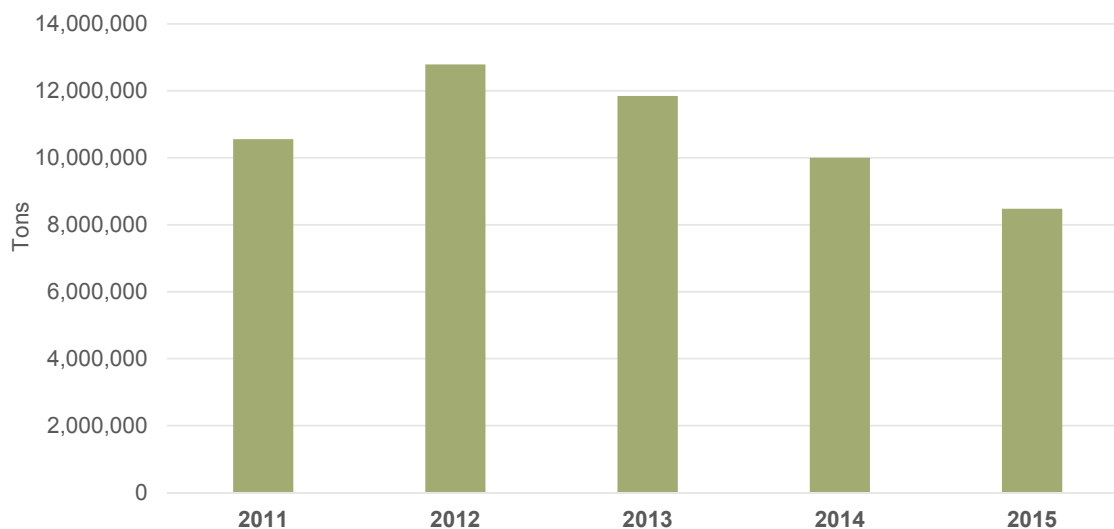
Table 1: Total Non-hazardous and hazardous solid waste in Abu Dhabi Emirate

(Tons)

Source	2011	2012	2013	2014	2015
Total	10,556,186	12,786,673	11,845,276	10,001,810	8,478,523
Non-hazardous waste	10,430,031	12,705,902	11,762,602	9,918,590	8,420,998
Hazardous waste	126,155	80,771	82,674	83,220	57,525

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

Figure 1: Total 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 2011 and 2015. Data shows that the total amount of waste decreased by 19% between two periods.

Industrial and commercial waste covered 39% from non-hazardous solid waste generated which is accounted as the highest percentage, followed by Construction and demolition waste accounted for 34% from entire generated waste. The daily per capita municipal waste was approximately 1.65 kg /day as shown in figure 2.

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

(Tons)

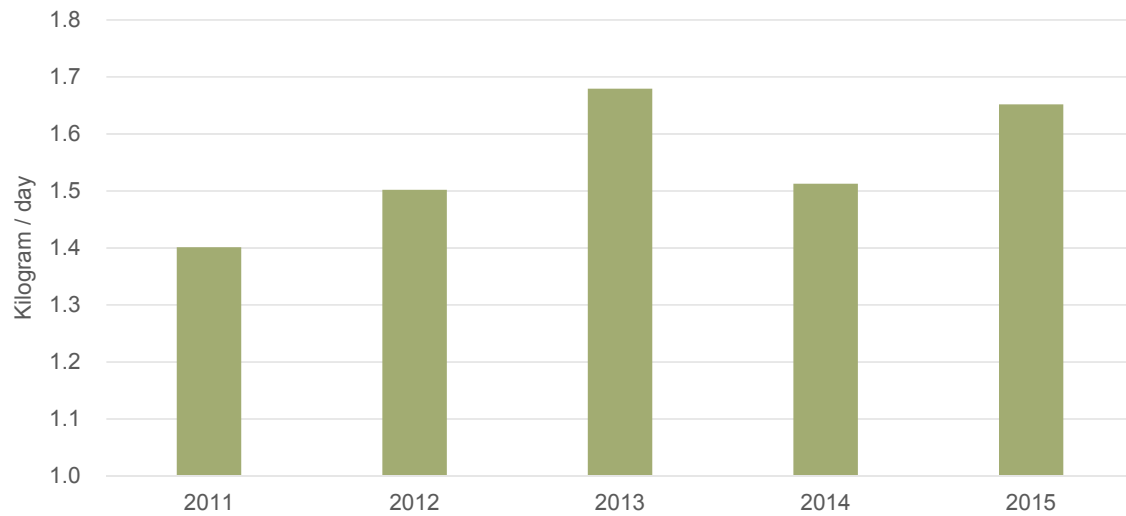
Source	2011	2012	2013	2014	2015
Total	10,430,031	12,705,902	11,762,602	9,918,590	8,420,998
Construction and demolition waste	7,624,575	9,628,309	7,692,921	4,419,665	2,876,313
C & D waste	5,075,325	5,721,367	2,767,342	1,723,497	2,042,883
C & D mixed waste	2,549,250	3,906,942	4,925,579	2,696,168	833,430
Industrial and commercial waste	643,338	804,174	1,305,556	3,312,125	3,306,644
Agriculture waste	816,069	898,258	999,239	561,991	493,106
General agriculture waste	63,345	305,749	339,078	320,689	380,465
Mixed agriculture and Animal waste *	752,724	592,509	660,161	241,302	112,641
Municipal waste	1,105,602	1,272,668	1,528,093	1,466,590	1,678,983
Households, streets, and public gardens waste	859,329	1,059,219	1,234,336	1,298,955	1,420,323
Bulky waste	246,273	213,449	293,757	167,635	258,660
Other **	240,447	102,493	236,793	158,219	65,952

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

* includes animal waste.

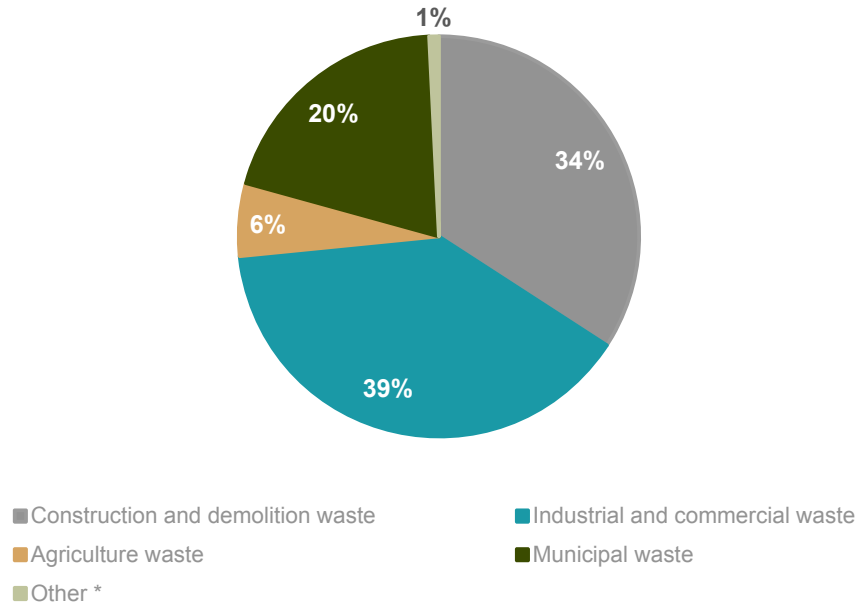
** includes oil and gas sector waste and tyres waste.

Figure (2): Amount of municipal waste per capita



Source: Statistics Center – Abu Dhabi.

Figure 3: Percentage distribution of Non-hazardous solid waste by source activity - 2015



Source: Statistic Centre - Abu Dhabi.

Table 3 shows the amount of non-hazardous solid waste by region and source; the average daily production of waste in the Emirate of Abu Dhabi in 2015 was about 23.1 thousand tons / day. Contribution of Abu Dhabi region in generating non-hazardous solid waste about 74.4% followed by Al Gharbia region with 14.4% of waste generated. Chart (4) shows a comparison of waste generated between regions.

Table 3: Non-hazardous solid waste generation by region and source activity- 2015
(Tons)

Source	Total	Abu Dhabi	Al Ain	Al Gharbia
Total	8,420,998	6,262,285	942,705	1,216,008
Daily average	23,071	17,157	2,583	3,332
Construction and demolition waste	2,876,313	1,940,760	232,973	702,580
C & D waste	2,042,883	1,855,255	187,628	-
C & D mixed waste *	833,430	85,505	45,344	702,580
Industrial and commercial waste	3,306,644	3,196,552	105,854	4,238
Agriculture waste	493,106	27,972	249,511	215,624
General agriculture waste	380,465	19,889	154,365	206,212
Mixed agriculture waste **	112,641	8,083	95,146	9,412
Municipal waste	1,678,983	1,033,543	353,872	291,568
Households, streets, and public gardens waste	1,420,323	864,578	326,607	229,138
Bulky waste	258,660	168,965	27,265	62,430
Other ***	65,952	63,458	496	1,998

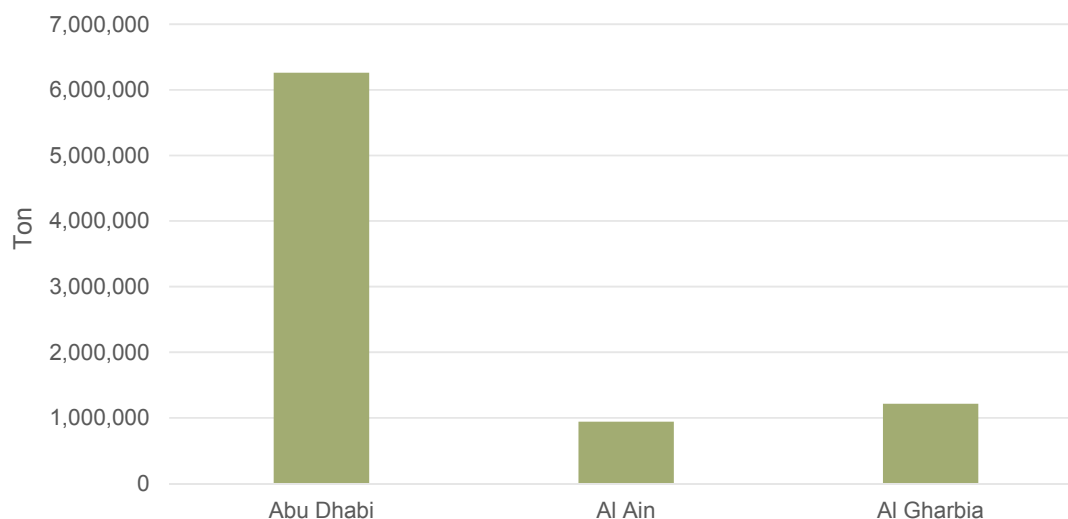
Source: The Centre of Waste Management - Abu Dhabi, ADNOC , SCAD.

* Amount of waste estimated based on geographic distribution.

** Include animal waste.

*** Include oil and gas sector waste and tires waste

Figure 4: Non-hazardous solid waste by region- 2015



Source: Statistic Centre - Abu Dhabi.

Solid Waste Disposal

Table 4 displays the quantity of non-hazardous solid waste by method of disposal, showing that waste recycling increased from 18.3% in 2014 to 28.2 % in 2015. As well as solid waste composting which increased from 4.7% to 5.4% between the same years.

Table 4: Non- hazardous Solid waste by method of disposal

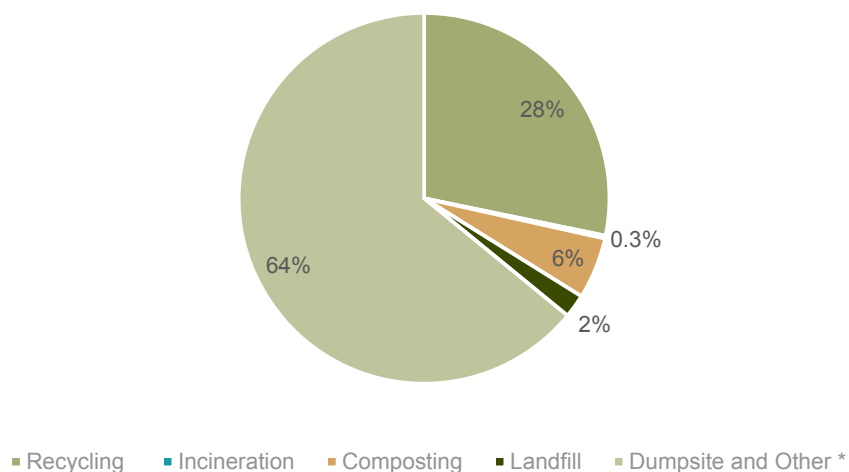
(Tons)

Source	2011	2012	2013	2014	2015
Total	10,430,031	12,705,902	11,762,602	9,918,590	8,420,998
Recycling	3,802,848	3,805,411	3,198,113	1,812,052	2,377,720
Incineration	34,029	37,830	40,917	4,774	21,510
Composting	269,786	367,273	458,491	463,355	452,627
Landfill	367,263	452,704	470,725	149,298	17,1991
Dumpsite and Other *	5,956,105	8,042,684	7,594,356	7,489,111	5,397,150

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 - 2015



Source: Statistic Centre - Abu Dhabi.

Municipal solid waste

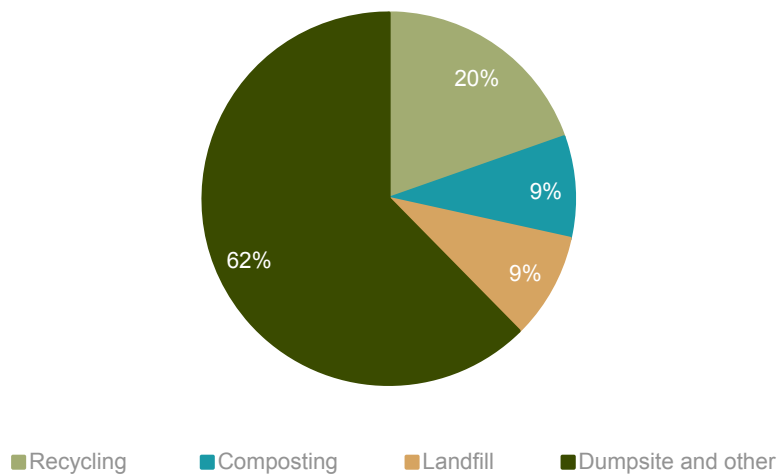
Municipal solid waste in the Emirate of Abu Dhabi totaled 1.7 million tons in 2015, of which 62.4% was disposed in dumpsite as shown in Table 5. Figure 6 shows the relative distribution of municipal solid waste.

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

Method of disposal	2012	2013	2014	2015
Total	1,272,668	1,528,093	1,466,590	1,678,983
Recycling	197,590	244,495	88,555	329,470
Composting	216,000	259,776	146,636	148,246
Landfill	103,120	122,247	149,298	154,209
Dumpsite and other	755,958	901,575	1,082,101	1,047,058

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

Figure 6: Percentage distribution of municipal solid waste by method of disposal - 2015



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 totaled 57.5 thousand tons in 2015. Table 7 reveals that most hazardous solid waste are disposed by landfilling which present almost 61.6% from entire hazardous waste collected, where 5 % was disposed by recycling from total hazardous solid waste collected in the Emirate of Abu Dhabi.

Table 6: Hazardous solid waste generation by source activity

(Tons)

Source	2011	2012	2013	2014	2015
Total	126,155	80,771	82,674	83,220	57,525
Industrial waste	19,503	30,758	-	10,463	2,209
Medical waste	5,037	6,000	6,000	1,732	4,573
Slaughterhouses waste	26,883	31,931	11,768	-	-
Veterinary waste	10,506	-	20,257	-	-
Oil and Gas sector waste	64,226	12,082	44,649	56,305	29,938
Sludge (Contain heavy materials)	-	-	-	14,720	20,805

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

Table 7: Hazardous solid waste disposal method and source activity - 2015

(Tons)

Source	Total	Recycling	Hazardous Waste landfilled	Incineration	Other
Total	57,525	2,862	35,446	2,442	16,775
Industrial waste	2,209	-	2,209	-	-
Medical waste *	4,573	-	2,668	1,904	-
Other waste **	50,743	2,862	30,567	538	16,775

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

* Include oil and gas sector waste

**Medical waste landfilled is the ash content of the total medical waste

Waste Management Plants

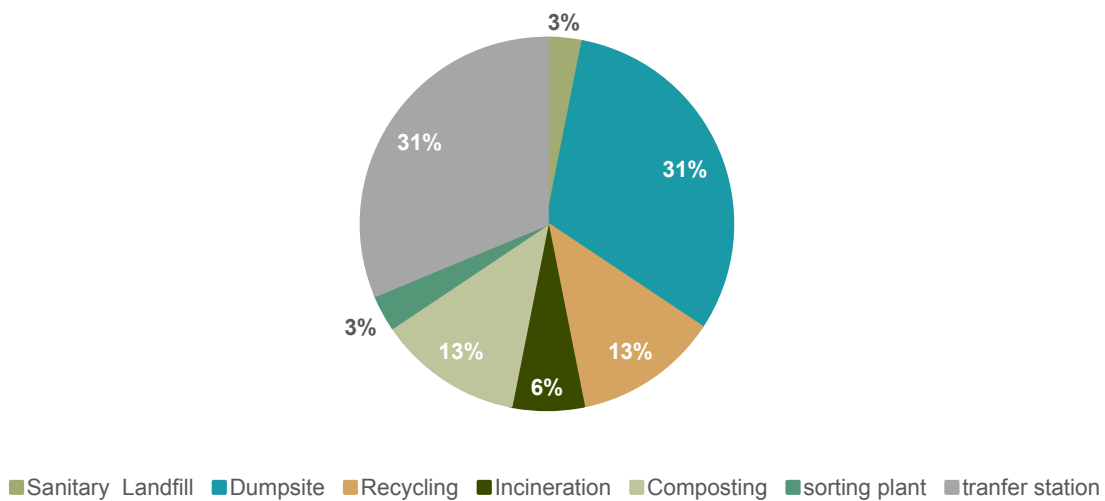
The Government of Abu Dhabi is keen to provide a healthy environment and it pays a special attention to advanced waste treatment methods. The total number of waste management projects in the Emirate of Abu Dhabi reached 32 projects in 2015.

Table 8: Waste management plants in Emirate of Abu Dhabi - 2015

Item	Abu Dhabi	Al Ain	Al Gharbia
Total	10	13	9
Sanitary Landfill	-	1	-
Dumpsite	1	1	8
Recycling	1	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 - 2015



Source: Statistic Centre - Abu Dhabi.

Explanatory Notes

Technical Terms

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. MSW generated by households and buildings in the residential areas.

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 Gharbia 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 Gharbia 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>

Next release expected in July 2017 covering 2016 data.

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