



مركز الإحصاء
STATISTICS CENTRE



Waste Statistics 2014

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Introduction

This report presents statistics on waste generation in the Emirate of Abu Dhabi for the year 2014, 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 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.

Waste in Abu Dhabi Emirate

The amount of solid waste generated in the Emirate of Abu Dhabi totaled about 10 million tons in 2014; compared with almost 12 million ton in 2013. Where amount of solid waste total generated decreased by (15.6) % between 2014 and 2013.

In 2014, non-hazardous waste formed 99% from the entire amount of solid waste generated, while hazardous waste accounted for a small proportion of about 1% as shown in Table 1.

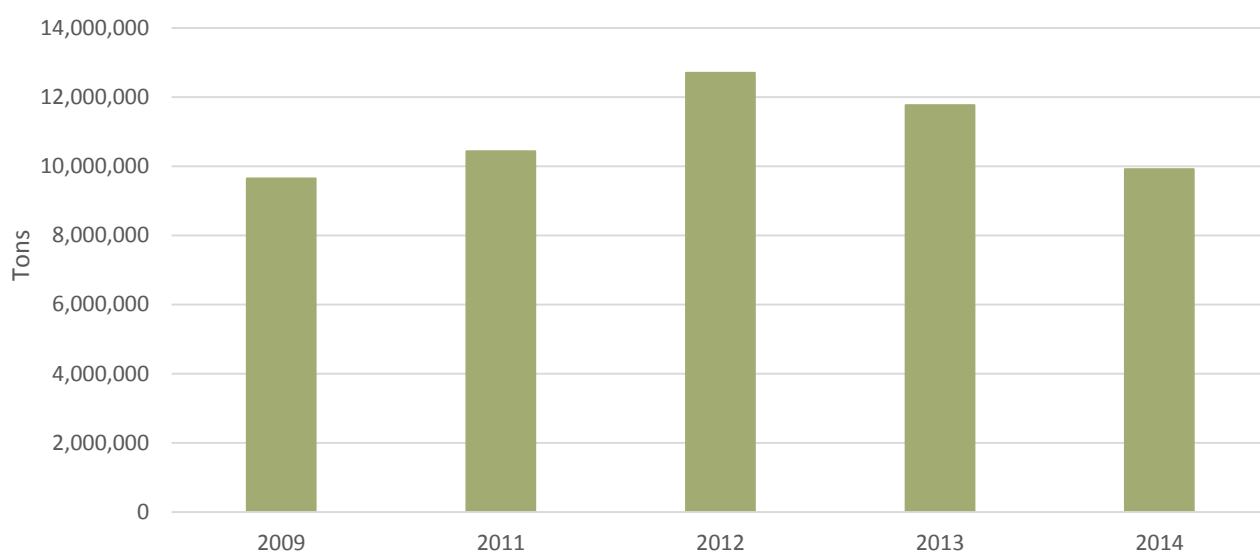
Table 1: Total Non-hazardous and hazardous solid waste in Abu Dhabi Emirate

(Tons)

Source	2009	2011	2012	2013	2014
Total	9,714,378	10,556,186	12,786,673	11,845,276	10,001,811
Non-hazardous waste	9,643,536	10,430,031	12,705,902	11,762,602	9,918,591
Hazardous waste	70,842	126,155	80,771	82,674	83,220

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

Figure 1: Total Non-hazardous of solid waste in Abu Dhabi Emirate



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

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 2009 and 2014. Data shows that the total amount of waste in 2014 increased by 2.9%, construction and demolition waste accounted for more than 44.6%. The daily per capita municipal waste was approximately 1.5 kg /day as shown in figure 2.

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

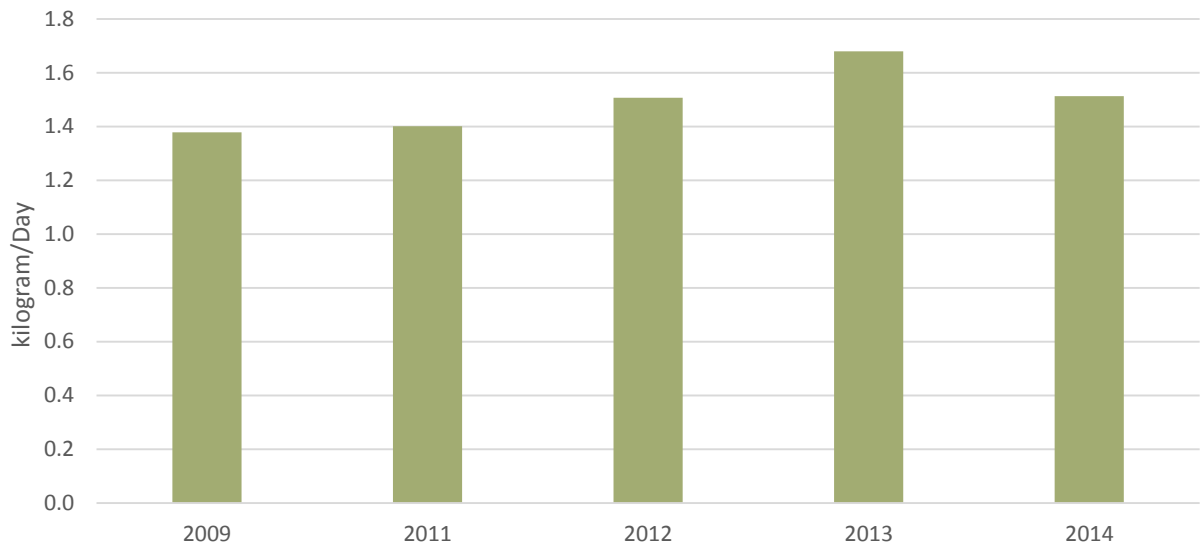
(Tons)

Source	2009	2011	2012	2013	2014
Total	9,643,535	10,430,031	12,705,902	11,762,601	9,918,591
Construction and demolition waste	7,050,000	7,624,575	9,628,309	7,692,920	4,419,665
C & D waste	4,692,857	5,075,325	5,721,367	2,767,342	1,723,498
C & D mixed waste	2,357,143	2,549,250	3,906,942	4,925,578	2,696,167
Industrial and commercial waste	594,857	643,338	804,174	1,305,556	3,312,125
Agriculture waste	754,571	816,069	898,258	999,239	561,991
General agriculture waste	58,571	63,345	305,749	339,078	320,689
Mixed agriculture and Animal waste	696,000	752,724	592,509	660,161	241,302
Municipal waste	1,022,285	1,105,602	1,272,668	1,528,093	1,466,591
Households, streets, and public gardens waste	794,571	859,329	1,059,219	1,234,336	1,298,955
Bulky waste	227,714	246,273	213,449	293,757	167,636
Other *	221,822	240,447	102,493	236,793	158,219

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

* include oil and gas sector waste and tires waste

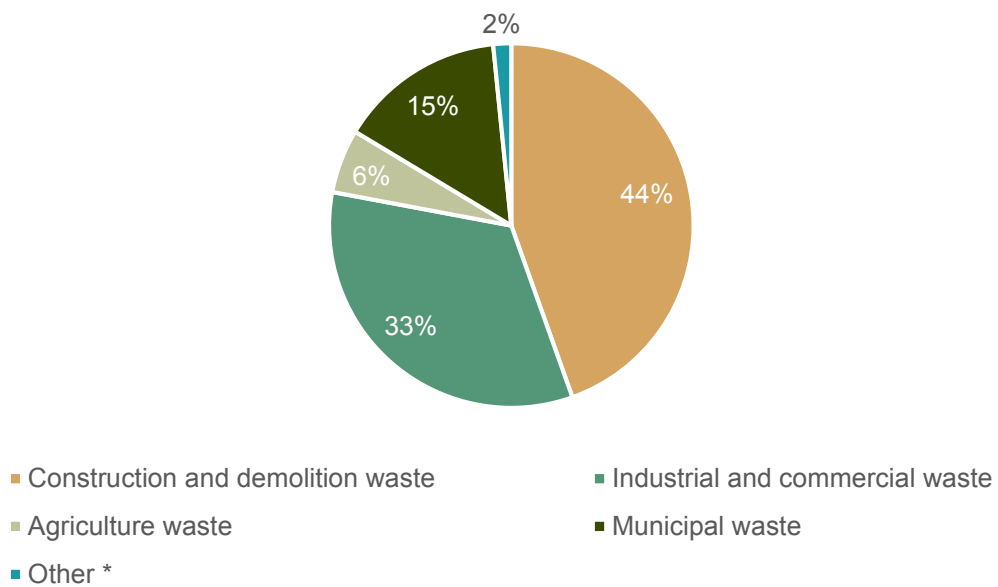
Figure 2: Amount of municipal waste per capita per day



Source: Statistics Center – Abu Dhabi

* Amount of waste per capita decreased in 2014 regarding the reduction in amount of municipal waste and growth in population

Figure 3: Percentage distribution of Non-hazardous solid waste by source activity - 2014



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 2014 was about 27.2 thousand tons / day, while the total amount of waste was about 9.9 million tons / year. Abu Dhabi region generated about 66.4 %. Figure 4 shows a comparison of waste generated between regions.

Table 3: Non-hazardous solid waste generation by region and source activity- 2014

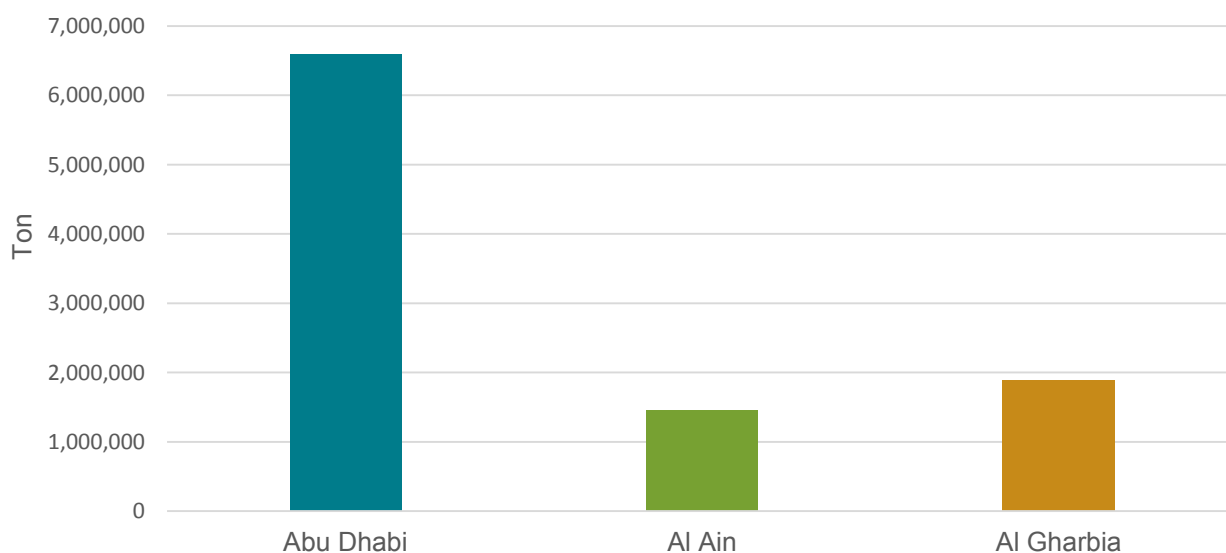
(Tons)

Source	Total	Abu Dhabi	Al Ain	Al Gharbia
Total	9,918,591	6,582,890	1,452,154	1,883,547
Daily average	27,174	18,035	3,979	5,160
Construction and demolition waste	4,419,665	2,348,671	773,474	1,297,520
C & D waste	1,723,498	1,508,710	214,788	0
C & D mixed waste	2,696,167	839,961	558,686	1,297,520
Industrial and commercial waste	3,312,125	3,305,377	2,124	4,624
Agriculture waste	561,991	52,785	295,022	214,184
General agriculture waste	320,689	-	133,393	187,296
Mixed agriculture and Animal waste	241,302	52,785	161,629	26,888
Municipal waste	1,466,591	875,566	350,148	240,877
Households, streets, and public gardens waste	1,298,955	787,279	342,999	168,677
Bulky waste	167,636	88,287	7,149	72,200
Other *	158,219	491	31,386	126,342

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

* include oil and gas sector waste and tires waste

Figure 4: Non-hazardous solid waste by region -2014



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

Solid Waste Disposal

Table 4 displays the quantity of solid waste by method of disposal, showing that waste recycling contribution in waste disposing was 18.3% in 2014. Solid waste composted is around 4.7% from the total waste disposed in 2014.

Table 4: Solid waste generation by method of disposal

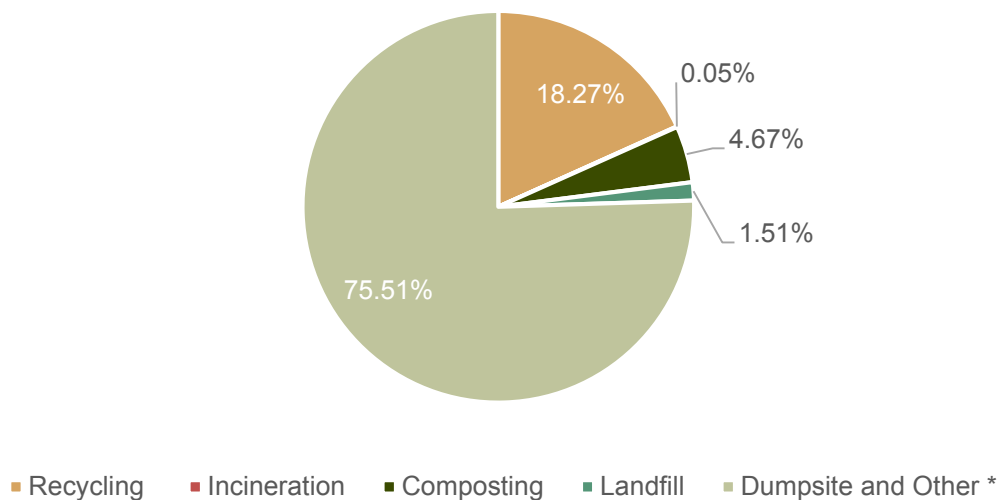
(Tons)

Source	2009	2011	2012	2013	2014
Total	9,643,536	10,430,031	12,705,902	11,762,602	9,918,591
Recycling	2,308,000	3,802,848	3,805,411	3,198,113	1,812,052
Incineration	-	34,029	37,830	40,917	4,774
Composting	170,667	269,786	367,273	458,491	463,355
Landfill	137,429	367,263	452,704	470,725	149,299
Dumpsite and Other *	7,027,440	5,956,105	8,042,684	7,594,356	7,489,111

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 - 2014



Source: Statistic Centre - Abu Dhabi

Municipal solid waste

Municipal solid waste in the Emirate of Abu Dhabi totaled 1.5 million tons in 2014, of which 74% was disposed in dumpsite as shown in Table 5. Figure 6 shows the relative distribution of municipal solid waste.

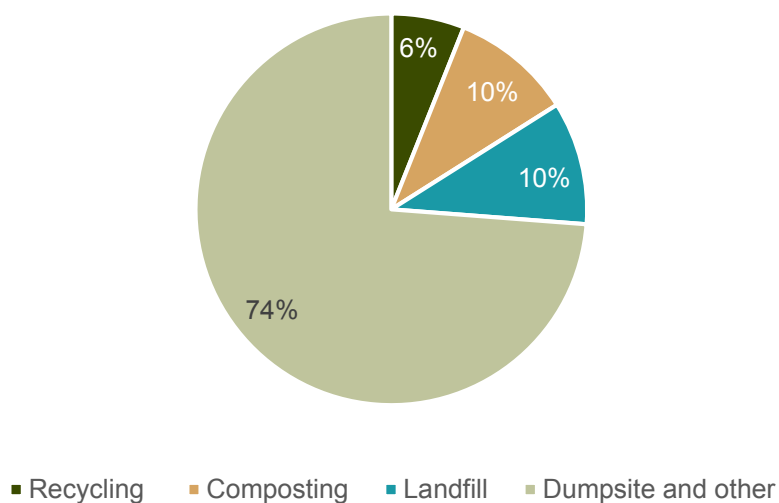
Table 5: Municipal solid waste by method of disposal

(Tons)

Method of disposal	2012	2013	2014
Total	1,272,668	1,528,093	1,466,591
Recycling	197,590	244,495	88,555
Composting	216,000	259,776	146,636
Landfill	103,120	122,247	149,299
Dumpsite and other	755,958	901,575	1,082,101

Source: The Centre of Waste Management - Abu Dhabi

Figure 6: Percentage distribution of municipal solid waste by method of disposal - 2014



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 83.2 thousand tons in 2014. Table 7 reveals that 12.7% of the hazardous solid waste were recycled.

Table 6: Hazardous solid waste generation by source activity

(Tons)

Source	2009	2011	2012	2013	2014
Total	70,842	126,155	80,771	82,674	83,220
Industrial waste	18,033	19,503	30,758	-	66,768
Medical waste	4,657	5,037	6,000	6,000	1,732
Slaughterhouses waste	24,857	26,883	31,931	11,768	-
Veterinary waste	9,714	10,506	-	20,257	-
Oil and Gas sector waste	13,581	64,226	12,082	44,649	*
Other	-	-	-	-	14,720

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

* Waste of oil and gas sector included within industrial sector

Table 7: Hazardous solid waste generation by disposal method and source activity - 2014

(Tons)

Source	Total	Recycling	Hazardous Waste landfilled	Incineration	Other
Industrial waste*	66,768	10,610	53	590	55,515
Medical waste	1,732	-	-	1,732	-
Other waste	14,720	-	14,720	-	-
Total	83,220	10,610	14,773	2,322	55,515

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

* Waste of oil and gas sector included within industrial sector

Waste Management Plants

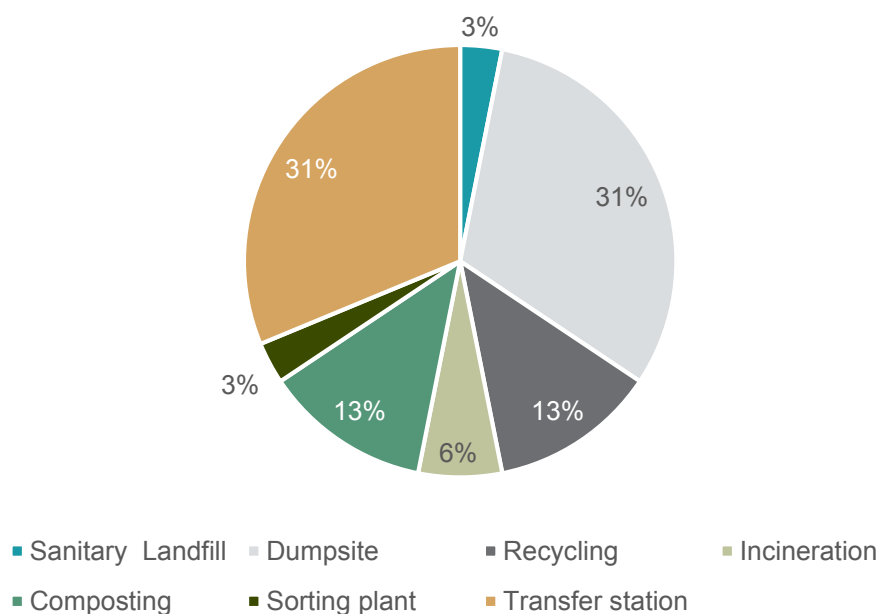
The Government of Abu Dhabi is keen to provide a healthy environment and it pays a special attention to advanced waste treatment methods. The total number of waste management projects in the Emirate of Abu Dhabi reached 32 projects in 2014.

Table 8: Waste management plants in Emirate of Abu Dhabi - 2014

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 - 2014



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. 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 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 & charts

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 December 2016 covering 2015 data.

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