



مركز الإحصاء
STATISTICS CENTRE



Waste Statistics 2016

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Introduction

This report presents statistics on waste generation in the Emirate of Abu Dhabi for the year 2016, 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.

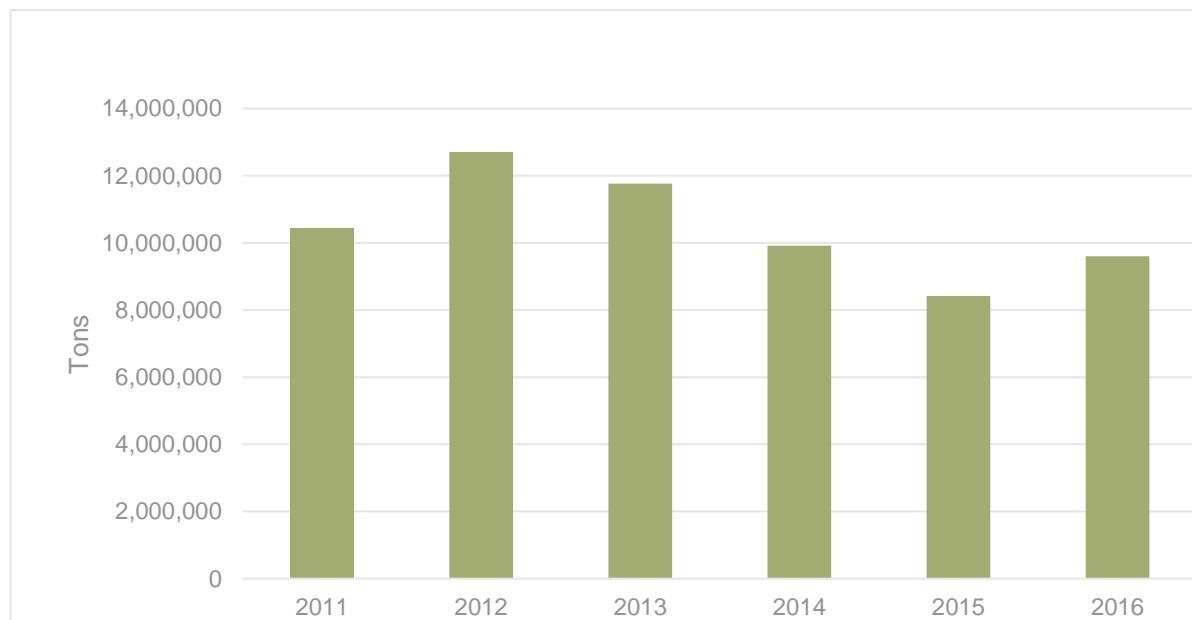
The amount of solid waste generated in the Emirate of Abu Dhabi totaled about 9.675 million tons in 2016; non-hazardous waste formed 99 percent, while hazardous waste accounted for a small proportion of about 1 percent as shown in Table 1.

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

Source	2011	2012	2013	2014	2015	2016
Total	10,556,186	12,786,673	11,845,276	10,001,810	8,478,523	9,675,062
Non-hazardous waste	10,430,031	12,705,902	11,762,602	9,918,590	8,420,998	9,598,969
Hazardous waste	126,155	80,771	82,674	83,220	57,525	76,093

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

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 2011 and 2016. Data shows that the total amount of waste in 2016 decreased by 8.2 %, construction and demolition waste accounted for more than 47.5%. The daily per capita municipal waste was approximately 1.47 kg /day as shown in figure 2.

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

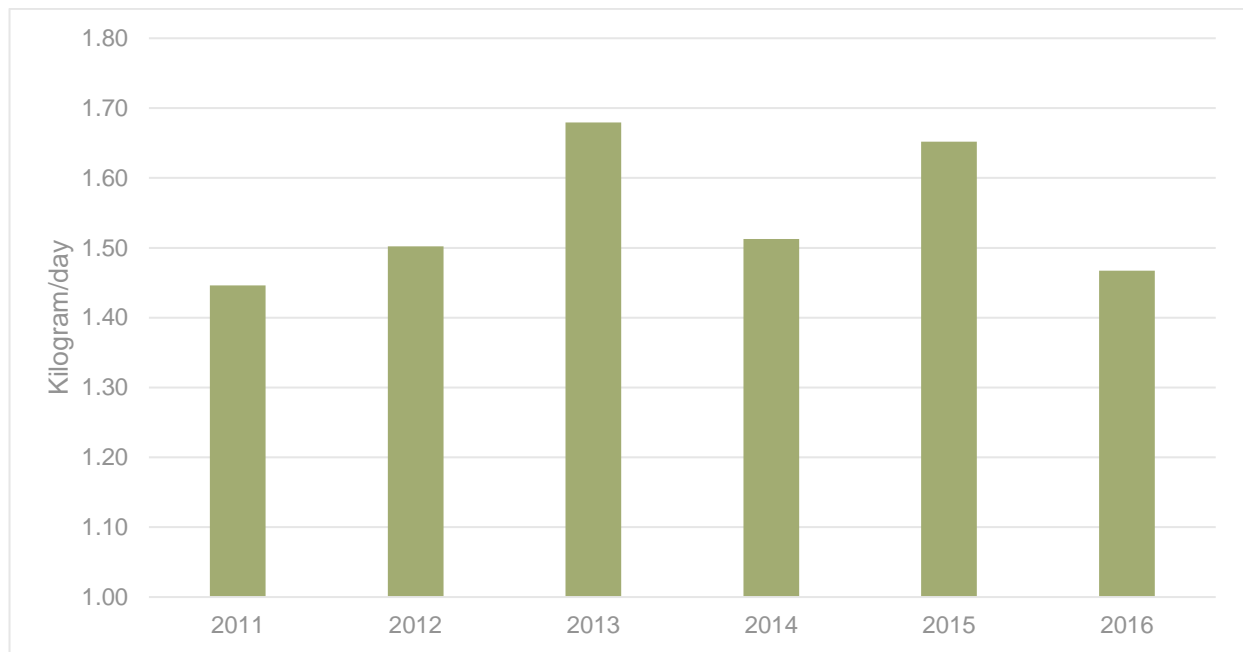
(Tons)

Source	2011	2012	2013	2014	2015	2016
Total	10,430,031	12,705,902	11,762,602	9,918,590	8,420,998	9,598,969
Construction and demolition waste	7,624,575	9,628,309	7,692,921	4,419,665	2,876,313	4,532,379
C & D waste	5,075,325	5,721,367	2,767,342	1,723,497	2,042,883	2,580,913
C & D mixed waste	2,549,250	3,906,942	4,925,579	2,696,168	833,430	1,951,465
Industrial and commercial waste	643,338	804,174	1,305,556	3,312,125	3,306,644	2,692,768
Agriculture waste	816,069	898,258	999,239	561,991	493,106	745,644
General agriculture waste	63,345	305,749	339,078	320,689	380,465	503,001
Mixed agriculture and Animal waste	752,724	592,509	660,161	241,302	112,641	242,643
Municipal waste	1,105,602	1,272,668	1,528,093	1,466,590	1,678,983	1,561,680
Households, streets, and public gardens waste	859,329	1,059,219	1,234,336	1,298,955	1,420,323	1,397,292
Bulky waste	246,273	213,449	293,757	167,635	258,660	164,387
Other*	240,447	102,493	236,793	158,219	65,952	66,499

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

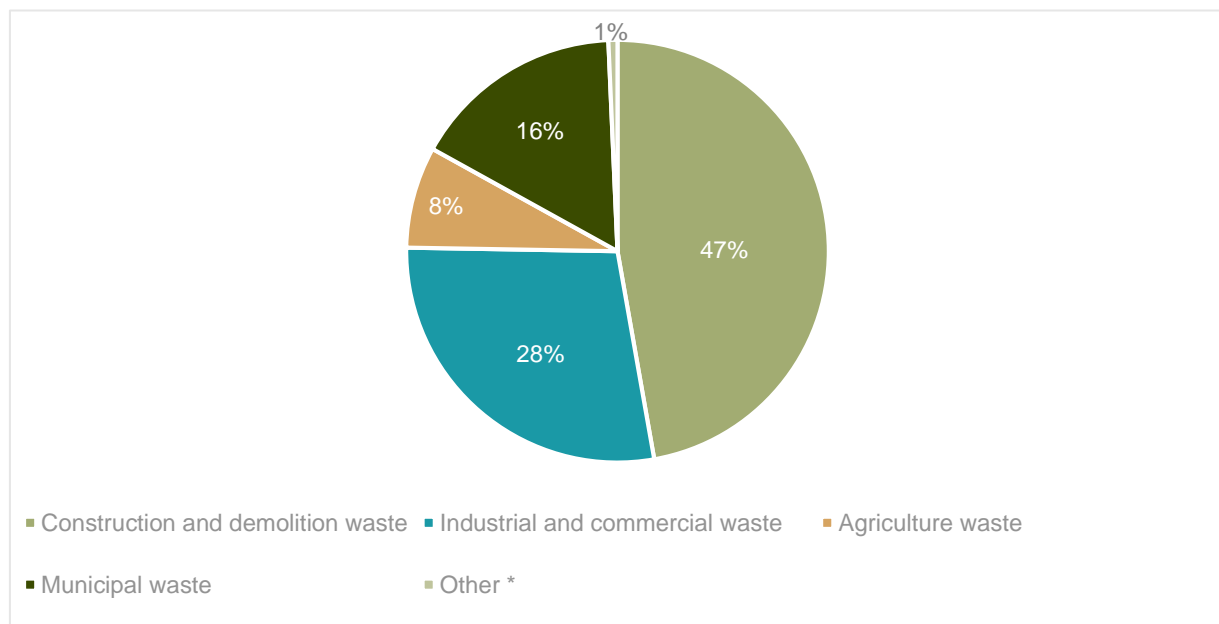
*Include Oil and Gas sector

Figure 2: Amount of municipal waste per capita per day



Source: Statistics Center – Abu Dhabi

Figure 3: Percentage distribution of Non-hazardous solid waste by source activity - 2016



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 2016 was about 26.3 thousand tons / day, while the total amount of waste was about 9.6 million tons in 2016. Abu Dhabi region generated about 67.7 percent Figure 4 shows a comparison of waste generated between regions.

Table 3: Non-hazardous solid waste generation by region and source activity- 2016

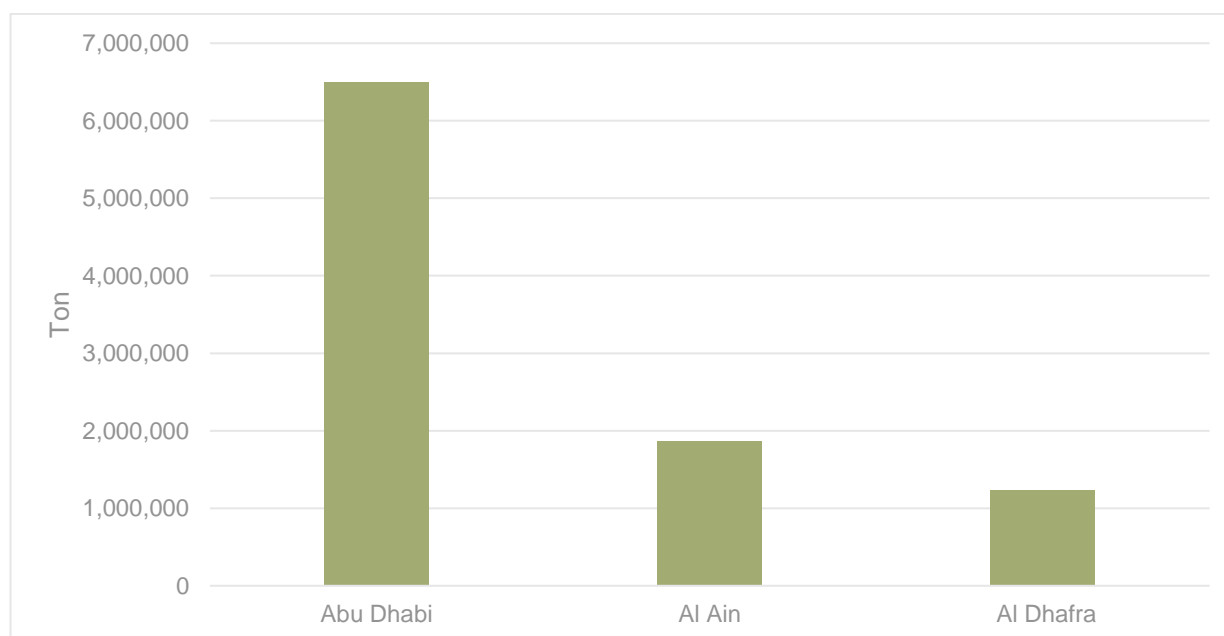
(Tons)

Source	Total	Abu Dhabi	Al Ain	Al Dhafra
Total	9,598,969	6,498,583	1,863,332	1,237,054
Daily average	26,299	17,804	5,105	3,389
Construction and demolition waste	4,532,379	2,524,436	1,116,692	891,251
C & D waste	2,580,913	2,372,223	208,691	-
C & D mixed waste	1,951,465	152,213	908,001	891,251
Industrial and commercial waste	2,692,768	2,675,649	0	17,119
Agriculture waste	745,644	55,495	500,447	189,703
General agriculture waste	503,001	49,345	268,016	185,640
Mixed agriculture waste	242,643	6,150	232,430	4,063
Municipal waste	1,561,680	1,176,505	246,194	138,981
Households, streets, and public gardens waste	1,397,292	1,032,871	231,846	132,575
Bulky waste	164,387	143,633	14,348	6,406
Other *	66,499	66,499	-	-

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

* Amount of waste estimated based on geographic distribution.

Figure 4: Non-hazardous solid waste by region -2016



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 29.7 percent in 2016. Solid waste composted is around 2.4 percent from the total waste.

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

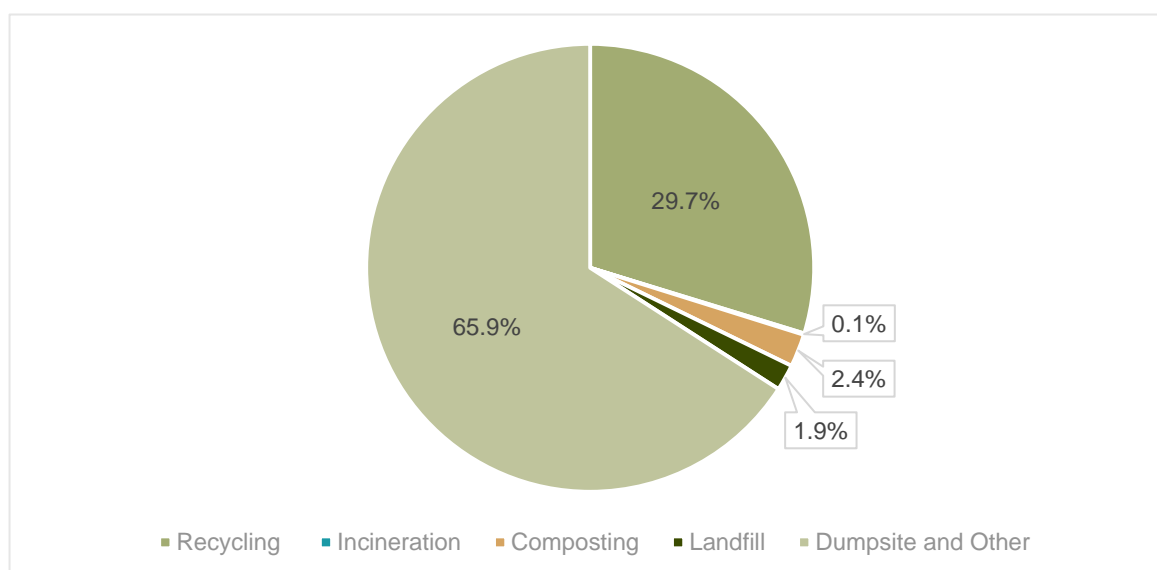
(Tons)

Source	2011	2012	2013	2014	2015	2016
Total	10,430,031	12,705,902	11,762,602	9,918,590	420,998,	9,598,969
Recycling	3,802,848	3,805,411	3,198,113	1,812,052	2,189,109	2,854,149
Incineration	34,029	37,830	40,917	4,774	21,510	9,824
Composting	269,786	367,273	458,491	463,355	452,627	228,126
Landfill	367,263	452,704	470,725	149,298	172,794	181,555
Dumpsite and Other *	5,956,105	8,042,684	7,594,356	7,489,111	5,584,958	6,325,315

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 – 2016



Municipal solid waste

Municipal solid waste in the Emirate of Abu Dhabi totaled 1.56 million tons in 2016, of which 62.8 percent was disposed in dumpsite as shown in Table 5. Figure 6 shows the relative distribution of municipal solid waste.

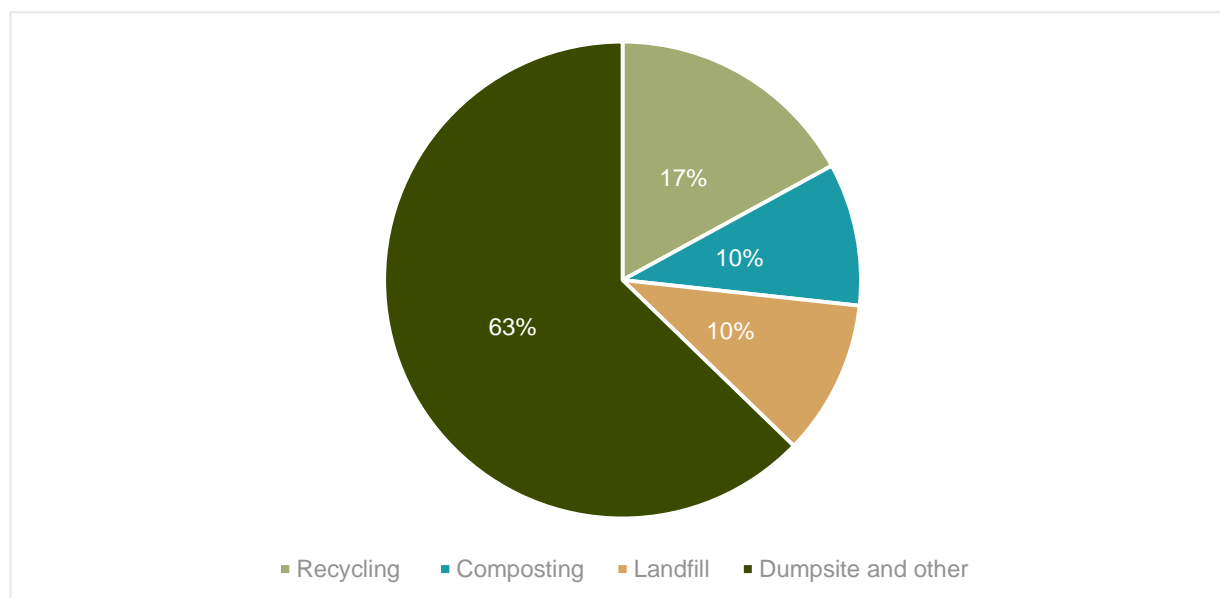
Table (5): Municipal solid waste by method of disposal

(Tons)

Method of disposal	2012	2013	2014	2015	2016
Total	1,272,668	1,528,093	1,466,590	1,678,983	1,561,680
Recycling	197,590	244,495	88,555	329,470	266,110
Composting	216,000	259,776	146,636	148,246	151,133
Landfill	103,120	122,247	149,298	154,209	164,387
Dumpsite and other	755,958	901,575	1,082,101	1,047,058	980,050

Source: The Centre of Waste Management - Abu Dhabi.

Figure 6: Percentage distribution of municipal solid waste by method of disposal - 2016



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 76 thousand tons in 2016. Table 7 reveals that 2.7 percent of the hazardous solid waste were recycled.

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

(Tons)

Source	2011	2012	2013	2014	2015	2016
Total	126,155	80,771	82,674	83,220	57,524	76,093
Industrial waste	19,503	30,758	-	10,463	2,209	391
Medical waste	5,037	6,000	6,000	1,732	4,573	6,316
Slaughter houses waste	26,883	31,931	11,768	-	-	-
Viternary waste	10,506	-	20,257	-	-	-
Oil and Gas sector waste	64,226	12,082	44,649	56,305	29,938	17,466
Other	-	-	-	14,720	20,804	51,920

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

Table (7): Hazardous solid waste generation by disposal method and source activity - 2016

(Tons)

Source	Total	Recycling	Hazardous Waste landfilled	Incineration	Other
Total	76,093	2,043	65,479	2,818	5,753
Industrial waste	391	-	391	-	-
Medical waste	6,316	-	4,408	1,908	-
Other waste*	69,386	2,043	60,680	910	5,753

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

* Include oil and gas sector waste

Waste Management Plants

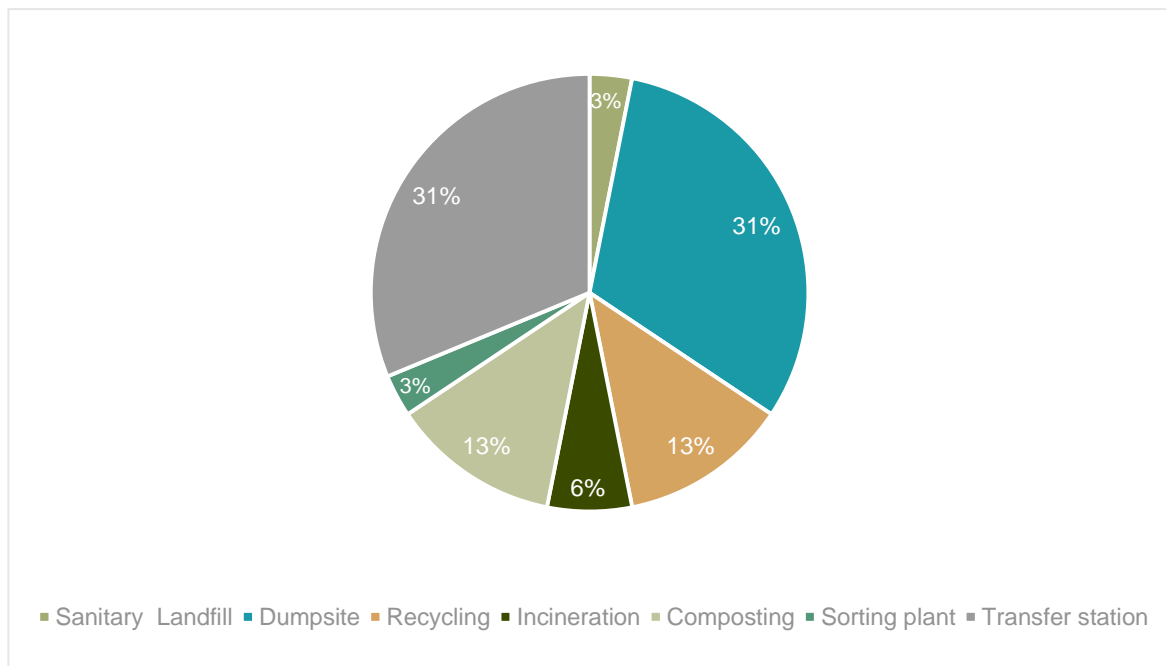
The Government of Abu Dhabi is keen to provide a healthy environment and it pays a special attention to advanced waste treatment methods. The total number of waste management projects in the Emirate of Abu Dhabi reached 32 projects in 2016.

Table 8: Waste management plants in Emirate of Abu Dhabi - 2016

Item	Abu Dhabi	Al Ain	Al Dhafra
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 - 2016



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 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 2018 covering 2017 data.

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