

WASTE CLASSIFICATION POLICY

EAD-EQ-PR-P-01

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CONTENTS

1. Policy Aim	4
1.1 Background	4
1.2 Objectives	4
2. Policy Framework	5
2.1 Scope and Applicability	5
2.2 Policy Statement	5
2.3 Legal Authority	6
2.4 Effective Date	6
3. Policy Analysis	8
3.1 Impact Assessment	8
3.2 Measurement of Actions	8
4. References	9
4.1 Citations Included	9
4.2 Definition of Key Terms	9
4.3 Resources Needed to Support This Policy	9

I. POLICY AIM

1.1 Background

Over the last decades, Abu Dhabi Emirate's waste management system and its supporting infrastructure has grown opportunistically, rather than systematically based on integrated planning. While the Emirate's waste management system has proved effective at collecting waste from where it has been generated and removing it out-of-sight, there are significant gaps in the processes and making best utilization in terms of reuse, recycle and resource recovery. This has primarily been due to the lack of a proper waste classification system that would allow the identification of the waste streams, or potential resource streams and its segregation into different stream to facilitate its scientific management.

The Environmental Agency - Abu Dhabi (EAD), Tadweer (Center of Waste Management – Abu Dhabi (CWM)) and the concerned authorities have jointly developed a Waste Management Strategy for the Emirate of Abu Dhabi (2014) that specifies CWM will develop an integrated waste management system in Abu Dhabi that is based on the principles depicted by the waste management hierarchy and life cycle approach (LCA). LCA and the waste hierarchy consider integrated waste management system is environmentally effective and economically affordable. This approach will take into account a combination of reduction in the amount of waste generated, reuse or recycling of the waste, including resource recovery, treating the waste using best available technology and disposal in a sanitary landfill, only when waste cannot be otherwise managed.

This policy is first in the series of policy documents that have been prepared to establish the regulatory framework for integrated waste management in the Emirate of Abu Dhabi to achieve the overall objectives of the Abu Dhabi Environmental Vision 2030 and Abu Dhabi Environment Policy Agenda (ADEPA).

1.2 Objectives

This policy sets the requirements for identification and segregation of the waste into different streams with an ultimate objective to support the application of the approach for optimizing waste reuse, recycling, resource recovery and treatment, including promoting market for recycled products, sustainable consumption and the overall objective of diverting waste away from landfills. The primary objectives of the waste classification are to:

1. Ensure the waste is handled appropriately and receives the correct treatment to protect human health and the environment;
2. Maximize the potential to divert waste from landfill through reuse, recycling, composting or resource recovery;
3. Optimize the planning for new facilities for handling, storage, treatment and disposal of waste; and
4. Allocate appropriate tariffs to create incentives to drive the waste hierarchy (reduce, reuse, segregate, sort, recycle, recover energy, treat and finally dispose).

CWM will support the development of policies and markets for recovered products (e.g. recyclables, energy) that are consistent with the overall strategy and plan for waste management in the Emirate of Abu Dhabi. This policy aims to support the Emirate's vision for an environmentally, socially and economically sustainable waste management system.

2. POLICY FRAMEWORK

2.1 Scope and Applicability

This policy defines the requirements for proper identification and segregation of waste into different streams to support the application of the approach for optimizing waste reuse, recycling, resource recovery and treatment.

The policy applies to all waste streams in the Emirate of Abu Dhabi including non-hazardous solid and liquid waste, hazardous solid and liquid waste, medical waste and nuclear (radioactive) waste.

The policy applies to all wastes generated by government and private sector entities (including household, commercial and industrial that include but not limited to healthcare facilities, schools, shopping malls, hotels, restaurants, labor camps, etc. as well as agriculture farms, animal farms and livestock), in the form of liquids and solids, whether they are potentially hazardous or non-hazardous.

The policy does not apply to wastes discharged to atmosphere in the form of gases, vapors, fumes, aerosols, dusts and particulates. However, dust and particulates collected from air pollution control devices are included in this policy.

This policy does not address any treatment or management aspect of the waste generated / classified. Specific policies address such aspects of waste management.

2.2 Policy Statement

The waste classification system has been developed based on the type of the waste and not on the source of the waste unlike the European Union classification. This has been done with a purpose of segregation of the waste into such streams that would be practically helpful to manage and maximize reuse, recycle, resource recovery and treatment. The ultimate objective being to move away from cradle-to-grave concept and work on the principle of cradle-to-reincarnation, based on benchmarking with best international practices considering the life cycle approach and waste hierarchy.

The broad classification of waste streams is as follows:

1. Non-hazardous solid waste:

- a. Putrescible solid waste;
- b. Non-recyclable and non-putrescible solid waste;
- c. Recyclable and non-putrescible solid waste;

2. Non-hazardous liquid waste; and 3. Hazardous waste (liquid and solid).

It is mandatory for all entities including government, public and private that generate waste or are involved in management of any solid or liquid waste to segregate the waste according to the above classification for effective management. All registered Environmental Service Providers (RESPs) shall collect segregated waste as per the above classification and manifest accordingly for effective management of waste. Manifestation of all waste is mandatory recording its type, actual quantity, source of generation including endorsement at the final destination (recycling / treatment / disposal).

The classification of hazardous waste has three main aims, namely;

- To enable the waste pre-classified as hazard waste (as described in Section 3.3.1 of Waste Classification Technical Guideline; EAD-EQ-PR-TGD-01);
- To enable the identification of waste possessing hazardous characteristics (as described in Section 3.3.2 of EAD-EQ-PR-TGD-01); and
- To identify waste containing specific contaminant(s) more than the Specific Contaminant Concentration (SCC) or exceeds the Leachable Concentrations as per the Toxicity Characteristics Leaching Procedure Test (as detailed in Annex I of the EAD-EQ-PR-TGD-01).

Some commonly generated wastes that possess hazardous characteristics, like batteries, waste engine oil, medical waste, asbestos, radioactive waste, etc. have been pre-classified as hazardous waste. Wastes that have been classified by the EAD and CWM cannot be reclassified by any other party in the Emirate of Abu Dhabi. EAD and CWM may pre-classify additional wastes as hazardous waste from time to time by a notice published officially. For the easy understanding of the above waste classification, a list of examples against the classified streams is given in table 1.

2.3 Legal Authority

This policy requires that all entities including government, public and private that generate waste or are involved in management of any solid or liquid waste to segregate the waste according to the above classification for effective management. Also, all registered Environmental Service Providers (ESPs) shall collect segregated waste as per the above classification and manifest accordingly for effective management of waste.

This policy is issued based on the regulatory structure as referred to in:

1. Federal Law No. 24 of 1999 regarding Protection and Development of the Environment;
2. Abu Dhabi Law No. 21 of 2005 regarding Waste Management in the Emirate of Abu Dhabi;
3. Abu Dhabi Law No. 17 of 2008 regarding establishing the Center of Waste Management - Abu Dhabi; and
4. Federal Cabinet Decree No. 37 of 2001 regarding the Regulations for the Handling of Hazardous Materials, Hazardous Wastes and Medical Wastes.

2.4 Effective Date

The policy will come into effect and shall be implemented for enforcement six months after the date of official approval.

Table 1. Examples for the Classified Waste Streams

No.	Waste Classification	Examples of Waste
1.	Non-hazardous Solid Waste A. Putrescible solid waste	<ul style="list-style-type: none"> • Household waste that contains putrescible organics. • Waste from litter bins that contains putrescible organics. • Disposable nappies, incontinence pads or sanitary napkins. • Animal waste from slaughterhouse except for infected animals and animal waste from infected animals, which shall be considered as veterinary- hazardous waste.
	B. Non-recyclable and non-putrescible solid waste	<ul style="list-style-type: none"> • Household waste from municipal clean-up that does not contain food waste and recyclables. • Waste collected by or on behalf of the Tadweer (Waste Management Center – Abu Dhabi) from street sweepings that do not contain food waste and recyclables. • Grit and screenings from potable water and water reticulation plants that have been dewatered so that they do not contain free liquids. • Fully cured and set thermosetting polymers and fiber-reinforcing resins.
	C. Recyclable and non-putrescible solid waste	<ul style="list-style-type: none"> • Glass, plasterboard, ceramics, bricks, concrete. • Metal. • Paper or cardboard. • Plastic, rubber. • Textiles. • Wood waste. • Used / broken furniture (e.g. bulky waste). • Construction and demolition waste. • Waste tyres. • End of life vehicles (ELV) and machinery after removing the hazardous waste components. • Waste electronic and electrical equipment (WEEE) after removing the hazardous waste components. • Virgin excavated natural material except for naturally occurring radioactive materials (NORM). • Asphalt waste including asphalt resulting from road construction and waterproofing works. • Cured concrete waste from a batch plant. • Foam. • Styrofoam. • Perlite.
2.	Non-hazardous liquid waste	Non-hazardous liquid waste generated from commercial and industrial facilities.
3.	Hazardous waste (liquid and solid) Hazardous waste as defined in the Waste Classification Technical Guideline defining the concentration limits materials to be classified as hazardous waste or pre-classified as hazardous waste	<ul style="list-style-type: none"> • Medical / clinical waste including but not limited to veterinary waste and dead animals which have died of an infectious disease. • Asbestos waste. • Any material containing asbestos. • Coal tar or coal tar pitch waste (being the tarry residue from the heating, processing or burning of coal or coke) comprising of more than 1% (by weight) of coal tar or coal tar pitch waste. • Lead paint waste. • Nickel - cadmium batteries. • Lead - acid batteries from vehicles. • Used / waste engine oil. • Used oil filters (mechanically crushed), rags and oil-absorbent materials that contain petroleum hydrocarbons. • Residues of waste oils and solvent paints, varnishes and paint strippers in containers. • Used pesticides containers / cans including pesticide residues or waste. • Residual or waste bleach and other cleaning agents. • Used florescent tubes and energy saving light bulbs. • Used aerosol cans. • Hazardous components of end of life vehicles. • Hazardous components of waste electronic and electrical equipment.

3. POLICY ANALYSIS

3.1 Impact Assessment

The implementation of this policy will help for the achieving many outcomes and benefits such as:

- Achieving the national targets for the treatment of waste and the Abu Dhabi Environmental Vision 2030 target for diversion of waste away from the landfill;
- Reducing the environmental and health risk resulting from the improper management of wastes;
- Encouraging the efficient use of resources in accordance with the principles of sustainable development and life cycle approach;
- Encouraging sustainable use of recycled products;
- Promoting the health, safety and welfare of the people of the Emirate of Abu Dhabi, and protecting the environment by establishing requirements and guideless for the management of the waste;
- Positive contribution to the economic development as result of recycling, reusing of waste materials and use of recycled products; and
- Encouraging the government and private sectors to share responsibilities and creating a sense of social accountability, for managing waste.

On the other side, implementing this policy would require new infrastructure to be developed to meet the need for maximizing recycling and resource recovery, however, the market for recycled products and sustainable consumption as addressed in the policy on 'Waste Reuse, Recycling, Resource Recovery, Treatment and Disposal' need to be created that would be both environmentally and economically sustainable. Although the policy may add some cost of processing of waste, like the cost of segregated collection, which is obviously much less than the revenue from recycling and resource recovery as well as less than the cost of the environmental damage. Processing cost to produce recycled products may be more expensive than using the natural resources, but could be cheaper if the environmental cost is taken into considerations.

3.2 Measurement of Actions

Through Abu Dhabi Environment Vision 2030, EAD has been working with CWM and other stakeholders and has developed strategies with the aim of improving waste management system. The following outcomes have been set, which can be achieved by pragmatic implementation of a life cycle approach in waste management and this policy will significantly help in achieving the outcomes.

Table 2. Waste Management Measures

Priority	Outcome	Measure
Waste reduction, recycling and reuse	Waste streams effectively diverted from landfill to the most appropriate and environmentally sound treatment or disposal alternative.	% of municipal, commercial and industrial waste diverted.
	Limited agricultural waste that is disposed of in landfills.	% of agricultural waste sent to landfills.
	Increased capacity of electricity and heat generated from waste sources.	% of total non-recyclable used for energy recovery (Refuse derived fuel "RDF" or waste to energy or biofuel from municipal solid waste, etc.)
Sanitary handling and disposal of waste.	Sanitary engineered landfill / disposal sites.	% of landfilled waste disposed of in sanitary engineered sites.
	Medical and hazardous waste properly treated before reuse or disposal.	% medical and hazardous waste appropriately treated.

4. REFERENCES

4.1 Citations Included

Federal Law No. 24 of 1999 regarding Protection and Development of the Environment.

Abu Dhabi Law No. 21 of 2005, Waste Management in the Emirate of Abu Dhabi.

Abu Dhabi Law No. 17 of 2008 regarding establishing the Center of Waste Management - Abu Dhabi.

Federal Cabinet Decree No. 37 of 2001 regarding the Regulations for the Handling of Hazardous Materials, Hazardous wastes and Medical Wastes.

Waste Management Policy (EAD-EQ-PR-P-03): Licensing and Enforcement Policy for Waste Sector.

Waste Management Policy (EAD-EQ-PR-P-04): Waste Collection, Segregation, Transfer and Tracking Policy.

Waste Management Policy (EAD-EQ-PR-P-05): Waste Reuse, Recycling, Resource Recovery, Treatment and Disposal Policy.

Tadweer (Waste Management Center – Abu Dhabi) Technical Guidelines (CWM TG # 01): Requirement & Procedure for Disposal of Hazardous Waste.

Tadweer (Waste Management Center – Abu Dhabi) Technical Guidelines (CWM TG # 08): Management of Asbestos and Asbestos Containing Material in the Emirate of Abu Dhabi.

Tadweer (Waste Management Center – Abu Dhabi) Technical Guidelines (CWM TG # 10): Inspection of Waste Treatment Facilities, Waste Transportation and Pest Control Facilities.

Tadweer (Waste Management Center – Abu Dhabi) Technical Guidelines (CWM TG # 11): Permits and Licensing Requirements for Transportation, Treatment and Recycling Facility.

Abu Dhabi Emirate Environment, Health and Safety Management System Regulatory Framework (AD EHSMS RF), Codes of Practice (EHS RI CoP # 1.1): Management of Asbestos Containing Materials.

Department of Environment and Climate Change NSW, Waste Classification Guidelines, Part 1: Classifying Waste, 2009.

Vienna Convention for the Protection of the Ozone Layer of 1985 and Montreal Protocol on Substances that Deplete the Ozone Layer of 1987.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal, 1989.

United Nations Framework Convention on Climate Change for the year 1992;

Stockholm Convention on Persistent Organic Pollutants (POPS), 2001.

Montreal Amendments (London 1990, Copenhagen 1992, Montreal 1997, Beijing 1999). Kyoto Protocol, 1997.

Kuwait Regional Convention for cooperation on the protection of the marine environment from pollution, 1978.

Regional Convention of Protocol on the Control of Marine Transboundary Movements and Disposal of Hazardous Wastes and Other Wastes, 1998.

Waste Management Strategy for the Emirate of Abu Dhabi, 2014.

Abu Dhabi Environment Policy Agenda (ADEPA), 2014.

4.2 Definition of Key Terms

Please refer to the waste definition document for all key terminology.

4.3 Resources Needed to Support This Policy

For the proper implementation of this policy, waste classification technical guideline should be prepared.