

WASTE PLANNING POLICY

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I. POLICY AIM

I.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 effectively at collecting waste from where it has been generated and removing it out-of-sight, there are significant gaps in the infrastructure and processes. There is a need for developing an Integrated Waste Management Master Plan based on the life cycle approach (LCA) to achieve the overall objectives of the Abu Dhabi Environmental Vision 2030.

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 hierarchy and 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 it cannot be otherwise managed.

This policy is part of a 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).

I.2 Objectives

This policy aims at establishing mathematical / statistical model based on Integrated Waste Management Master Plan to optimize the resources including the infrastructure required for overall management of waste in the Emirate of Abu Dhabi. The primary focus of the Integrated Waste Management Master Plan would be to maximize the diversion of waste away from landfill as well as maximizing recycling, reuse, resource recovery including energy and material.

2. POLICY FRAMEWORK

2.1 Scope and Applicability

This policy is designed to facilitate the proper planning of an integrated waste management system based on LCA to select and optimize the use of best available technology and management techniques.

The policy covers all type of waste in the Emirate of Abu Dhabi including non-hazardous solid waste (including but not limited to agricultural farms and animal farms wastes), non-hazardous liquid waste (excluding sewage waste and drainage water), hazardous solid and liquid waste as well as medical waste. This policy does not include any aspect of nuclear (radioactive) waste.

The policy applies to all generators of wastes by government and private sector entities, 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 prohibits the open burning of any wastes unless specifically permitted by EAD (environmental permit) and CWM (waste management permit) and also prohibits unauthorized dumping of waste in desert, open area, highway sides, etc.

2.2 Policy Statement

The Integrated Waste Management Master Plan shall be developed adopting LCA approach and focus on the integration of activities from the point of waste generation, collection through to the final reuse, recycling, resource recovery or disposal. Abu Dhabi's existing waste management infrastructure may need to be upgraded to support the Integrated Waste Management Master Plan. The Integrated Waste Management Master Plan will be a live document that will be updated on a regular basis (every three or five years). Therefore, it is recommended to be based on mathematical / computational models for decision making.

Currently, the growth in waste generation is greater than the current population growth each year. To reduce pressure of increasing waste generation, CWM shall adopt and promote options at the top of the waste hierarchy to promote sustainable development in resource consumption. The integrated waste management system should promote sustainable consumption by way of encouraging the minimization of packaging, designing waste out of construction and industrial processes, and use of recycled products over materials drawn from natural resources.

Based on the Integrated Waste Management Master Plan, the CWM shall identify the appropriate infrastructure required for the waste management to achieve the overall objectives of the Abu Dhabi Environmental Vision 2030 and the Waste Management Strategy for the Emirate of Abu Dhabi. The Integrated Waste Management Master Plan shall consider state of art technologies / infrastructure for maximizing diversion of the waste away from landfill, proper resources recovery in terms of energy from municipal solid or organic waste as well as material recovery, etc.

CWM will work with stakeholders in the Emirate of Abu Dhabi to establish the requirements of any new waste infrastructure needed for approval of major new developments.

CWM shall periodically review the current conditions of waste management for all types of waste and consider related institutional, legal, technical, financial, cost recovery, environmental, and social aspects for Abu Dhabi Emirate.

CWM shall collect and analyze data on waste generation and composition based on the existing collection contractors, weigh bridge data and forecast of the waste generation for a specified future period. CWM shall use various tools including but not limited to awareness, compliance enforcement, and waste tariff to encourage waste generators to reduce waste generation. Based on the information gathered, CWM will conduct a comparative assessment of commercially proven options and technologies for waste treatment from collection to final disposal, on the basis of waste generation, composition, technical and economic feasibility and environmental and social impacts. CWM will analyze optimal scenarios and determine appropriate implementation and financial plans. Key performance indicators will be developed and reviewed on a regular basis by CWM.

CWM is responsible for optimizing waste infrastructure (type and location) to ensure all types of waste are catered for (municipal solid waste, non-municipal solid waste, hazardous

wastes and inert waste) and to minimize the distances travelled by collection and transfer vehicles.

All waste management facilities shall be licensed by CWM, obtain environmental permit from EAD and other relevant licenses / permits from respective government authorities. Waste shall be handled / collected / transported / treated / disposed only by Environmental Service Provider licensed specifically for that purpose, and waste shall not be transported out of the Emirate of Abu Dhabi without a permit.

2.3 Legal Authority

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.

3. POLICY ANALYSIS

3.1 Impact Assessment

An Integrated Waste Management Master Plan will be developed based on this policy, the policy for Waste Reuse, Recycling, Resource Recovery, Treatment and Disposal, and the Waste Classification Policy. The Integrated Waste Management Master Plan will help to achieve the overall objectives of the Abu Dhabi Environmental Vision 2030 and the Waste Management Strategy for the Emirate of Abu Dhabi, specifically to maximize diversion of the waste away from landfill to recycling, reuse and resource recovery including energy and materials.

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

- Reducing the environmental and health risk resulting from the improper and illogical generation and 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 guidelines 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.

The Integrated Waste Management Master Plan and the options within it will be supported by a full cost benefit analysis including the environmental cost being taken into considerations. The direct cost of waste disposal in the near term is likely to rise as we transition away from dumpsites to a good practice waste management system. This approach however, will reduce the deferred cost of cleaning up legacy waste if we continue with the current waste disposal options.

3.2 Measurement of Actions

The outcomes we aim to achieve through the Integrated Waste Management Master Plan are listed below, and have been taken from the Abu Dhabi Environment Vision 2030 and the Waste Management Strategy for the Emirate of Abu Dhabi as well as those contained in other policies.

Table 2. Waste Management Measures

Priority Area	Measure
Compliance enforcement	Strengthening anti-dumping and fly tipping control measures and tracking of waste export outside the Emirate of Abu Dhabi.
	Design, create and maintain shared database for tracking of all waste.
	Expand regulatory requirements to use the recycled products (recycled concrete aggregate, recycled plastic granules, rubber crumbs, etc.).
	Improving the quality of Environmental Service Providers (ESPs) and limiting the number of ESPs.
Master planning	Fully integrated waste management based on life cycle approach deploying all useful strategies to optimize waste reduction, reuse, recycle, resource recovery, etc.
Waste infrastructure	Establishing hazardous waste treatment facility.
	Establish adequate medical waste treatment (incineration) facilities.
	Expanding network of collection of used oil, batteries, end of life vehicles, etc.
	Divert waste away from landfill and increase recycling, recovery of resources including energy (power, diesel, etc.).
Waste services.	Create new transfer stations.
	Economically sustainable and customer friendly, i.e. providing a competitive level of tailored public services, which is not inhibiting economic growth.

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.

Abu Dhabi Decree No. 42 of 2009 concerning The Environment, Health and Safety Management System in Abu Dhabi Emirate.

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (LDC), 1972 (MARPOL).

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.

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

Protocol concerning Marine Pollution resulting from Exploration and Exploitation of the Continental Shelf, 1989.

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 the Integrated Waste Management Master Plan should be prepared, implemented and updated.