

**Title of policy**

National Waste Management Policy (NWMP)

**Purpose of policy**

The purpose of this policy is to propose guidelines for the minimisation, control and management of wastes and pollution. This is essential for the sustainable social, environmental and economic development of Samoa.

**Previous references**

The National Environment and Development Management Strategies (NEMS) framework as approved by Cabinet, identified the problems of waste management, and pollution mitigation as priority concerns at both the national and community levels. Waste management is also a major underlying factor in the government's efforts to promote sustainable development as proposed in its Statement of Economic Strategies (SES). This led to the formulation of the NWMP achieved through wide consultation with all stakeholders.

A 1999 survey of waste generation of families living in the Apia urban area indicated changes in peoples' life styles that mirrored those in developed countries. With improved living standards, various types of wastes and pollutants had also increased contributing to the greater pollution of the land, sea and atmosphere.

**Requesting agency**

Department of Lands Surveys and Environment (DLSE)

**Implementing agency**

DLSE

**Other stakeholders relevant to policy implementation**

Health Department

Samoa Visitors Bureau

Ministry of Internal Affairs

Ministry of Women Affairs

Ministry of Transport

Ministry of Agriculture, Forestry, Fisheries and Meteorology

Public Works Department

Ministry of Trade Commerce and Industries  
Electric Power Corporation  
Water Authority  
Samoa Manufacturing Association  
Samoa Tourist Operators' Association  
Samoa Hotel Owners' Association  
Matuaileoo Environment Trust Inc.  
National Women's Development Committee

## **Background to the formulation of the policy proposal**

### Solid wastes

Recent estimates had shown that about 90,000 cubic meters or 13,000 tonnes of domestic wastes from Apia urban area were disposed annually at the landfill at Tafaigata. The solid waste generation rate had almost doubled over six years, from 0.52 kg per person per day in 1994 to 0.99 kg per person per day in 1999. Bulk density decreased from 350 kg per cubic meter in 1993 to 143 kg per cubic meter in 1999. The largest component of solid waste was biodegradable, amounting to as high as 68% in weight of domestic waste.

Non-biodegradable waste, most of them imported, have also been on the rise. While recycling these materials is not viable in a small and isolated island country like Samoa, a reduced consumption of one-way type packaging and plastic film is highly recommended. One such option is the introduction of a 'polluter pays' policy.

### Sewage

The main methods of sewage treatment, septic tanks and pit latrines, are a direct source of groundwater pollution. Sewage contamination is also causing nutrient enrichment and bacterial/viral pollution of marine areas. This is because the systems are not designed properly to treat sewage, avoid seepage into the ground or prevent overflowing during heavy rains and floods. Septic tank sludge dumped at the landfills are disposed in unlined pits causing further seepage into the ground.

There are on-site sewage treatment plants used by some government agencies and commercial firms to treat effluent before being flushed into the lagoon. Some have been operating satisfactorily, but most have failed to adequately clean up the waste due to the lack of maintenance and qualified personnel. At times raw sewage is discharged directly into the mangrove or coastal waters without treatment.

### Hazard waste

The use and disposal of chemicals and pesticides is a major concern. A recent report by the South Pacific Regional Environment Programme identified an abandoned timber treatment site at Vaitele, the pressure tank and a 10, 000 liter storage tank were still intact, and the tank appeared to be full of treatment chemicals. Site access was poorly controlled and there were anecdotal reports of domestic animals dying after foraging through the site. At the Asau timber treatment site, the pressure tank was intact, but two large storage tanks had rusted through. Green soil was visible evidence of Copper chrome arsenic contamination of the ground. The clean-up of contaminated sites is very costly, far more expensive than the prevention of contamination in the first place.

About 2.5 tonnes of pesticides were buried at the Nuu Crop Research Center. Considerable amounts were also buried in various places by the Ministry of Agriculture. Waste oils from vehicles and power generators have become major sources of contamination as there is yet no approved system for disposal. The waste oils, around 200 tonnes per annum, is being disposed in any way possible. Another critical issue is the use, storage and disposal of other chemicals including pesticides, industrial and pharmaceutical. Again there is no system for the safe management of chemicals although efforts are in collaboration progress in relations to the United Nations Conventions on Persistent Organic Pollutants (Stockholm), Control of the Transboundary Movement of Hazard Wastes (Basel) and Prior Informed Consent (Rotterdam).

### Waste collection and disposal

Free public collection of rubbish is provided for the whole country. Rubbish from Upolu is disposed at the Tafaigata landfill while rubbish from Savaii is dumped at the Vaiata landfill. Hospital wastes are dumped at the same landfills with pathogenic wastes, while needles and sharp objects are buried at designated pits. Sewage/septic sludge are also disposed at the landfills

Considerable improvement of the landfills is needed, with adequate funding appropriated for their development. Mechanisms for controlling leachates from the general wastes area as well as fouled water from sludge settling ponds, and the prevention of surface runoff from reaching the site have not been implemented. After eight years in operation without any of these protective measures at the Tafaigata landfill, the ground water at the site could well be contaminated. Burning of wastes creates toxic dioxins and furans which are extremely dangerous pollutants. The

newly-opened 84 acre landfill at Vaiata in Savaii needs considerable resources to secure the site and establish a management plan.

### **Detailed statement of the policy**

#### **Goal**

To reduce, control and manage wastes and associated pollution in a sustainable manner in order to protect, maintain and improve the quality of life in Samoa.

#### **Objectives**

The NWMP objectives following from the goal above are as follows:

<b>Objectives</b>	<b>Comments</b>
1. To minimise, and reduce where possible, solid, liquid and gaseous wastes from all sources.	To minimize waste generation at source, the following are necessary. <ul style="list-style-type: none"> <li>•Create and facilitate public awareness and understanding of waste minimization;</li> <li>•Develop legislation to control trade- and commercial-related waste eg. disposable or one-way type packaging;</li> <li>•Enact trade legislation to encourage the importation of goods and products that do not create waste;</li> <li>•Promote the efficient use of resources to reduce waste;</li> </ul>
2. To encourage the recycling and reuse of waste to reduce the amount for disposal and treatment	<ul style="list-style-type: none"> <li>•Large amount of waste being generated are recyclable and/or reusable . These can be turned into marketable products or substitute materials.</li> <li>•Encourage private sector participation in recycling activities;</li> <li>•Establish separation and recycling system for reduction of non-biodegradable waste;</li> <li>•Utilise biodegradable waste as renewable resources.</li> </ul>
3. To collect, analyse and disseminate information on waste management.	One of the main problems facing Samoa is the inadequacy of data on the true amount of waste from various sources. Reliable data is vital to the design of programmes or projects to address waste-related problems.
4. To develop specific strategies dealing with separate types of wastes.	Each type of waste - solid, liquid and gaseous - .has its own particular characteristics that must be taken into account in programme design.
5. To create and promote awareness of the sustainable and safe management of waste.	•Awareness of the sustainable and safe management of waste, including toxic chemicals is critical to achieving policy success;

	<ul style="list-style-type: none"> <li>•Everyone should be aware of the consequences of uncontrolled disposal and discharge of waste into the environment and understands efforts to solve waste-related problems;</li> <li>•Community support for and NGO involvement in waste management activities should be a top priority.</li> </ul>
6. To promote the sustainable management of waste.	<p>There are a number of measures that will promote the sustainable management of waste, including:</p> <ul style="list-style-type: none"> <li>•Develop appropriate collection, treatment, and sanitary landfills for the disposal of solid wastes;</li> <li>•Initiate programmes for the remediation of degraded habitats or contaminated sites.</li> <li>•Establish standards for domestic and industrial waste outputs;</li> <li>•Provide incineration, treatment, and storage facilities for wastes that cannot be sustainably disposed in landfills;</li> <li>•Encourage the promotion of energy sources from waste.</li> <li>•Introduce collection and/or disposal charges to help sustain landfill operations;</li> <li>•Investigate the local application of new waste treatment and disposal technologies.</li> </ul>

### Strategy for achieving policy objectives

The following strategies are proposed for achieving the above objectives:

Strategy	Activities
<p><b><u>Short-term</u></b> To strengthen the capacity of the Division of Environment and Conservation of DLSE in waste management in order to facilitate policy implementation.</p>	<p>Provide additional staff of Senior Policy Officer and Officer in Waste Management, within the Planning and Policy Section of DEC, with adequate resources to facilitate the policy activities including:</p> <ul style="list-style-type: none"> <li>•Develop policy implementation plan;</li> <li>•Encourage the involvement of relevant agencies in policy implementation;</li> <li>•Create public awareness on waste management issues and problems;</li> <li>•Collect waste data and information;</li> <li>•Review existing legislation to strengthen waste control;</li> <li>•Develop waste-related environmental standards;</li> <li>•Promote minimization, reuse and recycling</li> </ul>

	of waste; •Facilitate the work of the Implementation Task Team
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<p><b><u>Medium- to long-term</u></b></p> <p>To establish a Waste Management Section within the DLSE that will be responsible for policy implementation and deals with all the country's waste management needs.</p>	<p>Set up a Waste Management Section comprising 1 Chief, 1 Senior Officer and 2 Officers to deal with waste national management activities including:</p> <ul style="list-style-type: none"> <li>•Take over the responsibility to manage chemicals and associated wastes;</li> <li>•Develop strategies for cost recovery;</li> <li>•Encourage the commercial treatment of waste in partnership with the private sector;</li> <li>•Formulate legislation to effect the 'polluter pays' principle;</li> <li>•Develop trade policies to control waste and encourage waste reduction;</li> <li>•Promote Samoa's ratification of the Stockholm, Basel and Rotterdam Conventions;</li> <li>•Facilitate the reviews and evaluation of the policy.</li> </ul>
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### **Expected benefits from the policy initiative**

The adoption of this NWMP will ensure the incorporation of recommended strategies and activities into future waste management planning in Samoa. It is apparent that any attempt to deal with waste management will require the cooperation between government and the private sectors. All the activities recommended for the achievements of the goals and objectives of the policy will involve the public either as individuals or communities in partnership with the government.

The main benefits will be expanded knowledge and understanding of all types of wastes leading to better ways to deal with them. This should result in reduced pollution due to waste, cleaner environment and improved public health. It should also enhance economic activities through the efficient use of resources creating less waste and the development of waste treatment to provide commercial products.

### **Relationship to the SES and sectoral objectives/strategies**

The NWMP is necessary to achieve the vision outlined in the SES 2000-2001, advocating Samoa to maintain leadership in the region through: improving health and education standards; promoting agriculture and tourism development; sustaining social and cultural values; and environment sustainability. In this regard, this policy promotes and advocates a responsible approach to waste management, without which, long-term development cannot be sustained.

**Human resources implications**

At present there is only one Waste Management Officer among a total of 5 staff within the Planning and Policy Section of the DEC Division of DLSE. In the short-term a Senior Officer and Officer are required to facilitate policy implementation. In the long-term however, a stand-alone Waste Management Section with a Chief, Senior Officer and 2 Officers is required to oversee all waste management activities.

**Legislative implications**

The Lands Surveys and Environment Act 1989 already has solid provisions for the prevention and control of solid and liquid wastes although some aspects will need review for clarity and rationality. Specific provisions are also required for a more streamlined approach to the management of chemicals including persistent organic wastes and toxic wastes, as well as an innovative legislative application of the 'polluter pays' principle.

**Financial implications**Investment

Some capital is required for new staff including office, equipment and transport, also there is a need for improved management of the landfill sites at Tafaigata and Vaiata. As well major initial investment is required for the commercial treatment of waste.

Operational costs

It is expected that operational costs for collection, staff and administration will be provided under the DLSE annual budget.

Cost recovery

Cost recovery policy includes the recently imposed landfill disposal charges. Other measures will depend on the success of the commercial treatment of waste. A reduction in waste generation is a form of cost recovery as it will lead to lower costs overall.

**Implementation role of other agencies**

A considerable amount of consultation has been carried out between DLSE and shareholders (both private and public sectors) during the development of the NWMP. It is vital to the success of the policy that this consultative process will continue during its implementation.

**Implementation schedule**

The implementation of the NWMP will commence following Cabinet approval. It is to be reviewed on an annual basis to assess progress of implementation. A full independent evaluation will be conducted after three years. And an Implementation Task Team comprising the DLSE, Health Department, Ministry of Agriculture, Forestry, Fisheries and Meteorology, Department of Trade Commerce and Industry, Samoa Visitors' Bureau and Matuaileoo Environment Trust Inc. will oversee the policy implementation.

**Recommendations:**

That Cabinet approves this policy.

**Responsible officer:**

Tu'u'u Dr. Ieti Taulealo  
 Director of DLSE

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**Date of Submission:**

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