



SPREP
Secretariat of the Pacific Regional
Environment Programme



PACWASTEPLUS PROJECT SNAPSHOT

PALAU

This initiative is supported by PacWastePlus-a 64-month project funded by the European Union (EU) and implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP) to sustainably and cost effectively improve regional management of waste and pollution.

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The PacWastePlus programme is being implemented across 14 Pacific island countries and Timor-Leste, and will address both the cost-effective and sustainable management of waste and pollution in the priority waste streams of:

- **Hazardous wastes** (*asbestos, healthcare waste, and e-waste*)
- **Solid wastes** (*organic waste, disaster waste, bulky waste, and recyclables*)
- related aspects of **Wastewater**

The programme will deliver positive social and environmental outcomes from the effective management of waste in the Pacific. PacWastePlus activities are tailored to address the specific needs of each country based on their identified priorities. **Palau** is one of the 15 countries participating in the PacWastePlus programme.



Palau is an island country consisting of 16 states and 4 main islands - Angaur, Babeldaob, Peleliu and Koror. It has a combined land area of 489km² and an oceanic area (exclusive economic zone) of 600,000km².



Palau is an independent country in a Compact of Free Association with the United States. Palau has an American-style constitution and three branches of government, an administrative branch, a legislative branch and a judicial branch.



Palau's population is relatively small at 18,000, but has strong economic growth through tourism, fisheries, and agriculture. Approximately 70% of the 18,000 population lives in the city of Koror, on Koror Island. Koror is the former capital, the present capital being Ngerulmud on this island of Babeldaob.



Palau is vulnerable to climate change from sea level rise and increased extreme weather events such as storm surges, drought, and typhoons. These hazards, when realised will generate increasing amounts of disaster waste from damage sustained to infrastructure and the environment .



Palau's GDP for 2018 was recorded at US\$300 million with GDP per capita at US\$16,267.5. Prior to 2020, the tourism industry was experiencing growth due to popularity of scuba diving. However, with increase growth in tourism, total amount of solid waste produced has increased by 60%, putting a strain on the country's landfills.



Waste collection is provided to approximately 77% of the population in Palau, and each state is responsible for their own waste management services. Koror state provides weekly collection to 100% of its residents, with the collected materials managed at the M-Dock landfill. Green waste is collected upon request . Outer island communities operate under a self-haul arrangement . Forty-two segregation facilities have been established in communities to accept mixed recyclables and residual waste. Palau implemented a Container Deposit Legislation on aluminium and steel cans, plastic, and glass bottles in 2011. This program records an 87.3% recycling rate.

SUMMARY OF PACWASTEPLUS WASTE STREAMS AND COMMITMENTS



Healthcare Waste

Waste generated by health care facilities includes used needles and syringes, soiled dressings, body parts, diagnostic samples, blood, chemicals, pharmaceuticals, medical devices, and radioactive materials. Incorrect management of healthcare waste can expose health care workers, waste handlers, patients and local communities to infection and injuries, and risks polluting the environment. The volume of healthcare waste is increasing in the Pacific as populations grow and medical services expand.

Activities implemented by PacWaste (2014-2018)



Baseline Survey

Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Papua New Guinea, **Palau**, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu, Vanuatu



Incinerator Installation

Cook Islands, Fiji, FSM, Kiribati, Nauru, Niue, **Palau**, Solomon, Tonga, Tuvalu, Vanuatu



Training (Incinerator Operation)

Cook Islands, Fiji, FSM, Kiribati, Nauru, Niue, Tonga, Tuvalu, Vanuatu



Training (Healthcare Waste Management)

Cook Islands, Fiji, FSM, Kiribati, Marshall Islands, Nauru, Papua New Guinea, Palau, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu, Vanuatu



Provision of Equipment

FSM, Nauru, Papua New Guinea, Timor Leste, Vanuatu



Policy and Regulation (Strategy)

Cook Islands, Fiji, FSM, Kiribati, Nauru, Papua New Guinea, **Palau**, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu



Asbestos

Asbestos refers to six naturally occurring silicate minerals composing of long and thin fibrous crystals. Historically, asbestos was a common building material, but is now banned from most modern products as it is a known carcinogen. Numerous buildings in the Pacific contain asbestos, and risk of exposure is elevated due to the number of extreme weather events, which can damage asbestos containing materials (ACM) and release airborne fibres.

Activities implemented by PacWaste (2014-2018)



Baseline survey

Cook Islands, Fiji, FSM, Kiribati, RMI, Nauru, Niue, **Palau**, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu



Abatement

Abated = 27,873m²
Cook Islands, Fiji, FSM, Kiribati, RM, Nauru, Samoa Solomon, Tonga, Vanuatu



Training

Fiji, FSM, Kiribati, Nauru, Niue, Solomon, Tonga, Vanuatu



Public Awareness

Cook Islands, Fiji, Kiribati, RMI, Nauru, Niue, **Palau**, Solomon, Tonga, Tuvalu, Vanuatu



Policy and Regulation (Strategy)

Fiji, Nauru, Solomon, Tonga, Tuvalu

PacWastePlus is working directly with five member countries, and has regional activities underway, to assist with the management of asbestos through:



Survey/Investigation

Nauru, Kiribati, Tonga, Tuvalu



Abatement

Nauru, Niue, Kiribati, Tonga



Training

Nauru, Niue, Kiribati, Tonga, Tuvalu



Policy and Regulation (Asbestos Ban, Code of Practice)

Nauru, Niue, Kiribati, Tonga, Tuvalu, Regional



Public Awareness

Regional

The PacWastePlus programme brings together key organisations supporting waste and pollution sector in the region. Additionally, the programme is partnering with numerous other development partners operating waste management projects in the region, to ensure no duplication of efforts or wasted resources.

PacWastePlus is working directly with two member countries, and has regional activities underway, to assist with the management of healthcare waste through:



Incinerator Assessment

Cook Islands, Federated States of Micronesia, Fiji, Nauru, Niue, Solomon Islands, Tonga, Tuvalu, Vanuatu, Timor-Leste, Kiribati



Incinerator Repair

Kiribati, **Palau**, Solomon Islands, Tonga, Vanuatu



Training

Timor-Leste, Papua New Guinea, Regional



Policy and Regulation

Timor-Leste, Papua New Guinea



Public Awareness

Regional



Remediation

Timor-Leste



Provision of Equipment

Timor-Leste

SUMMARY OF PACWASTEPLUS WASTE STREAMS AND COMMITMENTS



E-waste

The rapidly increasing use of electrical and electronic equipment globally is resulting in an increase in the volume of e-waste generated. E-waste contains a range of hazardous materials including heavy metals, brominated flame retardants and other toxic substances. Incorrectly managed e-waste has a risk to release toxic substances and has potential to contaminate the environment. E-waste management is an emerging issue in the Pacific due to the lack of recycling and disposal options available. Even though electrical and electronic items contain recoverable and valuable components, efforts to effectively manage e-waste are often faced with economical, logistical, and technical challenges.

Activities implemented by PacWaste (2014-2018)



Facility Design/Establishment (*Pilot and processing*)
Cook Islands, Kiribati, **Palau**, Tonga, Vanuatu



Public Awareness
Cook Islands, Kiribati, RMI, Tonga



Policy and Regulation (Strategy)
Tuvalu



Collection System
RMI, Solomon



Disaster Waste

Natural disasters generate a huge volume of intermingled waste types which have the potential to contaminate the natural environment and poses a risk to human health, and which often need to be cleared very quickly to allow for relief efforts to be undertaken. With natural disaster frequency and severity in the Pacific region increasing, the issue of disaster waste management has developed a higher profile and greater sense of urgency.

PacWastePlus is working directly with two member countries, and has regional activities underway, to assist with the management of disaster waste through the:



Clean up
Vanuatu



Training
Vanuatu



Policy and Regulation (Management Plan)
Vanuatu, Regional



Public Awareness
Regional

PacWastePlus is currently working directly with two member countries, and has regional activities underway, to assist with the management of e-waste through the:



Facility Design/Establishment
Samoa



Training
Samoa, Niue, Regional



Policy and Regulation (ARF, Levy, Strategy)
Papua New Guinea, Samoa, Marshall Islands, Cook Islands, Nauru, Solomon Islands, Vanuatu, Kiribati, Regional



Collection System
Samoa



Public Awareness
Regional



Bulky Waste

Bulky waste is materials that are too large to be accepted by regular waste collection services (end-of-life vehicles, tyres, white goods, furniture, construction waste, and other large household goods). In the Pacific region, bulky waste is problematic to manage as it requires specialist equipment and a large area for effective collection and processing, and requires potentially cost-prohibitive transport to reach recycle markets. As a result, bulky waste items can often be seen disposed in landfills, dumps and discarded on vacant land.

PacWastePlus seeks to work directly with two countries, and has regional activities underway, to assist with the management of bulky waste through the:



Survey/Investigation
Palau, Regional



Provision of Equipment
Marshall Islands*



Training
Marshall Islands*, **Palau**, Regional



Policy and Regulation (ARF, Levy)
Samoa, Marshall Islands, Cook Islands, Nauru, Solomon Islands, Vanuatu, Kiribati, Regional



Public Awareness
Regional

*Project to be determined

The four key result areas of PacWastePlus are:

- improved data collection, information sharing, and education and awareness,
- policies and regulatory frameworks developed and implemented
- best practices including enhanced private sector engagement and infrastructure development implemented
- enhanced human capacity

SUMMARY OF PACWASTEPLUS WASTE STREAMS AND COMMITMENTS



Organic waste

Organic material is biodegradable matter such as kitchen scraps (food); garden cuttings, grass and branches; and paper. Up to 50% of waste disposed to landfill in the Pacific is organic material. When processed correctly (in an “aerobic” or oxygen-filled environment), organic materials can produce valuable nutrient rich products, such as compost, suitable for soil enhancement and food cultivation. However, when intermingled with other waste and disposed in a landfill or dump (an “anaerobic” environment), organic material can release toxic leachate and generate methane gas.

PacWastePlus has regional activities underway and will seek to work directly with countries to assist with the management of organic material through the:



Survey/Investigation

Nauru*, Solomon Islands, Vanuatu



Facility Design/Establishment

Nauru, Solomon Islands, Vanuatu



Training

Nauru*, Solomon Islands, Vanuatu, Regional



Policy and Regulation (Operating Procedure)

Nauru, Solomon Islands, Vanuatu, Regional



Public Awareness

Regional



Water impacted by Solid Waste

Pacific Island countries largely depend on the ocean and water bodies for daily sustenance and economic livelihood. Improper waste management can impact water bodies and poses a potential threat to the health of local communities.

PacWastePlus has partnered with The Pacific Community (SPC) to develop and pilot a wastewater pilot project.

Project to be designed and implemented by SPC

*Project to be determined



Recyclables

Recycling is a process to convert “waste” items into new products. Globally, consumption patterns generally following a linear “buy, use and throw” model. This linear model is problematic in the Pacific as all recyclable items are imported into the region and the majority of recyclable waste is disposed into overflowing landfills, with associated cost borne by national and local governments. Managing recyclables in the Pacific region is challenging due to the relatively small volume of items received being unable to provide an economy of scale – resulting in challenges for the collection, processing and reverse shipping to reach recycle markets. As a result, discarded recyclable items are a prevalent sight in the Pacific.

Activity implemented by PacWaste (2014-2018)



Pilot Project on Integrated atoll waste management

Marshall Islands (Majuro)



Recyclers Network

Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Papua New Guinea, **Palau**, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu, Vanuatu

PacWastePlus is providing direct assistance to six member countries, and has regional activities underway, to assist with the management of recyclables through the:



Facility Design/Establishment

Federated States of Micronesia, Solomon Islands, Cook Islands, Tuvalu



Provision of Equipment

Marshall Islands, Niue*, Vanuatu*



Seed Funding

Cook Islands, Marshall Islands, Niue*, Vanuatu*



Training

Federated States of Micronesia, Solomon Islands, Cook Islands, Tuvalu, Marshall Islands, Vanuatu



Policy and Regulation (ARF, Levy)

Samoa, Cook Islands, Nauru, Solomon Islands, Marshall Islands, Vanuatu, Regional



Public Awareness

Regional

PacWastePlus activities were selected either:

- 1) directly by countries as part of their chosen country projects; or
- 2) to respond to a key topic or action area brought to the attention of the PacWastePlus Programme Management Unit

Wherever possible country specific projects will be converted into regional resources, so all countries and territories in the region can benefit from the investment.

PACWASTEPLUS REGIONAL KEY RESULT AREAS

In addition to activities directly related to the waste streams, PacWastePlus will undertake regional activities under each key result area. These activities are designed to respond to needs identified by member countries and to inform and support implementation of country specific activities.

Data Gathering



- Waste Audits to inform decision making
- Research into Gender and Social Inclusion issues in waste management throughout the region
- Development of a decision support tool to assist management option assessments
- Research into possible Small Scale Technology options suitable for use in the region
- Research into the management options for used tyres
- Research into alternatives to the use of disposable diapers
- Research into the impacts of different types of landfill designs
- Research to understand social and technical barriers and opportunities for managing organics
- Research into the management options for bulky waste (ELV/Construction waste)

Policy and Regulation



- Review and assessment of national legislative frameworks as they relate to waste management
- Specific Legislative assistance to each country to strengthen waste management legislative instruments*

* Currently utilised for ARF = Samoa, Marshall Islands, Cook Islands

Education and Awareness



- Development and implementation of a Regional Education and Awareness Plan
- Assistance to develop National Education and Awareness Plans that will support the implementation of PacWastePlus in each participating country
- Implementation of three pilot Behavioural Change/Social Marketing Campaigns

Capacity Building



- Identify skills countries feel their staff and waste management workers should have and provide the up-skilling
- Developing a sustainable capacity building program for waste management in the Pacific

For more information please contact:

The PacWastePlus team on pwp@sprep.org
Or visit - <https://www.sprep.org/pacwaste-plus>

(post project please email-sprep@sprep.org)

Disclaimer

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**Countries mentioned in this publication are as at December 2020*