DEVELOPMENT OF A NATIONAL USED OIL MANAGEMENT PLAN FOR TUVALU – INCEPTION REPORT –

SEPTEMBER 2025

John O'Grady and Paul Mooney
Araspring Ltd

En partenariat avec

France

AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

SPREP PROE

SWAP
Sustainable Waste Actions in the Pacific

This initiative is supported by the SWAP2 Project, funded by the Agence Française de Développement (AFD) and implemented by the Secretariat of the Pacific Regional Environmental Programme (SPREP), with the aim of improving waste infrastructure, building capacity, and fostering regional collaboration.

This document has been produced with the financial assistance of the AFD: www.afd.fr/en. The views expressed herein can in no way be taken to reflect the official opinion of the AFD.

Contents

Table of Tables

Table of Figures

Acronyms

ADB	Asia Development Bank
AFD	Agence française de développement
CNG	Compressed Natural Gas
DoE	Department of Environment
DWM	Department of Waste Management
EIA	Environmental and Social Impact Assessments
EU	European Union
IBC	Intermediate bulk container
JICA	Japan International Cooperation Agency
LAB	Lead Acid Batterie
LPG	Liquified Petroleum Gas
MEAs	Multilateral Environmental Agreements
NEMS	National Environment Management Strategy 2015–2020
NIP	National Action Plan
NGO	Non-Governmental Organisation
NPDL	Neptune Pacific Direct Line
NSWMS	National Solid Waste Management Strategy
NZ	New Zealand
PCBs	Polychlorinated biphenyls
PIC	Pacific Island Country
PPE	Personal Protective Equipment
SOE	State of Environment
SPREP	Secretariat of the Pacific Regional Environmental Programme
SWAP	Sustainable Waste Actions in the Pacific
SWAT	Solid Waste Agency of Tuvalu

TEC	Tuvalu Electricity Corporation
PMU	Project Management Unit

1. Background

1.1 The SWAP2 Project

The SWAP2 Project is the second phase of the Sustainable Waste Actions in the Pacific Project and builds on the first phase work which was a project funded by the *Agence Française de Développement* (AFD), referred to as *"Sustainable Waste Actions in the Pacific (SWAP)".* This project had the aim to improve sanitation, environmental, social, and economic conditions in Pacific Island countries and territories through improved waste management. To achieve this, the project focused on improving management of three waste streams: used oil, marine debris, and disaster wastes. Six countries and territories benefited from this project - Fiji, Samoa, Solomon Islands, Tonga, Vanuatu, and Wallis and Futuna.

SWAP2 is also funded by AFD, and will contribute to achieving the strategic goals of the Pacific Regional Waste and Pollution Management Strategy (Cleaner Pacific 2025) by improving waste infrastructure, building capacity, and fostering regional collaboration of several Pacific Island Countries and French Territories. It is being implemented by SPREP from 2025-2028 and will benefit Fiji, French Polynesia, Kiribati, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu and Wallis and Futuna.

The SWAP2 project aims to support sustainable waste management in the Pacific in ways that will focus on:

1. Supporting local populations and authorities in the development of national waste management policies and actions (collection, sorting, recovery and proper disposal);
2. Improving the delivery of waste services through the development of waste management infrastructures, and implementing pilot projects; and
3. Strengthening the technical, financial and governance capacities of authorities and practitioners.

The four main components that are being addressed by SWAP2 are:

1. Marine Litter
2. Used Oils
3. Solid Waste
4. Regional Collaboration and Knowledge Sharing.

As part of this process, *Araspring Ltd* (New Zealand) in association with *Going Troppo Consulting* (Australia), *Pacific Reef Savers* (New Zealand) and *POPs Environmental Consultants Ltd* (New Zealand) were awarded a contract by SPREP/AFD to develop used oil management plans for Samoa, Solomon Islands, Tonga and Vanuatu in December 2021. This work was completed in as per the contract. In July 2025 *Araspring Ltd* (New Zealand) in association with *EMV Vanuatu*, were awarded a contract by SPREP/AFD to develop a used oil management plan for Tuvalu. This is the work now being undertaken.

1.2 Contract of Services (Inception Report)

Under the terms of the contract, the consultant is required to:

- **Host an initial meeting** with SPREP/SWAP2 PMU and key government stakeholders to confirm desired outcomes and identify key national contacts.
- **Undertake a detailed desktop review** of existing legislation, policy, strategy and plans that address waste management, institutional frameworks, and other enabling frameworks relevant to waste management in Tuvalu to determine existing systems, confirmation of legislative environment, and identification of key opportunities for used oil management (including identification of the likely markets for each product to be included in the National Used Oil Management System).
- **Host an Inception Workshop with National Stakeholders** government, oil and waste industries, informal waste workers, resellers, used oil generators, others). The workshop should seek to confirm scope of Used Oil Management, and key issues for consideration in the development of the plan.
- **Prepare an Inception Report** that provides the findings of the various desktop research elements, and the outcome and findings from the inception meeting. The report shall articulate the Government priorities and any additional priorities identified by other key stakeholders. A full list of key stakeholders is to be included noting their sector, and interest, and the plan for further engagement as the project is implemented. This report is the Inception Report.

1.3 Tuvalu National Background

Tuvalu is a small atoll nation located in the Central Pacific, consisting of nine islands which cover a land area of 26 sq km. However, its exclusive economic zone covers an oceanic area of approximately 900,000 sq km. The capital and main island of Tuvalu Is Funafuti, which is where 60% of the total 10,500 population live. Funafuti is the most developed of the islands in terms of both infrastructure and population. It is the first port of entry and has the only airfield.

The islands that make up Tuvalu are Nanumea, Niutao and Nanumaga in the northern area; Nui, Vaitupu and Nukufetau in the central area; and Funafuti, Nukulaelae and Niulakita to the south.

Even though Tuvalu is small, the limited land area and ongoing migration to the main island results is a high population density in Funafuti. This growing population exerts pressure on Funafuti's environment, including consumption of natural resources, waste generation, habitat destruction and environmental degradation.

All nine islands of Tuvalu are low coral formations seldom rising more than five metres above sea level. Six of the islands are low lying atolls made up of *motu* (islets) fringing the edges of lagoons, and also made up of young, poorly developed, infertile, sandy or gravel coralline soils. Nanumaga, Niutao and Niulakita are raised limestone reef islands. The substrates and soils of Tuvalu are among the poorest in the world.[1] They include exposed limestone rock, beach or reef rock, sand and gravel, loamy sands, acid peat soils, swamp or hydromorphic organic soils or muds created in excavated taro-pits, and artificial soils. The natural soils are normally shallow, porous, alkaline, coarse-textured, and have carbonate mineralogy and high pH values. Soils are usually deficient in most of the important nutrients needed for plant growth.

[1] Government of Tuvalu (2016). *Tuvalu National Biodiversity Strategy and Action Plan 5th Report.* 101pp.: https://www.cbd.int/doc/world/tv/tv-nr-05-en.pdf

2. Desktop Review

2.1 Focus of Review

The desktop review undertaken as part of the preliminary work for this project focussed on the following matters:

- Current Waste Management System;
- Relevant Legislation in Tuvalu;
- Relevant Policy, Strategy and Plans in Tuvalu;
- Tuvalu Government Departments; and
- Relevant Issues – Previous Used Oil Reports, Energy Supply, Basel and Waigani Conventions.

These matters are covered in the following sections.

2.2 Current Waste Management System

2.2.1 Solid Waste Management

Waste management is a major environmental problem for Tuvalu, with direct implications for human and environmental health, especially in Funafuti which has a high population density. When waste is collected and disposed of properly, this helps reduce pollution of lagoon waters and slows the accumulation of waste that could lead to disease and other public health issues.

Extensive past support has been provided by development partners to Tuvalu for waste management, including:[2]

- AusAID introduced municipal-scale waste management systems from 1999 to 2002 through the Tuvalu Waste Management Project;
- The ADB provided technical assistance through the Tuvalu Effective Waste Management and Recycling Project; and
- Support was provided through the 8th to 10th cycles of the European Union's (EU's) European Development Fund.[3]

Since then, the government's prioritisation of the waste sector has been a key driver for change. This is evident in the creation of the Department of Waste Management (DWM) - formerly the Solid Waste Agency of Tuvalu (SWAT), which has an annual (donor) budget of around A$2M. The Department is mandated to oversee the management of wastes both in the main island of Funafuti and in the outer islands.

[2] Tupulaga, Susan. (2014). *Report on Solid Waste Inventory for Fongafale*
[3] SPREP (2016). *Tuvalu Integrated Waste Policy and Action Plan 2017-2026:* https://tuvalu-data.sprep.org/system/files/Tuvalu%20Integrated%20Waste%20Policy%20%26%20Action%20Plan.pdf

A 2025 Waste Audit Report[4] contains the following information:

Per capita waste generation rate	*= 30.61 kg/person/yr*
Household waste capture	*= 91%*
Commercial waste capture	*= 95%*
Weight of waste disposed	*= 730 tonnes/yr*

There are some stockpiled hazardous wastes reported as follows:

Asbestos: 33m3

E-waste: 30m3

Healthcare waste and pharmaceuticals: 0m3

Used oil: 2m3

Used tyres: 4m3

Obsolete Chemicals: 0m3

The composition of waste arriving at the landfill is:

Plastics including single use plastics: 41.9%

Paper / Cardboard: 26.8%

Metals: 19.9%

Glass: 7.5%

Other: 3.8%

All organics, sanitary wastes, and hazardous wastes are diverted through dedicated collection.

2.2.2 Household Wastes

Household wastes are stored in 120 litre domestic waste bins, and households pay an annual waste collection fee (approximately A$80) which is incorporated into rate payments. They are provided with waste collection services by the Funafuti *Kaupule.* The *Kaupule* operate two open-bed collection trucks and two tractor trailers to collect waste. All waste management workers receive training twice per year and are equipped with Personal Protective Equipment (PPE).

Household wastes (including solid waste, E-waste, nappies, bulky wastes, and green wastes) are collected on Funafuti and taken to the transfer station or to the dumpsite manned by the DWM. The *Kaupule* also collect wastes from schools, government buildings, churches and other institutions, and commercial establishments. They also collect non-quarantine

[4] Eunomia (2025) *Tuvalu National Waste Audit Analysis Report for SPREP 2025:* https://library.sprep.org/content/tuvalu-national-waste-audit-analysis-report-june-2025

ship wastes from foreign fishing vessels at the port. Waste collection services are monitored by the DWM, ensuring that most households and buildings are properly serviced.[5]

Separate waste collections are as follows:

- **General**, unsorted household waste is collected once per week and disposed of at the dumpsite.
- **Nappies** are collected separately three times per week and disposed in a designated area in the Funafuti dumpsite.
- **Bulky waste, scrap metal and e-wastes** are collected from households once per week and taken to the transfer station.
- **Green wastes** are collected separately twice per week and are shredded at the waste transfer station. A recent study estimated that 110m^3 of green waste was collected per month.[6] The estimated annual volume[7] of resultant mulched material is approximately 790 m^3 per year. This green waste is used by the Taiwanese Funafuti Market Garden to produce 120 tonnes of compost annually.

A public education programme on waste separation and recycling was undertaken across all islands in Tuvalu prior to the commencement (2020) of the collection of domestic wastes separated at the household level.

2.2.3 Marine Litter

It has been estimated that 0.5m^3 of marine litter per kilometre of Funafuti coastline is generated daily from local sources, largely a consequence of illegal dumping and littering along the coastline.[8] This equates to 6.5m^3 of "marine litter generation" daily for the entire island. Residents living along the shoreline, and community groups, collect shoreline wastes for disposal eight times per year with financial assistance from the DWM and the *Kaupule*.

2.2.4 Waste Disposal

Until 2016, wastes were disposed of in the ocean, or in "borrow pits" around the island. Borrow pits were created in World War II when aggregate was excavated from the island to construct the airport runway. These pits on Funafuti were subsequently filled with solid wastes including plastics, aluminium cans and other metal wastes, old clothes, electronics, refrigerators, and freezers. The wastes created significant environmental and health hazards. The borrow pits were filled with dredged lagoon sand in 2016 by the New Zealand government and converted to mainly housing sites. The wastes in the pits were not removed prior to infilling.[9]

[5] SPREP (2016). *Tuvalu Integrated Waste Policy and Action Plan 2017-2026*
[6] Sagapolutele & Binney (2017). *Tuvalu Waste Information Baseline Report*. 109pp.
[7] Volume reduction through mulching (Green waste/0.6)
[8] Sagapolutele & Binney (2017). *Tuvalu Waste Information Baseline Report*. 109pp.
[9] Faafatai Sagapolutele (2019) *Pers comm*.

Except for organics, green waste and hazardous waste - including E-waste, used oil and Lead Acid Batteries (LABs), collected wastes are transported to Funafuti's one official dumpsite for disposal. The main landfill is a rehabilitated borrow pit, located on a strip of land 20 meters wide next to the main road, at the northern end of the island. The DWM is responsible for managing the island's landfill. A waste collection database is maintained by the DWM on total quantities of waste collected, but this does not include data about waste dropped off directly at the landfill or the Transfer Station by the public.

With assistance provided by the EU, the Funafuti dumpsite was rehabilitated; and improved management practices were introduced to extend the life of the disposal facility beyond 2025. Additional equipment, including an excavator and loader, was procured in 2013. As part of the rehabilitation plans, waste materials along the roadside were cleared and partially compacted, and shifted into the borrow pit.

2.2.5 Waste Incineration

Quarantine and healthcare wastes are the only wastes that are deliberately incinerated in Tuvalu. Approximately 100 kg of quarantine waste (largely agricultural products such as leaves from imported pineapples) are disposed of per year in a low temperature incinerator located at the port area under the management of the Department of Agriculture. Approximately 100kg/week of sharps and 100kg/week of healthcare waste are incinerated using low temperature wood-fired incineration at the Funafuti landfill site.[10]

2.3 Relevant Legislation

2.3.1 Summary Table

Table 1 below sets out a summary of Tuvalu's legislation in relation to used oil management. Further details are provided in the sections that follow.

***Table 1:** Summary of Tuvalu's legislation related to used oil management*[11]

Framework	Description of Framework	Responsible Ministry or Department
The Environment Protection Act (2008)	An overarching Act on maintaining the environment of Tuvalu.	Department of Environment

[10] ENVIRON Australia Pty Ltd (2014). *Baseline Study for the Pacific Hazardous Waste Management Project - Healthcare Waste Tuvalu.* 65pp: https://library.sprep.org/content/baseline-study-pacific-hazardous-waste-management-project-healthcare-waste-tuvalu

[11] SPREP (2018). *Tuvalu: review of natural resource and environment related legislation*. 17pp.: https://www.sprep.org/attachments/Publications/EMG/sprep-legislative-review-tuvalu.pdf

Framework	Description of Framework	Responsible Ministry or Department
***Falekaupule* Act (2008)**	Allows the *Kaupule* to exercise their authority as designated waste management operators by making by-laws under the *Falekaupule* Act.	Ministry of Local Government and Agriculture
Marine Pollution Amendment Act (2017)	Makes provisions on environmental liability in relation to the prevention and remediation of environmental damage caused by oil, sewage, garbage and other pollutants	Marine Department
Public Health Act (2008)	Protection and advancement of public health	Ministry of Health
Customs Revenue and Border Protection Act (2014)	Control of arrival and departure of goods or persons and border protection in Tuvalu and prohibits the import of goods listed in Schedule 2. Empowers the Minister to make Regulations to prohibit the importation into Tuvalu of specified goods	Customs Department
Energy Efficiency Act (2016)	To promote energy efficiency and energy conservation	Ministry of Energy, Tourism and Transport
Waste Management Act (2017)	An act to redefine the roles and responsibilities for waste management in Tuvalu and to make provision for all matters connected with the regulation and management of wastes and the provision of waste related services	Department of Waste Management
Waste Levy (Levy Deposit) Regulation (2019)	Identifies products to be levied on importation	Department of Waste Management

2.3.2 The Environment Protection Act (2022)[12]

This Act was enacted in 2008 and revised in 2022. It is administered by the Department of Environment, is the principal act concerning the protection and management of Tuvalu's environment. Some of the areas that the Act regulates are:

- the conduct of environment impact assessments;
- the regulation and control of pollution and wastes;
- all matters concerning the implementation of international environment related conventions;
- the protection of the biodiversity; and
- responses to climate change.

The Act has a wide range of objectives that include the following:

- coordination of the role of government in relation to environmental protection and sustainable development;
- facilitation of the compliance and implementation of obligations under any regional and international agreements or conventions;
- provision of a mechanism for the development of environmental policy and law;
- prevention, control, monitoring and response to pollution;
- reduction in the production of wastes, and at the same time, promotion of the environmentally sound management and disposal of all wastes; and
- facilitation of the assessment and regulation of environmental impacts of certain activities.

This Act is considered relevant to used oil management as mismanagement of used oil will result in environmental pollution and harm. This Act also manages international conventions including conventions controlling the export of used oil.

2.3.3 Falekaupule Act (2008)[13]

This act was enacted in 1997 and amended in 2008. The *Kaupule* is the local government unit in each island which is designated as the waste management operator in the waste service areas in their area of jurisdiction. The *Kaupule* may make by-laws under the *Falekaupule* Act in relation to any matter and perform the function identified under section 15(2) of the Waste Operations and Services Act (2009).

[12] https://tuvalu-legislation.tv/cms/images/LEGISLATION/PRINCIPAL/2008/2008-0002/2008-0002_2.pdf
[13] https://tuvalu-legislation.tv/cms/images/LEGISLATION/PRINCIPAL/1997/1997-0008/1997-0008_1.pdf

This Act is considered relevant to used oil management as it addresses the collection and management of used oil in relation to the Kaupule in each island.

2.3.4 Marine Pollution Amendment Act (2017)[14]

The Marine Pollution Act is a comprehensive law dealing with marine pollution and the dumping and incineration of wastes at sea. The Act makes provisions on environmental liability in relation to the prevention and remediation of environmental damage caused by oil, sewage, garbage and other pollutants. The discharge or escape of pollution, voluntarily or caused by omission, is considered an offence to the country. Additionally, the Act includes important provisions on:

- reception facilities in port for disposal of oil and pollutant residues, garbage and sewage from those ships;
- dumping and incineration of waste; and
- marine casualties.

This Act is considered relevant to used oil management as used oil often causes marine pollution. This includes the dumping of used oil from ships and vessels, and oil spills that generate used oil.

2.3.5 Public Health Act (2008)[15]

This Act was enacted originally in 1926 and amended in 2008. The sole purpose of this Act is to empower the Minister to make regulations for the purpose of protecting and advancing public health in Tuvalu and it also defines offences for purposes of the Act. The matters that may be regulated by the Minister include:

- latrines, dustbins and drains;
- scavenging, cleaning and disinfecting;
- removal and disposal of nightsoil and house refuse;
- preventing the spread of infectious diseases;
- regulating the use of any rain, stream, well or water source and the prevention of water pollution;
- mosquitoes; and
- laundries.

This Act is a recently updated old Act but is considered relevant to used oil management in this sense that mismanagement of used oil could result in a public health nuisance.

[14] https://tuvalu-data.sprep.org/system/files/tuvalu-marine-pollution-amendment-act-2017.pdf
[15] https://tuvalu-legislation.tv/cms/images/LEGISLATION/PRINCIPAL/1926/1926-0008/1926-0008_1.pdf

2.3.6 Customs Revenue and Border Protection Act (2014)[16]

This Act provides for the control of arrival and departure of goods or persons and border protection in Tuvalu. It also prohibits the import of goods listed in Schedule 2 and empowers the Minister to make Regulations to prohibit the importation into Tuvalu of specified goods.

This Act is considered relevant to used oil management as it is important to keep good records of oil imports to verify the amount of used oil generated and keep track of potential used oil generators.

2.3.7 Energy Efficiency Act (2016)[17]

The purpose of this Act is to promote, in Tuvalu, energy efficiency, energy conservation and to give effect to certain obligations that Tuvalu has under the Climate Change Conventions and related conventions. Appliances regulated under the Act include refrigerators, air-conditioners and lights.

This Act is considered relevant to used oil management as a large percentage of used oil is generated from the use of fossil fuels to generate energy.

2.3.8 Waste Management Act (2017)[18]

This Act unifies waste and pollution management in Tuvalu. Under this Act, the responsibility for the regulation of wastes in Tuvalu is vested in the Department of Waste Management. The implementation of international conventions relating to the management of hazardous wastes is identified as the responsibility of the Department of Waste Management. Regulatory control over waste dumps and waste disposal sites can be exercised by:

a) designated waste management operators in accordance with their functions and powers provided for in this Act, and any other law relating to the management of wastes; and
b) the Department of Environment in accordance with environmental impact assessment procedures, and any other relevant provisions of the laws which relate to environment protection.

The regulation of waste disposal at sea by the dumping and incineration of wastes shall be the responsibility of the Department of Marine and Port Services under the Marine Pollution Act 1991 (as amended).

[16] https://finance.gov.tv/wp-content/uploads/2022/05/Customs-Revenueand-Border-Protection-Act-2014.pdf
[17] https://tuvalu-legislation.tv/cms/images/LEGISLATION/PRINCIPAL/2016/2016-0003/2016-0003_1.pdf
[18] https://tuvalu-legislation.tv/cms/images/LEGISLATION/PRINCIPAL/2017/2017-0022/2017-0022_1.pdf

Litter control measures are identified to be implemented and enforced in accordance with regulations made under this Act, and the management of and regulatory control over medical wastes shall be the responsibility of the Ministry of Health.

This Act is considered relevant to used oil management as used oil management is directly governed by this Act.

2.3.9 Waste Management (Levy Deposit) Regulation 2019[19]

This regulation introduces a levy deposit and refund scheme for 14 types of imported goods to support the recovery, processing, treatment and shipment of those goods at the end of their life and prescribes rules for collection and administration of the levy revenue generated.

Under schedule 1 of the regulation, glass bottles, aluminium cans, and PET (polyethylene terephthalate) bottles containing certain beverages or oils are subject to a deposit amount of 10 cents per container; large appliances are subject to a deposit of TV$100 per item; small appliances to TV$30 per item; office and family vehicles to TV$300 per vehicle; motorbikes TV$200; small construction equipment TV$500; medium construction equipment TV$1,000; and heavy construction equipment TV$2,000.

Under the Regulation, importers must collect the levied items at the point of entry once the deposit has been paid, and the levy deposit must be attached to the selling price of the items. The regulation requires that levied products at the end of their life including aluminium, PET, glass computers, laptops, televisions, cars, motorbikes and solar panel batteries be properly packed and delivered for shipping for recycling. Partial refunds of the levy deposit are issued for most of the levied items returned to the Transfer Station for recycling.

This Act is considered relevant to used oil management as it could be extended to cover a levy on the import of lubricating oils and possibly other oils to fund the management of used oil resulting from these products.

[19] https://tuvalu-data.sprep.org/system/files/Waste%20Management%20(LevyDeposit)%20Regulation%202019_V01.docx_v23.05.2019%20.pdf

2.4 Relevant Policy, Strategy and Plans

2.4.1 Te Kete: Tuvalu National Strategy for Sustainable Development 2021-2030[20]

The Tuvalu National Strategy for Sustainable Development 2021-2030 (Te Kete) aims for "A Peaceful, Resilient and Prosperous Tuvalu", emphasizing environmental resilience, sustainable livelihoods, and prudent resource management.

For used oil management, the key issues are Tuvalu's commitments to waste management, climate change adaptation, energy security, and environmental protection.

2.4.1.1. Strategic Priority Area (SPA) 1: Enabling Environment

National Outcome 5: Environment, Meteorology, Land and Waste Management Strengthened, key measures are:

- Enforce Environmental and Social Impact Assessments (EIAs).
- Develop and implement improved waste management strategies with communities and the private sector.
- Enhance meteorological and disaster resilience services.
- Apply geospatial tools for environmental monitoring.

Relevance to used oil: reinforces the need for robust hazardous and non-hazardous waste systems, where used oil management fits as part of pollution prevention and environmental protection.

2.4.1.2. SPA 2: Economic Development

National Outcome 6: Macroeconomic Resilience – Emphasis on reducing reliance on imports and creating sustainable financial frameworks.

Relevance to used oil: used oil recovery and recycling could reduce dependency on imported fuels and lower economic risks. This may not be possible in Tuvalu though as the volume of used oil is relatively small.

National Outcome 9: Strengthening the Private Sector – Encourages private-sector participation and outsourcing of services.

Relevance to used oil: opportunities for private contractors or community enterprises to handle used oil collection, transport, and treatment.

2.4.1.3. SPA 5: Infrastructure Development

National Outcome 19: Quality and Affordable Energy Supply – Focus on reducing dependence on costly fossil fuel imports, and promoting renewable energy expansion.

[20] https://finance.gov.tv/wp-content/uploads/2022/05/Te-Kete_TuvaluNationalStrategyForSustainableDevelopment_2021to2030.pdf

Relevance to used oil: used oil could be explored as an alternative energy source (with safeguards); and improper disposal risks must be avoided.

National Outcome 20: Access to Clean Water and Sanitation – Priority on safeguarding water quality and sanitation.

Relevance to used oil: critical to prevent used oil spills and leaks contaminating scarce groundwater and rainwater supplies.

2.4.1.4. Other Issues

- Climate Change & Disaster Resilience (National Outcome 4): Pollution control, including hazardous waste like used oil, is vital for resilience.
- Partnerships (National Outcome 2): International and regional cooperation (e.g., SPREP and other agencies) essential for technical and financial support.
- Governance (National Outcome 3): Strengthened legal and institutional frameworks will be needed to regulate hazardous substances and waste streams.

2.4.1.5. Conclusion

In summary, used oil management fits within the National Strategy as part of strengthened waste management systems, energy resilience, and pollution prevention. It underscores the need for institutional frameworks and regional partnerships to ensure that used oil is safely collected, reused where appropriate, and prevented from contaminating Tuvalu's fragile environment.

2.4.2 National Environment Management Strategy 2015-2020[21]

The National Environment Management Strategy 2015–2020 (NEMS) has set a policy platform to support long-term planning and action on priority national environmental issues. It identifies policy goals and strategies that fall under four thematic areas: Environmental Governance; Island Biodiversity Conservation and Management; Waste Management and Pollution Control; and Environment Awareness and Education. The strategies under the Waste Management and Pollution Control theme are relevant to used oil management.

The NEMS provided a five-year policy guide to strengthen environmental governance, biodiversity conservation, waste management, and environmental education. It complemented the National Sustainable Development Strategy and Tuvalu's international commitments under Multilateral Environmental Agreements (MEAs). Waste management and pollution control are identified as pressing challenges, especially in Funafuti due to urbanisation, limited land, and risks to human and ecosystem health.

[21] https://library.sprep.org/content/tuvalu-national-environment-management-strategy-nems-2015-2020

Waste Management and Pollution Control

Goal: Waste is appropriately minimised and managed within acceptable levels.

Strategies included:

- Development of the National Solid Waste Management Strategy (NSWMS) and action plans.
- Strengthening waste inventories at Kaupule (local council) level.
- Upgrading dumpsites, securing land for future disposal, and improving collection equipment.
- Establishing enforcement mechanisms for waste regulations.
- Building community awareness and education on 3Rs (Reduce, Reuse, Recycle), composting, and hazardous waste issues.

Relevance to used oil:

Used oil is included under hazardous wastes and pollution control priorities. Inventories, enforcement, and awareness lay the groundwork for tracking, regulating, and managing used oil.

Infrastructure upgrades are essential to avoid improper disposal or leakage of used oil.

Governance and Enforcement

The NEMS called for an effective enforcement system of environmental laws, including hazardous waste regulations. It strengthened the role of the Department of Environment (DoE) in oversight, supported by Kaupule and partnerships with NGOs, churches, and regional organisations (SPREP, JICA). It also promoted the polluter pays principle, which is directly applicable to importers and users of lubricating and other oils, and generators of used oil.

Human and Financial Resource Implications

The strategy recognised institutional weaknesses and limited capacity for waste management. It called for additional training, dedicated staff, and financing mechanisms. For used oil, this highlights the need for capacity building on hazardous waste handling, secure storage, and sustainable financing for export or treatment.

Key Implications for Used Oil Management

- Policy Basis: Provides a mandate to treat used oil as hazardous waste requiring strict control and enforcement.
- Systems Development: Stresses inventories, upgraded facilities, and improved transport/collection.
- Regional Cooperation: Supports reliance on offshore treatment/export of hazardous wastes, including used oil.

- Risk Reduction: Recognises waste (including used oil) mismanagement as a driver of lagoon and groundwater pollution.
- Public Awareness: Promotes education and recycling strategies, which could include campaigns on safe used oil reuse/disposal and alternatives to unsatisfactory uses.

In summary, the Tuvalu NEMS (2015–2020) provided a policy and strategic foundation for managing hazardous waste, including used oil. While not specifically highlighted, used oil fits within the waste and pollution control objectives. The strategy emphasised legislation, enforcement, infrastructure upgrades, inventories, education, and financing mechanisms, all of which are essential components of a future Used Oil Management Plan for Tuvalu.

2.4.3 National Integrated Waste Policy and Action Plan (2017-2026)[22]

The policy's vision is "A cleaner and healthier Tuvalu for today and the future generation." It provides a 10-year framework for integrated waste management, covering household, commercial, institutional, liquid, and hazardous wastes across Funafuti and the outer islands. Priorities include minimising landfill disposal, improving hazardous waste management, and ensuring compliance with international obligations.

The policy sets six overarching goals, three of which are directly relevant to used oil management:

- Strengthened institutional systems for waste, including hazardous waste handling.
- Stakeholder awareness and responsibility-sharing, including communities and the private sector.
- Hazardous waste management aligned with best practice and conventions.

The Policy and Action Plan identifies the following in relation to used oil

- Tuvalu generates an estimated 5,000 litres of used oil annually.
- Around 80% is exported to Fiji's steel mill, but ~14,500 litres remain stockpiled in Funafuti
- Used oil is collected and stored at the Funafuti hangar in tanks, awaiting shipment.
- There is no dedicated treatment or reprocessing capacity on-island, and stockpiling poses risks to soil and groundwater.

Policy and Action Plan Directions for Used Oil

- Hazardous Waste Priority: Identifies used oil, asbestos, healthcare wastes, e-wastes, and chemicals as requiring strict controls.
- Strategic Action: DWM, Ministry of Health, and Department of Environment to cooperate in handling, storage, and disposal of hazardous wastes including used oil.

[22] Government of Tuvalu (2016). *Tuvalu Integrated Waste Policy and Action Plan: TOWARDS CLEANER AND HEALTHIER ISLANDS 2017 – 2026*. 75pp: https://tuvalu-data.sprep.org/system/files/Tuvalu%20Integrated%20Waste%20Policy%20%26%20Action%20Plan.pdf

- Regional Cooperation: Encourages export to overseas recycling or treatment facilities.
- Infrastructure: Planned Transfer and Recycling Station in Funafuti will segregate hazardous wastes like used oil from general waste.
- Monitoring & Reporting: Hazardous waste flows, including used oil stockpiles and exports, to be tracked and reported.

Governance and Institutional Framework

- DWM leads hazardous waste management, including used oil collection, storage, and shipment.
- Kaupule provide local waste services, but hazardous waste remains a centralised responsibility.
- Department of Environment ensures compliance with pollution control laws and conventions.
- Marine Department oversees prevention of illegal disposal at sea.

Challenges

- Stockpiling risk: Large volumes can remain in Funafuti without secure storage.
- Export dependence: Reliance on Fiji for recycling creates vulnerabilities.
- Capacity gaps: Limited trained personnel and weak enforcement of protocols.
- Land scarcity: Limited options for used oil stockpiling.

Opportunities

- Policy alignment: Supports Tuvalu's commitments under waste and pollution conventions.
- Regional partnerships: Potential cooperation with SPREP, donor projects, and private operators for export.
- Energy linkages: Potential controlled re-use of used oil in energy recovery, with safeguards.
- Infrastructure upgrades: Transfer and Recycling Station offers secure storage and preparation for export.

In summary, the Tuvalu Integrated Waste Policy and Action Plan recognises used oil as a priority hazardous waste stream. While small annual volumes are exported, significant stockpiles can remain on-island, posing risks. The plan mandates safe collection, storage, and export, supported by DWM, DoE, and regional partners. The Transfer and Recycling Station and stronger regulatory enforcement are expected to improve management. For Tuvalu's Used Oil Management Plan, the Integrated Waste Policy and Action Plan provides a strong policy foundation but highlights the urgent need for secure storage, reliable export

pathways, strengthened capacity, and integration with broader hazardous waste and energy strategies.

2.4.4 Tuvalu State of Environment (SOE) Report[23] SPREP 2022

Key drivers of the SOE 2022 Report include population growth, economic development, climate change, and urbanisation. Pressures include pollution, inadequate waste management, and limited land availability.

Waste Management Challenges

- Waste management is identified as one of Tuvalu's most significant environmental issues.
- Although per capita waste generation is not high, land scarcity and high population density limit disposal and recycling options.
- National collection services reach about 90% of households, but the landfill is over-capacity and lacks pollution control systems.
- Some Illegal dumping and open burning persist, while resource recovery and recycling systems are underdeveloped.

Implications for used oil:

- Without dedicated collection and containment, there is a risk of used oil being dumped or burned.
- This could contaminate scarce groundwater lenses and lagoon waters, already stressed by septic leakage.

Pollution and Water Quality

Tuvalu relies heavily on rainwater and fragile groundwater lenses. Groundwater is already polluted by septic tank leakage and waste mismanagement. Used oil spills or leakage would pose a high risk of further contaminating groundwater and lagoons, threatening public health, ecosystems, and food security.

Governance and Policy Framework

Tuvalu has an appropriate legislative base for waste management (Environment Protection Act 2008, Tuvalu Integrated Waste Policy & Action Plan 2017–2026, etc. However, enforcement capacity is weak and donor-funded projects provide much of the support. Solutions emphasise strengthening institutional systems, building public understanding, fostering public–private partnerships, and developing recycling systems.

Implications for used oil:

- Establish legally mandated collection and storage systems with pollution controls.

[23] https://tuvalu-data.sprep.org/system/files/211110-Tuvalu-State-of-Environment-report%20Final%20Interactive.pdf

- Build partnerships with private operators and regional facilities for export or safe reprocessing.
- Integrate used oil management into Tuvalu's waste minimisation and recycling strategies.

Energy and Climate Change

Tuvalu relies heavily on imported fossil fuels, though renewables (particularly solar) are expanding with donor support. Used oil management can link to the energy sector through controlled re-use of oil in energy generation (may not be suitable for Tuvalu) and avoiding uncontrolled burning that worsens greenhouse gas and pollutant emissions.

Implications for Used Oil

- High vulnerability: leakage of used oil directly endangers Tuvalu's water resources and lagoons.
- Landfills: landfilling is unsuitable for used oil; dedicated systems are needed.
- Policy alignment: national waste and climate strategies call for better hazardous waste controls, recycling, and partnerships.
- Capacity gaps: enforcement, infrastructure, and public awareness remain weak; donor and regional support are essential.
- Opportunity to link used oil management with renewable energy transition and offshore hazardous waste treatment systems.

In summary, the SOE 2022 highlights that Tuvalu's waste sector is under severe stress, with overflowing landfill, pollution of freshwater, and weak hazardous waste controls. These conditions make used oil a priority risk stream. A Tuvalu used oil management plan must therefore focus on dedicated collection and containment systems, prevention of leaks, regional export or reprocessing partnerships, and strong integration with waste governance and energy policies.

2.5 Government Departments

2.5.1 Ministry of Home Affairs and Rural Development

This Ministry is the governing body for waste management under which the Department of Waste Management and the *Kaupule* (the main providers of waste management services) operate.

2.5.2 Department of Waste Management

DWM (formerly the Solid Waste Agency of Tuvalu or SWAT), which sits under the Ministry of Home Affairs and Rural Development, oversees and manages the overall handling of wastes.

2.5.3 Department of Rural Development

The Department of Rural Development has responsibility for the *Kaupule,* the local government unit in each island which is designated as the waste management operator in the waste service areas in their area of jurisdiction.

2.5.4 Department of Agriculture

Responsible for quarantine wastes and agricultural pesticide use and registration.

2.5.5 Ministry of Health

The Waste Services and Operations Act 2009 identifies that the Ministry of Health is responsible for the management of, and regulatory control over medical wastes and that the Ministry is responsible for the collection, treatment and disposal of medical wastes. It also controls public health nuisances and used oil mismanagement may be a public health nuisance.

2.5.6 Department of Environment

Under the Environment Act, the Department of Environment (DoE) is responsible for ensuring that there is proper regulation and control of pollution, littering, wastes (including hazardous wastes) in Tuvalu, and for taking appropriate measures to minimise the impacts of pollution, litter and wastes on the environment. The functions of the DoE in relation to pollution, litter and waste management include regulation and monitoring pollution and its effect on the environment; regulating hazardous wastes, including the disposal, storage and transboundary movement of such wastes (and other hazardous substances) in accordance with international conventions; regulating waste collection and disposal systems, including landfills and waste storage facilities; and regulating the disposal and incineration of wastes in accordance with laws applying in Tuvalu, and the international obligations binding Tuvalu.

2.5.7 Marine Department

The Marine Department is responsible for the regulation of waste disposal at sea under the Marine and Pollution Act 1991 together with the Department of Environment which implements relevant international conventions.

2.5.8 Department of Energy

The Department of energy is responsible for national energy production. Tuvalu's current electricity systems consist of centralised diesel generators with associated medium and low voltage distribution networks, with renewable energy generation on the outer islands. All central electricity generators and distribution networks are owned and operated by the Tuvalu Electricity Corporation (TEC). **The TEC is a significant used oil generator.**

2.5.9 Department of Education[24]

Tuvaluan education agencies are under the supervision of the Ministry of Education, Sports and Culture. The government's strategy for education aims to raise standards in teaching and learning; enhance the relevance of the curriculum; ensure adequate availability of education for special needs; and strengthen management of the education system. There are seven years of compulsory education starting at the age of six. Primary school comprises seven years and secondary six, with cycles of four and two years. There are ten state primary schools, two on the island of Vaitupu and one on each of the other eight inhabited islands. There is one state secondary boarding school on Vaitupu, with about 600 students, and one private secondary school run by the Congregational Christian Church of Tuvalu. It may be necessary to use this Department to gain publicity for effective used oil management systems.

2.5.10 Fire Department

Responsible for fire suppression, including suppression of accidental landfill fires. Fire protection will be an important part of effective used oil management and stockpiling.

2.5.11 Customs and Revenue Department

Responsible for control of Tuvalu's borders. This department is responsible for keeping records of oil imports which is expected to be an important component of a successful used oil management system.

2.6 Some Relevant Issues

2.6.1 Used Oil – Based on the 2014 Survey[25]

Annual imports of lubricating oil averaged 6,500 L (2011–2013), and the main generator was the Tuvalu Electricity Corporation (TEC). Pacific Energy SWP Ltd was the importer of lubricating and hydraulic oils. The estimated waste oil generation: about 3,500 L/year.

The main points were:

- In 2014, TEC produced about 1,600 L/year on Funafuti; waste oil stored in tanks, and stockpile of about 2,500 L noted.
- Pacific Energy SWP Ltd: Commenced shipping waste oil to Fiji (approx. 20 × 200 L drums were shipped during the first Pacific Energy Shipment).
- Motor vehicles - growing fleet (especially motorbikes).
- Waste oil typically reused for lubrication (e.g., chains) rather than stockpiled.
- Government workshops - containers used for waste oil, but poor segregation (mixed with batteries, transformers, etc.).

[24] http://www.cedol.org/pacific/tuvalu/
[25] Golder Associates (2014) Tuvalu Contemporary Used Oil Audit for SPREP

- Landfill - too small, not suitable for hazardous waste, no secure public storage site.

Shipping waste oil to Fiji costs about USD $5,500 per container. While this figure sounds may appear low, it dates back to 2014 and may not include all associated expenses, such as port fees at both ends, inland transportation to Bluescope Steel in Fiji, and other handling costs. It is also possible that Pacific Energy covered part or all of these costs. The ongoing Analysis Phase will therefore investigate the current logistical and financial arrangements surrounding this shipment, including the respective roles and cost responsibilities of the Department of Waste Management (DWM), Pacific Energy, Bluescope Steel in Fiji, and other stakeholders. The objective is to establish a clear and updated cost breakdown and gain a comprehensive understanding of how the process is organised and operates in practice.

It was proposed to have a centralized storage site and an approach that combined the export of waste oil with other recyclables (scrap, batteries, etc.). It was also suggested to evaluate in-country recycling/filtration technologies.

There was no specific national waste oil legislation in 2014 and responsibility was suggested for Solid Waste Authority of Tuvalu (SWAT) and the Energy Office.

It was noted that Tuvalu was a party to the Waigani Convention for hazardous waste movements in the Pacific).

It was also noted that the 2012–2020 Energy Plan aimed at 100% renewable electricity and that was a key driver, with implications for reducing oil use over time.

The 2014 Key Findings were therefore:

- At least 3,500 L/year of recoverable used oil.
- Immediate priority: safe collection and centralized storage.
- Export uneconomic unless integrated with other waste streams and shipping efficiencies.
- Need for a national management framework, possibly with regional partnerships.
- Feasibility of in-country reprocessing/reuse technologies should be explored.

2.6.2 Used Oil – Based on the 2019 NIP Report[26]

Tuvalu imports around 30,000 litres of lubricants per year and exports 20,000 litres of used oil per year (i.e. 66% of import volumes) to Fiji's steel mill. The ongoing analysis phase will help determine whether the exported 20,000 litres fully account for all used oil generated each year or if a portion remains stored. It will also clarify whether these exports include used oil recovered from historical stockpiles.

[26] Going Troppo (2019) Tuvalu National Implementation Plan for Persistent Organic Pollutants

Used oil that is not collected is used as a motorbike chain lubricant. There are currently issues around lack of insurance to cover used oil exports preventing its export to Fiji. A total of about 10,000 litres of used oil are (as at October 2019) stockpiled in IBCs on Funafuti. Each of the outer islands has an IBC for used oil collection and storage, although these IBCs containing used oil are unable to be transported back to Funafuti on the inter-island passenger boat.

A significant discrepancy can be observed between the estimates of lubricant imports reported in the 2014 survey (6,500 litres) and the 2019 survey (30,000 litres). This represents a 4.6-fold increase over five years, which appears unlikely. The difference is difficult to explain and raises concerns about the accuracy of one or both datasets. The ongoing analysis phase will help clarify the current situation regarding lubricant imports and identify possible reasons for this inconsistency.

2.6.3 Energy Supply[27]

Tuvalu has an energy supply goal to replace all diesel generation of electricity with renewable sources; and to increase energy use efficiency on Funafuti by 30%. These goals are directly linked to the nation's climate change policy and sustainable development plan.[28] To meet these goals, Tuvalu must develop around 6MW of renewable energy electricity generation capacity. To help meet this objective, electricity is being generated using renewable energy in all nine islands of Tuvalu. The system requires standby diesel generation to provide a back-up to the renewable energy supplies when prolonged weather conditions limit renewable energy generation.

Approximately 75% of all outer island electricity production is from renewable sources, as fuel transportation from Funafuti increases the cost of electricity generation and has environmental risks associated with potential fuel spills. Conversion or replacement of existing diesel generators to run on bio-diesel fuel is proposed to take place in the last stage of the renewable electricity conversion. It is estimated that 5% of the annual national electricity production will be eventually supplied from bio-diesel generation. Energy efficiency improvements will be initially targeted on Funafuti, which has a higher power demand *per capita* than the outer islands and consumes 95% of the electricity generated by the Tuvalu Electricity Corporation (TEC). The energy efficiency programme will include public education, energy audits and technology improvements. In 2019 Tuvalu was using around 1.8 million litres of diesel fuel per year to generate 6.3M kw of electricity (Funafuti: 5.9M kw pa; and the outer islands 0.34M kw pa).

[27] Government of Tuvalu (2011). *Master Plan for Renewable Electricity and Energy Efficiency in Tuvalu*: *Enetise Tutumau 2012-2020:* https://policy.asiapacificenergy.org/sites/default/files/master_plan_for_renewable_electricity.pdf
[28] Government of Tuvalu (2005). *National Strategy for Sustainable Development 2005-2015*. 28pp

2.6.4 Basel Convention

Tuvalu is a Party to the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (the Basel Convention). This convention aims to achieve the environmentally sound management of hazardous wastes by minimising transboundary movements consistent with environmentally sound and efficient; treatment and disposal as close as possible to the source of generation; and minimisation of generation.

The Basel Convention is of importance when considering disposal of hazardous wastes, including used oil, by export to treatment facilities in other countries that are Party to the Basel Convention. All exports of hazardous wastes are required to comply with stringent control procedures, including being approved by both the exporting and importing countries.

The Basel Convention provides more flexibility than the Waigani Convention (see below), regarding possible export destinations for used oil. Used oil has, in the past, been exported from Pacific Countries to destinations that are not in the Pacific, including South Korea, India and Saudi Arabia.

2.6.5 Waigani Convention

Tuvalu is a Party to the Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (Waigani Convention). The Waigani Convention objective is to prevent the importation of hazardous and radioactive waste into the South Pacific region, to minimize production within the region and to ensure the environmentally sound management and disposal of existing wastes. As with the Basel Convention, transboundary transactions in hazardous wastes between Parties are required to comply with stringent control procedures.

The Waigani Convention can only be used for the export of hazardous wastes to destinations within the Pacific, including Fiji, Australia and New Zealand.

3. The Inception Meeting

The inception meeting was held in Funafuti, Tuvalu, on the 11th of September at the Tomasi Puapua Convention Center. The meeting commenced at 9.30 am and concluded at 12 pm with a lunch following for all attendees, and ongoing informal discussions about the National Used Oil Plan development.

The meeting was well-received and attended by 17 stakeholders, including many from the Tuvalu Used Oil and Lubricant Stakeholder group.

The presentation that was used for the Inception meeting is attached as Appendix 1. There were some alterations to the agenda timings as there was a delay in starting due to no Video conferencing equipment available in the meeting room and John O'Grady dialled in via WhatsApp to join the presentation remotely.

Adjusted Agenda

Welcome / Prayer – Epu Falega

9.30 am	– Brief Introductions
9.40 am	- Tuvalu Used Oil Project brief – Why, How, Who
9.55 am	- What is Used Oil & Why we need to be concerned
10.10 am	- Current practices in Tuvalu & Storage issues
10.30 am	– Short break
10.45 am	- New Storage site & Transport options
11.15 am	- Sources of Oil & Inappropriate uses of Used Oil
11.30 am	- Tuvalu Legislation, Updating Information,
12.00 pm	- Workshop complete – Lunch & Discussion

Seventeen representatives from various stakeholder groups attended the Inception meeting. Throughout the session, there was good discussion from all participants.

Paul Mooney introduced the project and confirmed with the Director of Waste Management, Epu Falega, that Paul's introduction of the project was correct, and the project plan would follow the steps as below.

- **Inception** – introductory meetings and desktop study
- **Analysis** – gathering current data and discussions with stakeholders
- **Feasibility Study** – feasibility study report for consultation

- **Draft Used Oil Management Plan** – based on the feasibility study and consultation
- **Final Used Oil Management Plan** – finalisation of the plan after further consultation

The group worked their way through the slides and referred to John O'Grady on a few occasions where further information was required. Some of the questions raised included the following.

- The type of containers that should be used for storage and transporting the used oil through the current process of export to Fiji.
- Are the recently purchased IBC suitable for this process? – Yes, provided they are in good condition. If they are used for export of the used oil, they must be UN certified.
- Whether the used oil would be a problem for fish life if it entered the Lagoon, and the consequences of eating any animal or fish if it had been contaminated with used oil.
- Are there any options that the Consultant team is aware of to process or repurpose the used oil in Tuvalu. There may be and this will be explored in the Analysis and Feasibility stages of the project.

The group progressed through the slides on the current storage practices the photos showing some of the current storage containers at the DWM site highlighted cause for concern about the state of some of the containers, no bunding, limited signage and no visible firefighting equipment. This discussion generated questions and potential priorities for DWM, and are included as short, medium and long-term priorities to be further investigated and included in this project's Analysis Report to be completed as the next outcome of this project.

Mr Leota Patiale from Pacific Energy confirmed that the stored oil product would likely have to go through the Pacific Energy water separation process before being exported to Fiji, and that some of the used oil could hold other contaminants, such as used oil rags and "slops".

Discussions continued through the slides, including the potential site for a new upgraded storage facility, equipment for suitability of the current location to be redesigned to incorporate specific design considerations for short to medium-term storage of used oil.

These questions generated good discussion within the group at the Inception Meeting, and the consultant team answered many of the questions directly, but also highlighted that at this early stage, that this is the inception and investigation stage and that the next step will include analysis of the gathered data, stakeholder interviews and that the Analysis and Feasibility reports will cover these topics in greater detail.

Mr Leota Patiale from Pacific Energy Tuvalu confirmed that it was their intention to continue to assist Tuvalu, and the DWM with the ongoing export of used oil to Fiji, with their

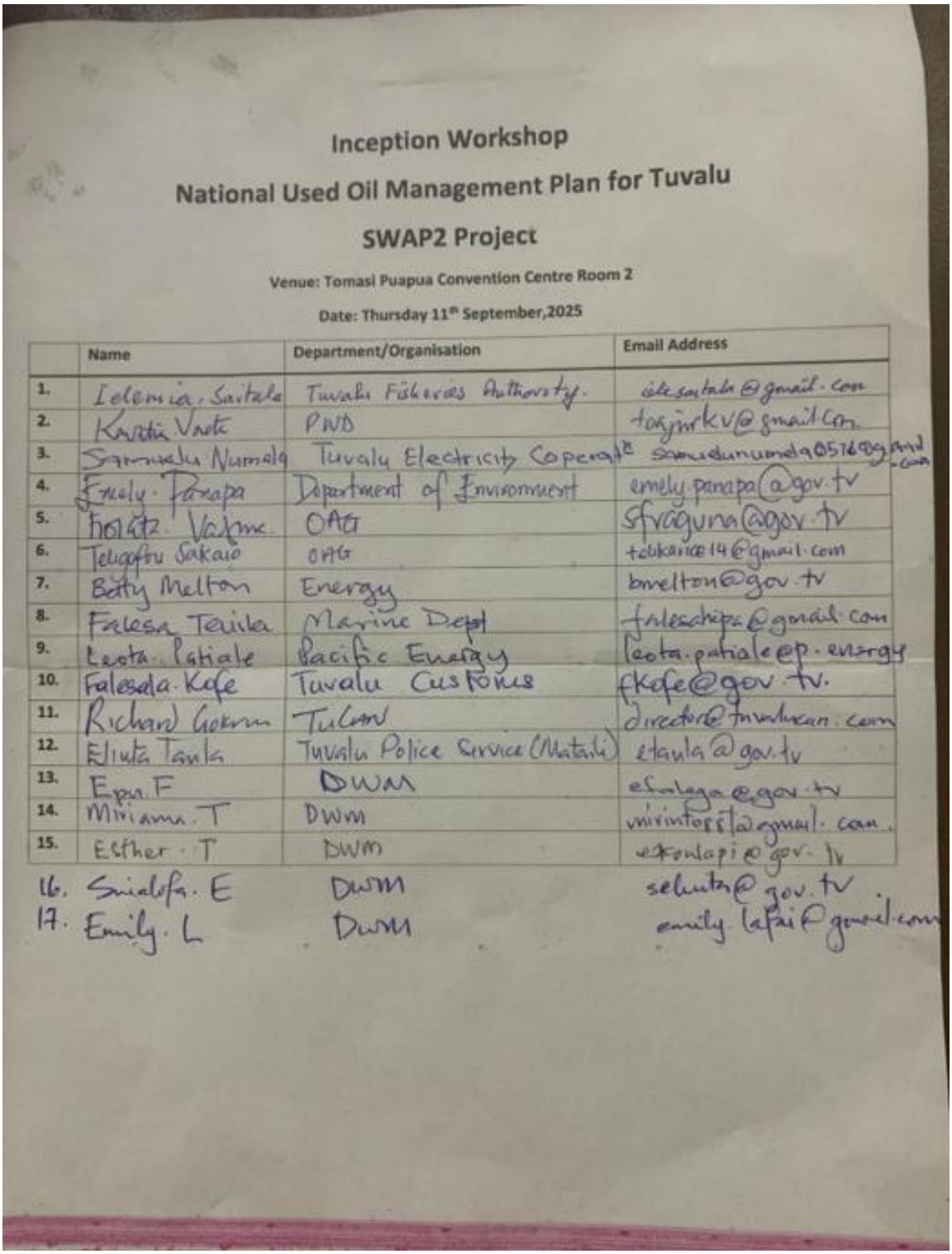
arrangement with BlueScope Steel in Fiji to accept the used oil as a fuel source for their steel production process.

He also confirmed that 8,000 litres of used oil had been recently exported to Fiji from the current DWM volumes, but that getting the IBCs back to Tuvalu has not happened yet. The consultant team planned to meet directly with Mr Patiale to understand this arrangement in greater detail.

The outcome from the meeting will be to continue to conduct stakeholder interviews with the Consultant team member, Richard Gokrun to gather more information to generate these next reports which will form the basis for the National Used Oil plan draft to be shared with all present stakeholders for review.

Figure 1: Stakeholder meeting 11/9/2025 - Tuvalu

Attendance Register



Inception Workshop

National Used Oil Management Plan for Tuvalu

SWAP2 Project

Venue: Tomasi Puapua Convention Centre Room 2

Date: Thursday 11th September,2025

	Name	Department/Organisation	Email Address
1.	Ielemia. Saitala	Tuvalu Fisheries Authority.	ielesaitala@gmail.com
2.	Kaatia Vaeta	PWD	taajirkv@gmail.com
3.	Samuelu Numala	Tuvalu Electricity Corporate	samuelunumala0576@gmail.com
4.	Emely. Panapa	Department of Environment	emely.panapa@gov.tv
5.	[illegible] Vaitime	OAG	sfvaguna@gov.tv
6.	Teligafu Sakaio	OAG	tokkarice146@gmail.com
7.	Betty Melton	Energy	bmelton@gov.tv
8.	Falesa Teuila	Marine Dept	falesachips@gmail.com
9.	Leota. Patiale	Pacific Energy	leota.patiale@p.energy
10.	Falesala. Kafe	Tuvalu Customs	fkafe@gov.tv.
11.	Richard Gokum	TuCom	director@tuvalucan.com
12.	Eliuta Taula	Tuvalu Police Service (Matasili)	etaula@gov.tv
13.	Epa. F	DWM	efalaga@gov.tv
14.	Miriama. T	DWM	miriintosi@gmail.com.
15.	Esther. T	DWM	etontapi@gov.tv
16.	Sualofa. E	DWM	seluta@gov.tv
17.	Emily. L	DWM	emily lafai@gmail.com

Figure 2: Stakeholder Meeting Attendance Register

4. Government Identified Priorities

The Tuvalu Department of Waste Management (DWM) has identified the following priorities.

1. **Filling the Legislative & Regulatory Void:** No specific legislation or regulation targets used oil, leading to ambiguity in handling, storage, and transport.

   What is needed is to develop Specific Used Oil Regulations, i.e. draft and enact subsidiary regulations under the *Waste Management Act (2017)* specifically for used oil. These should define:

   - **Generator Responsibilities:** Obligations for large generators (TEC, workshops) to store oil properly and hand it over to authorized collectors.
   - **Transport & Storage Standards:** Technical standards for containers (including IBCs), storage facilities (secondary containment, signage), and transport.
   - **Tracking Manifest System:** A simple but mandatory paper-based or digital system to track used oil from generator to exporter, ensuring accountability.
   - **Clear Prohibitions:** Explicitly banning the use of used oil as a chain lubricant, dust suppression, or other unsatisfactory uses, or open burning.

2. **Overcoming Operational & Logistical Challenges:** There is a lack of a reliable, funded system for collection from outer islands and also to fund the export overseas (e.g. Fiji). This is compounded by insurance and shipping issues. What is needed is:

   - **Formalized Export Protocol:** Establish a standing agreement with a licensed facility in Fiji (or another overseas party) including standardized contracts and pre-arranged insurance.
   - **Dedicated Shipping Logistics:** Integrate used oil shipments with other scheduled hazardous waste exports (e-waste, batteries) to share costs. Explore partnerships with regional shipping projects (e.g., SPREP's POLPs, SWAP2 and ISLAND programme) for dedicated waste shipment voyages.
   - **Outer Islands Collection Protocol:** Develop a specific protocol for the outer islands, including a schedule for collecting full IBCs using government vessels or charter services, rather than relying on passenger boats.

3. **Overcoming Data Deficiencies:** There is inconsistent and outdated data on oil imports and used oil generation undermines effective planning and monitoring. What is needed is:

   - **Standardized Data Collection:** Implement a mandatory reporting requirement for oil importers (via Customs) to report volumes and types of lubricants imported.

- **Used Oil Tracking:** Link import data to a manifest system that tracks used oil collected by DWM. This will allow for accurate calculation of a used oil generation ratio (e.g., what % of new oil becomes waste oil).
- **Centralized Database:** The DWM should maintain a simple database to track stockpile levels in Funafuti and on the outer islands in real-time.

4. **Overcoming Infrastructure & Capacity Shortfalls:** Inadequate secure storage facilities and a lack of technical training for personnel handling hazardous waste. What is needed is:
   - **Secure Central Storage Facility:** The new Transfer Station must include a dedicated, impermeable hazardous waste storage bay with secondary containment bunds, roofing, and clear signage specifically for used oil IBCs. This could also be used for other hazardous wastes requiring export.
   - **Training Programmes:** Develop and deliver certified training for DWM and Kaupule staff on the safe handling, storage, and spill response for used oil and other hazardous wastes. This should be a recurring programme, not ad-hoc.

5. **Establishing Financial Sustainability:** No clear, sustainable funding model for the ongoing costs of collection, storage, and export. What is needed is:
   - **Extended Waste Levy Scheme:** Amend the *Waste Levy (Levy Deposit) Regulation 2019* to include lubricating oils. A small levy (e.g., $0.50/L) on all imported new oil would create a dedicated fund to pay for the collection, storage, and export of the resulting used oil, implementing the polluter-pays principle.
   - **Cost-Benefit Analysis:** Conduct a study to evaluate the true full cost of used oil management (including environmental damage avoided) versus the cost of inaction, to justify budget allocations and levies.

5. Stakeholders

The list of key stakeholders and their contact emails are shown in Table 2 below. This table also shows which stakeholders are members of the existing used oil committee and which stakeholders attended the Inception Meeting.

***Table 2:** Key Stakeholders*

Name	Representing	Email Contact	Used Oil Committee	Inception Meeting
Epu Falenga	Dept of Waste Management	efalega@gov.tv		Yes
Emily Lafai	Dept of Waste Management	emily.lafai@gmail.com		Yes
Suialofa Eliuta	Dept of Waste Management	seliuta@gov.tv	Yes	Yes
Emely Panapa	Dept of Waste Management	emely.panapa@gov.tv		Yes
Miriam Taukiei	Dept of Waste Management	mirinto88t@gmail.com		Yes
Esther Koulapi	Dept of Waste Management	ekoulapi@gov.tv		Yes
Falesala Kale	Tuvalu Customs Department	fkofe@gov.tv		Yes
Lifuka Simeti	Tuvalu Customs Department	lifusimeti@gmail.com	Yes	
Tebeke Teakai	Tuvalu Customs Department	tteaukai@gov.tv		
Richard Gorkrun	Tuvalu Climate Action Network	richard.gorkrun@gmail.com		Yes
Fioiata Vaguna	Office of Attorney General	sfvaguna@gov.tv	Yes	
Teligofou Sakaio	Office of Attorney General	telikarice14@gmail.com		Yes
Leota Patiale	Pacific Energy	leota.patiale@p.energy	Yes	Yes
Eliuta Taula	Tuvalu Police (Matailli Patrol Boat)	etaula@gov.tv	Yes	Yes
Ioapo Tapu	Fisherman on Funafuti Association (FOFA)	ioapotapu@gmail.com	Yes	
Taaku Sekielu	Tuvalu Electricity Corporation	taakusekielu@gmail.com	Yes	
Samuelu Numela	Tuvalu Electricity Corporation	samuelunumela0576@gmail.com		Yes
Kavatia Vaeta	PWD Mechanic Section	toajnrkv@gmail.com	Yes	

Name	Representing	Email Contact	Used Oil Committee	Inception Meeting
Multiple	Tuvalu Workshops and Garage Representatives			
Admin Office	MacKenzie Trading Ltd	mackenziekiritome@yahoo.com	Yes	
Imo Fiamalua	Department of Energy	ifiamalua@gov.tv	Yes	
Betty Melton	Department of Energy	bmelton@gov.tv		Yes
Soseala Tinilau	Department of Environment	stinilau@gov.tv	Yes	Yes
Tiale Panapa	Department of Environment	tiale.panapa@gov.tv		
Fioiata Vaguna	Office of Attorney General	sfvaguna@gov.tv	Yes	
Koloa Tofaga	Fisheries Department (Manaui)	knofoala@gmail.com	Yes	
Falesa Teuila	Marine Department	falesahipa@gmail.com	Yes	Yes
Ikemia Saitala	Tuvalu Fisheries Authority	ikesaitala@gmail.com		Yes

6. Detailed Workplan and Timeline of Activities

6.1 Proposed Tasks

6.1.1 Analysis

Undertake an analysis of used oil generation and existing used oil collection, storage, treatment, disposal and exportation services to begin to understand any logistical issues or opportunities related to the development of the National Used Oil Management Plan. This has been facilitated by a visit to Tuvalu by Paul Mooney, who is assisted by Richard Gorkrun. Richard Gorkrun will also assist with any follow-up requirements.

Analyse findings against the government and stakeholder priorities from the Inception Meeting.

6.1.2 Feasibility Study

Develop a Feasibility Study prior to the development of the National Used Oil Management Plan that addresses the following:

- Products to be included in the Used Oil Management scheme.
- Sectors to be serviced by the Used Oil Management scheme.
- Recommendations for options on how to best deliver the Used Oil Management scheme and services.
- Identification and specifications of any equipment or materials required for the establishment of used oil collection, storage, treatment and disposal stations, including cost estimates.
- Assessment of the capacity building needs of government and the oil and waste industry to enable the implementation and operation of the proposed National Used Oil Management Plan.
- Identification of the system data capture and monitoring necessary to effectively manage service contracts, report to the community, and assist the country to report on its obligations under international conventions (monitoring system details, including any technological requirements should be detailed).
- Provision of recommendations for national engagement and education of the oil/used oil sector and community to assist with the implementation success of the National Used Oil Management Plan.

6.1.3 Draft National Used Oil Management Plan

The consultants will compile all the information gathered and data obtained to develop an effective and appropriate draft “National Used Oil Management Plan” that addresses all the needs identified in the Feasibility Study and implements the recommendations of the Feasibility Study.

This draft will include all the information presented in the Feasibility Study with the additional information on a recommended set of engagement and socialisation strategies to increase and sustain user participation.

The Plan will include any other information deemed necessary and as directed throughout the contract by the Government.

6.1.5 Final National Used Oil Management Plan

The consultants will incorporate all the comments received from the Government as well as those from all other key stakeholders, finalise and submit the final "National Used Oil Management Plan".

6.2 Methodology

6.2.1 Situation Analysis

Fieldwork is being conducted by Paul Mooney with support from Richard Gorkrun. This includes:

- On-site assessments of used oil sources, volumes, handling practices, storage infrastructure, and disposal methods.
- Interviews with oil suppliers, garages, government departments, power utility, port, and other key actors.
- Identification of risks to health and the environment from current practices.
- Assessment of logistics and access constraints for outer islands, and used oil generated from the outer islands.
- Information will be synthesised in an Analysis Report that will identify systemic barriers, stakeholder needs, and infrastructure limitations.

6.2.2 Feasibility Study

Using insights from Phases 1 and 2, a feasibility study will be developed that covers:

- Sources of various types of used oil in Tuvalu.
- Review of suitable management and recovery options, including regional export, co-processing, and local treatment.
- Technical specifications and costing of infrastructure needed (collection tanks, bunded storage, testing kits, PPE, etc.).
- Identification of likely international markets.
- Institutional responsibilities, regulatory gaps, and opportunities for integration into Tuvalu's broader waste strategy.
- Capacity building, staffing, training needs.
- Education and public awareness strategies to improve compliance and participation.

- Monitoring and evaluation (M&E) indicators aligned with regional reporting obligations (e.g., Basel, Stockholm, Waigani Conventions).

The draft feasibility study will be validated through a virtual stakeholder workshop.

6.2.3 Draft National Used Oil Management Plan

This plan will synthesise findings from the feasibility study into a structured action-oriented strategy covering:

- Regulatory improvements.
- Infrastructure roll-out.
- Institutional arrangements.
- Financing mechanisms (including potential donor support).
- Timeline and sequencing of implementation.
- National targets and performance measures.
- Education and outreach strategies.

The Draft Management Plan will be presented to a Stakeholder Workshop in Tuvalu

6.2.4 Finalisation

All feedback received will be incorporated, and the final version of the National Used Oil Management Plan will be presented.

The final version will be tailored for both operational use and alignment with national development objectives.

6.3 Methodology Considerations, including Potential Difficulties and Solutions

A logical step-by-step methodology has been developed that will focus on assessing used oil from the point it is generated until it is finally disposed of. Satisfactory disposal of used oil in Tuvalu is expected to be mainly to offshore destinations although some local end uses may be deemed acceptable.

The step-by-step methodology will focus on the following used oil life cycle stages:

- Generation
- Storage for collection
- Collection
- Unsatisfactory disposal practices
- Transport to end use / disposal, including overseas shipment
- Final disposal

A detailed and thorough series of questions will be developed that will gather detailed information about the above life cycle stages to inform project reporting and examine ways to:

- Increase collection
- Improve transport methods
- Seek satisfactory disposal methods
- Assess means for improvements
- Assess costs for improvements
- Assess training and capacity-building needed
- Target needs to Tuvalu's requirements.
- determine potential pathways to develop Advance Disposal Fees for lubricating oils
- review existing waste legislation and relevance to used oils

The questions will be prepared electronically and information can be recorded electronically or transferred as soon as possible from notes. Photos will be used extensively to supplement the data gathering and will be numbered and identified with care so they can be traced to sources.

Potential Difficulties – Data gathered may be inaccurate and information sources may be doubtful.

Possible Solutions – Information will be confirmed as much as possible from several sources and care will be taken not to make unjustified assumptions. Data will be backed up with referenced sources.

A detailed mass balance inventory will also be calculated that examines sources of used oil, quantities of used oil generated, stockpiles of used oil and estimated losses. This will enable an assessment of the level of used oil mismanagement in each country.

Potential Difficulties – Assessing imports accurately and relating these figures to used oil produced.

Possible Solutions – Import figures from Customs records can be checked with terminal and retail store stocktaking methods, and accepted methodologies will be used for predicting used oil production.

The following important factors will be taken into consideration:

a) There are a number of issues that impact on environmentally sustainable management of used oil in Pacific Island countries. A fundamental is to have an effective collection and storage system that is accessible and simple to use by the population.
b) Educating and guiding is crucial to eliminate bad handling and disposal practices such as dumping oil in the ground or waterways.

c) Facilities for the safe storage of used oil should also provide for other wastes which may arrive with the oil, such as oil filters and car batteries. These are potentially valuable for recycling and should be collected as part of the overall recycling programme.
d) If overseas export of waste is being considered or undertaken, it should be noted that shipping services and shipping routes vary from country to country. There are currently three companies providing services to the Pacific Island countries, Matson, NPDL and Swires. However different companies service different countries and there is no one company that can provide a common service to all PICs. New Zealand is a common destination and for this reason many PICs have traditionally sent their used oil to NZ for recycling. Swires operate the Moana Taka Partnership which offers countries free shipping for wastes, but this only assists countries that are on the Swires routes.
e) As a Waigani or Basel transboundary permit is required for shipments, the objective is to find the most direct route to the disposal location, as then less transit permits are required.
f) A barrier to in-country reprocessing is that it is only viable if there is an end user who can take the refined product. Most diesel and other internal combustion engine manufacturers will not warrant their engines unless the correct fuels are used, and this means that refined used oil is generally used for heating, such as in furnaces and steam boilers. Therefore, although offshore disposal/recycling may not be regarded by some as best practice, the reality is that shipping to a facility that can recycle and re-use the end product may be most cost effective and sustainable option.
g) The biggest issue for most of the smaller countries is often funding. In-country reprocessing is generally not feasible due to economies of scale, but the cost of shipping to an overseas facility is a major barrier. This causes delays and consequent pressure on in-country storage, which often leads to bad environmental outcomes. In the medium term the priorities may be to foster effective in country oil management and consolidation systems, promote education to eliminate bad practices, and support countries to ship the used oil to suitable recycling facilities.

All the above factors will be considered when the work is being carried out.

Used oil can originate from many sources and all sources will be explored. These sources include:

Engine oil – typically includes crankcase oils from gasoline, diesel and LPG/CNG engines (often the main sources)

- Brake fluids
- Gear oils
- Transmission fluids

- Hydraulic oils and fluids
- Compressor oils
- Refrigeration oils
- Industrial process oils
- Electrical insulating oil (Care must be taken to exclude oil likely to contain PCBs)
- Metalworking fluids and oils
- Heat transfer oils
- Machining oils
- Ship's slops, bilge water, tank cleanings produced by vessels during normal shipboard operations
- Bottom clean-out waste from virgin fuel storage tanks, virgin fuel oil spill clean-ups, or other oil

It is important to note that some potential components of used oil should be excluded, mainly for safety reasons – flammability and toxicity. The methodology will check if there is any risk of these items being added. These potential components include:

- Petroleum distillates used as solvents, such as turpentine, kerosene, parts-washing solvents
- Petrol and/or diesel (including biofuels) – including mixtures from refueling errors
- Antifreeze, radiator flushing, or other inhibitor packages
- Oils derived from animal or vegetable fats and oils – including those used as a lubricant
- Paint and paint brush washings
- Chlorinated oil or solvents
- Any virgin or used oil which may contain PCBs (> 5 mg/kg)
- Soluble cutting fluids

The occurrence of such items will, however, be noted as other hazardous waste disposal solutions will be needed.

Potential Difficulties – It will be difficult to determine the sources and composition of used oil generated and used oil stockpiled.

Possible Solutions – Sources and composition will need to be double-checked through questioning all parties involved. Care will be taken to observe contamination from undesirable sources. Good detective work will be needed.

There are several methods for disposing of used oil that are inappropriate and examples of these will be noted:

- disposal on the ground, or into watercourses, sewers or drainage systems
- burial

- using used oil for dust control, weed abatement, vegetation control, timber preservation by painting, staining or dipping, pest control or as a carrier fluid for agrichemicals (pesticides or herbicides)
- use as a marker, e.g. on playing fields
- placing used oil in rubbish bins to be collected as part of household waste
- open-air burning
- combustion in, for example, kerosene burners
- any other practices, in which the used oil may cause contamination of the ground and groundwater, migrate to watercourses, contaminate air or have negative impacts on humans, plants, animals or other organisms.

Potential Difficulties – It may be hard to note some undesirable disposal practices. This has been observed numerous times in the past with earlier surveys where it has been difficult to arrive at the truth.

Possible Solutions – Deception and reluctance to give honest answers will need to be overcome by careful probing and a helpful attitude.

Methods of collection and storage will be examined, and a determination will be made as to the suitability of such storage. For example:

- Where IBCs (Intermediate bulk containers) are used for the collection, storage and transportation of used oil, these must be sound and of good quality. They should not be left in the sun as UV light will break them down.
- Steel drums will corrode and leak.
- Bulk storage facilities must be maintained in good condition, regularly inspected and have good secondary containment. They need proper spill control equipment, fire extinguishers and emergency response procedures in place.
- Long term storage may result in the accumulation of sludges that are difficult to remove by pumping.

Potential Difficulties – Inspection of storage facilities may be difficult, due possible burials and access problems, including into tanks to assess sludges. It may also be hard to assess the suitability of secondary containment, if it has been provided.

Possible Solutions – Careful inspection procedures will be needed, and a thorough checklist will be developed. Again, a helpful attitude will be needed as some assistance may be needed, such as the dipping of tanks.

Disposal facilities, even if overseas, needs to be assessed to ensure they are being operated properly. Auditing of these facilities should be an important part of the assessment process. For example, an earlier SPREP project included an audit of the steel plant in Suva that was receiving used oil for disposal.

Potential Difficulties – It may be hard to assess the suitability of overseas disposal facilities, especially overseas ones.

Possible Solutions – Basel / Waigani documentation needs to be checked and Basel / Waigani Government agencies in receiving countries may need to be contacted, as well as the processing plants receiving the used oil. Some are well known, such as BlueScope Pacific Steel in Fiji and Salters Cartage in New Zealand.

Other potential challenges also include:

Limited baseline data: addressed through targeted stakeholder interviews and direct field observations.

Stakeholder availability: mitigated through strong local coordination by Richard Gorkrun and early scheduling of meetings.

Logistical delays in accessing the outer islands information: mitigated by focusing site investigations in Funafuti where most oil is generated, and relying on outer islands data gathering from Funafuti, with help from Richard Gorkrun.

Infrastructure or budget constraints: planning will provide scalable options and prioritised actions based on feasibility.

6.4 Timeline of Activities

It is planned that the consultancy will be for a period of **6 months**, starting from the date of the contract signing in late July.

The proposed project timeline is set out in the Gantt Chart below.

Project Component	Aug-25				Sept-25				Oct-25				Nov-25				Dec-25				Jan-26			
Initial Stakeholder Meeting																								
Desktop Review and Visit Preparation																								
Inception Workshop																								
Inception Report																								
Analysis Investigation Work																								
Analysis Report																								
Feasibility Study																								
Feasibility Study Review																								
Draft Used Oil Management Plan																								
Christmas Break																								

Project Component	Aug-25				Sept-25				Oct-25				Nov-25				Dec-25				Jan-26			
Used Oil Management Plan Workshop																								
Final Used Oil Management Plan																								

6.5 Tasks / Responsibilities of Government

The Government of Tuvalu will be called upon to:

a) Attend the initial stakeholder meeting
b) Assist with the data gathering at the Analysis Stage of the project
c) Review and give feedback on the Analysis Report
d) Review and give feedback on the Feasibility Study
e) Review and give feedback on the Draft Management Plan
f) Attend the Draft Management Plan Workshop
g) Receive and then implement the Final Management Plan in conjunction with SPREP

Appendix 1 – Power Point Presentation

En partenariat avec

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

AFD
AGENCE FRANÇAISE DE DÉVELOPPEMENT

SPREP
Secretariat of the Pacific Regional Environment Programme

SWAP
Sustainable Waste Actions in the Pacific

Tuvalu Used Oil Management Plan

Inception Workshop

Thursday 11th September

TPCC Funafuti – Tuvalu

9.00am – 12.30pm

Presented by Paul Mooney & John O'Grady

En partenariat avec

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

AFD
AGENCE FRANÇAISE DE DÉVELOPPEMENT

SPREP
Secretariat of the Pacific Regional Environment Programme

SWAP
Sustainable Waste Actions in the Pacific

Agenda

9.00 am	– Welcome / Prayer – Epu Falega
9.10 am	– Brief Introductions
9.20 am	- Tuvalu Used Oil Project brief – Why, How, Who
9.40 am	- What is Used Oil & Why we need to be concerned
10.00 am	- Current practices in Tuvalu & Storage issues
10.30 am	– Short break
10.45 am	- New Storage site & Transport options
11.15 am	- Sources of Oil & Inappropriate uses of Used Oil
11.30 am	- Tuvalu Legislation, Updating Information,
12.30 pm	- Workshop complete – Lunch & Discussion

En partenariat avec

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

SPREP Secretariat of the Pacific Regional Environment Programme

SWAP Sustainable Waste Actions in the Pacific

Brief Introductions

DWM - Epu Falega

SPREP – SWAP 2, Julie Pillet

Araspring - John O'Grady

EMV - Paul Mooney

VCAN - Richard Gorkrun

Stakeholders

Used Oil Management Plan – Five Stages as follows:

- **Inception** – introductory meetings and desktop study
- **Analysis** – gathering current data and discussions with stakeholders
- **Feasibility Study** – feasibility study report for consultation
- **Draft Used Oil Management Plan** – based on the feasibility study and consultation
- **Final Used Oil Management Plan** – finalization of the plan after further consultation

What is Used Oil

- Used oil is defined as any petroleum-based or synthetic oil or fluid that, through contamination or degradation, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties.
- These may be produced from industrial and non-industrial sources where they have been used for lubrication, hydraulic movement, heat transfer, electrical insulation or other purposes and whose original characteristics have changed during use - rendering them unsuitable for further use for the purpose for which they were originally intended.

Why should we be concerned

- Used oil can enter aquatic ecosystems through water runoff. Oil spilled on soil also migrates downward into ground waters, and spreads laterally. Once in the environment, oil hydrocarbons and associated metals and other contaminants may persist for years.
    - Ingested oil may adversely impact the ability of animals to digest food and may damage their intestinal tracts. Oil also reduces the insulating capacity of animal furs and the water repellency of bird feathers, thus increasing morbidity and mortality due to exposure and eventual drowning.

Why should we be concerned

- There are also major health considerations around the fate of used oil due to its toxicity. Used oils typically contain a range of compounds that may have adverse impacts when released into the environment. These compounds include PAHs, heavy metals, additives and antioxidants, and trace levels of chlorinated solvents.
    - Exposure to these compounds can result in damage to organs, including liver, kidneys, heart, lungs and nervous system. PAHs are also potent carcinogens. Oil concentrations as low as one part per million (ppm) can contaminate drinking water.

En partenariat avec

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

AFD
AGENCE FRANÇAISE DE DÉVELOPPEMENT

SPREP
Secretariat of the Pacific Regional Environment Programme

SWAP
Sustainable Waste Actions in the Pacific

Tuvalu Current Used Oil Storage

En partenariat avec

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

AFD
AGENCE FRANÇAISE DE DÉVELOPPEMENT

SPREP
Secretariat of the Pacific Regional Environment Programme

SWAP
Sustainable Waste Actions in the Pacific

Tuvalu Current Used Oil Storage

Storage Issues

- IBCs – must be sound and of good quality. They should not be left in the sun as UV light will break them down.
- Steel drums - corrode and leak, especially if used oil mixed with water.
- Plastic drums - deteriorate, especially if left in the sun.
    - Bulk storage facilities - maintain in good condition, regularly inspect, have good secondary containment. Need spill control equipment, fire extinguishers.
    - Long term storage may result in the accumulation of sludges that are difficult to remove by pumping.

Storage Issues

- IBCs – must be sound and of good quality. They should not be left in the sun as UV light will break them down.
- Steel drums - corrode and leak, especially if used oil mixed with water.
- Plastic drums - deteriorate, especially if left in the sun.
    - Bulk storage facilities - maintain in good condition, regularly inspect, have good secondary containment. Need spill control equipment, fire extinguishers.
    - Long term storage may result in the accumulation of sludges that are difficult to remove by pumping.

Potential Storage location

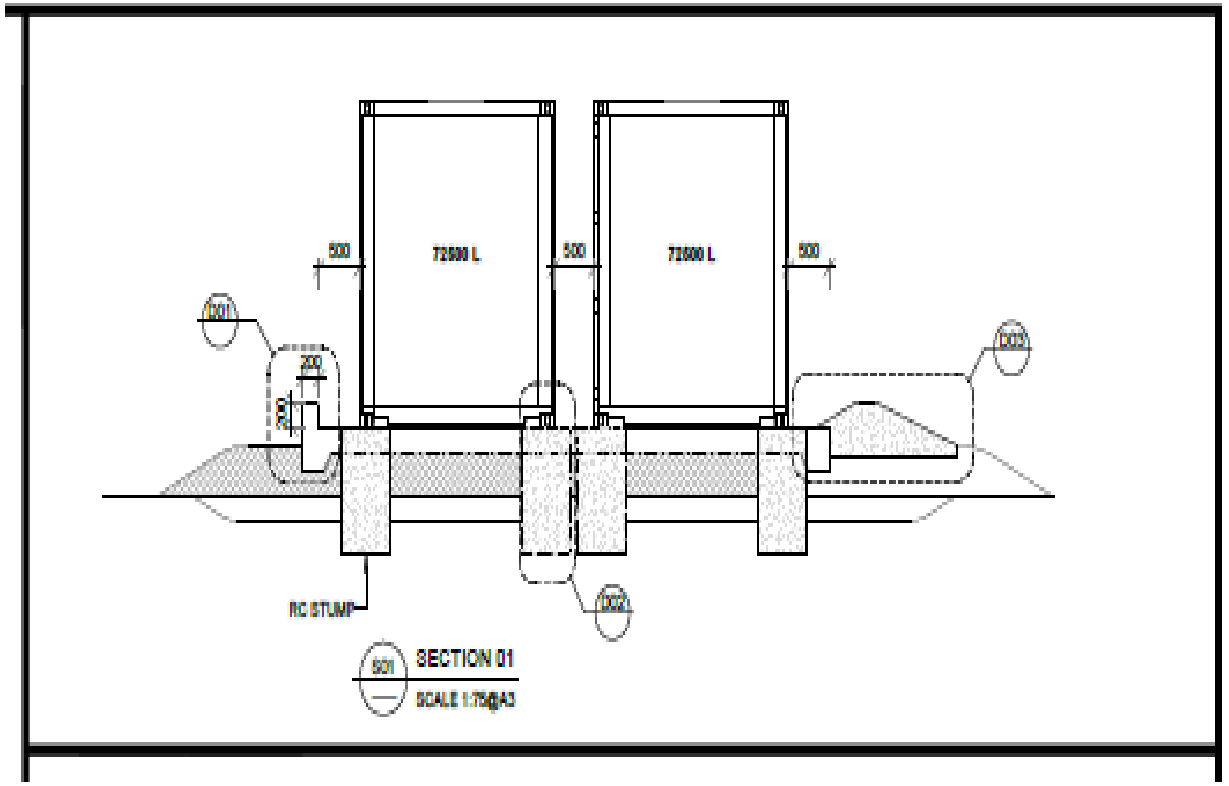
Potential Storage location considerations

- There is Land available on the current Department of Waste Management site
- Full Environmental Impact Assessment required. (EIA)
- Review Storage and Transport Container options
- Double-skinned storage and transport containers on exchange
- Secondary containment – Bunding for Storage & Transfer of Used Oils
- Used Oil Spill & Fire Fighting equipment required – Run training drills with staff
- Cyclone and storm considerations for securing bulk storage containers
- Update the stocktake and create a system for recording incoming volumes

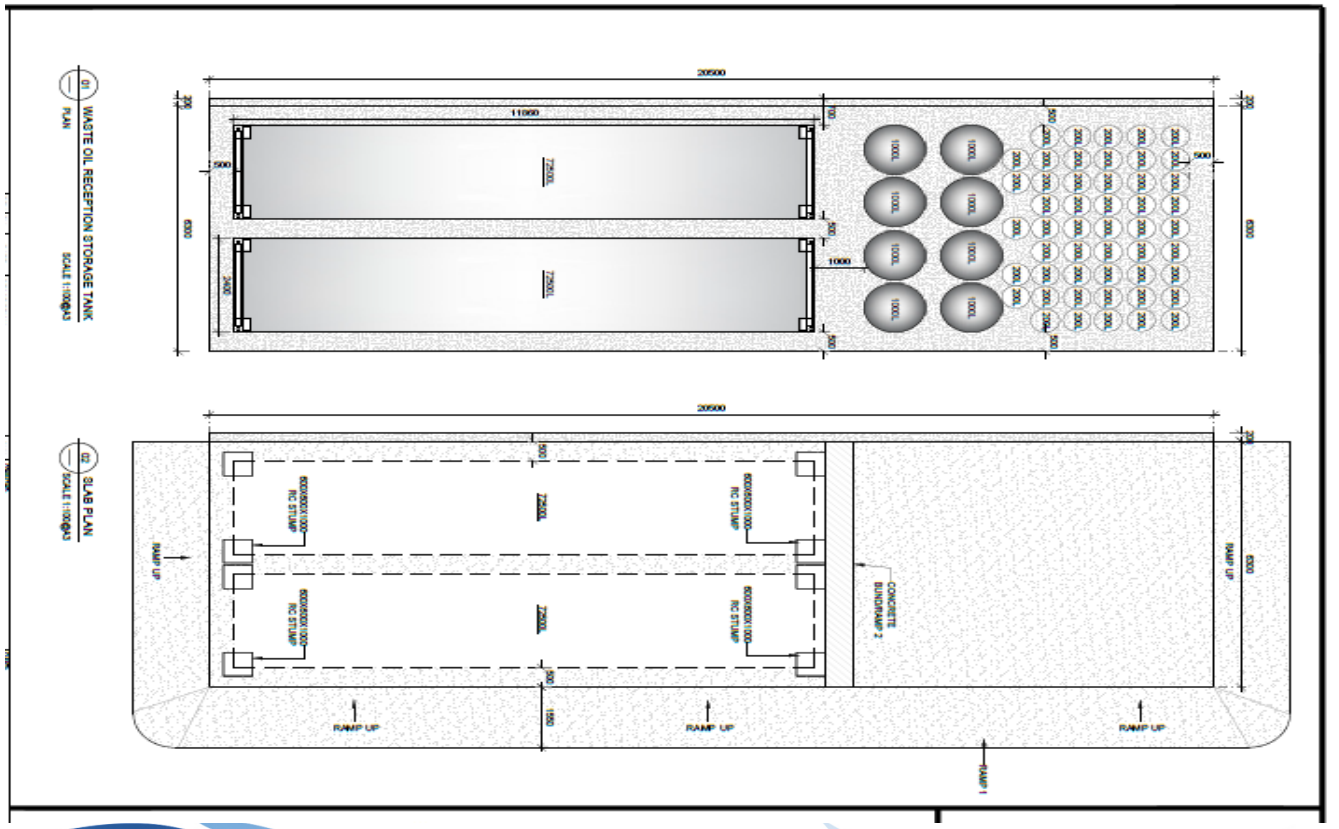
New Storage site & transport options

New Storage site & transport options

New Storage site & transport options



New Storage site & transport options



Sources of Used Oil – Many including

- Engine oil – typically includes crankcase oils from gasoline and diesel engines (often the main sources)
- Engine Oil Filters and how they are managed
- Brake fluids
- Gear oils
- Transmission fluids
- Hydraulic oils and fluids
- Electrical insulating oil

Inappropriate Uses and Disposal of Used Oil

- Disposal on the ground, or into watercourses, sewers or drainage systems
- Burial
- Dust control, weed abatement, vegetation control,
- Timber preservation by painting, staining or dipping,
- Use as a marker, e.g. on playing fields
    - Placing used oil in rubbish bins
    - Open-air burning
    - Combustion in, for example, kerosene burners

Important Tuvalu Legislation for Used Oil Management

- The Environment Protection Act (2022)
- Falekaupule Act (2008)
- Marine Pollution Amendment Act (2017)
- Public Health Act (2008)
- Customs Revenue and Border Protection Act (2014)
- Energy Efficiency Act (2016)
- Waste Management Act (2017)
- Waste Management (Levy Deposit) Regulations (2019)

Relevant Policy, Strategy and Plans

- **Te Kete: Tuvalu National Strategy for Sustainable Development 2021-2030** – Key issues are waste management, climate change adaptation, energy security and environmental protection.
- **National Environmental Management Strategy 2018-2020** – key strategies are waste management and pollution control, governance and enforcement, Resource Implications, and Used Oil Management
    - **National Integrated Waste Policy and Action Plan 2017-2026** - Many relevant sections
    - **Tuvalu State of Environment Report 2022** – Many relevant implications

SOE Report 2022 Pollution and Water Quality

Tuvalu relies heavily on rainwater and fragile groundwater lenses.

Groundwater is already polluted by septic tank leakage and waste mismanagement.

Used oil spills or leakage would pose a high risk of further contaminating groundwater and lagoons, threatening public health, ecosystems and food security.

NIWPAC 2017-2026 Challenges

Vision – A cleaner and healthier Tuvalu for today and the future generations

Used Oil Challenges:

- Stockpiling Risk – large volumes can remain in Funafuti without secure storage
- Export Dependence – Reliance on Fiji for recycling creates vulnerabilities
- Capacity Gaps – Limited trained personnel and weak enforcement of protocols
- Land Scarcity – Limited options for used oil stockpiling

2019 Stockholm Convention NIP Report Used Oil Information

- Tuvalu imports around 30,000 litres of lubricants per year and exports 20,000 litres of used oil per year (i.e. 66% of import volumes to Bluescope Steel, Fiji.
- Used oil that is not collected is mainly used as a motorbike chain lubricant.
- Issues around lack of insurance to cover used oil imports that are preventing its export.

2019 Stockholm Convention NIP Report Used Oil Information

- A total of about 10,000 litres of used oil are (as at Oct 2019) stockpiled in IBCs on Funafuti.
- Each of the outer islands has an IBC for used oil collection and storage, although these IBCs containing used oil are unable to be transported back to Funafuti on the inter-island passenger boats.

Other Relevant Information

- **Energy Supply** – Tuvalu has an energy supply goal to replace all diesel generation of electricity with renewable sources, and to increase energy efficiency on Funafuti by 30%. This will have a direct impact on reducing the amount of used oil generated.
- **Export of Hazardous Waste** – Tuvalu is a party to the Waigani Convention but not to the Basel Convention. This limits the export destinations to within the Pacific, and Tuvalu should consider becoming party the Basel Convention.

What we now need to know (the 2019 NIP information needs to be updated)

- How much lubricating oil, and other oil that may generate used oil, is imported per year? – check importers and also Customs information.
- How much used oil is generated? – talk to all generators.
    - How used oil is currently managed? – collected, stored and exported.
    - How could used oil be managed better in the future?