

**Consultancy to Assist SPREP and Pacific Island Countries in an
Assessment of Options for Future Used Oil Management**

**REPORT THREE:
WORK PLAN OF PROPOSED ACTIVITIES
and BUDGET**

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1. Study Findings and Recommendations

1.1 Pacific used oil reuse options

- *Disposal of used oil as a diesel extender in power plants is not a universally acceptable practice in the Pacific due to warranty conditions placed on new electricity generating equipment*
- *However, the use of used oil as a diesel extender is an acceptable practice in some locations with older infrastructure (eg Yap), and these practices should be documented to provide guidance for other locations*

1.2 Used oil transport

- *25,000 litre T14 ISO Tanktainers (TTs) with a practical 21,000 litre filled capacity are becoming the preferred transport vessel in the Pacific so as to minimise other storage infrastructure requirements by shipping and fuel receiving agencies. As a consequence, T14 ISO Tanktainers should be used whenever possible to transport large stockpiled volumes of used oil in the Pacific offshore for recycling.*
- *It is critical that water content and the quality of used oil is strictly controlled prior to export through use of 3 stage gravity separators and coarse filtration prior to loading into ISO Tanktainers*

1.3 Sustainable used oil management

- *Prioritised funding for used oil recycling should only be allocated to countries that have made a commitment to implementing an advanced disposal fee (ADF) to finance future used oil management and disposal costs. The increased generic cost to oil consumers to implement the ADF is estimated to be around 17¢/litre (or 65¢/gallon). At a local retail price of around US\$4/litre (US\$16/US gallon) for lubricating oil, that would represent a 4.25% price increase to cover the import or recycling/disposal levy*

1.4 Used oil recycling

- *New Zealand is a viable export destination option for recycling the large volumes of used oil currently stockpiled in the Pacific region*
- *Pacific shipping lines have expressed active interest in tendering for removal of used oil stockpiles in the northern Pacific to Salters (NZ) for recycling and have provided indicative cost estimates (per Tanktainer) to do so*
- *Fiji is only a viable export destination option for recycling small volumes of Pacific used oil through Blue Scope Steel*
- *Pacific Energy (PE) operates an efficient and sustainable service to export small volumes of used oil to Blue Scope Steel from their customers in a number of countries including Tuvalu*
- *The logistics used by Pacific Energy to manage small quantity used oil exports (to Fiji) should be documented in detail to provide guidance to other small used oil producers*

1.5 Pacific used oil country intervention priorities (2018)

- *Export of stockpiled used oil for recycling should be prioritized for Pohnpei and RMI due to the large volumes stockpiled at these locations, and the lack of available future storage space at these locations (Table 1). Niue is also a (lower) priority.*

Table 1. Removal of used oil stockpile priorities based on 2015 and 2018 data

Nation	2018 Annual Used Oil Production (L)	2015 National Used Oil Stockpile (L)	2018 National Used Oil Stockpile (L)	Used Oil Storage Tankage Capacity (L)	Current 2018 used oil management options
Cook Islands					
Fiji					
FSM Chuck		22,000			
FSM Kosrae		50,000			
FSM Pohnpei	25,000	891,600	937,000	53,000 (PUC) 102,000 (FSMPC)	Stockpiled
FSM Yap		65,750			
Kiribati	70,000	8,000	64,000	24,000 (TTs) 40,000 (drums)	Exported to Fiji and New Zealand
Nauru	55,000	46,000	100,000	2,800,000	Stockpiled
Niue		4,000	~10,000	20,000	Stockpiled
Palau		550,000			
PNG					
RMI	250,000	1,108,000 (Majuro) 302,000 (Ebeye)	2,200,000 (Majuro) 200,000 (Ebeye)	2,800,000 (Majuro) 200,000 (Kwajalein)	Stockpiled
Samoa		8,400	0		
Solomon Islands					
Tonga		0	0		
Tuvalu	19,200	2,500	18,000	20,000 (1,000 drums)	Export to Fiji by Pacific Energy in 4,000L lots
Vanuatu		0	0	20,000 (Pacific Energy)	Free of charge take back by Pacific Energy for their customers. Used in Copra production. Potential to export to India with increase oil prices

- *Of these, export of used oil from RMI should be commenced first as the logistically simplest operation to gain experience on all sides of the shipment and processing required*
- *It is critical that oil removal is also commenced from Pohnpei in the short-term as this site presents the most serious current environmental risk*
- *A tender for used oil removal should include options for removal from Pohnpei, RMI or both locations to allow potential operational synergies that could reduce overall export costs and increase total volumes of used oil exported under this project*
- *Prioritised funding for export of used oil for recycling should also be allocated to manage and remove the small used oil stockpile located in Niue as a simple, one-off intervention to establish a sustainable long-term solution for used oil management in this location*

1.6 Costs: Pohnpei

- *Removal 937,000 litres of used oil stockpiles from Pohnpei, FSM via Majuro, would require export of 47 TTs of used oil over 12 months and would cost an estimated \$US470,000 at a nominal cost of \$10,000/TT*

1.7 Costs: RMI (including Ebeye)

- *Removal of current stockpiles of 2.2 million litres of used oil from Majuro (RMI) would require export of 110 TTs of used oil over 12 months and would cost an estimated \$US1,100,000*
- *Removal of 200,000 litres of used oil stockpiles from Ebeye (RMI) would require export of 10 TTs of used oil and would cost an estimated \$US100,000 and would likely use the same logistical pathway as the Pohnpei shipment due to current shipping logistics*

1.8 Costs: Niue

- *Removal of 20,000 litres of used oil from Niue together with supply of basic used oil collection infrastructure would require export of one TT of used oil and would cost an estimated \$US30,000 including local infrastructure costs¹*

1.8 Tender Process and Components

- *A Request for Proposals to remove national use oil stockpiles should be advertised, and let by SPREP*
- *A successful bid must be based on competency with import and/or export of TTs, oil pollution and spill control and also a demonstrable relationship with an approved receiver overseas and a shipping company*
- *The successful contract should be structured such that the contractor bids for a price to export each TT of used oil (containing a minimum of 20,000 litres of used oil) with each contract payment made upon presentation of a copy of the Bill of Lading for each successful Tanktainer export*
- ***The final quantity of used oil exported under contract can only be defined after tender bids are received, but at \$0.5 per litre cost per TT would be \$10,000, although bids may come in under this figure, so allowing more oil to be exported for the budget available***

Table 2. Generic cost summary: used oil management and export in the Pacific region

Item	Cost (\$US)
<i>Oil transfer pump</i>	<i>\$2,000</i>
<i>Water separator</i>	<i>\$5,000</i>
<i>IBC (1000lt)</i>	<i>\$500</i>
Estimated total disposal cost per Tanktainer (20,000lt)	\$10,000
Estimated total disposal cost per litre used oil	\$0.50

1.9 Proposed Activities and Budget

- *Table 3 summarises the expenditure breakdown for the recommended programme of works to complete the used oil component of the GEFPAS project*

Table 3. Project cost summary: used oil management and export in the Pacific region

Activity	Other	Pohnpei (FSM)	Majuro (RMI)	Ebeye (RMI)	Niue
<i>Environmental Issues</i>		<i>Majority of used oil stored at landfill in degrading 200lt drums</i>	<i>Used oil stored in 2.8 million litre tanks, one of which is in urgent need of repair and all the oil needs to come out of it to do so</i>	<i>Used oil stored in two 25,000 gallon tanks that are filled to capacity</i>	<i>Majority of used oil stored in degrading and leaking IBCs</i>
<i>Basic contaminated site remediation</i>		<i>Cost unknown, but likely to very high and of limited practical value given age of landfill site</i>	<i>Not required</i>	<i>Not required</i>	<i>\$10,000</i>
<i>Documentation of Yap used oil management</i>	<i>\$10,000</i>				
<i>Used oil management Phase II Consultant including travel</i>	<i>\$50,000</i>				
<i>Construction of concrete bunded hardstand and oil drum platform¹</i>		<i>\$23,000</i>			
<i>Oil water separator</i>		<i>\$5,000</i>			<i>\$5,000</i>
<i>Oil transfer pump</i>					<i>\$2,000</i>
<i>Purchase and installation of 28 IBCs</i>					<i>\$15,000</i>
<i>Shipment of single ISO Tank Tainer of used oil to NZ disposal of used oil (20,000lt used oil)</i>		<i>\$10,000</i>	<i>\$10,000</i>	<i>\$10,000</i>	
<i>Shipment of all used oil from the country²</i>		<i>\$470,000 (ie 937,000L)</i>	<i>\$1,100,000 (ie 2,200,000L)</i>	<i>\$100,000 (ie 200,000L)</i>	<i>\$25,000 (ie 20,000L)</i>
TOTAL (\$US)	\$60,000	\$470,000³	\$1,100,000	\$100,000	\$57,000

¹ This money is already allocated to Pohnpei through GEFPAS

² The successful used oil removal contract should be structured such that the contractor bids for a price to export each TT of used oil (containing a minimum of 20,000 litres of used oil) with each individual contract payment made upon presentation of a copy of the Bill of Lading for each successful Tanktainer export. **The final quantity of used oil exported under contract can only be defined after tender bids are received, but is estimated to be at least 900,000 lts of used oil @\$0.50/lt, with the \$450,000 GEFPAS funds available**

³ Excludes the money already allocated by GEFPAS

2. Background to this Contract Report

This report is the third component of work contracted by UNEP/SPREP in 2018 to assist SPREP and PIC Governments in improving regional used oil management through:

- Provision of recommendations on priority activities and associated workplans to address regional used oil management within the remaining time and budget of the GEPFAS Project **(REPORT 3)**.

Associated work previously completed under the contract connected with this activity includes:

- Undertaking a desktop review of all regional project reports related to used oil management (including past reviews and recommendations; audits and cost benefit analysis reports) **(REPORT 1)**;
- Completing a remote national consultation with PIC project focal points on local used oil management issues and priorities, and Identification and travel to 3 priority PICs including Bluescope Steel (Fiji) based on the findings arising from the oil management related consultation and desktop review; and documentation and summarization of findings from these three missions **(REPORT 2)**; and
- Completion of a desktop review of regional e-waste activities, developing a current e-waste baseline for the region (including current levels of e-waste imported, old equipment entering for resale, from where, by whom, what happens to the waste at the end of the equipment life) **(REPORT 4)**.

3. In-country missions, 2018

In country missions to RMI and Pohnpei (22 February to 11 March 2018) were prioritised based on the desktop analysis of past used oil management reports updated with 2018 focal point responses. A mission to Fiji (24 March to 31 March 2018) was also required by the project Contract to assess options to continue and expand used oil exports to Blue Scope Steel. Additional un-contracted in-country missions were also completed to Niue and Kiribati in February 2018 and to Vanuatu in April 2018 to assess used oil management and disposal options in these countries, and consultation with Salters Industries Auckland, NZ was completed in March 2018, to assess the company's ability to continue to import used oil from the Pacific over the longer term.

4. Recommended in-country work-programme

4.1 Pohnpei

The PUC site has approximately 122,000 litres of used oil in two open sumps, under disused generators sets in an unused area of the power house; approximately 53,000 litres in two large storage tanks outside the power plant, and approximately 260,000 litres in 1,300 oil drums, mostly under cover. The Pohnpei landfill, managed by Pohnpei Waste Management Services (PWMS) under contract to the State Government, has approximately 400,000 litres of used oil in approximately 2,000 drums. Many of these drums have been there a long time, are degrading and some will have leaked their entire contents. Many are overgrown, and some are visibly sinking into the landfill.

4.1.1 Removal of Stockpiles

There are no local use options that will make any impact on Pohnpei used oil stockpiles, although many small local producers (such as local mechanical servicing workshops) do find local uses for used oil. As a consequence, the large Pohnpei used oil stockpile (937,000 lts) must be exported to an overseas facility where it can be processed for burning or re-refining.

The most economic method of removal would utilise T14 ISO Tanktainers (TTs) as the transport vessel as these are imported into Pohnpei containing liquid fuels. A TT will hold approximately 21,000 litres of used oil at 85% - 90% fill rate; 20,000 litres is used as a nominal shipped amount per TT.

Shipping lines serving Pohnpei are potentially able to direct TTs towards Fiji and/or New Zealand via RMI and Busan, Korea, using Kyowa Line, or Pacific Direct Line (PDL). Used oil could also potentially be routed through China or Taiwan, however these Asian routes are currently unavailable as Basel transit agreements cannot be secured. A New Zealand company, Pacific Bulk Fuels (PBF) has TTs that are used to import fuel into Pohnpei, and PBF has advised that these TTs can be backfilled with used oil, but a cleaning charge would apply after emptying, in additions to freight costs.

Removal of 937,000 litres of used oil would require around 47 TTs. If removal took place over one year, this would require around 4 TTs per month to be imported, filled and exported. The PUC power plant uses much more than this diesel per month, and so there may well be a way to bring in diesel in TTs and take it straight to the power plant, so as to avoid filling a road tanker at the port with diesel for use in the power plant.

Removing used oil from the PUC power plant is fairly straight forward. Oil can be pumped from the sumps in the generator house, into a TT. The drums in the used oil stockpile would then be emptied into the sumps for subsequent removal. For the FSMPC stockpile, again, direct pumping into the TT is easy completed.

For the landfill stockpile, a TT filling hardstand, with a bund wall to contain spills, is required, along with a place to empty drums into the TT. This can be simply and cheaply achieved by placing the drums onto a steel scaffold tower, with a large drainage pan, which drains down into the TT parked on the hardstand below. This could be easily built amongst the drum stockpile, and the drums lifted up using the PWMS excavator already on site. This method minimises the manhandling of the drums and the distance over which they need to be moved, as the piles are very unstable, and with gravity filling the TT, the need for power supplies and pumps is removed, and with it, another source of potential failure and delay.

The funding to build the hardstand and tower is already allocated to Pohnpei under the GEFPAS project, and if the local stakeholder committee should agree, then the obvious solution is to pay PWMS an agreed amount to build the concrete hardstand and tower.

A Request for Proposals for the removal of the used oil from Pohnpei using ISO TTs can be advertised by SPREP. A simple contract payment schedule can be based on a specific amount per TT exported, on submission of a Bill of Lading to SPREP. **Any successful bidder must show competency with import and/or export of TTs and also an existing relationship with an approved used oil receiver overseas, and a shipping company, as part of a successful bid criteria. A maximum acceptable used oil water content should also be specified, and checked prior to export.** Any Proposal should be structured such that the contractor bids for a price to export each TT of used oil (i.e. 20,000 litres), from Pohnpei. Contract payment is made upon presentation of a copy of each Bill of Lading for each export. By making payments based on each TT exported, the uncertainties involved in determining

the actual stockpile quantity, which are clearly significant, can be overcome to some extent, and will avoid entering into a contract to export a quantity of used oil that may be inaccurately estimated. **The successful contractor also has an incentive to avoid exporting oily water as the receiver may decline to accept further shipments if used oil with a high water content is exported.** It may well be that a single contractor can export used oil from both Pohnpei and the RMI, and so the country that works best with the contractor will gain most by exporting the highest quantity of used oil given funding resources are limited **It is unlikely that the GEPAS funds available will be sufficient to removal all stockpiled used oil from both locations.** Any used oil shipment will require a Basel permit. Fiji is not a suitable destination for the quantities of used oil stored in Pohnpei, and the most likely destination is New Zealand. New Zealand is a Party to the Basel Convention. There is a route to New Zealand via Busan, Korea, or through RMI, using Kyowa Line, or Pacific Direct Line (PDL). PDL currently bring a number of ISO 14 TTs containing fuel into Pohnpei annually, but not in sufficient numbers to fill the requirements for perhaps 50 exports in a year, as might be needed to clear the existing stockpile of used oil in Pohnpei.

4.1.2 Work Programme and Budget

The basic work plan is fairly straightforward as the main effort will be completed by the contractor, and the filling of shipment containers (tanktainers) by PUC, FSMPC and PWMS to remove their used oil stockpiles.

Table 4: Budget and responsibilities for tasks

Task	Budget (\$USD)	Responsible
Draw up design and approve collection point construction for landfill	N/A	EPA/OEEM/ PWMS
Draft Request for Proposals for used oil exports	N/A	SPREP/UNEP
Build landfill collection point	\$23,000	PWMS
Publish RFP for export in FSM and regionally	N/A	SPREP
Negotiate contract and sign	N/A	SPREP/UNEP
Contractor commences import/ export of TTs for used oil filling and removal (450,000 lts used oil)*	\$225,000**	Contractor

* Based on \$US0.50/lit export and recycling costs

**ie half of available GEPAS funds for used oil removal

Table 5: Timeline for activities

Task	2nd Qtr 2018	3rd Qtr 2018	4th Qtr 2018	1st Qtr 2019	2nd Qtr 2019
Draw up design and approve collection point construction for landfill					
Draft RFP for Used oil exports					
Build landfill collection point					
Publish RFP for export in FSM and regionally					
Negotiate contract and sign					
Contractor commences import/ export of TT for used oil filling and removal					

4.2 RMI

The MEC site has 2,433,000 litres of used oil in two large storage tanks on their tank farm, one with 1.78 million litres (tank # 3) and one with 650,000 litres (tank # 8). Each tank has a capacity of 2.8 million litres, but tank # 3 is in urgent need of repair and all the oil needs to come out of it to do so. The Ebeye KAJUR stockpile is in two 25,000 gallon tanks, and one is reported as full whilst the other is 'nearly full', which means that the stockpile is around 190,000 litres. There is reported to be a buried 6,000 gallon tank which is reported to have an unknown quantity of used oil in it. This is estimated at an additional 10,000 litres.

4.2.1 Removal of Stockpiles

There are no local use options that will make any impact on the used oil stockpiles in RMI, and so this large used oil stockpile (2,200,000 litres) must be exported to an overseas facility where it can be processed for incineration or re-refining.

The most economic and safe method of removal is highly likely to involve the use of T14 ISO Tanktainers (TTs), as these are used to ship bulk liquid fuels to Majuro. A TT will hold approximately 21,000 litres of used oil.

Shipping lines serving the RMI are potentially able to easily direct TTs towards New Zealand. A New Zealand company, Pacific Direct Line (PDL) has TTs that are used to import fuel into the RMI and PDL has said that these TTs can be backfilled with used oil, but a cleaning charge would apply after emptying, in addition to freight costs.

Removal of the 2.2 million litres of used oil stockpiled at MEC would require export of 110 filled TTs. If removal took place over one year, that will require eight or nine TTs per month to be imported, filled and exported. Currently, Pacific International Inc. (PII) imports diesel and gasoline into Majuro in TTs from Pacific Bulk Fuels (PBF) of New Zealand, and it may be that sufficient TTs can come in that way to clear the use oil stockpile over time. Bringing in the TTs with a product inside and backloading significantly reduces the costs of any operation to remove the used oil.

Approximately 200,000 lts of used oil is stored in Ebeye. No TTs are known to be currently landed at Ebeye. KAJUR buys fuel from MEC, which is shipped up to Ebeye every second week from Majuro. It would be possible for KAJUR to buy a limited quantity of fuel in TTs from overseas so as to have TTs to backfill with used oil. Containers cannot be moved off the dock container yard on Ebeye, so any TTs must be emptied and backfilled with used oil on the dock, all by tanker from KAJUR. Nine to ten TTs should be sufficient to remove the used oil stockpile at KAJUR, and the shipping rotation time is around two weeks, so if one TT came every two weeks for emptying and backfilling, then this would take around five months to remove the Ebeye stockpile of used oil. TTs from Ebeye will need to be transhipped in Majuro, but no basel permit will be needed as this is still in the RMI.

A Request for Proposals for the removal of the used oil from RMI using ISO TTs can be advertised by SPREP. A simple contract payment schedule can be based on a specific amount per TT exported, on submission of a Bill of Lading to SPREP. **Any successful bidder must show competency with import and/or export of TTs and also an existing relationship with an approved used oil receiver overseas, and a shipping company, as part of a successful bid criteria. A maximum acceptable used oil water content should also be specified, and checked prior to export.**

Any Proposal should be structured such that the contractor bids for a price to export each TT of used oil (ie 20,000 litres), from RMI. Contract payment is made upon presentation of a copy of each Bill of Lading for each export. By making payments based on each TT exported, the uncertainties involved in determining the actual stockpile quantities, which are clearly significant, can be overcome.

some extent, and will avoid entering into a contract to export a quantity of used oil that may be inaccurately estimated. **The successful contractor also has an incentive to avoid exporting oily water as the receiver may decline to accept further shipments if used oil with a high water content is exported.** It may well be that a single contractor can export used oil from both Pohnpei and the RMI, and so the country that works best with the contractor will gain most by exporting the highest quantity of used oil. **It is unlikely that the GEFPAS funds currently thought to be available will be sufficient to removal all stockpiled used oil from both locations.**

Any used oil shipment will require a Basel permit. Fiji is not a suitable destination for the quantities of used oil stored in RMI, and the most likely destination is New Zealand. New Zealand is a Party to Basel. There is a route to New Zealand via Busan, Korea, using Kyowa Line, or Pacific Direct Line (PDL).

4.2.2 Work Plan and Budget

The basic work plan is fairly straightforward as the main effort will be completed by the contractor, and the TT filling by MEC and KAJUR. SPREP will have to draft a RFP and manage any contracts.

Table 6: Budget and Responsibilities for Tasks

Task	Budget (\$USD)	Responsible
Draft Request for Proposals for Used oil exports	N/A	SPREP/UNEP
Publish RFP for export in RMI and regionally	N/A	SPREP
Negotiate contract and sign	N/A	SPREP/UNEP/ Contractor
Contractor commences import/ export of TTs for used oil filling and removal (450,000lts used oil)*	\$225,000**	Contractor/ MEC/ KAJUR

* Based on \$US0.50/lit export and recycling costs

**ie Half of available GEFPAS funds for used oil removal

Table 7: Timeline for Activities

Task	3rd Qtr 2018	4th Qtr 2018	1 st Qtr 2019	2 nd Qtr 2019	3 rd Qtr 2019
Draft RFP for Used oil exports					
Publish RFP in RMI and regionally					
Negotiate contract and sign					
Contractor commences import/ export of TT for used oil filling and removal					

4.3 Niue

Niue is currently storing used oil in two 10 m3 Isotanks and around the island in small IBCs. The IBCs are becoming full and are deteriorating in the sun so leaks are occurring from many of them. The IBCs are at capacity and there are no empty containers available. There are also historical oil leaks

that have occurred that have caused ground contamination. There is a recently old used oil dump behind an old petrol station where numerous corroding drums of used oil were leaking.

4.3.1 Removal of Stockpiles

There are no local use options that will make any impact on the used oil stockpiles in Niue, and so the relatively small used oil stockpile (>20,000 litres) must be exported to an overseas facility where it can be processed for incineration or re-refining.

The most economic and safe method of removal would involve the use of a T14 ISO Tanktainer to ship current used oil stockpiles to New Zealand. Used oil stockpiles were successfully removed to New Zealand in 2012 using this approach.

Removal of used oil from Niue is relatively straight forward. Niue has 2 x 10 m³ tanks set up to receive used oil – one at the Power Station and one at the old fisheries processing plant and have also distributed twenty-eight 1m³ IBCs to used oil generators around the island to store used oil. These IBCs are becoming full and the plastic in IBCs goes brittle in the sun so they are not useful for permanent storage. There is also evidence of leakage and spillage around the IBCs. Full IBCs could be transferred to the 2 x 10m³ tanks and the oil in these tanks then transferred to a tank-tainer. Only 18 tonnes of used oil can be transferred into a Tanktainer as the Niue port has limited crane lift capacity. The tare weight of a Tanktainer is 3,500kg.

A Request for Proposals for the removal of the used oil from Niue using an ISO TT can be advertised by SPREP. A simple contract payment schedule can be based on a specific amount for the TT exported, on submission of a Bill of Lading to SPREP. **Any successful bidder must show competency with import and/or export of TTs and also an existing relationship with an approved used oil receiver overseas, and a shipping company, as part of a successful bid criteria. A maximum acceptable used oil water content should also be specified and checked.** Contract payment is made upon presentation of a copy of each Bill of Lading for the used oil export.

4.3.2 Workplan and Budget

The basic work plan is fairly straightforward as the main effort will be completed by the contractor, and the filling of shipment container by the Niue Government to remove their used oil stockpiles.

Table 8: Budget and responsibilities for tasks

Task	Budget (\$USD)	Responsible
Purchase, paint and install new IBCs	\$15,000	Niue Government
Transfer used oil from IBCs to 2 main storage tanks and dispose of old IBCs	\$2,000 (oil transfer pump)	Niue Government
Draft Request for Proposals for used oil export	N/A	SPREP/UNEP
Publish RFP for export regionally	N/A	SPREP
Negotiate contract and sign	N/A	SPREP/UNEP
Contractor exports TT of used oil*	\$20,000-\$30,000	Contractor

**Shipping companies were not prepared to provide firm shipping cost-estimates before a tender was advertised*

Table 9: Timeline for activities

Task	3rd Qtr 2018	4th Qtr 2018	1 st Qtr 2019	2 nd Qtr 2019	3 rd Qtr 2019
Purchase, paint and install new IBCs					
Transfer used oil from IBCs to 2 main storage tanks and dispose of old IBCs					
Draft Request for Proposals for used oil export					
Publish RFP for export regionally					
Negotiate contract and sign					
Contractor exports TT of used oil					

5. Recommendations for a Sustainable System for Used Oil Recovery in Priority Pacific Countries

5.1 Pohnpei

In the long term, a sustainable oil recovery system can be built to service Pohnpei, based on this model. The operation of this stockpile removal project should provide solid information as to what the real costs are of this operation, per TT filled and exported. Once a cost per TT can be determined (including a level of profit for any contractor), this can then be converted into a cost per litre of oil imported, and levied as part of an Advance Disposal Fee (ADF) system for Pohnpei.

5.1.1 Advance Disposal Fee (ADF) Scenario

The obvious arrangement, if the scenario above proves practical and occurs as envisaged, is that FSMPC - or a similarly experienced local business - would be the 'System Operator' who would have the right to make a claim against the fund holding the ADF. This legislation would be fairly simple, and model legislation has already been prepared by SPREP under the AFD project in 2013. The 'System Operator' would have a contract with the Pohnpei State Government to remove used oil and be able to claim against the fund. The claims against the used oil ADF fund should be sufficient to ensure that the System Operator can make a profit from collecting and exporting used oil.

Given that a significant quantity of oil imported is not collected (the 2014 audit found that only about 30% of the imported quantity appeared in the used oil stream) this would allow a ADF rate to be selected that would reflect this low return, so keeping down the cost of the ADF itself.

If the cost per TT of used oil exported was US\$10,000, and the TT holds 20,000 litres, then this would require a ADF of 50¢/litre (US\$2/gallon). But if only 30% of the oil imported can be expected to be recovered, the ADF could be one third of this, at around 17¢/litre or 65¢/gallon. At a local retail price of around US\$4/litre (US\$16/US gallon), that would be a 4.25% price increase to cover the import levy.

If imports are 500,000 litres per year, and a 17¢ /litre ADF is levied, that would generate US\$85,000 annually. If the annual export requirement was 8 TTs/year, then that would cost US\$80,000, and be covered by the revenue generated by the ADF.

5.1.2 Legislative Framework

To support the above proposal of an ADF system, State legislation would be required. The only current legislation relevant to used oil is the Solid Waste Regulations, but these do not allow any ADF system to be imposed as such. New legislation would need to be passed to deal with this. The key parameters of any new legislation would be that the State could impose a levy per litre (gallon) on new oil coming into the State. This money would be held in a fund at the State Treasury. A 'System Operator' would be designated who had a contract with the State, under which they could claim a certain amount of money for each Tanktainer of used oil they exported. The legislation could be simple, with the detail of arrangements being in the contract between the System Operator and the State. EPA can mandate under the existing Solid Waste Regulations (Section (e) Part 8) that used oil from workshops and the public must go to the collection point at the PWMS landfill, so that small generators of used oil are covered by the system. The funds levied per gallon would be taken at import in the same manner as the existing beverage container refund system, as current in Pohnpei.

5.2 RMI

In the long term, a sustainable used oil recovery system can be built to service the RMI based on this model for export. The operation of this stockpile removal project should provide solid information as to what the real costs are of this operation, per TT filled and exported. Once a cost per TT can be determined (including a level of profit for any contractor), this can then be converted into a cost per litre of oil imported or exported (there will be a significant difference between the two). This would generate a value for an Advance Disposal Fee (ADF) which could be applied to imports, or exports. It may also result in a regional business coming into place that has experience with exporting used oil in Tanktainers that can benefit other PICs.

5.2.1 Advance Disposal Fee (ADF) Scenario

The obvious arrangement, if the scenario above proves practical and occurs as envisaged, is that MEC - or a similarly experienced local business - would be the 'System Operator' who would have the right to make a claim against the fund holding the ADF. This would require legislation based on the Extended Producer Responsibility approach; such legislation would be fairly simple, and model legislation has already been prepared by SPREP under the AFD project in 2013. The 'System Operator' would have a contract with the RMI Government to remove used oil and be able to claim against the fund. The claims against the used oil ADF fund should be sufficient to ensure that the System Operator can make a profit from collecting and exporting used oil.

Given that a significant quantity of oil imported is not collected (the 2014 audit found that typically only about 30% of the imported quantity appears in the used oil stream) this would allow an ADF rate to be selected that would reflect this low return, so keeping down the cost of the ADF itself.

If the cost per TT of used oil exported was US\$10,000, and the TT holds 20,000 litres, then this would require an ADF of 50¢/litre (\$2/gallon). But if only 30% of the oil imported can be expected to be recovered, the ADF could be one third of this, at around 17¢/litre or 65¢/gallon. At a local retail price of around US\$4/litre, that would be a 4.25% price increase to cover the import levy. These figures are conservative, and the true result should be lower, but they indicate the likely scale of ADF required.

However, in the RMI a significant part of the 'used oil' stockpile appears to be diesel slops from power plant operations. These diesel slops would complicate matters as they would not have paid

an ADF. However, they may be more valuable than used lube oil, so increasing the value of a shipment, and so this may not matter, where MEC - for example - was the 'System Operator' claiming on the fund and exporting the oil.

5.2.2 Subsidised Used Oil Disposal

Another option exists that could quickly be put in place without legislation, and would help deal with the small stockpiles particularly. The RMI EPA fines companies and individuals for oil spills, and many fines are incurred by ships in the lagoon. This money is potentially available to act as a fund to pay for people to dispose of their used oil for free. Currently, MEC charges \$1 per gallon (about 25¢/litre) to dispose of used oil, but for workshops producing full drums, this is a disincentive - at \$US55/drum - to properly dispose of the oil. However, the EPA could have a contract with a local company whereby EPA would pay the contractor a monthly per gallon rate for used oil that the public has bought in for disposal, so making the system free, but with the EPA fines being used to subsidise the system. The contractor would need a large tank and be required to export the oil under the contract, and the obvious candidate would be MEC, but it could be another business enterprise. The contractor could also take used oil from ships, and charge the ships for the service, then export the oil. Under the RMI membership of the International Maritime Organisation and the MARPOL Convention, the RMI should take used oil from ships, but this is currently problematic as MEC needs to get rid of its existing used oil stockpile. This project should provide sufficient information to determine at what cost per gallon used oil would need to be charged to cover the storage and export. Any contract with any service provider to export used oil from FSM and RMI could require that certain actual, incurred, costs are provided to SPREP in order to help develop regional used oil Advance Disposal Fee models.

5.2.3 Legislative Framework

To support the above proposal of an ADF system in RMI, legislation would be required. The only current legislation relevant to used oil is the EPA Solid Waste Regulations, but these do not allow any ADF system to be imposed as such. New legislation would need to be passed to deal with this. The RMI recently passed Container Deposit Legislation which uses the same basic principal as an ADF to recover cans and bottles for recycling.

The key parameters of any new legislation would be that the RMI could impose a levy per litre (gallon) on new oil coming into the country. This money would be held in a Special Revenue Fund at the Ministry of Finance. A 'System Operator' would be designated who had a contract with the government, under which they could claim a certain amount of money for each Tanktainer of used oil they exported. The legislation could be simple, with the detail of arrangements being in the contract between the System Operator and the government. EPA can mandate under the existing Solid Waste Regulations that used oil from workshops and the public must go to a designated collection point - most likely MEC or KAJUR - so that small generators of used oil are covered by the system. The funds levied per gallon would be taken at import in the same manner as the existing beverage container refund system, during the time of filing an import entry. The mechanics of the financial system that are being developed for the current Container Deposit Legislation will be fairly easy to adapt to such a system for used oil management.

7. Other Considerations Related to GEFPAS Fund Dispersal

- Countries to receive funding assistance for used oil removal must have a commitment to implement ADF by the end of 2018.
- SPREP should urgently commence discussions with the Basel and Stockholm Convention Regional Centre for the Asia and Pacific Region in China (BCRC-SCRC China) to ensure transit agreements are granted into the future