

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

**REPORT TWO:
COUNTRY MISSIONS AND CONSULTATIONS**

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1. Executive Summary

GEFPAS focal points have been contacted to supply contemporary used oil information, and contracted missions have been completed to Pohnpei, RMI and Fiji, with additional missions also completed opportunistically to Kiribati, Vanuatu and Niue. Remote consultation with country focal points has proved (with some notable exceptions) to be largely ineffective, while in-country missions have provided valuable information which will effectively guide actions to conclude the GEFPAS used oil programme later in 2018. This has included comprehensive guidance on options to export used oil from Pohnpei, RMI and Niue, and in-country missions have also identified that Fiji is unlikely to be a bulk used oil importer in the future, but is likely to continue to import small quantities of used oil for use in steel processing.

2. Background to this Contract Report

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

- 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**);

Associated work to be completed under the contract connected with this activity include:

- 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**);
- Provision of recommendations on priority activities and associated workplan to address regional used oil management within the remaining time and budget of the Project (**REPORT 3**); 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. Finding of Previous Pacific Island Used Oil Management Assessments (2011-2015)

Finding from previous used oil management reports were presented in **REPORT 1** and are summarised again here in Table 1. The clear outcome from the desktop review was the immediate priority for the removal of the large stockpiles of used oil that were present in the northern Pacific (Federated States of Micronesia and Republic of the Marshall Islands) in 2014.

Table 1. Removal of used oil stockpile priorities (based on information from 2014 data)

Nation	2014 Annual Used Oil Production (L)	2014 National Used Oil Stockpile (L)	Used Oil Storage Capacity (L)	2014 Cost of Diesel (per L)*	Current used oil management practice
Cook Islands	55,000		13,000L tank at TAU		Export to Fiji
Fiji	3,000,000		170,000L (BS Steel)		Internal re-use
FSM Chuck	48,000	22,000	24,000 L tank CPUC	\$US 1.33	Steam vessel fuel
FSM Kosrae	12,000	50,000	60,000 L (in 3 tanks located at KUC)	\$US 1.33	
FSM Pohnpei	61,140	891,600	90,000 (in 3 tanks located at PUC)	\$US 1.33	Steam vessel fuel
FSM Yap	14,000	65,750	8 x 945 L steel-encased containers	\$US 1.33	Power station diesel extender
Kiribati	11,500	8,000		\$AUD 1.27	Export to India
Nauru	50,000	46,000	Fuel Tank at NUC Tank Farm (2,800,000L)		Diesel extender (RonPhos)
Niue	3,250	4,000	20,000 L in 2 Tank Tainers; 28,000 L in IBCs	\$NZ 2.55	Export to New Zealand
Palau	220,000	550,000	2,800,000 L PPUC Tank	\$US 1.33	Export
PNG	4,800,000				Export Local refining
RMI	197,000	1,108,000 (Majuro) 302,000 (Ebeye)	2,800,000 L MEC Tank	\$US 1.00	Stockpile
Samoa	330,000	8,400	2,700,000 L (PPS and EPC tanks)		
Solomon Islands	800,000			\$US 1.00	
Tonga	225,000	0		\$US 0.98	Export to India
Tuvalu	3,500	2,500	5,000 L stored at TEC		Export to Fiji
Vanuatu	250,000 (50% recovered by Pacific Petroleum and exported)	0	20,000 L Pacific Petroleum Port Vila		Export to India

*May be much cheaper for Power Utility

Table 2. Removal of used oil stockpile priorities (2018 Focal Point and In-country mission response data)

Nation	2018 Annual Oil Importation (L)	2018 Annual Used Oil Production (L)	2018 National Used Oil Stockpile (L)	Used Oil Storage Tankage Capacity (L)	Annual Power Station Diesel Consumption (L)	Current 2018 used oil management options
Cook Islands						
Fiji						
FSM Chuck						
FSM Kosrae						
FSM Pohnpei	Not available	25,000	937,000	53,000 (PUC) 102,000 (FSMPC)		Stockpiled
FSM Yap						
Kiribati	135,000	70,000	64,000	24,000 (TTs) 40,000 (drums)		Exported to Fiji and New Zealand
Nauru	78,000	55,000 (power station)	100,000	2,800,000	9,600,000	Stockpiled
Niue	Not available		~10,000	20,000		Stockpiled
Palau						
PNG						
RMI	Not available	250,000	2,433,000 (Majuro) 200,000 (Kwajalein)	2,800,000(Majuro) 200,000 (Kwajalein)		Stockpiled
Samoa			0			
Solomon Islands						
Tonga			0			
Tuvalu	28,000	19,200 (power station)	18,000	20,000 (1,000 drums)	1,593,012	Export to Fiji by Pacific Energy in 4,000L lots
Vanuatu	Not available		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

4. Focal Point Responses (2018)

This conclusion re 2014 priorities was validated by the analysis of the responses from countries concerning contemporary used oil management practices (2018) and by subsequent in-country missions. A series of questions (Appendix 1) were posed to Pacific Island Focal Points (Appendix 2) on contemporary national used oil management practices. The responses to questions (Appendix 3) are summarised in Table 2 where they made. Unfortunately, focal point responses were only received from four countries.

5. 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 to Salters Industries Auckland, NZ in March 2018, to assess the company's ability to continue to import used oil from the Pacific over the longer term.

6. In-country mission findings

6.1 Pohnpei

The Pohnpei mission (February 23rd to March 4th 2018) report is attached at Appendix 4.

Background

Pohnpei was chosen for a site visit once it was identified through a desktop study as one of two priority locations requiring assistance to remove a critical used oil stockpile. The Pohnpei oil stockpile is primarily in two locations: the Pohnpei Utilities Corporation (PUC) power plant site, and at the landfill, with a third stockpile at the FSM PetroCorp (FSMPC) Tank Farm at Pohnpei port.

Existing Stockpiles

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 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 and some will have leaked their entire contents. Many are overgrown, and some are visibly sinking into the landfill (see photos in the report). The landfill has kept data on incoming oil volumes since 2016 (with some months' of data not available). The FSMPC stockpile is in two large storage tanks, one of approximately 75,000 litres and one of 26,000 litres, giving a total of around 102,000 litres of used oil.

The overall increase in used oil stockpiles since the 2014 audit is estimated at 126,000 litres. It must be recognised that there may be a significant level of variation between estimate and actual amount. The table below provides an overview:

Location	2014 QTY	2018 QTY
Landfill	245,000	400,000
PUC	473,800	435,000
FSMPC	7,800	102,000
Penda Ocean	73,000	N/A
Other	11,000	N/A
Totals	810,600	937,000

Used Oil Stockpiles in Pohnpei, litres

The 'Penda Ocean' stockpile noted in 2014 is actually fuel recovered from a ship called 'Penda Seven' that went on the reef, and is reported by the current owner of the stockpile, Ace Hardware, as being Intermediate Fuel Oil (IFO) used for ship fuel, and is being used; thus it has been removed from the 2018 estimates. Ace Hardware do have some used oil from construction operations that is in drums which can go to the landfill stockpile. Small generators such as automotive workshops take their used oil to the landfill stockpile in drums, and so their stockpiles will be constantly changing, and should be included in the landfill numbers. Thus these two quantities are included in the landfill estimate for 2018.

There are no local use options that will make any impact on these stockpiles, although many small local producers - such as oil from car engines - do find local uses for the used oil. This large Pohnpei used oil stockpile must be exported to an overseas facility where it can be processed for burning or re-refining. This is most likely to take place in New Zealand or Fiji.

6.2 RMI

The RMI mission (March 4th to 11th 2018) report is attached at Appendix 5.

Background

The RMI (Majuro Atoll only) was chosen for a detailed site investigation once it was identified during a desktop review as one of two priority Pacific locations requiring assistance to remove a critical used oil stockpile. The RMI oil stockpile is primarily in two locations: the Marshalls Energy Company Tank Farm at Delap, Majuro, and at the Kwajalein Atoll Joint Utility Resources (KAJUR) power plant on Ebeye Island in Kwajalein Atoll.

Existing Stockpiles

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. Much of this oil is contaminated diesel 'slops', and it has a high water content, although some of the water can be drained off periodically. The estimates reported for MEC are obtained through daily dip readings of the tanks, and so can be considered very accurate.

The 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.

The overall increase in used oil stockpiles since the 2014 audit is estimated at around 1 million litres. The difference between what is available and the total stockpile in the table below is that where oil

is in large storage tanks on the tank farm a significant quantity sits below the suction level, and so is considered 'unavailable' although it can be removed if really required. The table below provides an overview:

Location	2014 QTY	2018 available	2018 total
MEC Tank Farm	987,500	2,191,000	2,433,000
KAJUR Ebeye	302,000	190,000	200,000
Other	109,860	N/A	N/A
Totals	1,399,360	2,381,000	2,633,000

Estimated quantity of stockpiled used oil in the Marshall Islands (litres)

The 2014 SPREP Used Oil Audit noted twenty six locations with mostly small quantities on Majuro. These are not counted as they must be taken to the MEC tank for aggregation and export. Currently, small producers do take their used oil to MEC for inclusion into the storage tanks, paying \$1/gallon (about 25¢/litre) to do so.

There are no local use options that will make any impact on these stockpiles, and so this large used oil stockpile must be exported to an overseas facility where it can be processed for incineration or re-refining.

6.3 Fiji

The Fiji mission (26th -29th March 2018) report is attached at Appendix 6.

Mission Summary

Bluescope Pacific Steel (BPS) collect and burn used oil in their steel processing plant in Suva. They are very proactive in the local market (ie Fiji) in collecting used oil for this purpose and operate a professional collection and storage system. They have quite a large storage capacity but it is not sufficient to take very large amounts of use oil. They have a limited capacity to manage sludge and they do not have a tank cleaning capacity. The local market keeps them well supplied to meet their used oil needs and their core business is steel making and not used oil. **They are therefore not interested in importing bulk quantities of used oil directly into Fiji from overseas countries.** They do receive used oil from other countries indirectly if they have the capacity – for example from Pacific Energy shipments from other countries such as Tuvalu. The BPS operation is sound and meets audit criteria for health, safety and environmental impact, with the possible exception of the air emissions, which BPS is working to address now. BPS may be willing to take part in plans to import used oil from other countries in the future but only as an indirect partner, and only if they have the capacity and resources to manage the used oil.

6.4 Niue

The Niue mission (3rd-14th March 2018) report is attached at Appendix 6.

Mission Summary

All fuel and most oil is imported by the Power Station. The auto repair locations also import oils. The Government of Niue has made one shipment of used oil to SCL in New Zealand in 2012. The cost of the shipment was about \$US6000 including permits, transport, lease of tank-tainer, pick-up and clearance in Auckland (done by Salters) and cleaning the tank-tainer (also done by Salters). Salter's didn't charge for processing the oil. 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. They also have no more IBCs. 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. Niue have no funds to deal with this problem and do not have the know-how to do a clean-up. It is difficult for them to transfer the oil from the IBCs to the 10 m³ Isotanks. Niue had planned to set up a system where the full IBCs are picked up and delivered to the 2 x 10m² tanks and then the oil in these tanks are transferred to tank-tainers. They can only put 18 tonnes into a tank-tainer as they are limited by their crane capacity. Niue is planning another used oil shipment to New Zealand but need the funds to make this happen, including enabling the collecting of all the used oil. They also need funds to set up an effective collection, storage and export system in the long term.

6.5 Kiribati

The Kiribati mission (18-23rd February 2018) report is attached at Appendix 6.

Mission Summary

Most of the virgin lubricating and other oil that comes into Kiribati is imported by KOIL, including the oil that goes to PUB. There are, however, some smaller importers and the companies building roads also import some of their own oil. KOIL sent three shipments of used oil to India in the last few years, but this has been stopped now because of the high water content, which was unacceptable to the Indian company. KOIL no longer accept used oil for storage because of a lack of space. They are, however, working with MELAD to arrange for the export of a shipment of used oil to SCL New Zealand and they will then go round and collect all the used oil that has been stockpiled. PUB is arranging their own shipments of used oil and are backfilling TTs that have delivered fuel to PUB. The first shipment of this used oil is due to go to SCL in New Zealand very soon and this will be an ongoing process. Electricity generators on the island are all recently-purchased Japanese generators and the Japanese suppliers forbid the use of used oil to be added to the diesel as they believe this will damage the generators.

6.6 Vanuatu

The Vanuatu mission (3rd -7th April 2018) report is attached at Appendix 6.

Mission Summary

Pacific Energy run an effective used oil take-back scheme throughout the Pacific, including Vanuatu. This is based on the need to do this under French Law and they have extended it throughout the Pacific in the numerous locations where they are operating. In Vanuatu they currently send all the used oil they collect to the Copra Plant in Espiritu Santo. This is a somewhat insecure outlet for their used oil, however, and they would appreciate an alternative. No other company importing lubricating and other oils into Vanuatu has a take-back policy although it should be noted that they

are all much smaller than PE Vanuatu. PE Vanuatu would be very interested in participating in any scheme that offered them the ability to export used oil at a reasonable cost to a suitable receiving country. If such an opportunity arose then they would also be interested in setting up a collection system for all Vanuatu used oil at their Service Stations throughout Vanuatu.

6.7 Salters New Zealand

The Salters mission (derived via email correspondence) report is attached at Appendix 6.

Summary

SCL is a company based in Auckland New Zealand that receives and processes used oil. Their main outlet for the used oil is the two main Oji plants in New Zealand. SCL has been receiving used oil from various Pacific countries for many years and are keen to continue and expand this source of used oil. They receive not only used oil, but also used oil filters, oily rags, oily sludge, and hydrocarbon-contaminated soils. They take used oil in a variety of containers, drums, IBCs, pallets and TTs. They are well set up to receive used oil from Pacific countries and they offer a good option as a recipient for any Pacific used oil exporting scheme. It should be noted that there is at least one other potential recipient in New Zealand and also probably others in Australia.

Appendix One: Focal Point Questions

Cook Islands

1. What quantity of hydraulic and lubricating oil is imported annually?
2. What quantity of diesel is used in power stations per year?
3. What is the cost of diesel per litre to the 2 Cook Islands power stations?
4. What quantity of used oil is generated annually by the 2 power stations?
5. Is uptake of solar power decreasing diesel and oil usage in the power station?
6. What quantity of used oil is stockpiled in the Cook Islands?
7. What is the national used oil storage capacity (quantity, storage type, location, owner)?
8. How are oil filters disposed of?
9. What quantity of used oil does Pacific Energy SWP Ltd transport to Fiji and how much does this cost?
10. What quantity of used oil does TOA Petroleum export to New Zealand and how much does this cost?
11. How and what quantities of used oil are collected from Aitutaki ?
12. Could used oil be used as a diesel extender in the hospital Incinerator?
13. Could used oil be used as a diesel extender in the power station?

Fiji/Blue Scope Steel

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year?
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is stockpiled in Fiji?
5. How are oil filters disposed of?
6. What used oil management takes place in Vanua Levu?
7. How much used oil is Blue Scope Steel currently importing for use?
8. Is temperature monitoring of used oil being carried out at Blue Scope Steel?
9. How much used oil is Eco Oil currently recovering?
10. How much used oil can Blue Scope Steel utilise per annum?
11. How much used oil can Eco Oil utilise per annum?
12. Could used oil be used as a diesel extender in the hospital Incinerators?
13. Could used oil be used as a diesel extender in the power station?
14. How would a regional used oil import scheme operate through Blue Scope Steel?
15. What is the national used oil storage capacity (quantity, storage type, location, owner)?
16. Is used oil still used for marking out school sports grounds?
17. Can the \$0.02 import levee on used oil imported at Suva and Lautoka be waived by the Fiji Government?
18. Is any used oil being exported from Fiji (who is exporting, to whom, how much does it cost)?

FSM

Chuuk

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year?
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is stockpiled in Chuuk?
5. How are oil filters disposed of?
6. How much used oil is the Tor Finn using each year?
7. Could used oil be used as a diesel extender in the hospital Incinerator?

8. Could used oil be used as a diesel extender in the power station?
9. What is the national used oil storage capacity (quantity, storage type, location, owner)?
10. Is renewable energy generation going to reduce power generated by diesel generators by 2020?

Kosrae

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is stockpiled in Kosrae?
5. How are oil filters disposed of?
6. Could used oil be used as a diesel extender in the hospital Incinerator?
7. Could used oil be used as a diesel extender in the power station?
8. Will Kosrae Utilities Corporation (KUC) accept and store used oil from other local organisations?
9. What is the national used oil storage capacity (quantity, storage mechanism, location, owner)?
10. Is renewable energy generation going to reduce power generated by diesel generators by 2020?

Pohnpei

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of imported lubricants is supplied to foreign vessels?
5. What quantity of used oil is stockpiled in Pohnpei?
6. How are oil filters disposed of?
7. Could used oil be used as a diesel extender in the hospital Incinerator?
8. Could used oil be used as a diesel extender in the power station?
9. Is renewable energy generation going to reduce power generated by diesel generators by 2020?
10. Will Pohnpei Utilities Corporation (PUC) accept and store used oil from outside organisations?
11. What is the national used oil storage capacity (quantity, storage type, location, owner)?
12. Would FSM Petroleum Corporation consider using a tank in its tank farm to store used oil?
13. Is FSM Petroleum interested in managing used oil in Pohnpei/FSM?

Yap

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is stockpiled in Yap?
5. How are oil filters disposed of?
6. Could used oil be used as a diesel extender in the hospital Incinerator?
7. Could increased quantities of used oil be used as a diesel extender in the power station?
8. Is renewable energy generation going to reduce power generated by diesel generators by 2020?
9. Would Yap power station be prepared to be involved in a study of its used oil management to help guide other Pacific Islands?
10. What is the national used oil storage capacity (quantity, storage type, location)?
11. Would FSM Petroleum Corporation consider using a tank in its tank farm to store used oil?
12. Is FSM Petroleum interested commercially in managing used oil in Yap/FSM?

Kiribati

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by all PUB power stations?

5. Is uptake of solar power decreasing oil usage in the power stations?
6. What quantity of used oil is stockpiled in Kiribati and Kiritimati Island?
7. What is the national used oil storage capacity (quantity, storage type, location, owner)?
8. How are oil filters disposed of?
9. How and what quantities of used oil are collected from Kiritimati Island?
10. Could used oil be used as a diesel extender in the Mediburn Incinerator?
11. Could used oil be used as a diesel extender in the power stations?
12. Is KOIL still exporting used oil to India. (What quantities are exported, how much is the used oil worth, how much does it cost to export?)

Nauru

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by the power station (NUC)?
5. Is uptake of solar power decreasing oil usage in the power station?
6. What quantity of used oil is stockpiled in Nauru?
7. What is the national used oil storage capacity (quantity, storage type, location)?
8. Is used oil stored at the Tank Farm?
9. How are oil filters disposed of?
10. Could used oil be used as a diesel extender in the hospital Incinerator?
11. Could used oil be used as a diesel extender in the power station?
12. What quantity of used oil is RonPhos incinerating and Can RonPhos incinerate more used oil?

Niue

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by the Niue power station?
5. Is uptake of solar power decreasing oil usage in the power station?
6. What quantity of used oil is stockpiled in Niue and needs to be exported now?
7. What is the national used oil storage capacity (quantity, storage type, location, owner)?
8. How are oil filters disposed of?
9. Does Niue Bulk Fuel Department(?) still export used oil to New Zealand, how is it exported and how much does this cost?
10. Could used oil be used as a diesel extender in the Hospital Incinerator?
11. Could used oil be used as a diesel extender in the power station?

Palau

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by the Malakal Power station?
5. Is uptake of solar power decreasing oil usage in the power station?
6. What quantity of used oil is stockpiled in Palau and needs to be exported now?
7. What is the national used oil storage capacity (quantity, storage type, location, owner)?
8. How are oil filters disposed of?
9. Does PPUC still export used oil, where is exported to, and how much does this cost?
10. Could used oil be used as a diesel extender in the Hospital Incinerator?
11. Could used oil be used as a diesel extender in power stations?

PNG

1. What quantity of hydraulic and lubricating oil is imported annually for internal use into PNG?
2. What quantities of lubricating oil are exported from PNG annually to to whom?
3. What quantities of used oil are collected annually in PNG?
4. What quantities of used oil are imported into PNG annually and from where?
5. What quantity of diesel is used in power stations per year?
6. What is the cost of diesel per litre to the power station?
7. What quantity of used oil is generated annually by power stations?
8. Is uptake of solar power decreasing oil usage in the power stations?
9. Could used oil be used as a diesel extender (1-5% vv used oil to diesel) in the power stations?
10. What quantity of used oil is stockpiled in PNG?
11. What is the national used oil storage capacity (quantity, storage type, location, owner)?
12. What quantities of heavy fuel oil purified waste, (which is usually 50/50 oil & water) are generated annually and stored in PNG?
13. How are oil filters disposed of?
14. Could used oil be used as a diesel extender (1-5% vv used oil to diesel) in Hospital Incinerators?
15. What quantities of used oil are exported to Australia, and who receives it?
16. What costs are incurred in exporting used oil to Australia?
17. What are the national priorities for improved used oil management?
18. Would an advanced used oil recycling fee (1-10% of the oil cost) be acceptable to government and citizens to help pay for its disposal?
19. Would small batch incineration be an acceptable national used oil management strategy?

RMI

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year?
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by the Majuro Power station?
5. What quantity of used oil is generated annually by the Ebeye Power station?
6. Is uptake of solar power decreasing oil usage in the power stations?
7. What quantity of used oil is stockpiled in Majuro?
8. What quantity of used oil is stockpiled in Ebeye?
9. Is MEC (Majuro) accepting and storing used oil (How much is stored and how much accepted per annum)?
10. What is the national used oil storage capacity (quantity, storage type, locations, owner)?
11. How are oil filters disposed of?
12. Does PPUC still export used oil, where is the used oil exported to, and how much does this cost?
13. Could used oil be used as a diesel extender in the Hospital Incinerator?
14. Could used oil be used as a diesel extender in RMI power stations?

Samoa

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year?
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by EPC Power stations?
5. Is uptake of solar power decreasing oil usage in the power stations?
6. What quantity of used oil is stockpiled in Samoa?
7. What is the national used oil storage capacity (quantity, storage type, locations, owner)?
8. How are oil filters disposed of?
9. Could used oil be used as a diesel extender in the Hospital Incinerator?
10. Could used oil be used as a diesel extender in EPC power stations?

11. Are storage tanks available to store used oil in the port area?

Solomon Islands

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by SIEA Power stations?
5. Is uptake of solar power decreasing oil usage in the power stations?
6. What quantity of used oil is stockpiled in Solomon Islands?
7. What is the national used oil storage capacity (quantity, storage type, locations, owner)?
8. How are oil filters disposed of?
9. Could used oil be used as a diesel extender in the Hospital Incinerator?
10. Could used oil be used as a diesel extender in SIEA power stations?
11. Is Gold Ridge Mine producing used oil, and if so, how much and how is it disposed of?
12. How is used oil managed outside of Honiara?

Tonga

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by TPL Power stations?
5. Is uptake of solar power decreasing oil usage in the power stations?
6. What quantity of used oil is stockpiled in Tonga?
7. What is the national used oil storage capacity (quantity, storage type, locations, owner)?
8. How are oil filters disposed of?
9. Could used oil be used as a diesel extender in the Hospital Incinerator?
10. Could used oil be used as a diesel extender in TPL power stations?
11. Is Pacific Energy shipping used oil from its customers to Fiji? If so, to where, in what quantities, how often and at what cost?
12. Is GEO Recycling shipping used oil offshore? If so, to where, in what quantities, how often and at what cost?

Tuvalu

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by TEC Power stations?
5. Is uptake of solar power decreasing oil usage in the power stations?
6. Will Tuvalu be totally energy sufficient through solar generation by 2020
7. What quantity of used oil is stockpiled in Tuvalu?
8. What is the national used oil storage capacity (quantity, storage type, locations, owner)?
9. How are oil filters disposed of?
10. Could used oil be used as a diesel extender in the Hospital Incinerator?
11. Could used oil be used as a diesel extender in TEC power stations?
12. Is Pacific Energy shipping used oil to Fiji? If so, to where, what quantity and at what cost?

Vanuatu

1. What quantity of hydraulic and lubricating oil is imported annually for internal use?
2. What quantity of diesel is used in power stations per year
3. What is the cost of diesel per litre to the power station?
4. What quantity of used oil is generated annually by UNELCO Power stations?

5. Is uptake of solar power decreasing oil usage in the power stations?
6. What quantity of used oil is stockpiled in Vanuatu?
7. How is oil distributed and used oil collected Santo and in the outer islands?
8. What is the national used oil storage capacity (quantity, storage type, locations, owners)?
9. How are oil filters disposed of?
10. Could used oil be used as a diesel extender in the Hospital Incinerator(s)?
11. Could used oil be used as a diesel extender in UNELCO power stations?
12. Is Pacific Petroleum shipping used oil to India? If so, to where, what quantity and at what cost?
13. Would Trade Tools Direct consider participating in a national used oil take back scheme for small volume users?

Appendix Two: Country Focal Points

Cook Islands:	Mr Vavia Tangatataia	vavia.tangatataia@cookislands.gov.ck
FSM:	Ms Patricia Pedrus	pattiwarm@gmail.com
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Nauru:	Ms Mavis Depuane	monmav@gmail.com
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Palau:	Ms Roxanne Siuak Blesam	florox99@yahoo.com
PNG:	Mr Veari Kula	vkula@dec.gov.pg or veari.kula@gmail.com
Samoa:	Mr Fiasosoitamalii Siaosi	fiasoso.siaosi@mnre.gov.ws
Solomon Is:	Ms Rosemary Apa	rosemaryapa@gmail.com
Tonga:	Ms Mafileo Masi	mafileo.masi@gmail.com
Tuvalu:	Mr Walter Kaua	wkauajnr@gmail.com
Vanuatu:	Ms Roselyn Bue	rbue@vanuatu.gov.vu

Appendix Three: Record of Country Communication with national Used Oil Focal Points

Nation	Information request emailed	Email Receipt	DH Replied with thanks	Requests for further information responded to	Follow-up questions	Final responses received
Cook Is	31 Jan 2018	31 Jan 2018	31 Jan 2018			
Fiji*	31 Jan 2018					
FSM Chuck	31 Jan 2018	31 Jan 2018	31 Jan 2018			
FSM Kosrae	31 Jan 2018	31 Jan 2018	31 Jan 2018			
FSM Pohnpei*	31 Jan 2018	31 Jan 2018	31 Jan 2018			15 March 2018
FSM Yap	31 Jan 2018	31 Jan 2018	31 Jan 2018			
Kiribati	31 Jan 2018	1 Feb 2018	1 Feb 2018			4 March 2018
Nauru	31 Jan 2018	1 Feb 2018	1 Feb 2018		20 Feb 2018	19 February 2018
Niue*	31 Jan 2018	2 Feb 2018	2 Feb 2018			16 March 2018
Palau	31 Jan 2018					
PNG	31 Jan 2018				21 Feb 2018	
RMI*	31 Jan 2018					15 March 2018
Samoa	31 Jan 2018	31 Jan 2018	31 Jan 2018			
Solomon Is	31 Jan 2018	31 Jan 2018	31 Jan 2018	1 Feb 2018		
Tonga	31 Jan 2018	31 Jan 2018	31 Jan 2018			
Tuvalu	31 Jan 2018	31 Jan 2018	31 Jan 2018		6 March 2018	6 March 2018
Vanuatu	31 Jan 2018	5 Feb 2018	7 Feb 2018		27 Feb 2018	27 Feb 2018

*Response obtained during in-country missions