

# Used Oil Management Plan for Fiji (2013 - 2014)

July 2014



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## ACRONYMS

CMS	Combustion Management Systems (formerly SMART-MIX)
DOE	Department of Environment
EMA	Environment Management Act
EPC	Electric Power Corporation (Samoa)
FEA	Fiji Electricity Authority
FPS	Fletchers Pacific Steel
IBC	Intermediate Bulk Container
MLGUDHE	Ministry of Local Government, Urban Development, Housing and Environment
PICTs	Pacific Island Countries and Territories
SPREP	Secretariat of the Pacific Regional Environment Programme

## EXECUTIVE SUMMARY

This *Used Oil Management Plan* aims at introducing and implementing a *Used Oil Stewardship System in Fiji*. The plan outlines the roles and responsibilities of the proposed *Managing Agency* to be established as identified in the proposed *Model Regulations* for the enforcement and monitoring of the collection and storage of used oil for its reuse, recycle or export.

This *Used Oil Management Plan* identifies the National Regulatory Framework on which the Stewardship System has to be based, the structure and functioning of the Proposed Managing Agency and the necessary Implementation Stages for collection, storage, disposal and re-use of used oil and related Monitoring and Evaluation Measures.

A *Cost Benefit Analysis* study has been completed looking at the options available to Fiji to manage used oil. The study concluded that the existing collection and storage mechanisms for used oil should be costed and extended as soon as possible to enable this resource to be reused rather than be disposed of inappropriately with resultant damage to the environment and human health. In the longer term the use of used oil as a diesel extender for electrical power generation could be considered as a cost-effective mechanism to dispose of used oil generated in Fiji. In addition identify other potential users of used oil within Fiji. The costs of collection, storage, and possible shipment of used oil for recycling will have to be recovered from the oil purchaser through a levy placed on the oil when it is imported into the country.

Some used oil is currently being collected by two private operators, namely Fletchers Pacific Steel (FPS) and Eco-Oil. The used oil audit however identified that there is still a significant amount of used oil that could be collected. Therefore the development of a wider collection system for used oil in Fiji has been examined in consultation with the stakeholders and assistance with implementation is being provided by a local consultant in Fiji under the supervision of SPREP until the end of 2014.

The local consultant will quantify the potential additional amount of used oil that could be collected and also identify possible locations for collection. This may include establishing temporary storage sites with plastic drums (150 litre) and/or IBC's (intermediate storage containers 1,000 litre). Ideally the containers would be stored undercover and placed in a bunded area to contain any spillages. Collection locations could be sited at service stations, hauliers/bus companies, construction companies, shipping, and Fiji Electricity Authority (FEA). Bulk storage for collected oil would be established at either the FPS or at recipients of used oil at their premises.

The establishment of a Product Stewardship System will need to be supported by National public awareness campaigns to:

- provide accurate information concerning the relative risks posed by used oil to Fiji's natural environments and public health;
- provide accurate information on best practices that individuals and businesses can adopt to better manage used oil at a local scale; and
- provide training on the safe handling and storage of used oil.

## 1. INTRODUCTION

The specific definition and categorization of used oil varies from country to country, but typically refers to used oil from motor vehicles, construction equipment, power generators, ships, fishing boats and includes transmission and hydraulic oils.

Used oil that is recovered has the potential to be a valuable resource. A portion of lubricating oil is burnt off during the lubricating process but regular servicing of vehicles recovers a significant quantity of used oil. To protect the environment used oil should be collected and bulk stored for reuse as a possible burning fuel or re-refined for other uses.

Used oil is currently collected by two private operators, namely Fletchers Pacific Steel (FPS) and Eco-Oil. FPS collect used oil for their own use as a supplementary furnace fuel for their operations in Walu Bay Suva, whereas Eco-oil collect and sell the used oil to a number of users throughout Vitu Levu. The two collectors collect mainly from the larger users of imported oils. Other used oil from smaller operators is stored at various locations such as service centres, bus, hauliers, and construction depots but generally in unsatisfactory containers (steel drums) and in the open. In time, if not collected and disposed of adequately, this oil will pose an environmental threat.

Disposal of used oil is still a significant issue for Fiji. If used oil is not managed correctly, it can cause major impacts to both the local environment, drinking water and food resources. Current methods of disposal or re-use that are environmentally unacceptable and include:

- Inclusion in general rubbish;
- Poured directly into storm water drains etc;
- As a weed killer;
- Burnt with other waste;
- Ground marking of sports field;
- Preservative use in timber;
- Dust suppression; and
- Rust prevention.

### **Objectives and benefits of sustainable used oil management in Fiji**

Sustainable used oil management in Fiji requires the establishment and operation of an appropriate framework that improves national management of used oil, and promotes shared used oil management responsibility by all stakeholders. Sustainable used oil management will:

- Minimise the unnecessary, untimely, and uncontrolled generation of used oil in Fiji;
- Minimise the adverse effects of used oil on the environment and people of Fiji;
- Ensure that management of used oil in Fiji conforms and complies with all relevant national and international conventions and legal requirements;
- Ensure that the costs associated with used oil treatment/final disposal in Fiji are met by those responsible for generating the used oil; and

- Increase the capacity of stakeholders to promote effective used oil management in Fiji.

**Adoption of the user pays approach**

The costs associated with the collection, storage and re-use/disposal of used oil will be borne by importers, retailers, consumers and users of oil.

**Transparency**

All used oil management activities should be conducted in an open and transparent manner and Fijians should have access to information regarding used oil management where this does not infringe on the rights of individuals or private businesses.

## 2. BACKGROUND INFORMATION

It is estimated that approximately 5,200,000 litres of lubricating oils are imported into Fiji on an annual basis. The major uses of this oil are in power generation (Fiji Electricity Authority FEA), shipping, land transport by bus and haulage operators, construction industry, and private and company vehicle fleet servicing. Other minor users include the local commercial fishing fleet, the manufacturing industry, and taxi operators.

Of the 5,200,000 litres of lubricating oils imported in Fiji annually, it is estimated that approximately 40% of this volume results in used oil (i.e. 2,080,000 litres per annum) in addition to this there is an additional 400,000 litres from other sources that must be considered giving a total of 3,000,000 litres of used oil in Fiji annually that needs to be appropriately managed to avoid environmental and human health impacts. It is established that from this 2,580,000 litres approximately 1,550,000 is currently being collected and used to supplement furnace fuels, this leaves approximately 1,030,000 litres that could still be collected and recycled.

A Cost Benefit Analysis was prepared which looked into the various options of used oil reuse/recycling or disposal. This developed three possible options to manage used oil:

- Used oil as a supplementary furnace fuel;
- Used oil added as a diesel fuel augments; and
- Used oil shipped off-shore for disposal or reuse.

The study concluded that the existing collection and storage mechanisms for used oil should be costed and extended as soon as possible to enable this resource to be reused rather than be disposed of inappropriately with resultant damage to the environment and human health. In the longer term the use of used oil as a diesel extender for electrical power generation could be considered as a cost-effective mechanism to dispose of used oil generated in Fiji. The Electricity Power Corporation (EPC) in Samoa is currently discussing with SMART-MIX (now Combustion Management Systems CMS) from New Zealand a mixture of used oil (<1%), coconut oil (up to 15%) and diesel fuel to produce a bio-fuel that will be used to produce electricity, alternatively the used oil could simply be filtered and injected into the diesel fuel line. This is yet to be finalised. In addition identify other potential users of used oil within Fiji.

The costs of collection, storage, and possible shipment of used oil for recycling overseas will have to be recovered from the oil purchaser through a levy placed on the oil when it is imported into the country for use. The Cost Benefit Analysis of Used Oil for Fiji is attached in Annex 1.

The process to date in Fiji to establish a Stewardship System includes the following activities:

- **Baseline Analysis:** Completion of an audit to assess the oil and lubricant situation in Fiji, including oil imports, principal users, current management practices, volumes of stored used oil, and permitting systems;
- **Coordination:** Establishment of a Steering Group that includes the regulators from both the environmental and fiscal sectors, as well as industry such as fuel and/or lubricant

companies, retailers, haulers, and construction companies, to guide the establishment of the Stewardship System;

- **Cost Benefit Analysis:** Completion of a detailed *Cost Benefit Analysis* of likely used oil disposal options;
- **Legislation:** Preparation of Model Used Oil Regulations for Fiji;
- **Sustainable Financing:** Identification of a levy system to ensure sustainability such that the Stewardship System is self-financing and the costs of collection, storage, shipment and reuse are built into the cost of the original product; and
- **Option for Re-use/Disposal:** Identification of the preferred option to re-use the used oil in country as a supplementary furnace fuel or as a fuel extender.

The next necessary activities include:

- **Political support:** Obtaining Government support to introduce and implement a *Used Oil Stewardship System*;
- **Management:** Establishment of a *Managing Agency* to oversee the daily operation of the Stewardship System. The Managing Agency should be a non-profit government entity with input from the Steering Group;
- **Awareness and Outreach:** Development of an awareness program of various awareness-raising methods. These may include industry body meetings, community meetings, and newspaper advertisements, poster campaigns including billboards, education activities in schools, use of local TV and radio, and recognised used oil logos. It is however essential that the disposal/storage facilities are made accessible for the public, in tandem with these awareness-raising activities; and
- **Collection System Infrastructure:** Extend existing collection system for used oil throughout Fiji initially extending This may include establishing temporary storage sites with plastic drums (150 litre) and/or IBC's (intermediate storage containers 1,000 litre). Ideally the containers would be stored undercover and placed in a bunded area to contain any spillages. Collection locations would be sited at service stations, hauliers/bus companies, construction companies, shipping, Fiji Electricity Authority (FEA). Bulk storage for collected oil would be established at either the FPS or at recipients of used oil at their premises.



### 3. REGULATORY FRAMEWORK

Management of waste (including used oil) in Fiji is carried out under the Fiji Environment Management Act EMA (2005) and the EM (Waste and Recycling) Regulations 2007. The Ministry of Local Government, Urban Development, Housing and Environment (MLGUDHE) are responsible for implementation of the Act and the regulation and management of waste in Fiji. This Used Oil Management Plan complies with the Environment Management Act EMA (2005) and the EM (Waste and Recycling) Regulations 2007 and is aligned with the key activities.

The waste included under the Act may be determined to be a waste or a hazardous waste for the purpose of the Act either through Regulations made under Section 61 of the Act by the Minister or by written guidelines determination by the Director of Environment who may issue written guidelines with the approval of the Minister under Section 62. Under Section 2 of the Act, "Hazardous waste" includes any wastes which are potentially hazardous to human health or the environment such as toxic, inflammable, corrosive, reactive, infective and explosive waste.

The Minister may make Regulations to give effect to the provisions of the EMA 2005 under Section 61(1) of the EMA 2005. The Environment Management (Waste and Recycling) Regulations 2007 made under the EMA 2005 provide for:

- Division A - Waste Disposal;
- Division B - Waste Recycling; and
- Division C – Administration.

#### **Model Used Oil Regulation**

Model Used Oil Regulations have been developed through consultation between SPREP and the Department of Environment (DoE) (Annex 3) and the DoE are currently consulting with the SG's office in Fiji. The objectives of the Regulations are to:

- (a) identify a product stewardship arrangement for used oil that promotes the sharing of responsibility by importers, retailers, consumers and users of oil;
- (b) provide an arrangement for managing used oil that is financially sustainable;
- (c) ensure that management of used oil complies with relevant international conventions and national legal requirements;
- (d) ensure that users of oil contribute to the costs associated with exporting or otherwise managing used oil in an environmentally sustainable manner; and
- (e) ensure management of the export of used oil in an environmentally sound manner.

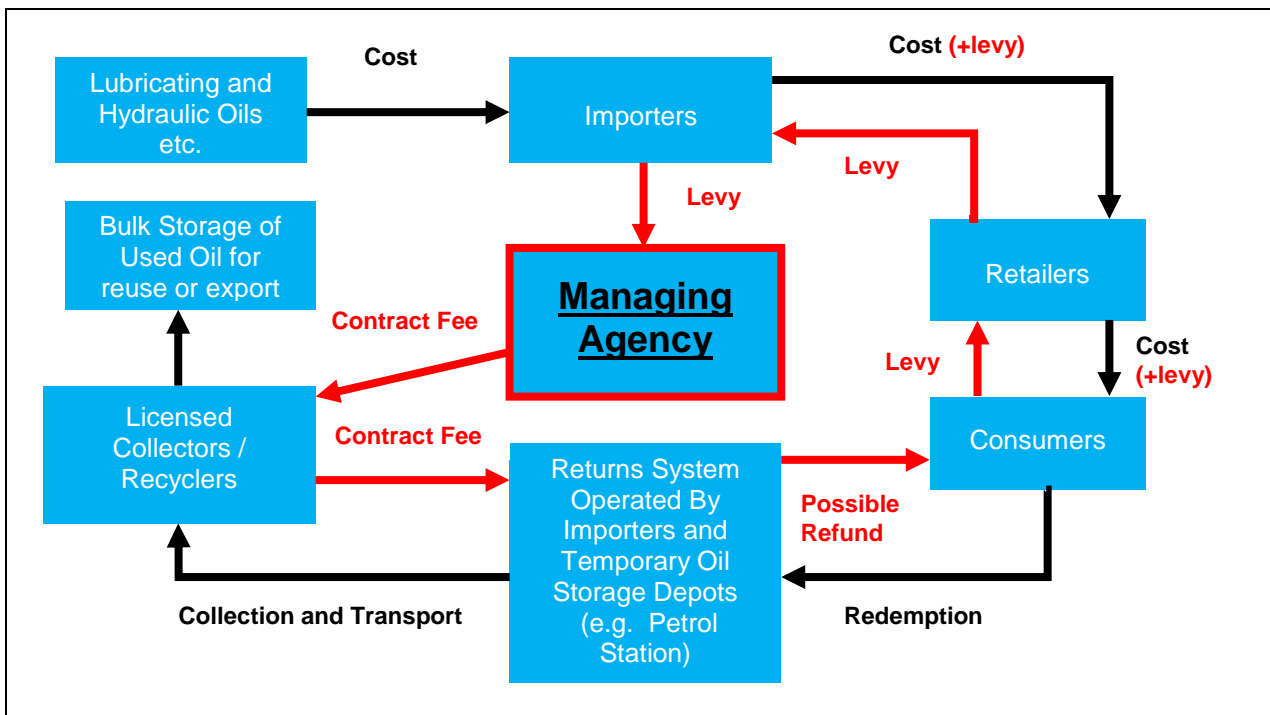
#### 4. STRUCTURE AND RESPONSIBILITY OF THE MANAGING AGENCY

The first step in developing a Product Stewardship System in Fiji is to establish a Managing Agency responsible for administering the Regulation described above to promote the sharing of responsibility of used oil management among importers, retailers, consumers and final users.

The proposed Product Stewardship System, to ensure the financial sustainability of the collection, storage and re-use/disposal of used oil, is shown in figure 1 and consists of<sup>1</sup>:

1. Importers bring oil products into the country and are charged a small levy which is passed on to a Used Oil Managing Agency. The used oil levy can be used to encourage consumers to return used oil through a possible refund mechanism;
2. Oil is sold to retailers and then, in turn, to consumers who eventually produce used oil. Used oil is returned by the consumer to a licensed site for a possible partial refund of the original purchase levy;
3. Licensed used oil collectors provide returns to the Managing Agency and receive a contracted payment for each litre collected;
4. Recovered used oil is stored for reuse within country or exported; and
5. Unclaimed funds and the balance of the import levy are used to support used oil collection, storage costs, and the administration of the Managing Agency and support awareness campaigns.

FIGURE 1: STEWARDSHIP SYSTEM FLOW DIAGRAM



<sup>1</sup> HYDEA SpA (2012). *Background Paper on a Waste Oil Stewardship System*. Unpublished report to SPREP. 31pp.

## **The Role of the Managing Agency**

The role of the Managing Agency is to administer the Used Oil Regulations (Annex 3) and in summary the Managing Agency should:

- be a non-profit entity;
- manage its funds in accordance with the requirements of the Department of Finance [or other government body] ensuring sufficient funds are allocated to pay the collectors and recyclers;
- ensure accurate accounting;
- with respect to importers ensure that the levy is paid;
- review and approve applications from collectors and /or recyclers;
- enter contract agreements with approved collectors and /or recyclers;
- conduct audits of collectors and recyclers to ensure compliance with permits;
- provide audit documentation;
- carry out inspections;
- design and implement awareness campaigns; and
- ensure that funds deposited into the Managing Agency Fund are used to:
  - ✓ Contract licensed collectors and recyclers;
  - ✓ Administration of the Agency;
  - ✓ Awareness campaigns for used oil and other recycling activities; and
  - ✓ Ensure that used oil is recycled or reused or exported.

## 5. IMPLEMENTATION

There are two principal stages of the proposed management model that can be developed independently.

### **Stage 1 Collection and Storage**

Collection shall be carried out by competent licensed carriers with the appropriate equipment. The licensed carriers may collect used oil by road tanker or smaller suitable containers such as steel or plastic drums.

Intermediate temporary storage prior to re-use, recycling or shipment shall include bulk storage via vertical or horizontal tanks with appropriate bunding and drainage. Temporary storage via drums should be in a concrete, sheltered and bunded area.

The collection and storage shall be supported by legislation of either used oil or Stewardship Regulations so that there is a legal requirement for used oil to be collected and stored in an environmentally acceptable manner. All collected used oil shall be transported and stored in compliance with the provisions concerning the transport of dangerous goods and hazardous wastes including relevant regional and international conventions such as Waigani and Basel Convention.

### **Stage 2 Off-shore Disposal or In-country Re-use**

Disposal is considered to be the shipment/export of used oil to neighbouring countries where the used oil could both be re-refined and sold as new lubricating oil, or in some locations simply burnt as a supplementary furnace fuel oil. In most circumstances there will be a cost for the shipment of used oil, however some companies from Asia (such as Jhoola from India) might be interested in purchasing it.

Re-use in-country includes the use of the used oil as a supplementary furnace fuel oil or as a fuel extender either for the generation of electrical power by the Fiji Electricity Authority (FEA).

A cost benefit analysis study has been completed looking at the options available to Fiji to manage used oil. The study concluded that the existing collection and storage mechanisms for used oil should be costed and extended as soon as possible to enable this resource to be reused rather than be disposed of inappropriately with resultant damage to the environment and human health. In the longer term the use of used oil as a diesel extender for electrical power generation could be considered as a cost-effective mechanism to dispose of used oil generated in Fiji.

The existing system of collection and re-use is self funding, however to extend this system and to ensure sustainability the costs of collection, storage, and possible shipment of used oil for recycling will have to be recovered from the oil purchaser through a levy placed on the oil when it is imported into the country.

## Used oil Action Plan for Fiji

A series of coordinated actions are required to ensure that used oil is managed sustainably into the future in Fiji. Recommended actions to be undertaken over a two year timeframe are summaries in Table 1.

TABLE 1<sup>2</sup>: SUMMARY OF RECOMMENDED ACTIONS REQUIRED UNDER A NATIONAL USED OIL ACTION PLAN 2013- 2014

Objectives	Action	Lead Agency	Intended Outcome	Time-frame
<b>Improved governance of Used Oil</b>	1. Investigate and provide recommendations on practical and environmentally and economically sustainable mechanisms to dispose of Fiji's used oil.	DOE/SPREP	Robust management of used oil to ensure environmental and human health protection supported by adequate and enforceable regulations under the Environment Management Act 2005.	<b>June- Dec 2014</b>
	2. Determine a national definition of used oil using Basel and Waigani convention guidelines.	DOE		
	3. Develop or adopt national standards to specify quality guidelines (e.g. acceptable water and impurity content) for used oil end-uses.	DOE		
	4. Develop and implement a financial and regulatory instrument to manage used oil based on the polluter pays principle.	DOE/SPREP	The costs associated with used oil treatment/final disposal are met by those responsible for generating the used oil ( <i>polluter pays principal</i> ).	<b>2014</b>
	5. Establish a used oil governance structure with clear separation of regulation and service delivery of used oil management activities.	DOE/SPREP		
<b>Improved knowledge and information</b>	6. Complete an audit of the quantity, generation rates and status of used oil in Fiji.	SPREP	A comprehensive understanding of the status of used oil management in Fiji. Improved management of used oil based on information and data.	<b>Jan 2013</b>
	7. Develop national used oil management monitoring regimes using key performance indicators.	DOE		<b>June-Dec 2013</b>
	8. Collation and regular reporting of data and information relating to used oil management activities.	DOE		
<b>Reduced risks from exposure to hazardous substances</b>	9. Establish and apply appropriate standards, guidelines, and safeguards for the handling, collection, transportation, storage, and treatment/final disposal of used oil.	DOE	Minimisation of public health risk from substandard used oil management activities.	<b>June-Dec 2013</b>
	10. Implement and enforce minimum OH&S standards for best practices for handling and disposal of used oil (including personal protective equipment) for all workers involved in handling used oil.	DOE/Dept of Labour/ILO	Minimisation of environmental risk from substandard used oil management activities.	
	11. Implement a national used oil collection and storage system.	Industry/DOE	Risk from exposure to used oil is minimised to petroleum handling workers.	
<b>Improved capacity building and technical cooperation</b>	12. Training for customs officers and environment staff on detecting used oil and Waigani/Basel Convention procedures.	DOE/SPREP	Improved regulation and control of international movements of used oil.	<b>Ongoing</b>
	13. Undertake national used oil awareness campaigns.	SPREP /DOE	Communities are informed and aware of the relative risks posed by used oil. Communities are informed of best practices in used oil management.	<b>Jan– June 2014</b>
	14. Implement regular training for workers involved in handling and processing used oil.	Industry/Dept of Labour/ILO		

<sup>2</sup> Summary Of Recommended Actions Required Under A National Used Oil Action Plan 2013- 2015 - from CBA for Fiji Table 4.

## STAGE 1: Annual Budget Costs for Temporary Storage and Collection

Budgeted figures for the Temporary Storage and Collection of used oil have been determined in consultation with the stakeholders and are detailed in Annex 2.

The following section summarises the basis for the collection cost using a flatbed with tail-lift collecting 150 lt drums at various location throughout Fiji, the number of drums and weekly cost for truck hire and labour is determined in the following two tables.

TABLE 2: DETERMINATION OF NUMBER OF DRUMS REQUIRED

Temporary Storage/Collection Locations	Quantity Litres		Drum Storage	
	Annual Sale/Usage Litres	Annual Recovery 50% Litres	Containers are 150 Litre Drums	No of Drums per week
Service Stations	1,300,000	650,000	4,333	83.3
Hauliers and Bus Companies	1,173,939	586,970	3,913	75.3
Construction Companies	1,796,364	898,182	5,988	230.0
Shipping Corporation	370,303	185,152	1,234	23.7
FEA	330,909	165,455	1,103	21.2
Other Users	228,485	114,242	762	14.6
Other Sources	400,000	400,000	2,667	51.3
<b>Totals</b>	<b>5,600,000</b>	<b>3,000,000</b>	<b>20,000</b>	<b>384.6</b>

Further consultation is required with the stakeholders to determine the exact locations of the probable Temporary Storage and Collection locations.

TABLE 3: COSTS TO COLLECT USED OIL BY HIRE TRUCK

	Weekly Cost FJ\$	Annual Cost FJ\$	Cost per Litre FJ\$
Cost of Truck hire	10,200	530,400	0.10
Cost of Labour	3,600	187,200	0.038
Cost of PPE	650	33,800	0.007
Cost of hire of Pump and Hoses for decanting Drums	2400	124,800	0.024
<b>Total</b>	<b>16,850</b>	<b>876,174</b>	<b>0.159</b>

The following assumptions have been made to collate the quantities and costs in the two tables above:

1. Collection points for 150ltr Plastic Drums;
2. Collection vehicle is a Flatbed truck with tail lift at a cost of FJ\$ 85/hr;
3. Labour cost: Assumed three teams of 3 persons full time. Collection - on average there are 380 drums to collect each week, will assume that this is carried over five days i.e. 40 hours @ FJ\$10/hour by 3 persons. Decanting - on average there are 340 drums to

collect each week, will assume that this is carried over five days i.e. 16 hours @ FJ\$10/hour by 2 persons;

4. The operation will be to drop off empty drums and collect full drums (or part full 80%);
5. Decanting drums by hire of pump and hoses at FJ\$20/hr 120 hours means three sets of pumps and hoses; and
6. PPE as per table 4.

**TABLE 4: PERSONAL PROTECTIVE EQUIPMENT**

Personal Protective Equipment	Cost per Week FJ\$	Cost per Annum FJ\$
Gloves 6 pairs/wk = @ FJ\$15 each pair x 3 teams	270.00	1040.00
Disposable overalls 4 pair each @ FJ\$80 per pair/week x 3 teams	55.50	2,886.00
Shoes 6 pairs/yr each = at FJ\$160/pair x 3 teams	55.50	2,886.00
Hardhat 6/yr each @ FJ\$32 each x 3 teams	10.50	546.00
Goggles 3pair/wk @ FJ\$32 each x 3 teams	288.00	14,976.00
<b>Total</b>	<b>649.50</b> <b>Approx. \$650.00</b>	<b>33,800.00</b>

**TABLE 5: ANNUAL COST OF COLLECTION STORAGE CONTAINERS**

Temporary Storage/Collection Locations	Annual Sale/Usage Litres	Annual Recovery 38% Litres	No of Drums Required and Purchase Cost			
			Annual No:	Weekly No:	No of Drums Required	Cost FJ\$
<b>Service Stations</b>	1,300,000	650,000	4,333	83.3	167	42,292
<b>Hauliers and Bus Companies</b>	1,173,939	586,970	3,913	75.3	151	38,191
<b>Construction Companies</b>	1,796,364	898,182	5,988	230.0	230	58,349
<b>Shipping</b>	370,303	185,152	1,234	23.7	47	12,047
<b>FEA</b>	330,909	165,455	1,103	21.2	42	10,765
<b>Other Users</b>	228,485	114,242	762	14.6	33	8,485
<b>Other Sources</b>	400,000	400,000	2,667	51.3	104	26,656
<b>Totals</b>	<b>5,600,000</b>	<b>3,000,000</b>	<b>20,000</b>	<b>384.6</b>	<b>770</b>	<b>195,192</b>

The following assumptions have been made to collate the quantities and costs in the table above:

1. Assumes two drums - one for pickup and one for drop-off;
2. Drums are 150 litre drums;
3. Assume that 80 Drums are purchased @ NZ\$175/drum. Total cost is US\$195,192;
4. Plastic Drums used for storage of oil, plastic drums with lid NZ\$175.00 each;
5. Exchange Rate NZ\$/FJ\$ 1.56 and FJ\$/US\$ 1.77;

6. Initial purchase cost US\$ 10,737.00; and
7. Assumes replacement of IBC's and Drums every two years annualised cost is US\$96,550.

The following table summarises the annual temporary storage and collection costs for the collection of used oil throughout Fiji.

**TABLE 6: SUMMARY OF ANNUAL COSTS FOR TEMPORARY STORAGE AND COLLECTION**

Summary of Annual Costs	FJ\$
<b>Collection</b>	<b>872,352</b>
<b>Storage</b>	<b>48,275</b>
<b>Office Rental and admin cost at collectors premises</b>	<b>120,000</b>
<b>Undercover Storage</b>	<b>Nil</b>
<b>Bulk Storage Tank Rental</b>	<b>Nil</b>
<b>Sub total Costs</b>	<b>1,040,627</b>
<b>5% Contingency 10% Margin Operating Profit</b>	<b>156,667</b>
<b>Totals Costs</b>	<b>1,201,116</b>
<b>Cost per litre of Imported Oil</b>	<b>0.23</b>
<b>Cost per litre of Used Oil</b>	<b>0.40</b>
NB:	
1. Office space rental at FJ\$20,000/month	
2. Storage rental at FJ\$ 2,500/month	

## **STAGE 2: Annual Budget Costs for Re-use or Shipment from Fiji**

There are a number of principle options for the re-use/disposal of used oil for Fiji which are re-use in country or shipment from Fiji. The Fiji used oil Steering Group's preferred option is to re-use the used oil in-country. There are three practical options to reuse oil in Fiji:

1. Continued use as a supplementary furnace fuel
2. FEA could use the used oil as a fuel extender by simply filtering the used oil and injecting into the engine diesel fuel lines at a mix of about 1%;
3. Alternatively FEA could use the used oil in conjunction with a system for bio-fuels being developed by Combustion Management Systems (CMS) from New Zealand; this essentially is mixing diesel, coconut oil and used oil with additives to produce a bio-fuel to power the generators. The purchase cost of the equipment is about NZ\$ 1.2 million, and the cost per litre of bio-fuel is about 2 cents per litre. The used oil has a value of about FJ\$ 2.65/ litre so the pay-back assuming only the value of the used oil is about four years; and
4. In the longer term there may be re-use by a potential cement factory.



**TABLE 7: SHIPPING COSTS OF USED OIL FROM FIJI**

	<b>India</b>	<b>Australia</b>	<b>NZ</b>	<b>Comments</b>
	<b>Lt's</b>	<b>Lt's</b>	<b>Lt's</b>	
<b>Volume of Oil per Container</b>	19,600	19,600	19,600	98 x 200lt drums/20ft container
<b>Standardised volume of 6 Containers</b>	117,600	117,600	117,600	
	<b>US\$</b>	<b>US\$</b>	<b>US\$</b>	
<b>Documentation per Shipment</b>	1,970	1,970	1,970	
<b>Insurance</b>	Nil	Nil	Nil	
<b>Cartage by Importer</b>	0	1,970	1,970	
<b>Freight Cost</b>	0	3,010	2,840	
<b>Handling Exporter</b>	2,400	2,400	2,400	
<b>Value or Disposal Fee</b>	-3000	9,285	9,285	
<b>Total Cost US\$</b>	1,370	18,635	18,465	Per shipment
<b>Total Cost per Lt US\$</b>	0.01	0.16	0.16	
<b>Total Cost per Lt FJ\$</b>	0.02	0.28	0.28	

## 6. MONITORING AND EVALUATION

The monitoring and evaluation of the Product Stewardship System will be carried out by the Managing Agency in accordance with the Model Regulations. The following sections are based on the Model Regulations presented in Annex 3.

### Monitoring

The Managing Agency will use inspectors appointed under Clause 5.7 of the regulations to monitor and carry out regular inspections of collectors and recyclers to ensure compliance with the Used Oil Regulations. The monitoring will ensure that there are no breaches of the Regulations in particular the inspectors will enforce Part 5 Clause 5.2 of the regulations

#### Part 5: Miscellaneous

##### Clause 5.2

A person must not dispose of used oil otherwise than in accordance with the Environmental Management Act 2005 and Model Regulations and a person who contravenes subsection (1) or (2) commits an offence and is liable on conviction to a fine not exceeding FJ\$ ..... or imprisonment for a term not exceeding ..... years or both.

In particular under subsection (2), a person must not:

- (a) pour used oil onto the ground;
- (b) pour used oil into a drain or into still or flowing water;
- (c) allow used oil to escape onto the ground or into a drain or still or flowing water;
- (d) store used oil in a way that allows the oil to escape onto the ground or into a drain or still or flowing water; or
- (e) burn used oil in the open air.

For the purposes of the monitoring the regulations the Managing Agency may appoint an inspector, the inspector may during business hours:

- (a) enter premises used by a licensed collector or a licensed recycler for the storage or recycling of used oil;
- (b) inspect the storage and recycling operations carried out on those premises; and
- (c) inspect books and records relating to the collection and recycling of used oil.

#### Part 3: Dealing with Used Oil

##### Clauses 3.1 - 3.5

The Managing Agency will also carry out inspections by an inspector appointed under Clause 5.7 of the regulations to ensure that collectors and recyclers are complying with their licence issued under the Act.

### **3.1 Short term storage of used oil**

- (1) Used oil must be stored in a safe and an environmentally approved manner.
- (2) In particular, used oil must be stored in a container that:
  - (a) is in good condition and labelled to show it contains used oil;
  - (b) has spill prevention and collection equipment that includes appropriate and adequate sized bunding; and
  - (c) has adjacent and accessible fire prevention and suppression equipment.

### **3.2 Collection of used oil**

- (1) A licensed collector must:
  - (a) meet all health, safety and environmental requirements for the handling, collection, transport and storage of used oil;
  - (b) wear appropriate personal protective equipment;
  - (c) provide suitable storage tanks, if none are available, that have appropriate spill prevention equipment that includes appropriate and adequate sized bunding;
  - (c) have adjacent and accessible fire prevention and suppression equipment; and
  - (d) keep a record of each amount of used oil received.

### **3.3 Recycling or export of used oil**

- (1) A licensed recycler must:
  - (a) meet all health, safety and environmental requirements for the handling, transport and storage of used oil;
  - (b) wear appropriate personal protective equipment;
  - (c) provide suitable storage tanks, if none are available, that have appropriate spill prevention equipment that includes appropriate and adequate sized bunding and fire extinguishers;
  - (d) have adjacent and accessible fire prevention equipment;
  - (e) keep a record of each amount of used oil received;
  - (f) recycle used oil by:
    - (i) re-refining the used oil in [country]; and
    - (ii) selling the recycled oil for reuse in [country]; or
  - (g) subject to sub-regulation (4), export the used oil.
- (2) If the licensed recycler sells the recycled oil, he or she must be reasonably satisfied that the buyer of the oil will deal with the oil in an environmentally safe manner.
- (3) If the licensed recycler exports the used oil, he or she must be reasonably satisfied that the person to whom the oil is exported will deal with the oil in an environmentally safe manner.
- (4) The recycler may only export used oil with the approval of the Minister.

### **3.4 Occupational health and safety**

- (1) All persons involved in collecting, storing, transporting or recycling used oil must wear appropriate personal protective equipment.
- (2) An employee of a licensed collector or recycler must wear an identity card showing his or her employment.

### **3.5 Licensing of collectors and recyclers**

- (1) A person who collects used oil for the purpose of recycling or export, or recycles or exports used oil, must be licensed under the Act.
- (2) A person may apply in writing to the Minister to be licensed as a used oil collector or a used oil recycler, or both.
- (3) The Minister may grant the licence if he or she is satisfied:
  - (a) for an application for a used oil collector's licence – that:

- (i) the applicant has a viable business model to operate an oil collection business;
- (ii) the applicant has the relevant expertise and equipment to collect, handle and transport used oil in compliance with environmental and safety standards and guidelines;
- (iii) all vehicles and drivers used by the applicant in the collection of used oil will comply with transport regulations and any licensing requirements for transporting hazardous materials; and
- (iv) all transportation vehicles are appropriately labelled.
- (b) for an application for a used oil recycler's licence – that:
  - (i) the applicant has a viable business model to operate an oil recycling and export business;
  - (ii) the applicant has suitable bulk storage tanks that are installed on an impervious base; and
  - (iii) any spillage will be caught by an appropriate and adequately sized bund;
  - (iv) the applicant has the relevant experience and equipment to recycle used oil in compliance with safety and environmental standards and guidelines;
  - (v) if used oil is to be exported, the applicant is able to establish that the oil will be sold to a recognized overseas buyer of used oil in accordance with the Basel Convention and the Waigani Convention; and
  - (vi) the applicant has not been convicted of any environmental offences in [country]; and
- (c) in both of those cases – that:
  - (i) the applicant's employees are trained in the handling of used oil and will be issued with appropriate personal protective equipment;
  - (ii) the applicant is aware of his or her obligations under the Act and these Regulations, and under relevant environmental legislation, in relation to the handling of used oil.

## Evaluation

### Part 5: Miscellaneous Clauses 5.5 and 5.6

Under the regulations the Managing Agency will prepare an annual evaluation report which will include the following:

#### 5.5 Report by Managing Agency

- (1) The Managing Agency must give an annual report to the Minister by [DATE] each year, setting out:
  - (a) the annual amount of levy paid into the Fund;
  - (b) the annual quantity of oil on which levy is paid;
  - (c) the annual number of litres of used oil collected and the recovery rate;
  - (d) details of awareness campaigns;
  - (e) how money in the Fund has been spent;
  - (f) the balance on money in the Fund; and
  - (g) the annual quantity of used oil re-used, recycled or exported.

The annual evaluation report will also include a summary of the following information provided by the licensed collector and licensed recycler.

## **5.6 Reports by licensed collectors and recyclers**

- (1) A licensed collector must provide quarterly and annual returns to the Managing Agency setting out the amount of used oil:
  - (a) collected; and
  - (b) delivered to a licensed recycler.
  
- (2) A licensed recycler must provide quarterly and annual returns to the Managing Agency setting out the amount of used oil:
  - (a) received;
  - (b) held awaiting decision whether it should be recycled, sold or exported;
  - (c) identified for recycling;
  - (d) undergoing recycling;
  - (e) identified for sale in Fiji as used oil;
  - (f) sold in Fiji as used oil;
  - (g) identified for export;
  - (h) ready for shipping; and
  - (i) shipped.
  
- (3) The report must have with it:
  - (a) copies of relevant documents relating to the recycling, sale or export;
  - (b) a health and safety incident report; and
  - (c) a report concerning whether the recycler has complied with relevant standards and codes of practice relating to the environmentally sound management of used oil.

## 7. AWARENESS & COMMUNICATIONS

The establishment of a Product Stewardship System will need to be supported by National public awareness campaigns to:

- provide accurate information concerning the relative risks posed by used oil to Fiji's natural environments;
- provide accurate information on best practices that individuals and businesses can adopt to better manage used oil at a local scale; and
- provide training on the safe handling and storage of used oil.

### **Awareness and Communication Strategy for Used Oil Stewardship**

The Strategic Communication Plan for the Used Oil Stewardship program will be an essential feature of the implementation program. The Awareness phase will be on a staged release of information which focuses on raising awareness about the issues involved with used oil and communicating the government's development of a used oil stewardship program.

#### **Some Key Messages**

- Used engine oil is hazardous to the environment (earth and water) and human health. There are both short and long term effects.
- Used engine oil is still valuable and can be used again, help us help the environment.

#### **Proposed Communication Approach**

Implementation of the communications strategy will largely be determined by the availability of infrastructure such as collection points and re use markets. Thus it will start once the Stewardship Program is ready to be operational perhaps two months prior. The communication strategy will be conducted in two phases.

#### **Phase 1: General Awareness**

This phase will focus on general awareness raising of the used oil issue among key stakeholders such as importers, consumers, garage owners, service stations and local villages. The phase will promote the government's effort to improve waste oil stewardship program and inform people what they can do to assist with used oil recovery. The mobilization of this phase will commence two months prior to implementation of the stewardship programme and to complement phase 2 awareness.

#### **Phase 2: Implementation Messages**

Communication activities will focus on a community advertising / information campaign and a media "push" to inform people about oil collection points and other facilities and to encourage behavioural change. This stage will be mobilised 1 month prior to implementation of stewardship program and throughout the program.

## **Evaluation and Monitoring**

Evaluation and monitoring will be part of the campaign from the start. Evaluations will be conducted during the initial airing phases and on monthly basis to identify any further information gap that needs to be addressed.

## **Proposed Strategic Communication Delivery**

### ***Development of Logo and branding***

A logo will be designed which will help identify and promote the Used Oil Stewardship Program. A campaign logo could be produced to promote the program.

## **Print materials**

### ***Fact Sheets***

Facts sheet will be produced which will be distributed to various waste oil generating industries and outlets. Some facts sheets will be on general awareness tailored with hard facts whilst other fact sheets will be combined with promoting waste collection services.

### ***Newspaper/ magazine advertisements***

Newspaper advertisement and local magazines will be targeted. Full page advertisement and half page advertisement will be utilised on high circulation days (Saturday).

### ***Flyers***

A4 flyers to support waste oil collection could be developed and inserted in news dailies and also at various Post Offices mail box.

## **Media Airtime**

### ***Radio and television commercials***

This could include the production of 30-15 second's advertisement for TV and Radio and the production of a 30 minutes video to be screened on prime television. The program will be based on the benefits of responsible management of used oil in the community.

## **Banners**

The awareness campaign could include installation of drop down banners at waste oil collection points to indicate the oil collection service available. Other items for point of display at various service stations and waste oil retail outlets will be developed.

## **Promotional items**

This includes giveaway items such as caps, T- Shirts and other promo material.

## **Text Messaging (Mobile Communication)**

Message via text promotion, this could be utilised during the implementation phase to indicate availability of waste oil collection services.

A budget with timelines and activities for awareness and communications is presented in Annex 4.

## **ANNEX 1: COST BENEFIT ANALYSIS OF USED OIL FOR FIJI**



## **ANNEX 2: COSTINGS FOR COST BENEFIT ANALYSIS**

## **ANNEX 3: MODEL USED OIL REGULATIONS**

## MODEL USED OIL REGULATIONS

### PART 1 – PRELIMINARY

#### 1. Short title and commencement

- (1) These Regulations may be cited as the Used Oil Regulations 2014.
- (2) These Regulations commence on [insert commencement date].

#### 2. Interpretation

- (1) In these Regulations, unless the context otherwise requires:

“Act” means the [name of Act under which Regulations made].

“base oil” means an oil that is free from contaminants or additives and to which other substances may be added for a particular application.

“Basel Convention” means the Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 1989.

“Fund” means the Waste Recycling Fund established by regulation 2.4.

“licensed collector” means a person who is licensed as a waste management operator under the Act to collect used oil.

“licensed recycler” means a person who is licensed as a waste management operator under the Act to recycle or sell used oil.

“Managing Agency” means the body responsible for administering these Regulations.

“oil” means:

- (a) petroleum based oil (including lubricant base oil; prepared lubricant additives containing carrier oils; lubricants for engines, gear sets, pumps and bearings; greases, hydraulic fluids; transmission oils; and transformer and heat transfer oils);
- (b) synthetic equivalents of goods covered by paragraph (a); and
- (c) any other goods determined by the Minister for the purposes of this definition.

“oil recycling benefit” means an amount payable under Part 4.

“recognised overseas buyer” means a person in a country other than [country] who is recognised in that country as a person who recycles oil in an environmentally sound manner by complying with the Basel and Waigani Conventions.

“recycled oil” means:

- (a) goods produced from used oil; or
- (b) used oil that has been re-refined.

“recycling levy” means the levy imposed by regulation 2.1.

“recycling of oil” means:

- (a) producing goods from used oil; or
- (b) re-refining used oil.

“re-refined” has the meaning given by sub-regulation (2).

“used oil” means any oil that has been used and that, as a result of that use, is contaminated by physical or chemical impurities.

“Waigani Convention” means 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, 1995.

- (2) For the purpose of these Regulations, used oil has been re-refined if it has been restored to the condition of a base oil:
  - (a) by thin film evaporation, followed by solvent extraction or hydrofinishing; or
  - (b) by vacuum distillation, followed by solvent extraction or hydrofinishing; or
  - (c) by another process approved for the purpose of this sub-regulation by the Minister as being:
    - (i) consistent with the objects of the Act and these Regulations; and
    - (i) similar in purpose and effect to the processes mentioned in paragraphs (a) and (b).

### **3. Objectives of these Regulations**

The objectives of these Regulations are to:

- (a) develop a product stewardship arrangement for used oil that promotes the sharing of responsibility by importers, retailers, consumers and users of oil;
- (b) provide an arrangement for managing used oil that is financially sustainable;
- (c) ensure that management of used oil complies with relevant international conventions and national legal requirements;
- (d) ensure that users of oil contribute to the costs associated with exporting or otherwise managing used oil in an environmentally sustainable manner;
- (e) manage the export of used oil in an environmentally sound manner.

## **PART 2 – LEVY**

### **4. Recycling levy on oil**

For the purposes of section XX of the Act, a levy is imposed on the importation of oil into [country].

### **5. Amount of levy**

- (1) The amount of levy is to be determined by the Minister.
- (2) In determining the amount of levy, the Minister must have regard to:
  - (a) the costs of storing used oil, including the costs of providing temporary storage containers;
  - (b) the costs of collecting and transporting used oil;

- (c) the costs of recycling used oil;
  - (d) if the used oil is not recycled, the costs of exporting the used oil for recycling, or selling the oil for further use;
  - (e) the estimated amount of the oil recycling benefit; and
  - (d) the estimated costs of ongoing initiatives to raise people's awareness of the need to protect the environment by collecting and recycling used oil.
- (3) Before determining the amount of levy, the Minister must consult:
- (a) [any relevant government bodies, such as the Department of Finance];
  - (b) importers of oil;
  - (c) a representative of major users of oil;
  - (d) the power utility;
  - (e) any existing oil recyclers;
  - (f) business representatives; and
  - (g) community representatives.
- (4) The Minister must ensure notice of the amount of recycling levy is published at least one month before the levy commences.

**2.3 Payment of levy** - The recycling levy is payable by the importer of the oil.

#### **2.4 Waste Recycling Fund**

- (1) A Fund called the Waste Recycling Fund is established.
- (2) The recycling levy is to be paid into the Fund.
- (3) The Fund is to be managed by the Managing Agency, in accordance with the requirements of the [Department of Finance or other government body].
- (4) Moneys paid into the Fund are to be used:
  - (a) for payment of oil recycling benefit, in accordance with Part 4;
  - (b) to provide short term oil storage containers; and
  - (c) for ongoing initiatives to raise people's awareness of the need to protect the environment by collecting and recycling used oil; and

### **PART 3 – DEALING WITH USED OIL**

#### **3.1 Short term storage of used oil**

- (1) Used oil must be stored in a safe and an environmentally approved manner.
- (2) In particular, used oil must be stored in a container that:
  - (a) is in good condition and labelled to show it contains used oil;
  - (b) has spill prevention and collection equipment that includes appropriate and adequate sized bunding; and
  - (c) has adjacent and accessible fire prevention and suppression equipment.

#### **3.2 Collection of used oil**

- (1) A licensed collector must:
  - (a) meet all health, safety and environmental requirements for the handling, collection, transport and storage of used oil;
  - (b) wear appropriate personal protective equipment;

- (c) provide suitable storage tanks, if none are available, that have appropriate spill prevention equipment that includes appropriate and adequate sized bunding;
- (c) have adjacent and accessible fire prevention and suppression equipment; and
- (d) keep a record of each amount of used oil received.

### **3.3 Recycling or export of used oil**

- (1) A licensed recycler must:
  - (a) meet all health, safety and environmental requirements for the handling, transport and storage of used oil;
  - (b) wear appropriate personal protective equipment;
  - (c) provide suitable storage tanks, if none are available, that have appropriate spill prevention equipment that includes appropriate and adequate sized bunding and fire extinguishers;
  - (d) have adjacent and accessible fire prevention equipment;
  - (e) keep a record of each amount of used oil received;
  - (f) recycle used oil by:
    - (i) re-refining the used oil in [country]; and
    - (ii) selling the recycled oil for reuse in [country]; or
  - (g) subject to sub-regulation (4), export the used oil.
- (2) If the licensed recycler sells the recycled oil, he or she must be reasonably satisfied that the buyer of the oil will deal with the oil in an environmentally safe manner.
- (3) If the licensed recycler exports the used oil, he or she must be reasonably satisfied that the person to whom the oil is exported will deal with the oil in an environmentally safe manner.
- (4) The recycler may only export used oil with the approval of the Minister.

### **3.4 Occupational health and safety**

- (1) All persons involved in collecting, storing, transporting or recycling used oil must wear appropriate personal protective equipment.
- (2) An employee of a licensed collector or recycler must wear an identity card showing his or her employment.

### **3.5 Licensing of collectors and recyclers**

- (1) A person who collects used oil for the purpose of recycling or export, or recycles or exports used oil, must be licensed under the Act.
- (2) A person may apply in writing to the Minister to be licensed as a used oil collector or a used oil recycler, or both.
- (3) The Minister may grant the licence if he or she is satisfied:
  - (a) for an application for a used oil collector's licence – that:
    - (i) the applicant has a viable business model to operate an oil collection business;
    - (ii) the applicant has the relevant expertise and equipment to collect, handle and transport used oil in compliance with environmental and safety standards and guidelines;
    - (iii) all vehicles and drivers used by the applicant in the collection of used oil will comply with transport regulations and any licensing requirements for transporting hazardous materials; and
    - (iv) all transportation vehicles are appropriately labelled.

- (b) for an application for a used oil recycler's licence – that:
  - (i) the applicant has a viable business model to operate an oil recycling and export business;
  - (ii) the applicant has suitable bulk storage tanks that are installed on an impervious base; and
  - (iii) any spillage will be caught by an appropriate and adequately sized bund;
  - (iv) the applicant has the relevant experience and equipment to recycle used oil in compliance with safety and environmental standards and guidelines;
  - (v) if used oil is to be exported, the applicant is able to establish that the oil will be sold to a recognized overseas buyer of used oil in accordance with the Basel Convention and the Waigani Convention; and
  - (vi) the applicant has not been convicted of any environmental offences in [country]; and
- (c) in both of those cases – that:
  - (i) the applicant's employees are trained in the handling of used oil and will be issued with appropriate personal protective equipment;
  - (ii) the applicant is aware of his or her obligations under the Act and these Regulations, and under relevant environmental legislation, in relation to the handling of used oil.

**3.6 Licence** The licence must be in the form approved by the Minister.

## **PART 4 – OIL RECYCLING BENEFIT**

### **4.1 Entitlement to benefit**

- (1) A licensed recycler is entitled to be paid oil recycling benefit for used oil that is, within a benefit period:
  - (a) recycled in accordance with these Regulations; or
  - (b) exported in accordance with regulation 3.3.
- (2) However, a licensed recycler is only entitled to be paid benefit for used oil that is recycled or exported after [specific date OR the date of commencement of these Regulations].

### **4.2 Application for benefit**

- (1) A licensed recycler may apply to the Managing Agency for payment of oil recycling benefit for a benefit period.
- (2) The application must:
  - (a) be made using the form approved by the Managing Agency;
  - (b) set out, for the benefit period, the quantity of used oil:
    - (i) recycled;
    - (ii) sold or available for sale; and
    - (ii) exported; and
  - (c) be signed by the license recycler.
- (3) The application must have with it:
  - (a) documentation that establishes the quantity of used oil that has been recycled and is available for sale; and
  - (b) for oil that is being exported - shipping documentation (including the bill of lading) to show the quantity of used oil that is ready to be shipped.

- (4) The Managing Agency must assess the application for benefit and issue a notice of assessment to the licensed recycler showing the amount of benefit and how it was calculated.
- (5) In assessing the application for the benefit, the Managing Agency may:
  - (a) ask the applicant for further information about:
    - (i) the dates and quantities of used oil received by the applicant; and
    - (ii) the name of the licensed collector that provided the used oil; and
  - (b) inspect the oil loaded for shipping.

#### **4.3 Amount of benefit**

- (1) The amount of benefit is to be based on the quantity of used oil recycled, ready to be exported or exported during the benefit period.
- (2) In determining the amount of benefit, the Managing Agency must have regard to:
  - (a) the volume of used oil that has been recycled; and
  - (b) the volume of used oil that has been exported or is ready for export.

#### **4.4 Payment of benefit** Benefit is payable out of the Fund.

### **PART 5 – MISCELLANEOUS**

#### **5.1 Contract**

- (1) The Managing Agency may enter into agreements with a licensed collector and a licensed recycler concerning the collection and recycling of used oil and the sale and export of recycled oil.
- (2) An agreement may require the collector or recycler to pay a bond.

#### **5.2 Offences**

- (1) A person must not dispose of used oil otherwise than in accordance with the Act and these Regulations.
- (2) In particular, a person must not:
  - (a) pour used oil onto the ground;
  - (b) pour used oil into a drain or into still or flowing water;
  - (c) allow used oil to escape onto the ground or into a drain or still or flowing water;
  - (d) store used oil in a way that allows the oil to escape onto the ground or into a drain or still or flowing water; or
  - (e) burn used oil in the open air.
- (3) A person who contravenes subsection (1) or (2) commits an offence and is liable on conviction to a fine not exceeding XX penalty units or imprisonment for a term not exceeding [PERIOD], or both.

#### **5.3 Offences by licensed collector or recycler**

- (1) A licensed collector and a licensed recycler:
  - (a) must transport used oil in such a way that no oil escapes from the container in which it is transported;
  - (b) must not allow collected used oil to escape onto the ground or into still or flowing water; and
  - (c) must comply with the requirements of these Regulations in dealing with used oil.



- (2) A licensed recycler must carry out the recycling process in such a way that no used oil escapes onto the ground or into still or flowing water.
- (3) A person who contravenes subsection (1) or (2) commits an offence and is liable on conviction to a fine not exceeding XX penalty units or imprisonment for a term not exceeding [PERIOD], or both.

#### **5.4 Obligation to clean up spills**

If a licensed collector or licensed recycler accidentally discharges used oil during storage, collection, transportation or recycling, he or she must, immediately after becoming aware of the discharge, take all necessary action to

- (a) contain the spill;
- (b) clean up the spill; and
- (c) notify the Managing Agency.

#### **5.5 Report by Managing Agency**

- (1) The Managing Agency must give an annual report to the Minister by [DATE] each year, setting out:
  - (a) the amount of levy paid into the Fund;
  - (b) how money in the Fund has been spent;
  - (c) the total quantity of oil on which levy is paid;
  - (d) the total quantity of used oil collected; and
  - (e) the total quantity of used oil recycled or exported.
- (2) The Minister must present the report to Parliament within one month of receiving it.
- (3) The Managing Agency must make the report available to the public after it has been presented to Parliament.

#### **5.6 Reports by licensed collectors and recyclers**

- (1) A licensed collector must give a written report to the Managing Agency and the Minister every 12 months setting out the amount of used oil:
  - (a) collected; and
  - (b) delivered to a licensed recycler.
- (2) A licensed recycler must give a written report to the Managing Agency and the Minister every 12 months setting out the amount of used oil:
  - (a) received;
  - (b) held awaiting decision whether it should be recycled, sold or exported;
  - (c) identified for recycling;
  - (d) undergoing recycling;
  - (e) identified for sale in [country] as used oil;
  - (f) sold in [country] as used oil;
  - (g) identified for export;
  - (h) ready for shipping; and
  - (i) shipped.
- (3) The report must have with it:
  - (a) copies of relevant documents relating to the recycling, sale or export;
  - (b) a health and safety incident report; and
  - (c) a report concerning whether the recycler has complied with relevant standards and codes of practice relating to the environmentally sound management of used oil.

## **5.7 Inspection**

- (1) The Managing Agency may appoint an inspector for the purposes of these Regulations.
- (2) An inspector may, during business hours:
  - (a) enter premises used by a licensed collector or a licensed recycler for the storage or recycling of used oil;
  - (b) inspect the storage and recycling operations carried out on those premises; and
  - (c) inspect books and records relating to the collection and recycling of used oil.
- (3) Before carrying out an inspection, an inspector must produce evidence of his or her appointment.

## **5.8 Review**

- (1) The rate of levy and benefit payable under these Regulations must be reviewed annually.
- (2) Three years after the commencement of these Regulations, the Minister must appoint a person to review:
  - (a) the operation of the Fund; and
  - (b) generally, the operation of the system of managing used oil under these Regulations.

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## **SCHEDULES**

### **SCHEDULE 1 – RE-REFINED BASE OIL CRITERIA**

#### **1 Mutagenicity**

The oil must be non-carcinogenic, demonstrated by having a mutagenicity index of less than 1 using the Modified Ames Test.

#### **2 Poly-aromatic hydrocarbons**

- (1) The oil must contain less than the following for each kilogram of oil:
  - (a) 10 mg of benzo(a)pyrene;
  - (b) 10 mg of dibenz(ah)anthracene;
  - (c) 100 mg of benz(a)anthracene;
  - (d) 100 mg of benzo(b)fluoranthene;
  - (e) 100 mg of benzo(k)fluoranthene;
  - (f) 100 mg of chrysene; and
  - (g) 100 mg of indeno(123-cd)pyrene.
- (2) The total amount of poly-aromatic hydrocarbons mentioned in subclause (1) that the oil contains must be less than 400 mg for each kilogram of oil.
- (3) The total amount of all poly-aromatic hydrocarbons that the oil contains (including poly-aromatic hydrocarbons mentioned in subclause (1)) must be less than 1 000 mg for each kilogram of oil.

#### **3 Polychlorinated biphenyls**

The oil must contain less than 2.0 mg of polychlorinated biphenyls for each kilogram of oil.

#### **4 Polychlorinated dibenzo-p-dioxins**

The total amount of dioxins and furans that the oil contains must be less than 10 picograms Toxic Equivalent for each gram of oil.

**5 Total acid number**

The oil must have a total acid number of less than 0.07 mg of potassium hydroxide for each gram of oil.

**6 Heavy metals**

The oil must contain less than the following for each kilogram of oil:

- (a) 5 mg of arsenic;
- (b) 2 mg of cadmium;
- (c) 10 mg of chromium; and
- (d) 100 mg of lead.

**7 Appearance**

The oil must have a clear and bright appearance.

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SCHEDULE 2  
PETROLEUM PRODUCT CRITERIA

**1 Density**

The petroleum product must have a density:

- (a) equal to or exceeding 0.900 at 15° Celsius as determined by ASTM 1298; or
- (b) less than 0.900 at 15° Celsius as determined by ASTM 1298 and:
  - (i) a maximum cetane index of 35 as determined by ASTM D976; or
  - (ii) in respect of the heaviest 10% of a particular volume of fuel tested, a value of 0.35% mass of carbon residue on 10% distillation residue as determined by ASTM D189 or D524; or
  - (iii) a minimum pour point of 15° Celsius as determined by ASTM D97; or
  - (iv) a minimum sulphur content of 1.5% mass as determined by ASTM D129; or
  - (v) a minimum kinematic viscosity of 10 centistokes (millimetres squared per second) at 40° Celsius as determined by ASTM D445.

**2 Duty**

Duty on the petroleum product must have been paid at a rate that is applicable to diesel fuel.

**3 Use**

The petroleum product must be capable of being used as a fuel otherwise than in an internal combustion engine.

**4 References to ASTM tests**

In this Schedule, *ASTM*, followed by a number, is a reference to the test so numbered as prescribed by the American Society for Testing and Materials and set out in Section 5 of the *Annual Book of ASTM Standards* (1986 revision) published by the American Society for Testing and Materials at Philadelphia, Pennsylvania in the United States of America.

**ANNEX 4: ACTIVITIES AND TIMELINES FOR AWARENESS AND COMMUNICATIONS BUDGET**

ACTIVITIES AND TIMELINES OF AWARENESS AND COMMUNICATIONS BUDGET								
Activity	Estimated Budget FJ\$	Description	Timelines	Indicators	Source Of Verification	Assumptions	Audience	Potential Partners
<b>PRE-PRODUCTION</b>								
Message Development		Pre-testing of messages will be done through the steering group.	0 – 2 Months		MNRE, SPREP, AFD, UNEP	Used oil message agreed	MNRE. Stakeholders	EPC, PPS, Importers (particularly for sponsorship.
<b>PRODUCTION</b>								
Development of Logo	3,000	Logo design	2 – 4 Months		MNRE, SPREP, AFD, UNEP	Logo design agreed	Public sector, Community Leaders, Schools, Private Sector, Media Community, Individuals,	SPREP, AFD, MNRE, UNEP, EPC, PPS
<b>PRINT MATERIALS</b>								
Fact Sheets	6,000	20,000 copies double sided	4 – 12 Months	Distribution of fact sheets to service stations, automotive centres, etc		Support from Community leaders and schools	Public sector, Community Leaders, Schools, Private Sector, Media Community, Individuals,	Schools, communities, Media
Newspaper Adverts	10,000	Full page spread over 12 months	3 – 12 Months	Regular used oil advert,				
Flyers	6,000	A4 single sided for Posters	6 – 12 Months	Distribution of posters to service stations, automotive centres, etc				

ACTIVITIES AND TIMELINES OF AWARENESS AND COMMUNICATIONS BUDGET								
Activity	Estimated Budget FJ\$	Description	Timelines	Indicators	Source Of Verification	Assumptions	Audience	Potential Partners
<b>MEDIA TIME</b>								
TV Spot Production	20,000	20 x 30 sec ads FJ\$ 1,000 each	6 – 12 Months					
Airing of TV Spot		The airing of spots will be intense and on prime time.	9 – 15 Months			Support from Fiji TV	Public sector, Community Leaders, Schools, Private Sector, Community, Individuals,	Fiji TV, Media
Airing of Radio Spots	10,000	30 sec spots and teasers will be produced and run in combination.					Community Leaders, Schools, Private Sector	
Production of Video	5,0000						Community Leaders, Schools, Private Sector	
<b>OUTDOOR AND PRINT OF SERVICE ADVERTISING</b>								
Banners	10,000	The banners will be placed at various waste oil collection points to indicate collection service available at that centre.	9 -15 Months	Banners available and location agreed.			Public sector, Community Leaders, Private Sector, Community, Individuals,	Service stations, supermarkets,
Pull-up banner	8,000	Pull-up banners to be used during awareness	9 – 15 Months	Awareness w/shops using banners				
Promotional Items	6,000	T-Shirts with Logo	9 Months ongoing	T-Shirts available				
<b>Total</b>	<b>84,000</b>							