Consultation for the GEF-PAS Project on Pacific POPs Release Reduction through Improved Management of Solid and Hazardous Wastes
Nadi, 12 – 14 April 2011

Workshop Papers

Project Logical Framework and Objectively Verifiable Impact Indicators

Project Strategy	Objectively verifiable indicators				
	Indicator	**Baseline**	**Target**	**Sources of verification**	**Risks and Assumptions**
Project Objective To reduce POPs releases in the Pacific Island states through the introduction of integrated whole-system approaches to the environmentally sound management of solid and hazardous wastes					
Component 1 **Development of national and regional uPOPs prevention and management strategy.**	Strategic minimizing of unintentionally generated POPs (uPOPs) emissions through avoidance of incineration, and/or through application of cleaner production techniques, where incineration remains necessary.	No PIC has moved significantly further on their National Implementation Planning to strategically address uPOPs generation Cook Islands, Tuvalu, Samoa, Niue, PNG, Fiji, Marshall Islands and Kiribati highlighted in their NIPs, that the major releases of uPOPs are from waste incineration and uncontrolled combustion	1. Identification of key players in the waste stream to be targeted for outreach and incorporation of sustainable approaches in waste management (general public, municipal and industrial waste generators and management) 2. National solid waste strategic guidance developed on organic waste management. 3. Required elements for attendant regulation and legislation identified for independent uptake by respective governments.	1. AFD TA consultations and PPG country consultations 2. NSWM Strategies developed to include organic waste management 3. "Model" legislation/regulation sent to PICs	1. Key players willing to participate 2. TA to provide technical assistance to PIC 3. Governments have political will for independent uptake of regulation and legislation
Component 2 **Training and awareness raising in solid and hazardous waste**	Increased capacities and uptake of best practices by stakeholders to minimize uPOPs	Limited professional capacity in solid and hazardous waste management in PICs resulting in unnecessary burning of organic waste.	1. Vocational training modules and manuals designed and developed.	Distribution by Fiji National University	1.FNU can find qualified personnel

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management.	creation in the course of solid and hazardous wastes management.	Environment staff have an under-standing and awareness of uPOPs however there is limited awareness on uPOPs from the community level through to the decision maker level in governments. No countries have progressed significantly on implementing the training and awareness action plans in their NIPs. Currently little or no awareness raising of POPs and uPOPs in PICs.	2. Training stakeholders (group of approx 20 public and private sector stakeholders trained every six months, June/July and December over four years), using train-the-trainer method in: Waste management techniques that will reduce the use of open and incomplete burning as a tool of organic waste disposal; Landfill management, using demonstration site (already built) in Suva; And hazardous waste management.. 3. Cadre of certified trained PIC professionals undertaking national training in each PIC, with the support of a regional consultant on the first round. 4. Pilot projects in selected countries. **PNG**, **Cook Islands and Niue:** pilots to promote composting/mulching of organic waste. **Kiribati and PNG:** pilot in improved medical waste system(Cleaner Production) where incineration remains Necessary **Marshall Islands:** pilot to test for and create inventory on	2.Training records; Participant feedback forms 3. Monitoring of participant's 12 month action plan by TA; Training mentor's report for the first return training session in each PIC. 4.Project monitoring and evaluation reports. 5. Monitoring and evaluation by	2. PICs are willing to participate and make staff available for training. 3. PIC staff available and motivated To implement action plan and train other colleagues 4. Countries have sufficient capacity to implement projects.

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			outer islands for PCBs (to be confirmed). 5. Broader awareness campaigns for the public and SMEs on best practices in waste separation, composting etc. Lessons learned and mentoring promoted.	TA	5.Uptake of information used in practice by the public and SMEs
Component 3: **Enhanced, post-NIP Inventory, stockpile management and safe disposal strategy for unwanted pesticides (including POPs) and school laboratory chemicals**	PIC Environment departments capable of: developing and maintaining inventories; managing school chemicals and ordering chemicals responsibly, in appropriate quantities, with a focus on those that can be safely disposed of in-country; managing and safe-guarding disused chemicals (including POPs); and therefore improving the sound chemicals management.	1. PICs currently lack the capacity to manage chemicals soundly. Most PICs have partial inventories completed in the NIP development process, but lack inventories of other hazardous substances. National and provincial Environment and Agriculture staff, as well as Customs staff stationed at borders, and laboratory staff in hospitals and the education system, lack training in the Stockholm Convention, and the safe storage and management of chemicals. These staff also lack access to guidance toolkits and manuals. In most PICs there is no knowledge of which chemicals can be safely neutralized, stabilised and disposed of on-island and of those which require safe-guarding, and export for disposal. In addition, in most PICs ordering of chemicals is completed centrally and is not necessarily demand driven, therefore resulting in the build-up of obsolete and disused chemical stocks.	1. Enhanced inventory exercise and training in inventory development for xxx countries with completed NIPs, to include new POPs, waste school laboratory chemicals, and similar laboratory chemicals in hospital and veterinary laboratories in preparation for disposal exercises. 2. Training of Customs, national and provincial environment staff in the safe storage and management of chemicals in xx countries; 3. Training of environment staff, laboratory technicians and school science teachers in the local disposal of laboratory chemicals in xx countries. 4. Dissemination of awareness and technical guidance toolkits for Customs areas, laboratories (schools, hospitals, veterinary) and other chemical storage	1. Inventories from each lab/department; training records; action plan (which will be included in each PICs' draft guidelines on chemicals management). 2. Training records; trainee/depart-mental action plans. 3. Training records; trainee/depart-mental action plans 4. Technical guidance toolkit used in all training/training records	1. Chemicals are assumed to be labeled and can be accurately inventoried. 2. Staff responsible for chemicals management are available for training. 3. National and provincial staff are identified and available for training. 4. Landfill or burial site available for stabilized chemicals. 5. PIC staff have access to chemical stores and can locate

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			sites for safe management of chemicals to all PICs. 5. Development and implementation of a regional strategy to reduce chemical use and subsequent build up. 6. Design and estimated cost of a regional repackaging, collection, shipping and disposal activity for disused pesticides/POPs and school chemicals, that cannot be disposed of in PICs.	5. Regional strategy document and country reports on chemical imports and stocks. 6. Project design, including cost estimate.	disused chemicals.
Component 4: **Waste oil export and reuse in Polynesia and Melanesia**	Production of unintentionally produced POPs, (uPOPs) through burning of waste oil prevented. Waste oil collection, storage, and export systems established, and used oil from the Pacific region reused in Fiji.	Waste oil disposal is a significant issue in all PICs. The typical waste generation quantities range from around 20,000 litres per year in the smallest countries to several million litres or more per year in the largest. Some of the oil is disposed by open burning or simple incineration, generating uPOPs, and some is dumped. Some countries are also holding significant stockpiles (eg. 1.5 million litres in RMI, >1million in PNG). A few PICs have exported waste oil in the past to Fiji (for use as a furnace fuel in the steel mill), or to other countries but this activity has been sporadic at	1. Development of a strategy on the implementation of extended producer responsibility (EPR) systems for waste oil produced and distributed; 2. Waste oil collection, storage and export system developed and operational for eligible PICs; (Waste oil will be exported to Fiji from Kiribati, Samoa, and	1. Stakeholder workshop reports and a resulting Action Plan within each PIC for developing the agreed regs or voluntary agreements. 2. Collection tanks at key locations in each PIC; storage tanks in use and fitted with	1. Failure to agree on a strategy, and governments reluctant to impose extra costs through regulation (where this is the chosen option) 2. Non-parties (RMI, Palau[1]) cannot export to Fiji under the Waigani Convention, so

[1] Nauru is also not a Party to Waigani but has no current need to export waste oil. RMI and Palau are Parties to the Basel Convention so can export to other countries that are a Party to that convention (which Fiji is not)

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		best and has been inhibited by problems with failing to obtain the necessary documentation required for transboundary waste movements, the use of unacceptable drums or containers, and inadequate funding to meet shipping costs. Power stations are one of the largest producers of waste oil in most PICs, with other significant sources being the servicing of boats and vehicle fleets, especially trucks and buses. There is no organized collection and storage system in most countries, although some importers and suppliers offer a drop-off service. The only exception is Fiji, where a collection system has been developed by the local steel mill, and is currently being expanded across a wide range of waste oil producers. The waste oil collected in Fiji is used as fuel in the steel mill as a substitute for furnace oil. The combustion system in the steel mill was recently upgraded to ensure that any potential release of uPOPs from the burning of the waste oil were minimised.	Vanuatu, while the Cook Islands and Niue will export to New Zealand. Oil collected in PNG will be reused in-country, with export to Australia as a fall-back option). (NB. Other countries will be added once the questionnaire responses have been received) 3. A product stewardship and collection system developed with PNG, Fiji, Samoa, including a voluntary or legislative product stewardship agreement with the lubricant importers; 4. Drafting instructions for extended producer responsibility legislation developed for PICs;	oil/water separators, first trial shipment made and reported for each PIC; Oil Management manuals and Waste Oil Export manual developed and distributed. 3. Permits issued for at least 100 oil users in Fiji; collections under way in PNG & Samoa supported by formal agree-ments with the major importers and users; draft regulation pre-pared in Samoa; site permits reviewed and updated in PNG 4. Case study reports for Fiji, Samoa & PNG distributed to all PICs along with drafting advice based on the	an alternative disposal country will have to be found (eg. Nauru, Aust, Canada, NZ, Singapore). PNG may not need to export if local users can be found. 3. Importers and users will not sign up to the voluntary programme (but will eventually be required to by the permits or regulations). 4. The systems used in the 3 countries may not be relevant to others.

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				regs/permits and voluntary agreements in those countries	
			5. Public education program on waste oil and its collection implemented in nine PICs;	5. Generic info materials distributed to each PIC; local materials produced; programmes implemented, reviewed and reported	5. Programs will not be started until collection and disposal systems are in place.
			6. Environmental audit undertaken of the collection and reuse facility.	6. Audit report submitted; action taken to address any issues; final audit report produced and distributed to all participating PICs.	6. Issues cannot be readily addressed (eg. if too costly)

Outline Work Plans

Component 1 Outline: Development of national and regional uPOPs prevention and management strategy.

What do we know about the national and regional uPOPs prevention and management strategy in the region?

1. PICs involved in this project have completed, or are in the final stages of drafting their National Implementation Plans (NIPs) under the Stockholm Convention. All NIPs contain strategies to address uPOPs emissions.

2. Unnecessary uPOPs releases are common in all PICs through the combustion processes of open and incomplete burning. Cook Islands, Tuvalu, Samoa, Niue, PNG, Fiji, Marshall Islands and Kiribati highlighted in their NIPs, that the major releases of uPOPs are from waste incineration (with fly ash being released into the air) and uncontrolled combustion (through open and uncontrolled burning).

3. While uPOPs emissions occur at the household level, through burning of domestic waste, they also occur at government run facilities such as incinerators. To significantly reduce uPOPs emissions a national-level strategic approach is required to address the issue. Such an approach much be integrated with awareness campaigns to ensure community members, the private sector and government staff understand the danger of, and the need to prevent, uPOPs.

Other observations arising out of the country consultations

The following additional observations were made during the consultation process:

1. No PICs have progressed significantly on national uPOPs management strategies or legislation/regulation.

Proposed approach

This component includes national level work identifying key players, developing national strategic guidance for solid waste management, focusing on organic waste management and incineration, and identifying elements for incorporation into national regulation and policy, for independent uptake by governments. Some key players in the waste stream (Gov, Municipal Gov, waste management professionals) were identified during country consultations and listed to be participants in the vocational and chemical training components.

1. There will be further identification of key players in the waste stream to be targeted for outreach and incorporation of sustainable approaches in waste management (general public, municipal and industrial waste generators and management)

2. The AFD TA will work with government counterparts in participating PICs to develop national strategic guidance to address uPOPs emissions. National strategic guidance documents will be drafted by participating PICs, with technical review and support provided by the TA;

3. The AFD TA will provide a review of existing legislation/regulation relating to uPOPs (using the NIP as a basis for this) and consult with counterparts on potential options for legislative/regulatory review;

4. In consultation with participating PICs, the TA will develop draft "model" legislation/regulations on uPOPs, that may be integrated by government counterparts into PIC legislative frameworks.

Table 1: Draft Work Plan

Component Number and Detail		Timing	Comments
1	Analysis of actual and potential uPOPs activities on the national level, through consultations with key players in the waste stream	Month 12 to 60	AFD TA in consultation with in-country personnel over the life of the project
2	Working with government counterparts in PICs to develop national strategic guidance to address uPOPs	Months 24 to 60	AFD TA to work with PIC personnel
3	Review of existing legislation/regulation relating to uPOPs	Months 24 to 28	AFD TA in consultation with interested PICs, using the NIP as a basis
4	Provision of draft "model" legislation/regulations, that may be used by government counterparts.	Month 28 to 36	AFD TA in consultation with in country personnel

Component 2 Outline: Training and Awareness

What do we know about the training and awareness in solid and hazardous waste management in the region?

1. All PICs share the problem of waste disposal and pollution due to varying degrees of country size, remoteness and rapid urbanisation, yet in many PICs it lacks the attention needed by senior government staff and the community to achieve minimal best practice in solid and hazardous waste management.

2. JICA has provided extensive training in solid waste management over the last 10 years in PICs. It has also has funded several successful demonstration landfill projects in the region which are suitable for inclusion regional training course on landfill management.

3. PICs involved in this project have completed, or are in the final stages of drafting, their National Implementation Plans (NIPs) under the Stockholm Convention. All NIPs contain capacity building and awareness strategies/ implementation plans that have not progressed significantly since being written.

4. There is a need for the development of stronger awareness amongst government, the community and the private sector for an integrated approach to waste management.

5. Unnecessary POPs releases are common in all PICs through the incomplete combustion processes of open and incomplete burning. Cook Islands, Tuvalu, Samoa, Niue, PNG, Fiji, Marshall Islands and Kiribati highlighted in their NIPs, that the major releases of uPOPs are from waste incineration (with fly ash being released into the air) and uncontrolled combustion (through open and uncontrolled burning).

Other observations arising out of the country consultations

The following additional observations were made during the consultation process:

2. Environment departments in PICs have a reasonable level of uPOPs awareness however much more broadly at the community level and in senior decision levels of government there is little awareness. Awareness campaigns need to be sustained over longer periods of time to make awareness of uPOPs continually relevant to the community and decision makers in government.

3. The former Fiji School of Medicine, now the Fiji National University, has confirmed its ability to develop and facilitate vocational training courses and manuals.

4. JICA will also be implementing a regional solid waste program which will include some composting and training activities. They have indicated that they will not be in a position to discuss collaboration until they've decided exactly what they're doing in each country (expected to be 6-12 months' time). According to preliminary project outlines the JICA training will be mainly country driven and based around the waste activities that are being done in each country, so there is no overlap with the GEF-PAS regional vocational training and awareness component. The GEF-PAS project aims to move towards a more institutionalised approach for training and through building the capacity of regional educational institutions enhances the sustainability of training after the project finishes. It may be possible to use further JICA work as field study components of the vocational training further down the track but that will be in 1-2 years' time.

5. JICA will have composting activities in several countries – Kiribati, Marshall Is and Samoa. The GEF-PAS project is specifically considering composting pilots in countries (PNG, Niue and the Cook Islands) where JICA isn't planning any composting work. There will also be the potential for collaboration when the JICA and GEF-PAS pilot results are disseminated more widely 1-2 years into the project.
6. There is a need for the vocational training and awareness raising activities to be adjusted over the life of the project to incorporate the results that will be available from the pilot projects after the first or second year. Inputs from JICA activities could also be incorporated after 1-2 years.
7. There were no changes to the training and awareness priority activities outlined in the NIPs.
8. Broader stakeholder involvement needs to be encouraged in uPOPs training and awareness, namely: government departments, hospitals, private sector importers, waste management professionals, community, NGOs etc.
9. To avoid training for the sake of training, participants in the vocational training courses should be subsequently engaged in in-country training to ensure that their new skills are further refined and utilised. As part of the vocational training all participants could be required to identify a particular in-country issue that they would like to address, and to develop a 12-month action plan for implementation after they return home.

Proposed approach

1. Development of technical training manuals and training of stakeholders (public and private sector), using train-the-trainer methods in: waste management techniques that will reduce the use of open and incomplete burning as a tool of organic waste disposal; landfill management, using a demonstration site (already built) in Suva; and hazardous waste management. These courses will be run every 6months over a 2 year period to increase capacity at educational institutions to continue the courses after the life of the project. Modules will be limited to 8 participants only so PICs will have to prioritize which training they will attend
2. Cadre of certified trained PIC professionals undertaking national training in each PIC, with the support of a consultant on the first round, leading to ongoing project sustainability.
3. Pilot projects in selected PICs to promote composting of organic wastes and cleaner production where incineration remains necessary. To ensure replication potential, lessons learned will be published and PIC to PIC mentoring will be encouraged and facilitated.
4. Broader awareness campaigns for the public, Small and Medium Enterprises, government institutions and schools on best waste management practices to be determined by individual countries. Funds for awareness campaigns will be applied for by PICs through the GEF-PAS PO on an 'as need' basis. PICs with pilot projects will coincide awareness campaigns with relevant pilot activities. Elements of a general awareness campaign will be provided for countries to use and adapt as required for individual PIC needs. Monitoring and evaluation of awareness campaigns will also take place to gauge their effectiveness.

Table 1. Summary of Country Training and Awareness Priorities

Country	Waste Management Techniques that will reduce the use of open and incomplete burning as a tool of organic waste disposal		Landfill Management using demonstration site (already built) in Suva		Hazardous Waste Management		Potential overlap with JICA (J-PRISM) activities	Awareness Priorities
	Priority (1-3)	Names, trainee numbers & preferred training dates	Priority (1-3)	Names, trainee numbers & preferred training dates	Priority (1-3)	Names, trainee numbers & preferred training dates		
Cook Islands								
Fiji		Awaiting response from Fiji		Awaiting response from Fiji		Awaiting response from Fiji	Minimal work, focusing on 3R strategy implementation.	
FSM		Awaiting response from FSM		Awaiting response from FSM			Improvement of waste and recyclables collection for Kosrae; improved waste disposal for all states; improved collection of waste for Pohnpei; Strengthening of Awareness for Kosrae and Yap; and finalizing of National SWM Strategy	Dioxins and Furans from uncontrolled burning; ongoing campaign; education curriculum; theme days; community clean up days; clearing house
Kiribati		Teema Biko, Pollution Control Officer,					Increased composting;	Complement the Min of Works and AMAK (loal

		teemab@environment.gov.ki Mwaingo Enota, Ag. Waste Management Officer, mwaiangoe@environment.gov.ki					awareness raising; and improved solid waste collection.	womens NGO) solar and alternative cooking programs; Hydrocarbon management; travelling workshop to outer islands; application of BAT/BEP;
Marshall Islands		Rod Kubua, Solid waste officer, Local Government		Iokiri MAWC, operations coordinator		Stephen Lepton (RMIEPA) POPs, ODS and Hazardous Waste Officer.	Composting in Majuro; improved solid waste in Ebyeye; and improved recycling in Majuro (including with schools).	Waste minimisation; PCB idenification
Nauru								
Niue						Haden Talage, Research and development officer, Dept of Environment John Hetutu, Env Health Officer, Dept of Health	Training opportunities but no in-country programs	RRR's; translation of awareness materials; uncontrolled burning
Palau							Beverage container deposit fee program (sustainable financing system) enhanced; landfill site is improved; awareness raising and training on 3R.	

PNG		Awaiting response from PNG		Awaiting response from PNG		Awaiting response from PNG	Improving solid waste disposal facility and operation; improving waste collection in Port Moresby; and Increasing capacity of planning and monitoring of Solid Waste Management in Port Moresby (National Capital District: NCDC)	Chemicals awareness in industry, agriculture and municipal hazards
Samoa		Awaiting response from Samoa		Awaiting response from Samoa		Awaiting response from Samoa	Waste Minimization in urban area; landfill management capacity at Tafaigata and Valaata is increased; and training program on semi-aerobic landfill management is developed.	Contaminated areas; health and environmental impacts; translation into Samoan; POP alternatives; legal mechanisms
Solomon Islands		Awaiting response from Sols		Awaiting response from Sols		Awaiting response from Sols	3R activities in Honiara and Gizo; and waste disposal system is improved in Honiara and Gizo.	
Tonga		Awaiting response from Tonga		Awaiting response from Tonga		Awaiting response from Tonga	Solid waste disposal facility and operation in Vava'u improved (Semi-aerobic Method); solid waste collection service in Vava'u is	Healthy vehicle program; agricultural burning; uncontrolled domestic burning recycling/composting;

							improved; base for long-term Solid Waste Management is established in Vava'u	
Tuvalu		Awaiting response from Tuvalu		Awaiting response from Tuvalu		Awaiting response from Tuvalu	Operators and workers is enhanced through training; and community awareness is improved.	
Vanuatu	3	tbp	1	tbp	2	tbp	Waste disposal amounts in the urban and peri-urban areas are reduced through minimization mechanisms; improvement of existing waste disposal sites (Bouffa and Lugaville); and capacities for waste management at the national and local government level are enhanced.	

Table 2: Draft Work Plan

Component Number and Detail		Timing	Comments
1	Proforma issued to PICs for awareness raising campaign requests	Month 1 and 2	GEF-PAS PO to issue
2	Annual action plans for awareness campaigns submitted	Months 5, 17, 29, 41 and 53	GEF-PAS PO to collaborate with PICs
3	Awareness campaigns implemented	Months 6 to 60	PIC personnel, NGOs etc
4	Bi-annual awareness newsletter sent to PICs	Months 12,18, 24, 30, 36, 42, 48 and 54	GEF –PAS PO to compile and distribute (via email)
5	Identification of course developers/trainers/consultant facilitators for first round support, FNU and USP counterparts	Month 5 to 6	Fiji National University (formerly Fiji School of Medicine) to coordinate with AFD TA
6	Vocational training modules and manuals designed and developed	Months 7 to 8	Course developers to collaborate with AFD TA and FNU
7	Vocational training of stakeholders using train-the-trainer method in: waste management techniques that will reduce the use of open and incomplete burning as a tool of organic waste disposal; landfill management, using demonstration site (already built) in Suva; and hazardous waste management.	Month 9, 15, 21 and 27	FNU to facilitate in collaboration with AFD TA
8	Participants to develop 12 month action plans during vocational training to address a waste management issue in their country	Month 9, 15, 21 and 27	Course trainers to facilitate and action plans to be submitted to AFD TA who will follow up at regular intervals to assess the progress of these plans. Successful, activities will be posted on the project website and those involved invited to share their experiences at project workshops.
9	Bi-annual review of the outcomes of the 12 month action plans implemented by returned vocational training participants. This will identify their potential for replication, incorporation into later vocational trainings, and to be presented at regional meeting /workshops	Months 21, 27, 33 and 39	Initial review conducted by GEF-PAS PO and if appropriate further collaboration with PIC personnel, FNU and SPREP
10	Cadre of certified trained PIC professionals undertaking national training in each PIC	Months 10-11, 16-17, 22-23 and 28-29,	Participants in collaboration with in-country personnel. Training mentor returns on the 1st round to support the participants in each country with the facilitation
11	Pilot projects in PNG, Cook Islands and Niue to promote composting of organic wastes. PNG and	Months 2 to 38	Project outlines to be annexxed

	Kiribati to establish minimum standards in HCWM including cleaner production. Marshall Islands to finalise a PCB transformer inventory.		
12	Review of completed pilot projects for potential replication and incorporation into later stages of vocational training. Results published and presented at relevant regional meetings or workshops where PIC to PIC mentoring will be encouraged. (see Pilot Project annex for detail)	(Project timing to be confirmed)	GEF-PAS PO to monitor pilot project progress and if appropriate further collaboration with PIC personnel, FNU and SPREP
13	Review of JICA programme successful outcomes to look for possible incorporation into later stages of vocational training.	Months 12 and 24	Initial review conducted by GEF-PAS PO with JICA and if appropriate further collaboration with FNU and PICs
14	Broader awareness campaigns for the public, SMEs, government institutions and schools on best waste management practices.	Month 15 to 56	Individual PICs with assistance from the GEF-PAS PO to decide on areas of focus and effective campaign mediums and strategy
15	Review for potential course sustainability past the life of the project - through trainings feedback (from participants, trainers and PICs), course costs and USP or other institution's interest to take the lead	Months 15 and 16	AFD TA and GEF-PAS PO in consultation with FNU, USP and PICs

Component 2: Pilot Projects

Papua New Guinea Pilot Project Outline (Option 1): Composting

Background

There is little or no waste separation practiced in PNG and only a limited amount of work has been done on promoting the use of composting to reduce the volumes of green waste sent to landfill. The Department of Environment & Conservation (DEC) has identified composting as a priority area of interest for the GEFPAS project in PNG and wishes to see promotional activities on the benefits to health and the environment. In addition, there would be significant benefits in demonstrating the potential for a green waste collection programme in urban areas such as Port Moresby.

Project Outline

The scope of the pilot project will be demonstration and evaluation of a green waste collection programme in a selected suburb of Port Moresby. This pilot project will be done in parallel with the proposed education and awareness activities on home composting. The project will be led by DEC and the other key project participant will be the National Capital District Council, which is responsible for waste collection and disposal in Port Moresby. A Technical Assistant will be required to support the work within DEC, with this position being shared across the waste oil and composting project activities, and extending over a period of 3 years (to ensure that the later follow-up activities are adequately supported by DEC).

The proposed target group for the pilot is the suburb of Rainbow, which is close to the campus of the University of Papua New Guinea (UPNG). The proximity to the campus will make it easier to utilise students, who will be recruited to carry out much of the on-the-ground dissemination of information and data gathering. In addition, UPNG staff will be invited to participate in the project as technical advisors, and will also assist with the analysis and reporting of the results.

The project will be based around approximately 100 households and will run for a period of about 3 months during the wet season (November to April), which is the peak time for green waste generation. Each household will be provided with a green-waste collection bag, made of hessian or an equivalent synthetic fabric, with a capacity of 250 to 500 litres. After training, the students will provide the householders with one-on-one instruction in the use of the bags, and the contents of the bags will be collected once every 2 weeks. The volumes of green waste collected each fortnight will be estimated, and the wastes will be assessed for the extent of contamination by unwanted materials, such as plastics. The wastes will be delivered to a site occupied by the company PNG Gardener. The company has agreed to accept and process the waste into a compost/mulch product. There will be no charge for the processing, but the company will be free to use the product in its own garden maintenance activities, or to sell it to the public.

The results from the collection programme will be assessed to determine the potential volumes of green waste available in Port Moresby, the cost and logistics of collection, the cost of compost production, and the most appropriate strategies for minimising contamination. A survey will also be carried out to determine the potential size of the market for the product.

A local consultant will be engaged to work with the NCDC to develop a strategy and costed work plan for setting up a regular green waste collection programme in all, or parts, of Port Moresby. The project will maintain contact with NCDC, including providing technical advice where necessary,

to ensure that the agreed programme is developed. The programme would most likely be operated by a company contracted to NCDC, which may or may not be PNG Gardener.

The results from the project will be presented at a national workshop and will also be detailed in a formal written report. In addition, DEC will have follow-up discussions with other councils who may be interested in replicating the work and will assist them, where possible, with setting up their own studies. Wider dissemination of the study will be achieved with the assistance of SPREP, and would include incorporation of a case study in the later stages of the AFD vocational training programme, and presentations at any relevant regional meetings or workshops.

Co-Funding Estimates

DEC: management time, office space and admin support, USD10,000 per year for 5 years
NCDC: staff time, USD5,000 per year for 3 years
PNG Gardener: management time, waste composting, USD10,000
UPNG: technical support, USD5,000 spread over 2 years
Total: 30,000 + 15,000 + 10,000 + 5,000 = USD60,000

Indicative Work Plan and Timing

1. Recruit project Technical Assistant (month 1)
2. Establish Technical Advisory Committee, including participants from DEC, NCDC, UPNG and PNG Gardener. Confirm commitment and inputs to the project by all parties (month 1)
3. Purchase green-waste bags and prepare instruction sheets, publicity materials and data record sheets (month 2 & 3)
4. Recruit students and provide training (month 4)
5. Arrange for vehicle hire (one day per fortnight), including a driver and 2 labourers for waste collection (month 4)
6. Distribute bags to target households and provide instruction in their use (month 5)
7. Fortnightly collections begin soon after bag distribution, with waste delivered to PNG Gardner for composting (month 5 or 6).
8. Students estimate waste volumes during each collection exercise, carry out a qualitative estimate of the extent and type of contamination and provide feedback to householders when necessary (months 5/6 to 8).
9. Data/info analysis and reporting with input from UPNG staff and economic assessment by a local consultant (months 9 and 10)
10. Consultant works with NCDC to develop a strategy and costed work plan for setting up a regular green waste collection programme (months 10 and 11)
11. National workshop (month 12)
12. Case study write up and publication (months 13 to 15)
13. Other dissemination activities: discussions with other councils who may be interested in replicating the work; incorporation of a case study in the later stages of the AFD vocational training programme, and presentations at any relevant regional meetings or workshops; development (by or through SPREP) of a regional organic waste strategy and an organic waste handbook (months 22 onwards).

Cook Islands Pilot Project Outline: Composting

Background

Composting and mulching of green waste is already well established in Rarotonga at the household level. There is also one community-scale composting operation, but this is in a very early stage of development. Significant amounts of green waste are sent to the landfill, and the household burning of green wastes has been identified as one of the more significant sources of releases of unintentional POPs.

This project will be based around the existing community-scale composting operation, which is run by the Titikaveka Growers Association (TGA). The current composting operation is very rudimentary and simply involves the shredding and chipping of green waste, mixing it into piles with other wastes, and leaving it to digest. However, TGA see this as only a first step and wish to develop it into a proper composting operation but currently lack the necessary financial resources and technical expertise

TGA has existed for many years as an informal association of the growers living in and around Titikaveka village. However, in the last few years they have adopted a business mode of operation, including establishing an association office and operating to a formal business plan. They already have a viable processing operation for Noni Juice and a fish hatchery. The plans for the compost operation are linked with a nursery, which will provide a consistent supply of seedlings to the growers. Compost is available at no charge to all growers and other members of the public.

Project Outline

The aim of the pilot project will be to develop the current TGA activity into a full-scale composting operation. In the first instance the project will provide expert assessment of the existing operation and advice on the changes necessary to achieve effective and efficient compost production. Once the recommended changes are implemented the project will monitor the quantities of green waste input and compost production, and trials will also be carried out on the most appropriate mixes of raw materials. The trails will include process monitoring using a temperature probe, simple physical and chemical tests for product quality, and growing trials.

In parallel with the above, a green waste diversion operation will be set up at the landfill, with the assistance of the Ministry of Infrastructure and Planning (MOIP). In the first instance only a limited amount of green waste will be separated out from the general waste stream, in accordance with the quantities required by the TGA composting operation. However, the quantities will be gradually increased over time as TGA increases their capacity for processing more wastes, and as demand for the product increases.

Once the project has been operating routinely for 12 months, the data on waste inputs and compost production will be reviewed, along with estimates of production costs and market demand (based on a survey), to develop an overall strategy for maintaining the operation as a viable business.

The pilot project will be managed directly by the TGA office, although a monitoring and reporting mechanism will be set up through the National Environment Service (NES). TGA currently operates with a mixture of voluntary and paid staff, and it will be appropriate for an additional paid

Project Officer position to be established under the pilot project. The project will also need to contribute towards some labour costs.

The results from this pilot project will be disseminated jointly with those from PNG, through incorporation of a case study in the later stages of the AFD vocational training programme, and presentations at any relevant regional meetings or workshops. The results will also be used in the production of a regional organic waste strategy, and an organic waste handbook.

Co-Funding Estimates

NES: management time and admin support, USD5,000 per year for 3 years
TGA: management time, office and computing facilities, provision of processing equipment, labour for compost production, USD20,000 per year for 3 years
MOIP: management time, and support for green waste diversion from landfill, USD5,000 per year
Total: 15,000 + 60,000 + 15,000 = USD90,000

Indicative Work Plan and Timing

1. Recruit Project Officer and establish a project Liaison Committee involving TGA, NES and MOIP (month 1)
2. Consultant assessment of the existing operation, staff training, and recommendations for process improvements, project trials and monitoring (month 2)
3. Purchase temperature probe and other basic test equipment (month 3)
4. Implement process improvements and commence composting trials (month 3 to 6)
5. Commence green waste diversion programme at the landfill to the extent dictated by TGA capacity (month 7)
6. Continue routine composting operations and start data collection and processing (months 7 to 18)
7. Promote the availability of compost through local media and monitor changes in demand (months 10 to 18)
8. Carry out a market survey (willingness to pay and demand for product), production cost analysis, and production capability assessment (waste availability versus processing capacity) (month 18)
9. Expert assistance to prepare a business analysis and recommendations for maintaining the operation as a viable business (month 19)
10. Implement business plan and monitor progress at 6-monthly intervals (months 20 onwards)
11. Case study write up and publication (months 21 and 22)
12. Other dissemination activities: incorporation of a case study in the later stages of the AFD vocational training programme, and presentations at any relevant regional meetings or workshops, development (by or through SPREP) of a regional organic waste strategy and an organic waste handbook (months 22 onwards)

Papua New Guinea Pilot Project Outline (Option 2): Healthcare Waste Management (HCWM)

Background

Healthcare waste is not well managed in PNG, mainly because hospitals do not have, or do not allocate, the necessary funds to ensure that it is done properly. Waste disposal is not regarded as an integral part of the delivery of health care services. Most hospitals have incinerators but most are either not operating or in a very poor state of repair. Another problem is the lack of funds to pay for the required fuel. And where incinerators are still in use, the staff need training in correct operation practices.

There is an unused incinerator in Port Moresby that has never been commissioned due to the lack of funding and/or commitment. It appears to have been available for many years. WHO have previously run programmes on proper healthcare waste management, but the MoH believe that the recommended practices are not being followed in most hospitals. The MoH has been developing a healthcare waste management policy over the last few years, but it has not yet been adopted. Even when it's in place, it will only be effective if it is properly implemented and enforced. Hospitals are relatively autonomous when it comes to budgeting and operational matters, so would need to be persuaded to adhere to it.

Project Outline

The work will aim to achieve **minimum** standards of healthcare waste management at all hospitals in PNG. The minimum standard is separation of all wastes at source into those that need special treatment and those that don't, with the former being treated either by controlled burning or by disinfection with chlorine bleach. Where working incinerators are available, staff will be trained in the correct operation, within the working limitations of the equipment.

A technical assessment will be carried out on the unused incinerator in Port Moresby, and on four working incinerators in Port Moresby and other main centres, such as Lae. In addition key decision makers will be invited to attend a regional workshop on healthcare waste management

Co-Funding Estimates

DEC: management time, and admin support, USD6,000 per year for 3 years
MoH: management and staff time, USD10,000 per year for 3 years
Hospitals: staff time for participation in workshops and implementation of agreed action plans, USD5,000 per hospital (assume implementation in at least 10 of these)
Total: 18,000 + 30,000 + 50,000 = USD75,000

Indicative Work Plan

1. Key decision makers from MoH and at least four of the main hospitals to attend a regional workshop on HCWM.
2. Technical expert to carry out an assessment of the unused incinerator, including the cost of installation and commissioning, and of four other working incinerators. Report to be submitted to MoH, WHO and potential donors, with follow-up by SPREP/GEFPAS project.
3. National workshop in HCWM for staff from all PNG hospitals, with a focus on minimum management and operating standards, and the development of a site-specific action plan by each participant (the workshop would be delivered by the same technical expert).

4. Project to provide on-going support for action plan implementation, say over 12-24 months, including the provision of colour-coded containers to assist waste segregation, and resource materials (posters, training materials) to assist in spreading the message within each hospital.

5. Repeat visit by technical expert to review project outcomes, followed by dissemination of the findings (by SPREP/GEFPAS) in conjunction with those from parallel work in other countries.

Kiribati Pilot Project Outline: Cleaner Production (HCWM)

Background

Healthcare waste is not well managed in Kiribati, mainly because the hospital in Tarawa (Nawerewere hospital) has not prioritised the issue and allocated necessary resources to address it. Waste disposal is not currently regarded as an integral part of the delivery of health care services and the staff need training in correct practices. There is a health care waste management committee but it has not been very effective in acting on the recommendations from several reports. There are serious OH&S issues with how the waste is stored, transported and handled by hospital staff, and there is a growing stockpile of (out of date) pharmaceuticals that require incineration. Excess medical waste is being burnt in the open on the beach because of the limited capacity of the existing incinerator.

The Ministry of Environment and Land, Agriculture and Development (MELAD) and the Ministry of Health (MoH) have identified the need for cleaner production techniques to be implemented at the hospital as a priority area of interest for the GEFPAS project through concern about the wider public and environmental health implications. In addition, there would be significant benefits in using the cleaner production techniques and training materials generated from this pilot project in other PICs that also need to improve their management of healthcare wastes.

Project Outline

The work will aim to achieve minimum standards of healthcare waste management at Nawerewere hospital through the demonstration and evaluation of cleaner production techniques. The minimum standard will be the separation of all wastes at source into those that need special treatment and those that don't, with the flow on effect of reducing the unnecessary incineration load. An incinerator operator will be employed and along with other relevant staff will be trained appropriately. This pilot project will complement the vocational training module on the waste management techniques that reduce the need for burning. Vocational training participants will return to Kiribati and provide further training for hospital staff, and there is also the potential for incorporation of the pilot into later vocational training.

The project will be led by MoH which is responsible for the running of the hospital and the other key project participant will be MELAD. A local Technical Assistant will be required to support the work within the MoH, with this position being shared with other awareness raising project activities at MELAD. A training consultant will be initially engaged to work with the TA, MoH and MELAD to develop a costed work plan for HCWM and provide training and training materials.

Taiwan has already committed money to purchase and install a new incinerator at the hospital to be a backup in case the existing incinerator temporarily breaks down. WHO has committed funds to purchasing safety equipment (gloves, boots and appropriate clothing) for the staff handling hazardous wastes and coloured-coded wheelie bins to allow for waste separation at the various generation points within the hospital. GEF-PAS funding will complement these contributions by providing training to staff in waste separation, establishing a HCWM system (including revising staff ToRs as needed) and employing and training a full-time incinerator operator.

There will be two target groups for the pilot. Firstly, all hospital staff must be trained in, and made aware of the need for, proper waste separation at source. The second group, who will receive more intensive training in all aspects of healthcare waste management, are the staff directly involved in medical waste collection and disposal, ie. the proposed incinerator operator, the orderlies who

produce and transport the waste to the incinerator and the Health inspectors who oversee and monitor its operation. The project will run for a period of 24 months to allow time for the bugs to be ironed out after the initial setup and to assist the MoH with operating costs.

Monthly monitoring will be jointly undertaken by MELAD and MoH for the first 6 months, with reporting to the Secretary of Health. An audit by MELAD will also be done 12 months into the project and reported to the Secretary of Health and the AFD TA.

The results from the project will be assessed to determine the annual costs for the maintenance of the HCWM system and will be presented to the MoH. To ensure project sustainability the project will assist the MoH with the HCWM budget over a 2 year period with a staged decrease in support as follows: 1st year (set up costs, incinerator operator, training and equipment), 2nd year (75% of incinerator operator salary). Budget support for the second year will be tied to the audit conducted by MELAD.

The wider replication potential of the pilot project will be promoted with the project results and lessons learned being published and presented in regional workshops/meetings, as well as being incorporated into later vocational training.

Indicative Work Plan and Timing

1. Recruit project Technical Assistant (month 1)
2. Establish a Coordinating Committee, including participants from MELAD and MoH. Confirm commitment and inputs to the project by all parties (month 1)
3. Purchase safety clothing/ equipment, coloured wheelie bins (month 2 & 3)
4. Recruit incinerator operator and consultant, produce HCWM training materials and provide training (month 2 & 3)
5. Begin burning stockpile of pharmaceuticals using the newly purchased Taiwan incinerator (month 3 & 4).
6. Project TA to monitor on a monthly basis and provide reports to the Secretary of Health (months 3 to 9)
7. Audit conducted and report given to Secretary of Health, including any necessary corrective actions taken (month 12).
8. Wider replication of training materials and final report through SPREP to other countries with healthcare waste incineration issues. (month 13)
9. Payment to MoH of HCWM budget - 75% of second year incinerator operator salary after audit (month 15)

Niue Pilot Project Outline: Composting

Background

There is very little waste recycling practiced in Niue with only intermittent aluminium can recycling and some backyard composting. Previous awareness campaigns have focussed on the separation of green waste and food scraps at the household level to be used for home composting. These campaigns have had little success particularly in the capital Alofi, due to the perception that it is a 'rural' practice. Currently green garden waste is burnt in many backyards because it is not collected as part of the weekly rubbish collection and the uptake of home composting has been minimal. Regular household waste is also not separated for recycling and goes to an open dump sight. Previous awareness campaigns targeted at schools were successful in getting people to separate recyclable waste at the household level; however no infrastructure or systems have been created to ensure that the recyclable wastes are kept separate from regular wastes. The dump site is illegally set alight several times a year by unidentified persons, causing the unnecessary creation of uPOPs. There would be significant benefits in demonstrating the potential for a green waste collection and waste sorting/separation throughout the entire island to reduce uPOPs through the reduction in open burning. The Department of Environment (DEn) has identified composting and waste separation for recycling as priority areas of interest for the GEFPAS project in Niue.

Project Outline

The scope of the pilot project covers the demonstration and evaluation of recyclable waste collection in Niue. The project will consist of two separate components sharing some resources and equipment. The first will be the demonstration and evaluation of a green garden waste collection programme in the north of the island. The second component consists of the demonstration and evaluation of recyclable waste separation at the household and waste facility level in the south of the island. The project will be led by the DEn which is responsible for waste collection and disposal in Niue. The other key project participants will be the waste collection contractor, the Sustainable Land Management farm (SLM) which has facilities and staff to turn the waste into compost, and the Department of Agriculture Forestry and Fisheries (DAFF) which supplies equipment (shredders) to the SLM.

The first proposed target group for the green waste collection/compost component are the residents in the north of the island (approximately 200 households in Mutalau, Hikutake, Toi village, Lapeka, Namakulu and Tuapa villages), which are situated in close proximity to the SLM farm in the north of the island. The proximity of the farm to the regular northern rubbish collection run on Thursdays will make it easier for the waste collection contractor to pick up and dump the green waste at the SLM farm on his regular route. A modified trailer will be towed behind the regular waste collection truck to keep the green waste separated. The collection of the green waste data will be carried out by the staff at the SLM farm with regard to the quantities of green waste collected on a weekly basis. SLM will also carry out much of the on-the-ground dissemination of information and data gathering from participating households/villages with the assistance of the DEn. In addition, the DEn staff will also assist with the analysis and reporting of the results.

Each household will be provided with a green-waste collection bag, made of hessian or an equivalent synthetic fabric, with a capacity of 250 to 500 litres. After training, staff from DEn and the SLM will provide the householders with one-on-one instruction in the use of the bags. The wastes will be assessed by SLM staff for the extent of contamination by unwanted materials, such

as plastics. SLM will accept the green waste and process with pig manure from the piggery next door into a compost/mulch product. There will be no charge for the processing, but SLM will be free to use the product for its own farming activities, or to sell it to the public.

The results from the collection programme will be assessed to determine the potential volumes of green waste available in Niue, the cost and logistics of collection, the cost of compost production, and the most appropriate strategies for minimising contamination. To assess the dioxins and furans reduction over the life of the project the total quantities of green waste collected will be estimated, and the dioxin releases calculated using the UNEP Toolkit, and compared to the previous release estimate given in the NIP. Based on the results of the pilot survey the DEn can replicate a strategy for the setting up of a green waste collection programme in the south of Niue with another processing station established in that area.

The second proposed target group for the collection and separation of recyclable waste components are the residents in the south of the island (approximately 200 households in Alofi and Houma, Tamakautoga, Avatele, Hakupa and liku villages). They have been targeted due to their proximity to the proposed waste transfer station in Avatele, making it easier and more cost effective for the waste collection contractor to pick up and deliver the recyclable waste to the transfer station on his regular Tuesday and Wednesday rubbish collection routes. The same modified trailer used on Thursdays in the first component will be used for the collection of recyclable waste in component 2.

Each household will be provided with a plastic bin with a capacity of 100 to 200 litres. After training, staff from DEn will provide village level instruction in the appropriate separation of recyclables to be placed in the bin for collection. The wastes will be assessed by the waste separation staff for the extent of contamination by unwanted materials, such as non-recyclable plastics. Feedback from the waste separation staff will be sought and provided to the DEn and incorporated into the continuous awareness campaign (schools, radio, signs etc).

The results from the collection programme will be assessed to determine the potential volumes of recyclable waste available in Niue and the cost and logistics of collection.

The outcomes from the project will be presented at a national workshop and will also be detailed in a formal written report. Wider dissemination of the study will be achieved with the assistance of SPREP, and will result in the incorporation of a case study in the later stages of the AFD vocational training programme, and presentations at any relevant regional meetings or workshops.

Indicative Work Plan and Timing

1. Establish Coordinating Committee, including participants from DEn, DAFF, SLM and waste collection contractor. Confirm commitment and inputs to the project by all parties (month 1)
2. Recruit composting consultant and waste separation staff (month 1 and 2)
3. Purchase second-hand trailer and modify by adding a cage, purchase green-waste bags, plastic bins and prepare instruction sheets, publicity materials and data record sheets (month 2 & 3)
4. provide training to SLM, waste collection contractor, waste separator staff and DEn staff (month 3)

5. Distribute bags and bins to target households/village and provide instruction in their use (month 3 and 4)
6. Weekly collections begin soon after bag/bin distribution, with green waste delivered to SLM for composting and recyclable waste delivered to the transfer station (month 4).
7. SLM and waste separators estimate waste volumes during each waste drop off, carry out a qualitative estimate of the extent and type of contamination and provide feedback to householders/villages when necessary (months 4 to 10).
8. Data/info analysis, reporting and economic assessment, and calculation of equivalent dioxin and furan reductions with SLM and DEn staff (months 10 and 11)
9. DEn works with waste collection contractor to develop a strategy and costed work plan for setting up a regular green waste collection programme in the south and recyclable waste collection in the north (months 11 and 12)
10. National workshop (month 13)
11. Case study write up and publication (months 14 to 15)
12. Other dissemination activities: incorporation of a case study in the later stages of the AFD vocational training programme, and presentations at any relevant regional meetings or workshops. (months 16 to 36)

Marshall Islands Pilot Project Outline: Testing and identification of PCBs

Background

In 1994 the US Environmental Protection Agency undertook a clean-up of PCB transformers in the Marshall Islands. Oil from the transformers was analyzed for PCB content and the contaminated oils were removed from the Marshall Islands, along with contaminated soils. The empty transformer cases were crushed and buried in a concrete-lined pit on Majuro.

This exercise was mainly directed at the older out-of-use transformers, and other in-use equipment was left in place. Two large transformers containing PCBs were later removed in 2006 as part of an AusAID/SPREP disposal project for persistent organic pollutants. Additional testing, as part of the POPs project, has shown that there are up to 50 smaller transformers, potentially contaminated with PCBs on the island of Ebeye. In addition, there are unknown numbers of transformers on the outer islands which have yet to be tested for PCBs. Further action is required to finalise a PCB transformer inventory for the Marshall Islands, followed by development and implementation of a programme for removal and disposal.

Some work has been carried out for the identification of small capacitors and other electrical equipment that contain PCBs however there are no systems in place for the environmentally sound management of this type of equipment, and a complete absence of suitable disposal facilities. It is therefore proposed that a system be developed for identifying and managing PCBs in small capacitors and other equipment as they arise, and that this should include placement into safe storage, and ultimate disposal.

Project Outline

The scope of the project will be to identify all current holdings of PCBs in transformers, small capacitors and other electrical equipment in the Marshall Islands. The project will be led by the Republic of the Marshall Islands Environmental Protection Authority (RMIEPA) which is the oversight authority for waste management. Other key project participants will be the Marshall Islands Energy Company (MEC), the National Coordinating Committee (NCC), and the Ministry of Public Works (MOPW) which is mandated maintenance of the Government infrastructure, and electrical contractors.

RMIEPA has identified the need for the testing and labelling of the remaining transformers suspected of containing PCBs as a priority area of interest for the GEFPAS project. RMIEPA staff will first identify all transformers in the Marshall Islands not yet tested and labelled for PCBs including transformers on the outer islands. A consultant will then be recruited and will conduct training sessions for management and technical personnel in government and the private sector, on the identification, testing, removal and storage of PCBs in electrical equipment. This will include training in the different approaches for disused and offline transformers, online transformers, capacitors and other PCB containing equipment, along with the provision of resource materials and guidance documents. The consultant will also set up a system to ensure that all PCBs are reported, documented, removed and safely stored, including training on how to use the system.

Once trained RMIEPA staff will travel to one site to undertake transformer testing, with the consultant present to oversee the work. Samples of oil will be taken from those transformers that show positive results with the field test kits, and wil be sent overseas for laboratory analysis. The results will be sent off and then be sent back to the RMIEPA who will be in charge of labelling the

transformers. All testing results will be written up into a formal PCB transformer inventory that can be used when a disposal programme is developed by the GEF PO.

Awareness raising activities can also be incorporated as part of the awareness raising campaign in component 2.

The results from the project will be presented at a national workshop and will also be detailed in a formal written report

Indicative Work Plan and Timing
Part 1

1. Establish Coordinating Committee, including participants from RMIEPA, NCC, MEC and DOPW. Confirm commitment and inputs to the project by all parties (month 1)
2. RMIEPA staff travel to outer islands and identify unlabelled transformers (month 1)
3. Draft ToR and recruit international consultant to conduct training in PCB identification, testing and management (months 2 and 3)
4. Purchase of field test kits, other sampling equipment, protective clothing and other necessary supplies , storage containers and safety equipment for all personnel involved in handling of PCBs (months 2 and 3)
5. Consultant travels with RMIEPA staff to outer islands to conduct training in the testing of PCBs in transformers (month 4)
6. Consultant returns to Majuro to continue training sessions for management and technical personnel in govt and private sector on identification, removal and storage of PCBs in electrical equipment, including provision of resource materials and guidance document. (month 4)
7. Provide samples from field positive units to overseas lab for analysis (month 5)
8. Write up all field and lab test results into a formal transformer PCB inventory (month 6)

Component 3 Outline: Chemicals

What do we know about capacity for chemicals stockpile management and disposal strategies in the region?

1. PICs involved in this project have completed, or are in the final stages of drafting their National Implementation Plans (NIPs) under the Stockholm Convention. All NIPs contain at least a preliminary inventory of POPs, and many also contain partial inventories of other chemicals.

2. All PICs, with the exception of Palau and PNG, were involved in the Australian Government funded Persistent Organic Pollutants in Pacific Island Countries (POPs in PICs) Project, which safe-guarded and collected in excess of 100 tonnes of POPs and disused pesticides and disposed of the material in Australia. It should be noted that Palau was part of the initial stages, including the inventory development phase of POPs in PICs, but was not included in the clean-up. As it was not a signatory to the Basel or Waigani Conventions, hazardous waste could not be shipped to Australia. As such, an inventory was developed, but the chemicals were not collected.

3. POPs and obsolete pesticides stockpiles were significantly diminished through the POPs in PICs project. The project did include a small capacity building component in its initial stage, with training courses in chemical management being delivered in all of the PICs in 2000. However, the benefits of that training will have diminished over time, and further opportunities for learning by PICs Environment and Agriculture officers were limited in the later collection and disposal phase of the project.

4. Due to funding constraints, the GEFPAS project will not be able to remove stockpiles that were not addressed by POPs in PICs, or have been accumulated subsequent to the completion of POPs in PICs.

5. While many PICs have an adequate knowledge of Occupational, Safety and Health principles, most do not have adequate personal protective equipment (PPE). As such, PPE will be provided as part of this project.

6. The facilities in most PICs for storage of in-use chemicals are rudimentary, at best, and most lack the dedicated facilities required for secure storage or disposal of unwanted stocks. In addition, there are no national strategies or procedures for the storage and disposal of unwanted chemicals, with environment agencies often being seen as the default repository.

Other observations arising out of the country consultations

The following additional observations were made during the consultation process:

1. As part of its SAICM QS project, Samoa has developed a plan for the preparation of a national inventory of chemicals, but currently lacks the necessary staff resources to ensure that this is developed in a timely manner.

2. Other countries (PNG and the Cook Islands) are hoping to receive funding for similar SAICM projects, which raises the potential for the training courses to be designed and delivered in a way that will complement these other national activities.

3. The environment agencies in both Fiji and Samoa receive regular phone calls from schools and other labs asking for assistance with chemical disposal, but have been unable to

identify any suitable disposal options. Similarly, the National Environment Service (NES) in Rarotonga accumulated a significant stockpile of unwanted chemicals that it had previously accepted from a variety of different sources, including laboratories.

4. In PNG, there is technical capacity within institutes and industry to facilitate the chemical training, which is to be considered for in kind contribution. For example, UPNG is currently developing a waste management undergraduate degree course and could be a location for future vocational trainings, while UNITEC in Lae already includes a chemical risk management paper in some of their courses. As such training will be extended to key personnel from these institutes to build capacity to enable these personnel to undertake similar training.
5. NB: information still being collected from other country surveys

Observations from consultations with international agencies

1. According to the Green Customs Initiative (GCI), the PIC network meeting of Ozone Officers will be organized during the same time as the Green Customs workshop, 23-25 May in Nadi, Fiji. Following these two meetings, the GCI are planning a joint Customs and Ozone officer meeting for two days during 26-27 May 2011. At this meeting one Customs officer from each PIC will attend, but countries can send additional participants at their own cost. Fiji has indicated it will send an additional 10 Customs officers.

Proposed approach

1. As opposed to cleaning up chemicals, this component will instead be focused on building the capacity of PIC government staff, from central and provincial government levels, to ensure capabilities exist in each PIC to develop inventories (and keep good records in respective departments), manage and safe-guard stockpiles of chemicals, and safely dispose of those chemicals that can be disposed of in country.
2. Targeted training will therefore be undertaken in each PIC in: inventory development (for environment staff, and other departments managing stocks of chemicals); safe storage and management (for Customs staff); and in the safe disposal of laboratory chemicals, and local disposal of phosphides (for laboratory technicians, school science teachers, and environment staff). To ensure efficiency in project interventions, and synergy in approaches, the aforementioned three in-country training sessions will be held over consecutive weeks. A strategy session will be held prior to this with representatives of the national coordinating committee (NCC) to discuss key national issues in chemicals management including: who should take the lead on receiving, storing and disposing of unwanted chemicals. The outcomes of the strategy session, entitled draft guideline on chemicals management in (PIC), will be distributed to each training participant and discussed during the training.
3. An integrated technical guidance tool kit will be developed and disseminated to all trainees.
4. After the three training sessions have been completed, a follow up strategy session will be convened with the NCC. The aim of the session will be to finalise the draft guideline on chemicals management in (PIC), including a list of who is going to dispose of what after the workshop. The document will also include a list of changes to be made, or investigated, within labs to reduce waste production.

5. The GEFPAS PO will follow-up with the national focal point and the NCC by email and in later country visits, to monitor the progress of guideline implementation. The GEFPAS PO will also provide technical support where necessary.
6. Laboratories, government agencies and any private sector organisations mentioned in the guidelines will be required to document their activities and write up recommended procedures for on-going use and/or future reference. This will lead to the development of in-house manuals, and will also be shared with other PICs, to provide opportunities for peer-to-peer learning.
7. In an effort to prevent future build-up of obsolete and waste chemicals that cannot be disposed of in-country, a regional strategy will be developed with the aim of reducing chemicals use and using necessary chemicals more efficiently to reduce subsequent build up. The GEF-PAS PO will lead the development of this regional strategy, in consultation with national focal points and SPREP. The regional strategy will also include an analysis of the laws and regulations within each country that can be used (or should be developed) to ensure individuals take responsibility for their own wastes. To ensure efficiency the GEFPAS PO will be informed by the EPR work for waste oil, and initial information gathering will be completed by the deliverer of the training course.
8. In addition, to facilitate further work, a costed regional repackaging and disposal activity for disused school, laboratory and remaining POPs and other chemicals will be developed.

Project Outline

An indicative project outline is shown in Table 2

Table 1: Summary of Country training priorities

Country	Inventory development (for environment staff, and other departments managing stocks of chemicals		Safe storage and management (Customs staff)		Safe disposal of laboratory chemicals, and local disposal of chemicals (for laboratory technicians, school science teachers, and environment staff		Potential overlap with JICA (J-PRISM) activities	Other information
	Priority (1-3)	Names and/or estimated trainee numbers	Priority (1-3)	Names and/or estimated trainee numbers	Priority (1-3)	Names and/or estimated trainee numbers		
Cook Islands								Awaiting response from Cooks
Fiji		Awaiting response from Fiji		Assumed this will be low priority. 14 Customs officers to be trained under GCI activity in May 2011.		Awaiting response from Fiji	Minimal work, focusing on 3R strategy implementation.	Fiji environment department seriously under-resourced. Little or no time available for project work, or for monitoring and enforcement of the permits.
FSM		Awaiting response from FSM		Awaiting response from FSM		Improvement of waste and recyclables collection for Kosrae; improved waste disposal for all states; improved collection of waste for Pohnpei; Strengthening of Awareness for Kosrae and Yap; and finalizing of National SWM Strategy		

Kiribati		Teema Biko, Pollution Control Officer, teemab@environment.gov.ki Noketi Karoua, Assistant Pollution Control Officer, noketik@environment.gov.ki Mwaingo Enota, Ag. Waste Management Officer, mwaiangoe@environment.gov.ki					Increased composting; awareness raising; and improved solid waste collection.	
Marshall Islands		Stephen Lepton Hazardous waste officer, EPA Douglas Tiperake, lab technician, EPA			3	No, and they are not expected.	Composting in Majuro; improved solid waste in Ebyeye; and improved recycling in Majuro (including with schools).	
Nauru								
Niue		Huggard Tongatule Environmental Officer, Dept of Environment			2	John Hetutu - Env Health Offcier john.hatutu@mail.gov.nu Sionelaki Tuineau – environmental health officer		
Palau							Beverage container deposit fee program (sustainable financing system) enhanced; landfill site is improved; awareness raising and training on 3R.	
PNG		Awaiting response from PNG	1	Awaiting response from PNG		Awaiting response from PNG	Improving solid waste disposal facility and operation; improving waste collection in	Ray Paul (paulr@customs.gov.pg) from Corporate services, who has responsibility for

							Port Moresby; and Increasing capacity of planning and monitoring of Solid Waste Management in Port Moresby (National Capital District: NCDC)	training at Customs, committed to provide 50% of training costs for their staff
Samoa		Awaiting response from Samoa		Awaiting response from Samoa		Awaiting response from Samoa	Waste Minimization in urban area; landfill management capacity at Tafaigata and Valaata is increased; and training program on semi-aerobic landfill management is developed.	
Solomon Islands		Awaiting response from Sols		Awaiting response from Sols		Awaiting response from Sols	3R activities in Honiara and Gizo; and waste disposal system is improved in Honiara and Gizo.	
Tonga		Awaiting response from Tonga		Awaiting response from Tonga		Awaiting response from Tonga	Solid waste disposal facility and operation in Vava'u improved (Semi-aerobic Method); solid waste collection service in Vava'u is improved; base for long-term Solid Waste Management is established in Vava'u	
Tuvalu		Awaiting response from Tuvalu		Awaiting response from Tuvalu		Awaiting response from Tuvalu	Operators and workers is enhanced through training; and community awareness is improved.	

Vanuatu	3	tbp	1	tbp	2	Tbp	Waste disposal amounts in the urban and peri-urban areas are reduced through minimization mechanisms; improvement of existing waste disposal sites (Bouffa and Lugaville); and capacities for waste management at the national and local government level are enhanced.	

(Note: Palau is not a Party to Stockholm so is currently not eligible to participate in the GEFPAS project, although they may be covered under the AFD component)

Tbp = to be provided. Additional info requested directly from country.

Table 2: Draft Work Plan

Component Number and Detail		Timing	Comments
1	Inventory exercise and training: participating countries provide most up to date copies of inventories, highlighting areas of major concern.	Months 3 to 4	SPREP-based GEF-PAS project officer (PO) will be responsible for this.
2	Safe storage and management of chemicals training: participating countries provide list of Customs officers in country, as well as details on number of ports, and proposed trainees.	Months 3 to 4	GEF-PAS PO will collate this information from each country
3	Disposal of laboratory chemicals training: participating countries provide list of schools with laboratories, as well as quick assessment of labs of most concern, and proposed trainees.	Months 3 to 9	GEF-PAS PO will collate this information from each country
4	Technical guidance tool kit (integrating all project training areas) published and printed, as well as made available online on dedicated portion of SPREP website.	Month 4	GEF-PAS PO will facilitate this
5	Training schedule developed for: inventory exercise and training; safe storage and management of chemicals training; and disposal of laboratory chemicals training.	Month 6	Schedule will be developed by GEF-PAS PO in consultation with participating countries and the AFD TA, to avoid clashes with Vocational training schedule (Component 2).
6	Training in: inventory exercise and training; safe storage and management of chemicals training; and disposal of laboratory chemicals training, undertaken in participating countries. Training will be preceded and concluded by a strategy session, and the development of a draft guidelines for chemicals management in (PIC).	Months 9 to 30	Training will be conducted by regional and international consultants, to a schedule managed by the GEF-PAS PO.
7	Action plans developed by participants in each PIC, in each training course, outlining specific national problem to be addressed, and lead agency to address it (including the key contact person in the lead agency). The action plans will be included in the draft guidelines for chemicals management.	Months 10 to 30	Actions plan to be submitted to GEF-PAS PO who will follow up at regular intervals to assess the progress of these plans. Successful activities will be posted on the project website and those involved invited to share their experiences at project workshops.
8	Consultation with PICs on the development of a regional strategy to reduce chemical use and subsequent chemical build-up	Months 10 to 36	Consultation process will be coordinated by GEF-PAS PO, with guidance from SPREP, who are experienced in developing regional strategies. The framework of the document will be informed by

			the findings of the in-country visits, the training, and advanced inventory exercises. Face-to-face consultation will also take place at annual SPREP meetings.
9	Draft regional strategy to reduce chemical use and build up disseminated for review	Month 36-38	Circulated by GEF-PAS PO
10	Regional strategy to reduce chemical use and build up endorsed by PICs	Month 45	Aim for endorsement at a SPREP meeting.
11	Draft design and cost estimate of regional repackaging, collection, shipping and disposal activity for safe-guarded chemicals.	Months 37 to 40	This process will be led by the GEF-PAS PO in consultation with SPREP and PICs.
12	Review of design and cost estimate	Months 40 to 42	PIC and SPREP Review
13	Approved design and cost estimate	Month 43	Finalised by GEF-PAS PO
14	Consultations with donors to fund regional collection	Month 45-60	Led by SPREP, with information gathered and provided by GEF-PAS PO.

Component 4 Outline: Regional Waste Oil Programme

What do we know about waste oil generation, collection and disposal in the region?
The current situation regarding waste oil in the region is summarised in Table 1. Some of the key points arising out of this information are as follows:

1. Countries that are not Parties to the Waigani Convention (ie. Marshall Islands, Nauru and Palau) cannot export waste oil to Fiji unless they enter into an equivalent bilateral agreement with Fiji. Conversely, Fiji could accept waste oil from these countries if it became a Party to the Basel Convention, but this is unlikely to happen anytime soon.
2. The project will not be able to remove all of the existing stockpiles, especially the very large ones in FSM, Marshall Islands, Palau and PNG. The shipping costs alone for these would be more than 1 million dollars.
3. For those countries with no direct container shipping route to Fiji, it will be more cost-effective to ship the oil to other countries (eg. Cook Islands and Niue to New Zealand). This will also apply when Fiji is a lot further away than other potential disposal countries (eg. PNG to Australia, and possibly Palau to the Philippines).
4. An effective waste oil collection system has already been established within Fiji, and is expected to continue growing over the next few years. This has been partly driven by a permitting system under the Environment Act, but is largely due to the efforts of Fletcher Steel who provide a collection service to all of the oil companies. In addition, Fletchers have provided storage tanks (at their own cost) and a collection service to 20 of the larger oil users (eg. bus and truck depots) and they also provide drums to smaller operators. Eventually they expect to have supplied storage tanks to about 100 waste oil producers.
5. Some countries have only a very limited understanding of their current oil imports, waste oil production patterns, and disposal practices. This especially applies to PNG and Samoa, and should be addressed by a waste oil audit exercise at the start of the project. There will also be a need for a significant level of stakeholder consultation within these countries (eg. via workshops) both at the start of the project and at later key stages.
6. Nauru is importing waste oil for use in the phosphate driers and currently has no requirement to export. However, this situation will change when phosphate production comes to an end.
7. There are several possible options for using waste oil within Papua New Guinea, which should be fully explored before any decision is made to export.

Other observations arising out of the country consultations
The following additional observations were made during the consultation exercise:

1. Power stations are the major producer of waste oil in many of the countries, and in some of the smaller ones they are the only significant source. Contact has been made with the Pacific Power Association (PPA) who have agreed to participate in the project to assist in coordination on aspects of particular relevance for the power companies.
2. All countries spoken to indicated a need for training and guidance on the approval and reporting procedures required under the Waigani Convention.
3. There is also a need for regional guidance on oil management practices at the user (ie. waste producer) level. In the interests of sustainability, it would be appropriate for the project to include preparation of several manuals on oil management, including one

specifically for power stations (in conjunction with the PPA), another for oil companies and large industrial users, and a third for vehicle workshops and service stations. Papua New Guinea already has a Code of Practice for vehicle workshops which may serve as a suitable model for the latter.

4. Some, but not all, of the waste oil is contaminated with water, which should be removed prior to shipping so that the exporter is not paying to transport dirty water rather than oil. The original project design included the provision of storage facilities and oil/water separation systems in each country. These will not be needed in those countries where suitable facilities already exist. In addition, they should not be needed at the start of the project because sufficient quantities of uncontaminated oil will be available in most countries for use in the first shipments. The only country with a confirmed need for an oil-water separator is Samoa (at the Apia power station). The need for facilities in other countries will be assessed on a case-by-case basis later in the project.

5. The original project design also aimed to set up waste oil collection systems in most countries at an early stage in the project. Once again, it will not be necessary to do this prior to the first shipments. In addition it may never be necessary in smaller countries where the number of oil producers is limited and they already have an established drop-off system. If collection systems are to be set up in a country, this should only be done after the storage facility is established.

6. The operation of an effective and permanent waste oil collection and disposal system is highly dependent on establishing suitable funding arrangements in each country. The first shipments of waste oil will assist in providing the relevant cost information.

   In those countries where there is only one oil importer (eg. Kiribati), or one dominant waste oil producer (eg. Tuvalu), the logical approach is for them to build the disposal cost into their sale prices or operational budgets. Most power stations should also be encouraged to adopt the same approach. The project may need to provide economic or accounting advice to show how this could be done.

   In those countries with a multiplicity of oil importers and/or waste oil producers, a suitable funding mechanism will need to be established on a case-by-case basis. The appropriate drivers already exist in some countries (eg. the permitting system in Fiji and regulations in Tonga) but will have to be developed in others. The project should assist each country with identifying the most appropriate approach (eg. regulatory or economic instruments) and with implementing the agreed option.

   In the case of Fiji, the permitting system is currently having some affect but is very slow. The specific proposals for Fiji aim to enhance this.

Note to Workshop Participants: we are still waiting on the information needed to fill the gaps in Table 1. Planning for the work to be done in each country cannot be completed, and country participation cannot be confirmed, until this information has been received.

Decision Tree

The attached Figure 1 shows the decision-making process used to determine the waste oil export options for each country.

Project Outline

An indicative project outline is shown in Table 2

Co-Finance Estimates

The main source of funding for the waste oil component is the AFD project, with a waste oil budget of about USD215,000 in cash and USD75,000 for part of the TA position.

The most significant additional co-finance source will be an in-kind contribution by Fletcher Steel Ltd, for the continuing development of the collection system within Fiji and for receipt and processing of the waste oil from other countries, which is estimated at FJD700,250 (USD400,000) over 5 years. This is based on the supply of 100 tanks at FJD1000 each, annual in-country collection costs of FJD100,000, annual staff and management costs of FJD20,000, and port clearance costs (including import duty) of FJD5000 per year. These estimates assume a moderate increase in the quantities of oil currently being collected or received.

The total in-kind contribution from each PIC environment agency is estimated at USD235,000 over the 5 years. This is based on staff and management time requirements for liaison with AFD/SPREP and provision of in-country support to the AFD TA, participation in and follow-up for stakeholder consultations, participation in regional workshops, facilitation of oil shipments - including transboundary approvals, and the later work on regulatory or voluntary instruments. The breakdown of these costs by each country is shown in the budget. PNG, Samoa and Fiji will have a higher contribution because of the specific staff appointment included in the project, while the Cook Islands, Niue, Tonga, Marshall Islands, FSM and Palau are expected to have only minor demands on their time because it is expected that most of the inputs will devolve to either the oil companies or the power companies.

The work to be done in conjunction with the Pacific Power Association, including inputs from power company representatives and a specific technical meeting at the annual conferences, is estimated to have an in-kind value of USD20,000 per year over 5 years.

SPREP management and administrative support for the AFD TA (waste oil component only) is estimated at USD5,000 per year; the participation of SPREP staff in support of the work on the Oil Export Handbook will amount to an in-kind contribution of USD10,000; and the staff inputs (admin and technical) to the Waigani Convention workshops will be equivalent to a contribution of USD20,000 per workshop. In addition, SPREP is contributing USD53,000 in cash to the workshop planned for mid-2011.

The oil companies in Kiribati, the Cook Islands, Tonga and Vanuatu are already funding waste oil shipments at a cost of about USD5,000 per container. These shipments will continue with logistical and administrative support from the project to ensure they are being done properly, and will amount to an in-kind contribution of about USD24,000.

Figure 1a: Decision Trees for Waste Oil Exports

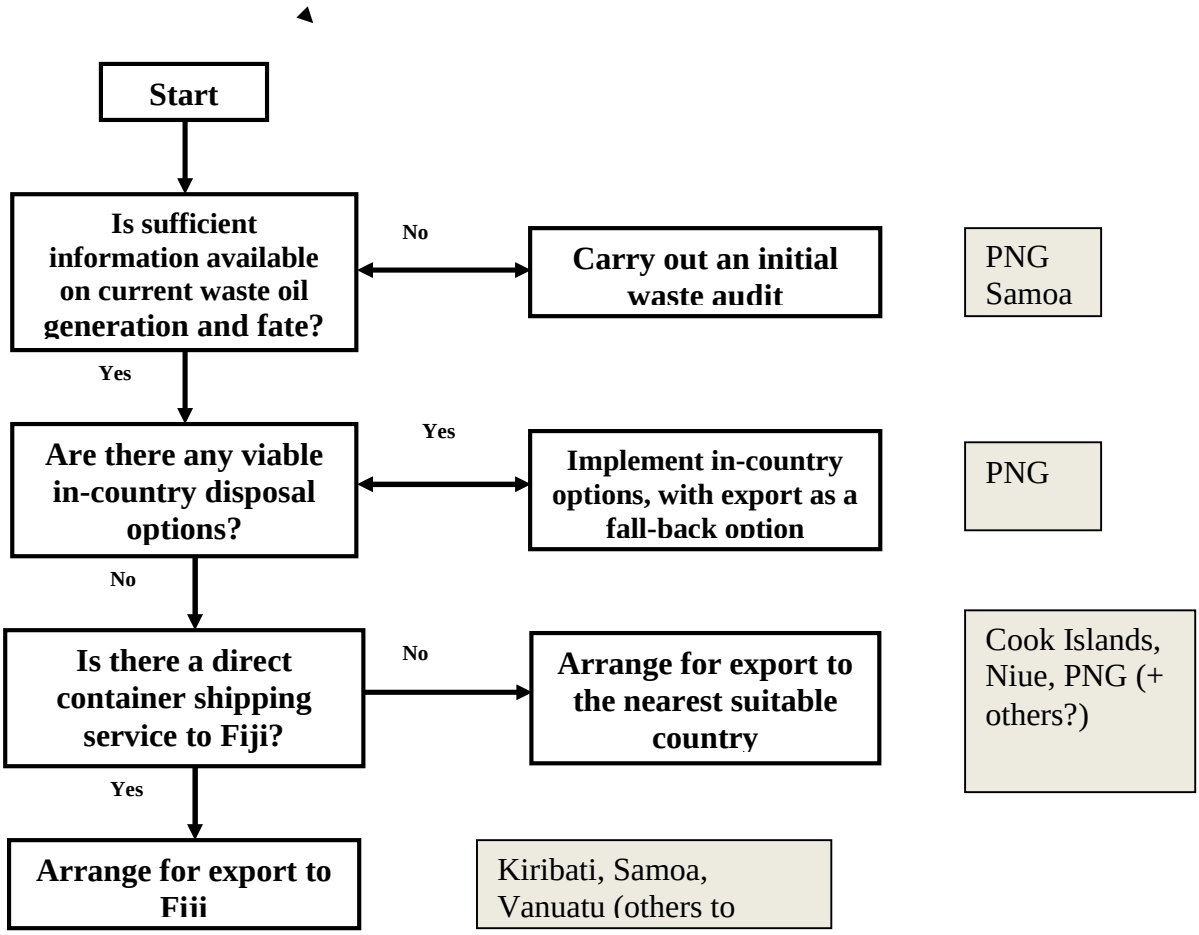

Table 1: Summary of Key Information on Waste Oil

Country	Annual Waste Volume Estimate (litres/year)	Current Stockpile Estimate (litres)	Organised Collection?	Direct Container Shipping Route to Fiji?	Shipping Costs (approx. for a 20ft container)	Current Regulatory Drivers?	Party to Basel/Waigani?
Cook Islands	15 - 30,000	50,000	Oil depot drop-off	No (only to NZ)	US$3500	None	Yes/Yes
Fiji	>2 million	none	Fletcher collects from main sources	not applicable (n/a)	n/a	Permitting system under Env Act	No/Yes
FSM							Yes/Yes
Kiribati		none	Oil depot drop-off	Yes	US$4500		Yes/Yes
Marshall Islands		~ 1.5 million	None			None	Yes/No
Nauru							Yes/No
Niue	18,000	14,000	Yes (Public Works)	No (only to NZ)	~US$3500	None	No/Yes
Palau							Yes/No
PNG	*X* millions	*y* millions	None	No	unknown	None	Yes/Yes
Samoa	15 – 50,000	18,000	None	Yes	To come	Could regulate under Waste Act	Yes/Yes
Solomon Islands							No/Yes
Tonga				Yes		Existing regs	Yes/Yes
Tuvalu							No/Yes
Vanuatu	unknown	none		Yes	To come	Currently under development	No/Yes

(Note: Palau is not a Party to Stockholm so is currently not eligible to participate in the GEFPAS project, although they may be covered under the AFD component)

Table 2: Project Outline

Component Number and Detail		Timing	Comments
1	Confirm country commitment, designated contact personnel, and a stakeholder liaison group for in-country implementation	Sub-project start, months 1 to 2	Project Assistants will be required in PNG and Samoa to cover this and other GEFPAS activities. A Project Officer should be appointed in Fiji to lead the oil work, and assist with permitting.
2	Training then implementation of waste oil audits in PNG, Samoa and Fiji	Months 3 to 9	Training given by an Audit Consultant. Timing varies by country; eg. countries 1 & 2 in month 3, countries 3 & 4 in month 4, etc
3	Stakeholder workshops in PNG, Samoa and Fiji (combined with step 2) and Solomon Islands, Vanuatu and Cook Islands (not needed in other PICs with only one oil importer or a dominant single producer).	Months 3 to 7	Workshops facilitated by AFD TA or an Audit Consultant
4	Identify in-country requirements for a first oil shipment, obtain necessary supplies (drums or IBCs), confirm shipping company and shipping costs	Months 3 to 10	Done by country personnel after guidance from AFD TA or Audit Consultant (start at same time as steps 2 and 3)
5	Obtain formal agreement from Fletcher Steel to accept first shipments	Months 5 to 12	Country personnel, through AFD TA
6	Obtain necessary Waigani approvals	Months 5 to 12	Country personnel, assisted by AFD TA
7	First shipments are tested for PCBs and then shipped, with feedback provided to the AFD TA on any issues arising	Months 6 to 13	Managed by country personnel, shipping companies and Fletchers, with all reporting back to AFD TA as necessary
8	Stakeholder workshops (6 PICs listed under item 3) and technical assistance (all PICs) to explore funding and/or regulatory options, requirements for local collection, storage and treatment facilities	Months 13 to 18	In-country workshops & technical assistance delivered by AFD TA
9	Financial and technical support to implement agreed requirements in each country (most likely in PNG, Samoa, RMI, FSM, Palau and Vanuatu)	Months 15 to 30	AFD TA and other personnel inputs as necessary
10	Preparation of a handbook for oil exports under the Waigani Convention	Months 18 to 24	Consultant in conjunction with SPREP and AFD TA
11	Support for further oil shipments from selected countries, depending on available funds	Months 20 to 42	AFD TA
12	Development and delivery of targeted education and awareness activities, as appropriate in each country, to promote the programme and discourage oil dumping	Months 20 to 48	Country personnel with assistance from AFD TA. Initially targeted at larger users. Only target smaller users when collection programme has been developed to a mature stage.

13	Preparation of Oil Management handbooks or manuals for power stations, oil companies and other large oil users, and vehicle workshops	Months 25 to 36	Consultants working in consultation with PPA, oil company representatives and country personnel
	Other Parallel Activities		
14	Initial regional workshop/training on the Waigani Convention	Mid 2011	SPREP in conjunction with Stockholm Secretariat
15	Further training/workshops on the Waigani Convention procedures, including use of the Handbook produced under step 10 above	Mid-2013, 2015	SPREP (funded by GEFPAS)
16	Formation of PPA Technical Working Group at 2011 Annual Conference, to liaise with AFD TA and assist as appropriate with project activities, including funding options and drafting of the Power Station manual	Mid-2011 then as required	Working Group to meet at each annual PPA conference and communicate with AFD TA by email in between times, through a designated representative
	Special Programme for Fiji		
17	Initial waste audit and stakeholder workshop as above (steps 2 and 3)	Months 3 & 4	Training and Audit over 6 weeks, followed by workshop
18	Development of a generic Oil Management Plan (these have to be submitted in support of permit applications	Months 5 & 6	Prepared by Project Officer in consultation with key stakeholders and with support from AFD TA
19	Rolling programme of site visits to either review existing permit applications or to initiate new applications	Months 7 to 24	Initially targeted at 100 larger users
20	Permits issued, followed by site inspections 3 months later	Months 13 to 30	Permits should allow 3 months for implementation
21	Preparation of a Code of Practice for small vehicle workshops, etc	Months 25 to 30	Use PNG Code as a guide
22	Education and awareness activities to promote the programme and discourage oil dumping	Months 31 to 36	Targeted at small users and the general public, using local media
23	Repeat waste oil audit	Months 37 & 39	To monitor effectiveness
24	Final programme report and review	Month 40	Disseminate through region via AFD, SPREP
	Special Programme for Papua New Guinea		
	Initial waste audit and stakeholder workshop as above (steps 2 and 3)	Months 3 to 6	Allow 3 months for audit completion and reporting, given the time required to cover all major centres
25	Site visits and meetings with potential industrial users of waste oil in Port Moresby, Lae and other centres	Months 7 to 8	Includes a cement plant, several steel mills, a brewery, bitumix (asphalt) plants, and several gold mines

26	Negotiate agreements with industrial users over the terms and conditions for accepting waste oil, and the relevant permitting requirements under the Environment Act.	Months 9 to 12	Should include technical assistance to confirm suitability of each plant and to adjust burner systems for operating with waste oil.
27	Stakeholder workshop to outline proposed disposal operations and to agree on appropriate arrangements for oil collection, storage and delivery	Month 14	Initial implementation costs should be borne by waste producers and/or oil users
28	Implement and monitor agreed programme	Months 15 to 30	Should include a simple but formal reporting programme
29	If necessary, investigate and implement options for exporting any surplus	Months 25 to 36	Generally following the procedures given in steps 4 to 7
30	Follow-up audit and stakeholder consultation workshop to review progress and identify any issues or further actions needed, including funding arrangements or regulation.	Months 37 & 38	Hold workshop when audit results are available
31	Investigation and implementation of any relevant regulations or funding arrangements needed to support an on-going operation	Months 39 to 48	Should include technical assistance similar to step 8
32	Education and awareness activities to promote the programme and discourage oil dumping	Months 40 to 60	Initially targeted at larger users. Only target smaller users when collection programme has been developed to a mature stage
	Audits		
33	Audit of the Fletcher Steel oil management activities	Months 25 to 28	Includes support for remedial actions if necessary.

Draft Component Budgets

Indicative Budget for national and Regional uPOPs Prevention and management Strategy Component (Component 1)

Budget line		Description	Cash Cost, USD	AFD cost, USD	In-kind, USD	Comments
10		**PERSONNEL COMPONENT**				
1100		Project personnel				
		GEFPAS PO				Cost covered under project management budget. Role of PO will be to coordinate project activities, to schedule in-country visits for training.
		PIC National focal point			60000	Based on 10K from 6 (approx 50%) PICs over the life of the project.
		AFD TA		36000		
	1199	*sub-total*				
1200		Consultants				
		Subtotal local task teams				
		Subtotal regional consultants				
		subtotal international consultants				
	1299	*sub-total consultants*				
1300		Administrative Support				
	1399	*sub-total*				
1600		Travel on Official business				
	1601	Travel to PICs	5400			based on average flight to PIC @ $1800 x 3
	1602	TA per diem	3000			based on 15 days of travel over 5 years @ $200 per day
	1699	*sub-total*				
1999		**Component total**				
20		**SUBCONTRACTS**				
	2199	*subtotal*				
2999		**Component total**				
30		**TRAINING COMPONENT**				
3200		Group Training				
	3299	*sub-total*				
3300		Meetings/conferences				
	3399	*sub-total*				
3999		**Component total**				
40		**EQUIPMENT COMPONENT**				
	4199	*sub-total*				
4200		Non-expendable Equipment				
	4299	*sub-total*				
4999		**Component total**				
50		**MISCELLANEOUS COMPONENT**				
5200		Reporting Costs				
	5299	*sub-total*				
5300		Sundries				
	5399	*sub-total*				
5999	**Component total**		UNEP	AFD	IN KIND	
	TOTAL COSTS		**$ 8,400**	**$ 36,000**	**$ 60,000**	
	PIF BUDGET		$ 290,000	$ 290,530		
	TOTAL UNALLOCATED		**$ 281,600**	**$ 254,530**		

Indicative Budget for Training and Awareness Component (Component 2)							
Budget line		Description	UNEP costs, USD	AFD costs, USD	In-kind, USD		Comments
10		**PERSONNEL COMPONENT**					
1100		Project personnel					
		GEFPAS PO					Cost covered under project management budget. Role of PO will be to coordinate project activities, to schedule in-country visits for training.
		PIC National focal point			130000		Based on 10K from each PIC over the project. (This will be separated into 13 line items, one for each PIC, in the final budget)
		AFD TA		20000			
	1199	*sub-total*					
1200		Consultants					
	1202	Support staff		12000			based on 2 persons (1 USP and 1 FNU) @ $100 per day x 5 days x 12 (3 vocational training modules every 6 months over 2 years)
		Subtotal local task teams					
	1221	Training mentors	13650				based on 7 days per PIC @ $400 per day
	1201	Trainers		72000			based on 1 person @ $400 per day x 15 days x 12 (3 vocational training modules every 6 months over 2 years)
		Subtotal regional consultants					
		subtotal international consultants					
	1299	*sub-total consultants*					
1300		Administrative Support					
	1301	SPREP admin support			5000		for consultant travel
	1399	*sub-total*					
1600		Travel on Official business					
	1601	Training participants travel to Fiji		172800			8 participants @ $1800 per flight x 12 (3 vocational training modules every 6 months over 2 years)
	1602	Accomodation and perdiem - vocational training		161280			based on $120 per day for 8 persons x 14 days x 12 (3 vocational training modules every 6 months over 2 years)
	1603	Training mentor travel to PICs	23400				13 flights return flights @ $1800 per flight
	1604	Training Mentor perdiem	18200				based on 7 days in each PIC @ $200 per day
	1605	Travel to present results of successful pilots at regional conference/workshops	7400				based on 3 flights @ $1800 per flights and 10 days per diems
	1699	*sub-total*					
1999		**Component total**					
20		**SUBCONTRACTS**					
	2101	Vocational training course material development		14400			FNU to develop based on 40 days per module @ $120 per day x 3 training modules
	2102	Airport transfer (arival and departure) - Vocational training		3600			$300 x 12 (3 vocational training modules every 6 months over 2 years)
	2199	*subtotal*					
2999		**Component total**					

30		**TRAINING COMPONENT**					
3200		Group Training					
	3201	Field visits - Vocational training		8400			based on $700 x 12 (3 vocational training modules every 6 months over 2 years)
	3202	FNU vocational training costs		55962			based on 15% of total of 1 training cost x 12 (3 vocational training modules every 6 months over 2 years)
	3203	Training workshops performed by returning trainees	26000				1 workshop @ $500 in each PIC every 6 months for 2 years
	3299	*sub-total*					
3300		Meetings/conferences					
	3301	FNU Welcome reception for training participants		3000			based on $750 x 4 (every 6 months over 2 years)
	3399	*sub-total*					
3999		**Component total**					
40		**EQUIPMENT COMPONENT**					
	4101	Stationery and other for Vocational training		9600			Consumables – for auditing, stationery, training bags, group photo, printing of charts @$800 x 12(3 vocational training modules every 6 months over 2 years)over 2 years
	4199	*sub-total*					
4200		Non-expendable Equipment					
	4299	*sub-total*					
4999		**Component total**					
50		**MISCELLANEOUS COMPONENT**					
5200		Reporting Costs					
	5201	Printing vocational training manuals		2160			based on $180 per module x 12 modules
	5208	Awareness raising campaigns	260000				based on $20k per PIC for public awareness surveys, translations, education resources, community workshops, travel costs for remote locations, competions, multimedia production etc
	5209	Pilot project results published	6000				$1000 x 6 pilots
	5299	*sub-total*					
5300		Sundries					
	5301	Communications,					
	5399	*sub-total*					
5999	**Component total**						
	TOTAL COSTS		**$ 354,650**	**$ 535,202**	**$ 135,000**		
	PIF BUDGET ALLOCATION TOTALS		**$ 525,000**	**$ 435,850**			
	DIFFERENCE BETWEEN THE PROPOSED DRAFT BUDGET AND THE PIF		**$ 170,350**	**$ (99,352)**			

Indicative Budget for Pilot Projects

Object of expenditure against UNEP budget codes			PNG Composting		Cook Is Composting		PNG HCWM		Niue Composting/ Waste Separation		Marshall Is PCB Testing		Kiribati Cleaner Production		
Budget line		Description	Cash Cost,	In-kind, USD	Cash Cost,	In-kind, USD	Cash Cost,	In-kind, USD	Cash Cost,	In-kind, USD	Cash Cost,	In-kind, USD	Cash Cost,	In-kind, USD	Comments
10		**PERSONNEL COMPONENT**													
1100		Project personnel													
	1101	GEFPAS PO (shared with other components)													proportion of time still to be determined
	1102	PNG PA 20%, over 3 years (compost)	$ 15,000	$ 10,000											1. other 50% time is spent on waste oil. 2. assume govt maintains position for years 4&5
	1103	PNG PA 30%, over 3 years (HCWM)					$ 22,500	$ 15,000							1. other 50% time is spent on waste oil. 2. assume govt maintains position for years 4&5
	1104	PNG govt, staff time &admin support (compost)		$ 20,000											5 years @ $4k/yr
	1105	PNG govt, staff time &admin support (HCWM)						$ 30,000							5 years @ $6k/yr
	1106	NCDC staff time (PNG compost)		$ 15,000											3 years @ $5k/yr
	1107	PNG Gardener, staff time (PNG compost)		$ 10,000											management time and staff time for composting
	1108	MoH staff time (PNG - HCWM)						$ 30,000							
	1109	Hospital staff time (PNG - HCWM)						$ 50,000							
	1110	TGA Project Officer (CI compost)			$ 45,000										$15k per year over 3 years
	1111	TGA management time, admin, labour for composting				$ 60,000									includes provision of office space, computer access
	1112	NES project admin and guidance (CI compost)				$ 15,000									$5k over 3 years
	1113	MOIP assistance with waste diversion (CI compost)				$ 15,000									$5k over 3 years
	1114	TA (Kiribati Cleaner Prod)											$ 12,000		12 months 50% time shared with Awareness raising campaign
	1115	Hospital incinerator operator											$ 7,000		18 months
	1116	Health Inspector part time(Kiribati)												$ 3,000	Over 2 years
	1117	MELAD staff part time												$ 3,000	Over 2 years
	1118	Dept of Env staff time (Niue)								$ 6,000					12 months
	1119	Sustainable Land Management part time (Niue)								$ 3,000					12 months
	1120	Waste separation staff							$ 1,500						12 months, 1 day per week @ $30 per day
	1120	RMIEPA staff										$ 8,000			2 staff over 4 months
	1199	*sub-total*													
1200		Consultants													
	1201														
		Subtotal local task teams													
	1221	UPNG technical advice		$ 5,000											
	1222	local econcomic consultant	$ 10,000												8 weeks @ $250/day
		Subtotal regional consultants													

	1251	composting consultant	$ 4,000																			1 week in-country, 1 week on-going support @$400/day
	1252	economics/business analysis consultant, Rarotonga				$ 5,000																4 weeks @ $250/day
	1253	HCWM expert (PNG HCWM, 1st visit)							$ 12,000													5 weeks in-country, 1 at home office @ $400/day
	1254	HCWM expert (PNG HCWM, 2nd visit and reporting)							$ 6,000													2 weeks in-country, 1 at home office @ $400/day
	1255	HCWM expert (Kiribati HCWM)																		$ 8,000		3 weeks in-country, 1 at home office @ $400/day
	1256	composting/waste seperation consultant										$ 4,000										1 week in-country, 1 week on-going support @$400/day
	1257	PCB consultant													$ 4,000							1 weeks in-country, 1 at home office @ $400/day
		subtotal international consultants																				
	1299	*sub-total consultants*																				
1300		Administrative Support																				
	1399	*sub-total*																				
1600		Travel on Official business																				
	1601	Travel within PNG to extend composting project	$ 5,000																			10 days travel within PNG
	1602	compost consultant travel				$ 2,500																1 week in Rarotonga, dsa + fares
	1603	HCWM expert travel 1st visit							$ 10,000													30 days dsa @ $200/day + $4k fares (some internal)
	1604	HCWM expert travel 2nd visit							$ 4,800													14 days dsa @ $200/day + $2k fares (some internal)
	1605	HCWM expert travel (Kiribati)																		$ 6,200		21 days dsa @ $200/day + $2k fares
	1606	compost consultant travel										$ 3,500										1 week in Niue, dsa + fares
	1607	In-country travel costs for transformer identification, testing and labelling (RMI)													$ 15,000							over a period of 4 months
	1608	travel costs for PCB consultant (RMI)													$ 5,400							7 days @ $200/day + $4k fares, some internal
	1699	*sub-total*																				
1999		**Component total**																				
20		**SUBCONTRACTS**																				
	2101	Student labour for info distribution, data collection	$ 7,500																			10 @ $50/day, 15 days each over 3-4 months
	2102	vehicle hire, driver, 2 labourers	$ 4,000																			8 collections @ $500 each
	2103	compost sample analysis				$ 2,500																10 samples @ $250 each
	2104	Waste collection contractor (Niue)										$ 5,000										$100 per week over 50 weeks
	2204	compost sample analysis										$ 1,250										5 samples @ $250 each
	2205	PCB samples analysis													$ 4,000							20 samples @ $200 each
	2199	*subtotal*																				
2999		**Component total**																				
30		**TRAINING COMPONENT**																				
3200		Group Training																				
	3299	*sub-total*																				

3300		Meetings/conferences																		
	3301	national workshop on green waste/composting in PNG	$ 10,000																	venue hire/catering @$2000 plus internal travel costs (8 people from outside Port Moresby @ $1k each)
	3303	national workshop on HCWM in PNG							$ 17,000											venue hire/catering @$2000 plus internal travel costs (15 people from outside Port Moresby @ $1k each)
	3304	National workshop on waste recycling in Niue										$ 2,000								venue hire/catering
	3305	Training on PCB identification and storage in capacitors												$ 1,000						venue hire/catering
	3399	*sub-total*																		
3999		**Component total**																		
40		**EQUIPMENT COMPONENT**																		
4100		Expendable Equipment																		
	4101	Green-waste (garden) bags	$ 500																	100 @ $5 each, including printing and freight costs
	4102	Wheelie bins for HCWM							$ 3,000											30 @ $100 each
	4103	Wheelie bins for HCWM (Kiribati)																$ 3,000		30 @ $100 each
	4104	Protective clothing																$ 2,000		Gloves and aprons protective clothing
	4105	Incinerator operating costs																$ 3,000		Fuel
	4106	Other equipment to be confirmed																$ 8,000		MoH and WHO to confirm
	4107	Green-waste (garden) bags										$ 1,000								200 @ $5 each, including printing and freight costs
	4108	recyclable waste bins											$ 4,000							200 @ $20 each provided by DAFF
	4109	PCB testing equipment												$ 5,000						Field test kits, sampling equipment and protective clothing
	4110	PCB storage equipment												$ 6,000						safety equipment, plastic bags, drums, emergency response kits
	4199	*sub-total*																		
4200		Non-expendable Equipment																		
	4201	compost monitoring equipment				$ 2,500														temperature probe, sieves, scales
	4202	Modified Trailer										$ 10,000								two wheeler modified with caged sides and rear door
	4203	compost monitoring equipment										$ 2,500								temperature probe, sieves, scales
	4204	Waste transfer station										$ 15,000								Specifications to be provided by Den at workshop
	4299	*sub-total*																		
4999		**Component total**																		
50		**MISCELLANEOUS COMPONENT**																		
5200		Reporting Costs																		
	5201	PNG compost report	$ 500																	
	5202	Rarotonga compost report				$ 500														
	5203	PNG HCWM report							$ 500											
	5204	Niue waste recycling report										$ 500								
	5205	PCB inventory report												$ 500						
	5299	*sub-total*																		
5300		Sundries																		
	5301	Communications,																		
	5302	publicity for compost operation, Rarotonga				$ 500														
	5303	publicity for recycling operation (Niue)										$ 1,000								
	5399	*sub-total*																		
5500		M & T Evaluation																		
	5501	Midterm review																		
	5502	Terminal evaluation																		
	5599	*sub-total*																		
5999		**Component total**																		
	TOTAL COSTS		**$ 56,500**	**$ 60,000**		**$ 58,500**	**$ 90,000**		**$ 75,800**	**$ 125,000**		**$ 47,250**	**$ 13,000**		**$ 40,900**	**$ 8,000**		**$ 33,200**	**$ 22,000**	

Indicative Budget for Chemicals Component (Component 3)						
Budget line		Description	Cash Cost, USD	In-kind, USD		Comments
10		**PERSONNEL COMPONENT**				
1100		Project personnel				
		GEFPAS PO	$ -	$ -		Cost covered under project management budget. Role of PO will be to coordinate project activities, to schedule in-country visits for training.
		PIC National focal point		$ 130,000		Based on 10K from each PIC over the project. (This will be separated into 13 line items, one for each PIC, in the final budget)
1200		Consultants				
		Subtotal regional consultants				
		Inventory training package and manual development consultant	$ 4,000			2 weeks, home office
		Safe storage and chemicals mamagement training package and manual development	$ 4,000			2 weeks, home office
		Disposal of laboratory chemicals training package and manual development	$ 4,000			2 weeks, home office
		Chemicals consultant training consultant	$ 78,000			Based on 400 per day (2000 per week), 13 PICs, three weeks in each
		Regional strategy consultant	$ 8,000			based on 400 per day home office (4 weeks)
		subtotal international consultants				
	1299	*sub-total consultants*				
1300		Administrative Support				
	1301	SPREP admin support		$ 5,000		for consultant travel
1600		Travel on Official business				
	1601	Chemicals consultant training consultant travel to 13 PICs	$ 74,100			dsa 273 days @ $200/day, fares based on $1.5k per PIC (13 PICs)
1999		**Component total**				
20		**SUBCONTRACTS**				
	2199	*subtotal*				

2999		**Component total**				
30		**TRAINING COMPONENT**				
3200		Group Training				
		Inventory training costs	$ 39,500			Based on cost of venue, transport to field sights and lunch for 5 days. Average .5K per week, 13 weeks. Including internal travel for 20 participants at 1K each
		Safe storage and chemicals mamagement training cost	$ 39,500			
		Disposal of laboratory chemicals training cost	$ 39,500			
3300		Meetings/conferences				
	3301	Strategy workshops, 13 PICs	$ 13,000			2 days each, venue hire/catering @$1000
3999		**Component total**				
40		**EQUIPMENT COMPONENT**				
4100		Expendable Equipment	$ 7,500			PPE supplied for training based on $500 per PIC
4200		Non-expendable Equipment				
4999		**Component total**				
50		**MISCELLANEOUS COMPONENT**				
5200		Reporting Costs				
	5201	Training manuals	$ 10,000	$ 5,000		printing and layout costs
5300		Sundries				
	5301	Communications,				
5999	**Component total**					
	TOTAL COSTS		**$ 321,100**	**$ 140,000**		

Indicative Budget for Waste Oil Sub-Project						
Budget line		Description	Cash Cost, USD	In-kind, USD		Comments
10		**PERSONNEL COMPONENT**				
1100		Project personnel				
	1101	PNG PA 50%, over 3 years	$ 37,500	$ 25,000		1. other 50% time is spent on other components. 2. assume govt maintains position for years 4&5
	1102	Samoa PA, 50% over 2 years	$ 25,000	$ 12,500		1. assume govt maintains position for years 4&5
	1103	Fiji PA, 50% over 3 years	$ 37,500	$ 25,000		1. other 50% time is spent on other components. 2. assume govt maintains position for years 4&5
	1104	Fletcher Steel, staff time over 5 years		$ 57,500		
	1105	PPA and power companies, 5 yr		$ 25,000		$5k per year
1200		Consultants				
	1221	SPREP staff input to Oil Exports Handbook		$ 10,000		
	1222	SPREP staff input to 3 Waigani Workshops		$ 45,000		
	1223	PPA input to Oil Management Handbook		$ 5,000		10 people @ 1 to 2 days per person
	1251	waste audit consultant, 16 weeks	$ 32,000			2 wks each for Fiji, Kiribati, Nauru, Palau, PNG, Samoa, Solomons, Vanuatu, at $400/day = $2000/wk (includes travel and reporting)
	1252	economic/regulatory consultant, 8 weeks	$ 16,000			1 week ea, 6 PICS + travel, reporting
	1253	consultant for drafting of Oil Exports Handbook (in relation to the Waigani/Basel Conventions)	$ 4,000			2 weeks, home office
	1254	consultant for drafting of Oil Management Handbooks for power stations, oil companies and large oil users	$ 12,000			2 week each, home office
	1255	consultant to conduct Fletcher site audit	$ 4,000			1 wk Suva, 1 wk home office
	1256	consultant for Nauru and PNG audits	$ 8,000			1 week, Nauru, 3 in PNG, incuding travel & reporting
1300		Administrative Support				
	1301	SPREP admin support, 3 Waigani w'shps		$ 15,000		in 2011, 2013 and 2015
1600		Travel on Official business				
	1621	AFD TA travel for 1st stakeholder consultations (3 PICs)	$ 10,000			dsa 21 days @ $200/day, fares $6k (Cook Islands, Niue, Tuvalu)
	1622	AFD TA travel to 2nd stakeholder workshops in 5 PICs	$ 17,000			dsa 35 @ $200/day, fares $10k (Fiji, PNG, Sol, Van, CI) (+ Samoa at no cost)
	1623	audit consultant travel & dsa, 1st s/h workshop	$ 36,400			dsa 102 @ $200/day, fares $16k (Fiji, KiribatSamoa, PNG)
	1624	consultant travel for Fletcher site audit	$ 3,000			dsa 5 days @ $200/day, fares $2k
	1625	consultant travel for Nauru/PNG audits	$ 11,000			dsa 28 days @$250/day, fares $4k

1999		**Component total**				
20		**SUBCONTRACTS**				
	2101	1st oil shipment from each of 11 PICs	$ 55,000			$5k per shipment inclusive of all costs from CI, Niue, Sam, Sol, Tuv, RMI, FSM, Van and Pal (shipments already being supported in Tonga & Kiri
	2102	oil storage facilities, including oil/water separators, 3 PICs	$ 120,000			The only country with a confirmed need is Samoa, but the budget assumes more PICs will be added
	2103	education & awareness materials for each PIC	$ 5,000			$1k each for leaflets and posters, PNG, Sol, Van, Fiji, FSM
	2104	oil company funding for shipments		$ 35,000		continuation of existing export programmes in Kiribati and Tonga, at a rate of 1 shipment per country per year @$3500 per shipment
2999		**Component total**				
30		**TRAINING COMPONENT**				
3200		Group Training				
	3201	1st workshop on Waigani plus other conventions	$ 90,000			presumably costing more because of international attendees?
	3202	2nd & 3rd Waigani workshops	$ 130,000			participant and presenter travel costs ($60k), venue costs ($5k), per workshop
3300		Meetings/conferences				
	3301	1st stakeholder workshops, 8 PICs	$ 12,000			3 days each, venue hire/catering @$1500
	3302	2nd stakeholder workshops, 8 PICs	$ 12,000			3 days each, venue hire/catering @$1500
	3303	Power station tech sub-cm'tee metings @ PPA annual conf & by email		$ 25,000		tbc
3999		**Component total**				
40		**EQUIPMENT COMPONENT**				
4100		Expendable Equipment				
	4101	PCB oil test kits	$ 500			20 @ $25 each
4200		Non-expendable Equipment				
4999		**Component total**				
50		**MISCELLANEOUS COMPONENT**				
5200		Reporting Costs				
	5201	PPA pubication and dissemination of of Power Stn handbook		$ 5,000		
		SPREP publication and dissemination of 2 other handbooks		$ 10,000		
5300		Sundries				
5999	**Component total**					
	TOTAL COSTS		**$ 677,900**	**$ 295,000**		