



Pacific  
Community  
Communauté  
du Pacifique

# HAZARDOUS WASTE IN THE PACIFIC

Technical and legal study into hazardous-waste management and transport in the Pacific and appropriate solutions suggested for OCTs and other Pacific island territories for enhancing hazardous-waste management in the Pacific

Final Report

**Deloitte.**



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# List of Abbreviations

## COUNTRY AND TERRITORY ABBREVIATIONS

AUZ:	Australia
FJI:	Fiji
FRA:	France
KIR:	Kiribati
MHL:	Marshall Islands
NCL (or NC):	New Caledonia
NZL (or NZ):	New Zealand
PCN:	Pitcairn
PNG:	Papua New Guinea
PYF (or PF or FP):	French Polynesia
SLB:	Solomon Islands
TON:	Tonga
TUV:	Tuvalu
VUT:	Vanuatu
WLF (or WF):	Wallis & Futuna

## OTHER ABBREVIATIONS

ADEME	French Environment and Energy Management Agency
BSDD	Hazardous waste tracking form
CCI	Chambers of Commerce and Industry
CEPI	Classified environmental preservation installation
CH	(main regional, territorial or specialised) Hospital
CMA CGM	A container shipping company
DIMENC	New Caledonian Department of Industry, Mines and Energy
DIRENV	French Polynesia Department of Environment
EU	European Community
EU	European Union
HCW	Healthcare waste
HGV	Heavy-goods vehicle
HW	Hazardous waste
ICZM	Integrated Coastal Zone Management
INTEGRE	Pacific Territories Initiative for Regional Management of the Environment
kg	Kilogramme
LHV	Low heat value
LV	Light vehicle
NHW	Non-hazardous waste
OCTs	Overseas countries and territories
OECD	Organisation for Economic Co-operation and Development
OEM	(OEM standards): original equipment manufacturer
Op	One-off shipment in the past
Or	Regular shipment operation
PCB	polychlorinated biphenyl
PDL	Pacific Direct Line, a container shipping company
Pic	Prior informed consent
PICs	Pacific Island Countries
POP	Persistent organic pollutants
pop.	Population
SLN	Société Le Nickel SLN (an Eramet subsidiary), a New Caledonian mining company
SPC	Secretariat of the Pacific Community
SPREP/PROE	Secretariat of the Pacific Regional Environment Programme/ <i>Programme régional océanien de l'Environnement</i>
T	Tonne
TWM	Total Waste Management – a waste collection and processing company in Port Moresby, PNG
ULABs	used lead acid batteries
UO	Used mineral oil
VLLW	Very low-level (radioactive) waste
VOC	Volatile organic compound

# Overview

# Background and Objectives

Background: feedback on the hazardous-waste issue through several SPC events

How the study began:

- Feedback received during regional meetings on the hazardous-waste issue in the South Pacific region
- Difficulties encountered on the ground, particularly a hazardous-waste shipment from Wallis & Futuna rejected by New Caledonia
- OCTs wished to join “regional networks”



OCT views on the issue



The Secretariat of the Pacific Community decided to commission this study to contribute towards efforts aimed at improving hazardous-waste management by all stakeholders (governments, territories and regional bodies like SPREP).

# Mapping hazardous waste and management methods

## Types of hazardous waste produced



### Radioactive waste

The military (defence forces and *gendarmes*)

Military research

Medical research waste

Hospital waste

### PCB waste

Contaminated electrical transformers

Contaminated oil

### Used oil

Used mechanical workshop lubricants

Used agricultural lubricants

### Used batteries

Used car and lorry batteries

Various batteries and storage cells (high stakeholder demand)

### Medical waste

Expired medicines (genuine stakeholder and community demand)

# Mapping hazardous waste and management methods

## A closer look at how waste is recovered or treated locally

### A closer look at used oil



#### New Caledonia

- Incineration (SLN) + 90% of UO

#### P.N.G.

- Separator-regenerator (TWM mobile unit)

#### Marshall Islands

- Incineration (Marshalls Energy Company) 60 to 100% of UO

#### Fiji

- Incineration (steel foundries) 70% of UO + Tuvalu UO

# Mapping hazardous waste and management methods

## A closer look at how waste is recovered or treated locally

### A closer look at batteries



#### Processing and re-use

- Fiji: Pacific Batteries Ltd (*unconfirmed*)

### A closer look at healthcare waste



#### Pre-treatment & Incineration

- New Caledonia: Promed followed by CSP
- FP: NIVÉE on Tahiti

#### Incineration

- Fiji
- PNG
- Tonga
- Samoa
- Wallis & Futuna
- FP (10 small units on remote islands)
- Kiribati
- Tuvalu (Margaret Hospital)
- New Caledonia (animal carcasses: Le Repos des Lacs)

#### Direct Landfill Disposal

- Marshall Islands
- Pitcairn

# Mapping hazardous waste and management methods

## A closer look at occasional and regular shipment



Radio-  
active  
waste

**VLLW from  
NCL and PYF**  
=> Or: France,  
ANDRA  
stockpiling  
facility, Aube



PCB  
waste

**NCL**  
=> Or: France (Séché  
Trédi St Vulbas) and  
Germany

**PNG waste  
from the  
Philippines in  
transit)**  
=> Op (2003):  
France

**PNG**  
=> Op (2003):  
Australia



Used  
oil

**NC, PF**  
=> Or: NZ

**WLF:**  
=> Op (2016)  
NZ

**PNG:**  
=> Or?:  
Australia

**TUV:**  
=> Or: Fiji  
(Foundries)

**Kiribati,  
Vanuatu**  
=> Op?: India



Used  
batteries

**NCL, PYF**  
=> Or: NZ or  
Australia

**PNG**  
=> Op: Fiji (via  
Solomons)

### Key:

*Op: one-off shipment in the past*

*Or: regular shipments*

*NCL: New Caledonia, PYF: French Polynesia, W&F: Wallis & Futuna, NZL: New Zealand*

*VLLW: very low-level (radioactive) waste*

# Legal barriers to hazardous-waste shipments

## Various conventions ratified

The countries and territories in this study fall under one of the three following categories:

1/ Countries/territories party to the **Basel Convention only**: **OCTs**

Ship to Waigani Convention countries only: deadlock

2/ Countries parties to the **Waigani Convention only**: **Fiji, Niue, Solomon Islands, Tuvalu, Vanuatu**

Ship to Basel Convention countries only: deadlock

3/ Countries party to **both the Basel and Waigani Conventions**: **Australia, Cook Islands, Federated States of Micronesia, Kiribati, Nauru, New Zealand, Papua New Guinea, Samoa, Tonga**

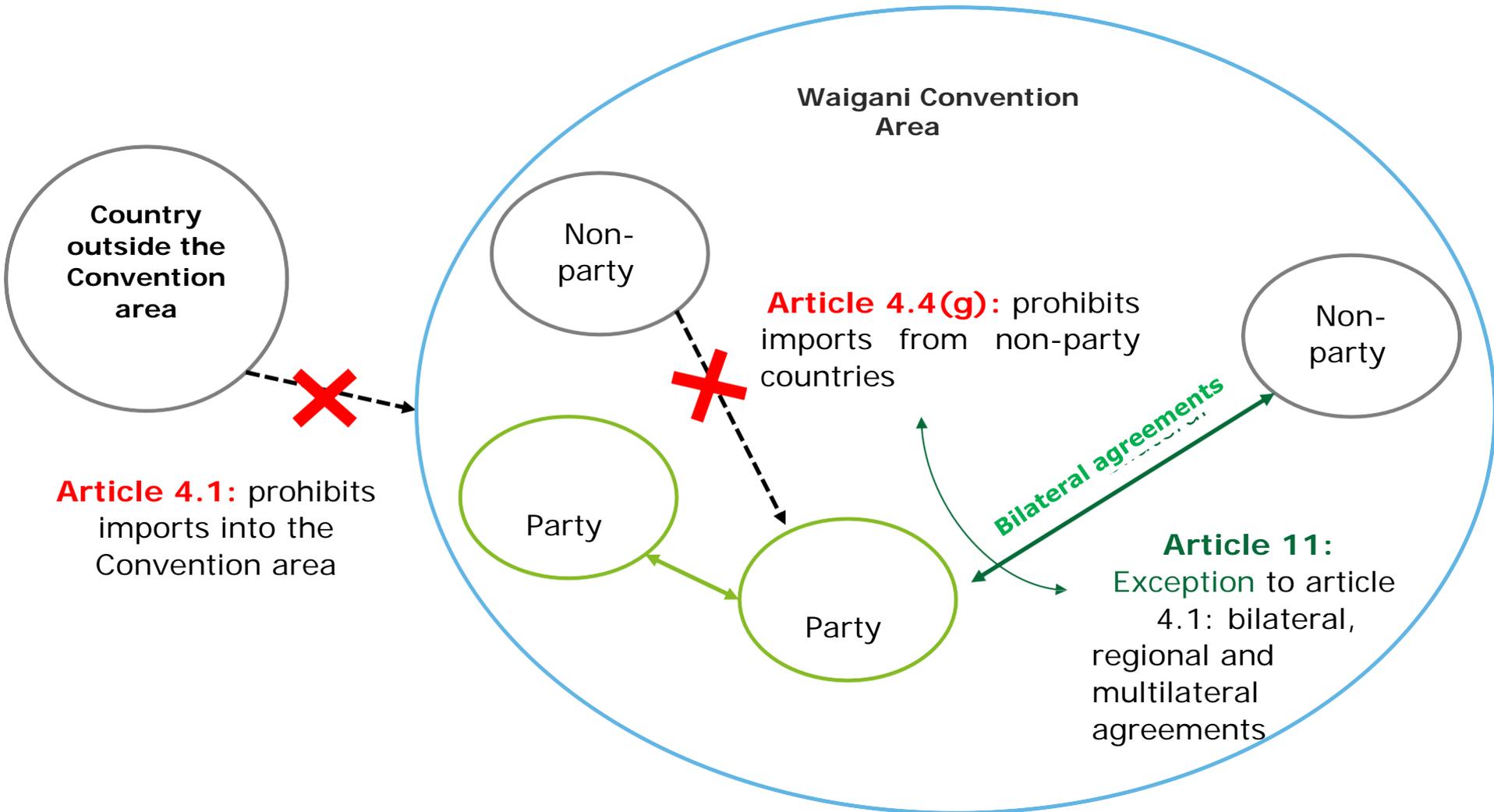
Exporting countries (below) / Importing countries (opposite)	Bale	Waigani	Basel and Waigani
Basel (PTOM)	Ok	Deadlock	Ok
Waigani	Deadlock	Ok	Ok
Basel et Waigani	Ok	Ok	Ok

The countries with **the most export options** are **those that have ratified both conventions, because they can export their waste to all other countries in the region.** Samoa, for example, indicated they had had no difficulties following ratification. Denials resulted from clerical issues with the forms submitted.

Countries that have **only ratified one of the two conventions**, however, are at a disadvantage, as they have fewer export options.

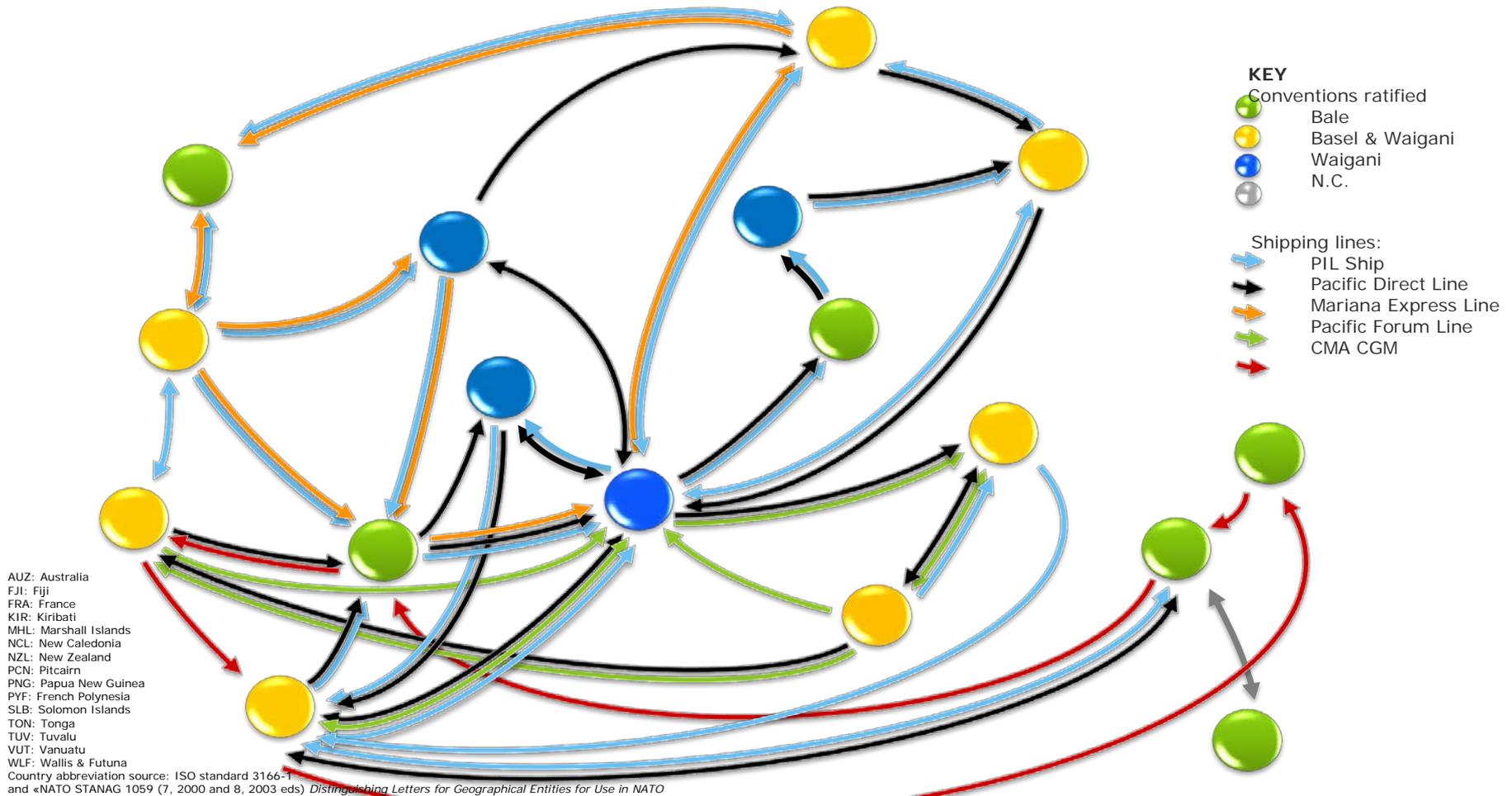
# Legal barriers to hazardous waste shipments

Ratifying the various conventions: the OCTs are not party to the Waigani Convention



# Existing shipping lines

Summary (Jan. 2017) including hazardous-waste management convention ratification by countries.



# Assessment: summary of non-legal issues

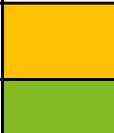
The table below provides a criticality level (cf. key) for each issue defined based on stakeholder interview feedback.

Crit. = criticality level

 Noteworthy

 High

 Critical

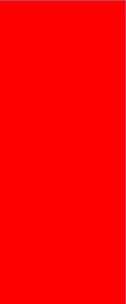
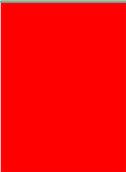
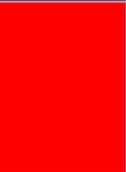
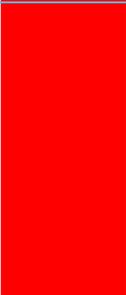
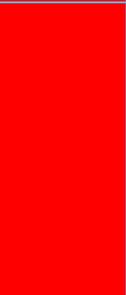
Area	Common issues	Crit.	Country- or territory-specific issues	Crit.
Health & Environment	Land (watercourses, groundwater, lakes) and sea (lagoons, ocean) ecosystem pollution hazard		Drinking-water pollution health hazard from non-compliant polluting waste stockpiles (W&F, FP, Loyalty Islands [NC] Tuvalu)	
Operational waste management	Very informal, non-standardised waste collection and stockpiling			
	Exports are costly and require complex organisation			
Allocated funds and equipment	Under-funded		Highly variable development standards, consumption patterns and, therefore, waste outputs as per the countries'/territories' wealth	
	Building viable economic models is difficult given the low volumes of hazardous waste generated		Poor existing tax-revenue allocation (W&F)	
Human resources allocated	No identified "waste shipment" focal points or differ from one country or territory to another (ministries of the environment, health, foreign or maritime affairs, etc.)		Not enough resources for recruiting human capacity (engineer, project manager and CEPI controller, etc.) (PNG, W&F, Tuvalu)	
			Stakeholder environmental prioritising of HW and NHW waste management (W&F and Tuvalu)	
Geography	Isolated islands		Isolated by double insularity or more (almost all the countries and territories)	
	Dependence on existing shipping lines and their goodwill		Shipping logistical approach that isolates some countries/territories (PNG and Kiribati)	

# Assessment

## Legal issues summarised (1/2)

The table below is a **summary of the various issues** classified under **common issues** throughout the region and **specific issues**, with a focus on OCTs wherever possible. Criticality levels are indicated for each issue (cf. key) and defined based on stakeholder interview feedback.

Crit. = criticality level  Satisfactory  High  Critical

Subject	Common Issues	Crit.	Specific Issues	Crit.
Ratification of the various conventions	Ratification of the various conventions is not critical at regional level. Some countries have no issues at all (e.g. Samoa). For countries/territories that have not ratified the Waigani Convention, however, the issue is critical (cf. specific issues).		Ratifying the various conventions is particularly critical for countries/territories that have not ratified the Waigani Convention, e.g. OCTs.	
Incorporation into national law	International instruments not incorporated into national law		New Caledonia: the Basel Convention has not been incorporated by specific implementation procedures and so there are no legal instruments for controlling illegal shipments	
Regulatory enforcement	National regulations governing waste and hazardous waste are not being enforced		Some countries in the region have not defined the notion of hazardous waste. Most English-speaking countries have no shipment tracking records. New Caledonia has no legal framework for monitoring hazardous-waste management. Regionally, however, NC and FP appear more advanced than other countries.	

# Assessment

## Legal issues summarised (2/2)

Crit. = criticality level



Satisfactory



High



Critical

Subject	Common Issues	Crit.	Specific Issues	Crit.
Lack of resources and qualified resources	Lack of qualified resources: all the region's countries and territories suffer from a lack of capacity.	Critical	All the region's countries and territories suffer from a lack of capacity. Regionally, OCTs are less affected, as they are supported by metropolitan countries.	Critical
Differences of interpretation	Differences of interpretation between countries and territories	Satisfactory	There are differences of interpretation between French OCTs	High
Regional co-operation	A lack of regional co-operation	High	OCTs could consolidate their waste to increase export volumes and so improve their bargaining position. Some Waigani Convention countries refuse to allow transiting or reject imports.	Critical
Co-operation within countries	Few one-stop shops and lack of co-operation within countries	High	OCTs: powers widely distributed between mainland France, OCTs, provinces (NC) and the various authorities (health, maritime affairs and customs). An issue throughout the region, especially the lack of customs information.	High

# Improvement scenarios

## Common core

The common core to all the scenarios is based on three identified improvement areas:

**Standardise and improve upstream waste collection** and consolidation based on two types of territory:

- Larger, main islands
- Smaller territories or outer (or even remote) islands

### **Standardise and improve consolidation practices**

- Site settlement and prerequisites for waste consolidation and shipment facilities
- Stockpile containers, shipping containers and administrative procedures for export

### **Strengthened operational assistance through SPREP for developing hazardous-waste shipments:**

- Gather Customs import data to improve waste capture rate monitoring
- Strengthen assistance for identifying all the stakeholders (governments and ministries in each country/territory)
- Strengthen assistance for community and stakeholder awareness training (same communication material)
- Assistance for following up and monitoring waste management based on national and Waigani-Convention recommendations
- Assistance with organising disposal, etc.

# Opportunities and solutions

## Four legal scenarios and their underlying technical scenarios

### **1. Allow OCTs to accede to the Waigani Convention**

- ✓ This would provide access for the OCTs (FP, WF and NC) to battery-recycling\* and oil-incineration\*\* solutions in Fiji

### **2. Examine the status quo by looking into all the potential improvements in managing the identified resource issues and enhancing legal compliance**

- ✓ This would pave the way for negotiating bilateral agreements with Waigani Convention countries and improve co-operation.

### **3. Accession by all the region's countries to the Basel Convention**

- ✓ Potential shipments to Fiji and the Solomon Islands

### **4. Explore ways of strengthening co-operation between OCTs through a regional agreement between them, for instance**

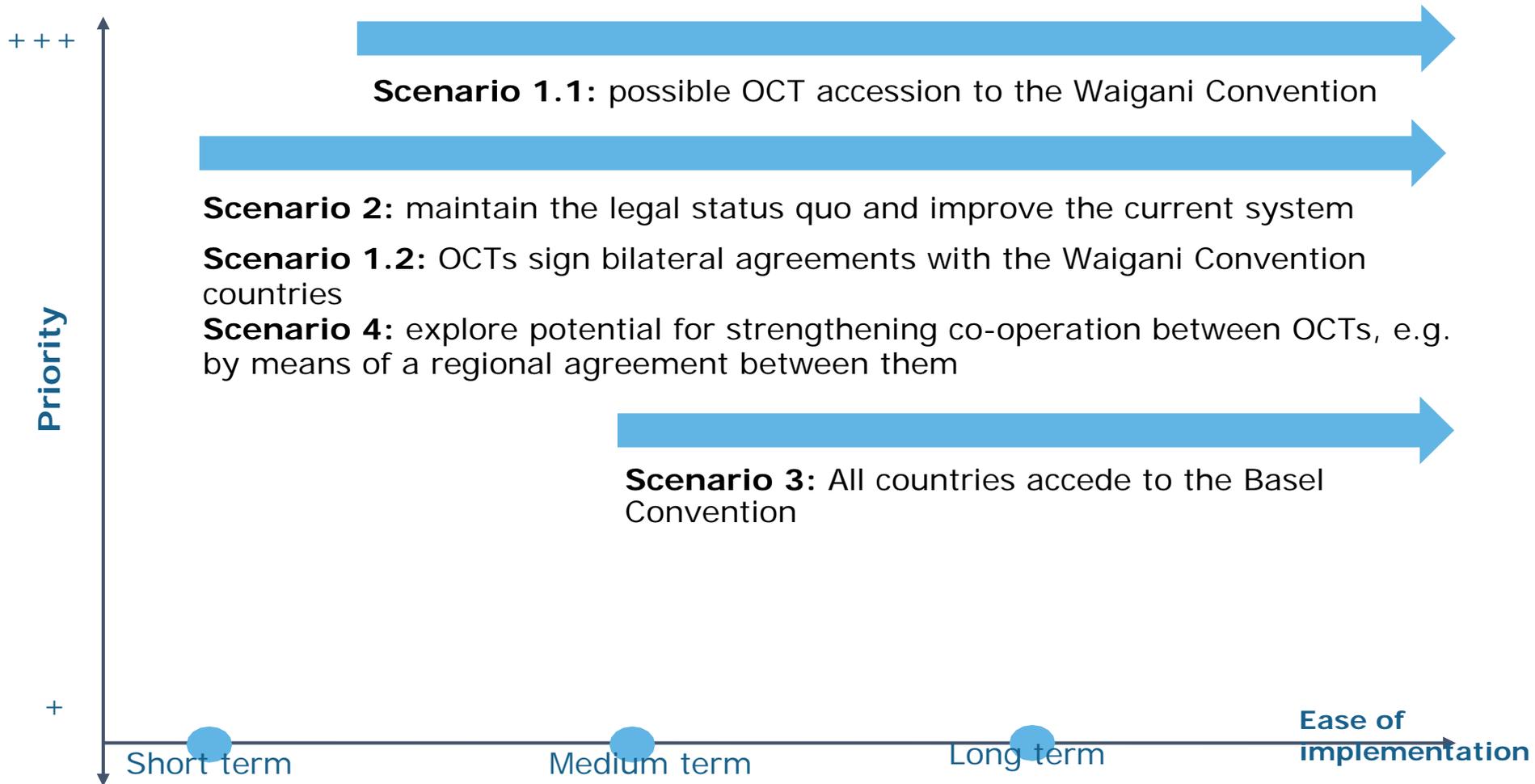
- ✓ OCTs could then consolidate volumes, possibly develop local processing and/or strengthen their export bargaining power

*\* if approved*

*\*\* subject to foundry capacity*

# Conclusions

## Scenario ranking



# Conclusions

## Priority action recommendations

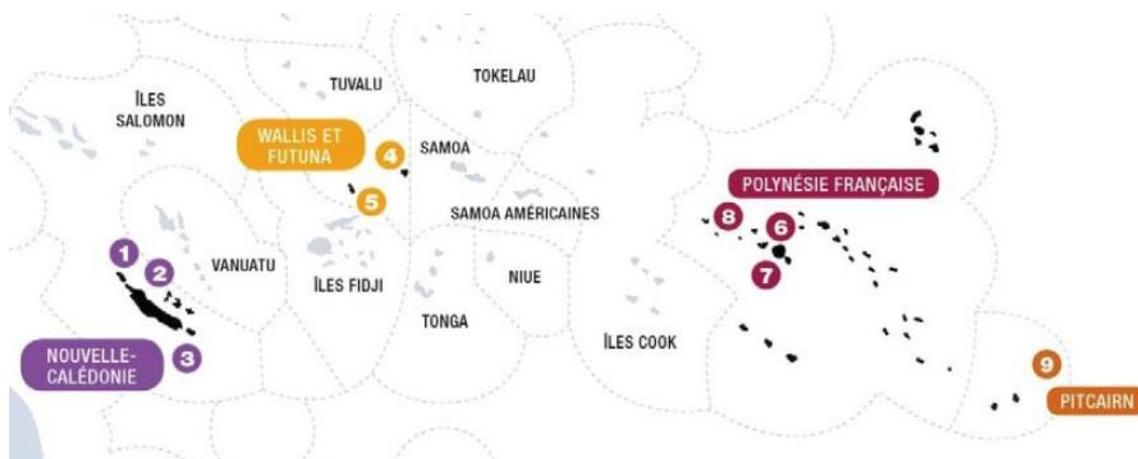
- 
- Start discussions between OCTs on hazardous-waste management with a view to preparing joint positions
  - Start discussions between OCTs and the French Government on France's accession to the Waigani Convention
  - Start discussions between certain key countries in the region to pave the way for bilateral waste shipment agreements
  - Analyse current regulations on hazardous waste and the shipment thereof in the OCTs individually
  - Start discussions with SPREP and other Pacific-island countries about acceding to the Basel Convention
  - Join SPREP in advocating for improved hazardous-waste management in the Pacific

# Background, Objectives and Approach

# Background and Objectives

## INTEGRE project for sustainable development in the European Pacific overseas territories

- **INTEGRE (Pacific Territories Initiative for Regional Management of the Environment)** is a European Pacific-territory sustainable-development project spanning 2013-2017.
- INTEGRE is EU-funded to the sum of EUR 12 million.
- It addresses environmental issues that are specific to island countries (where coastal areas, with their vulnerable ecosystems, are densely populated) through **integrated coastal zone management (ICZM)**.
- It develops links with other Pacific organisations.
- Implementation is driven by the Secretariat of the Pacific Community.
- 2 components:
  - Component 1: **regional activities** for implementing ICZM with methodology support, networking and result maximisation
  - Component 2: ICZM implementation **on nine pilot sites** (cf. map opposite)



# Background and Objectives

Background: feedback on hazardous waste issues through several SPC events

How the study started:

- Regional discussions signalled hazardous waste issues in the South Pacific
- Issues identified on the ground: hazardous-waste shipments from Wallis & Futuna were being barred by New Caledonia
- OCTs wished to join “regional networks”



OCTs expressed their views on the issue



The Secretariat of the Pacific Community decided to commission this study to contribute to hazardous-waste management efforts by the stakeholders (governments, territories and regional organisations such as SPREP).

# Background and Objectives

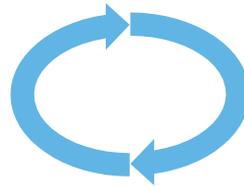
## Issue: improve hazardous waste management in Pacific-island countries and territories

Perceived issues:

Despite the efforts of governments, territories and regional organisations, hazardous-waste management is still not as effective as it could be in Pacific-island countries and territories, who often rely on exporting their waste, due to the small amounts of hazardous waste they generate. Neither international conventions nor co-operation between the region's countries and territories have been able to solve the issues that are specific to islands.

### Technical Hindrances

- Low waste volumes: not economically viable to set up hazardous waste processing facilities
- Lack of local technical and financial capacity to run hazardous waste processing facilities
- Etc.

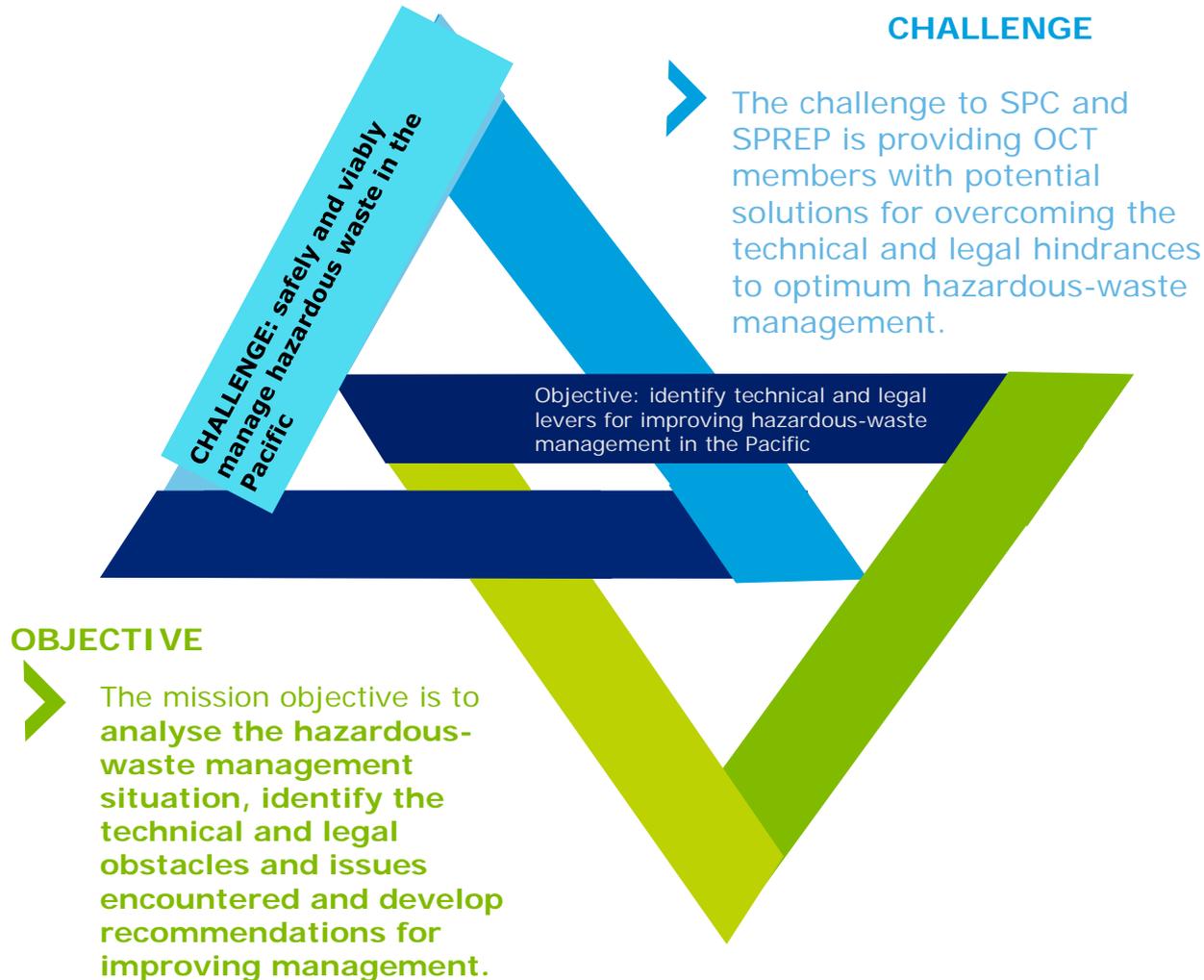


### Legal Hindrances

- Regulatory restrictions on hazardous waste exports
- No co-ordination and/or legal co-ordination resources to handle the various international conventions governing transboundary movements of hazardous waste (e.g. island countries cannot consolidate their hazardous waste together)
- Etc.

# Background and Objectives

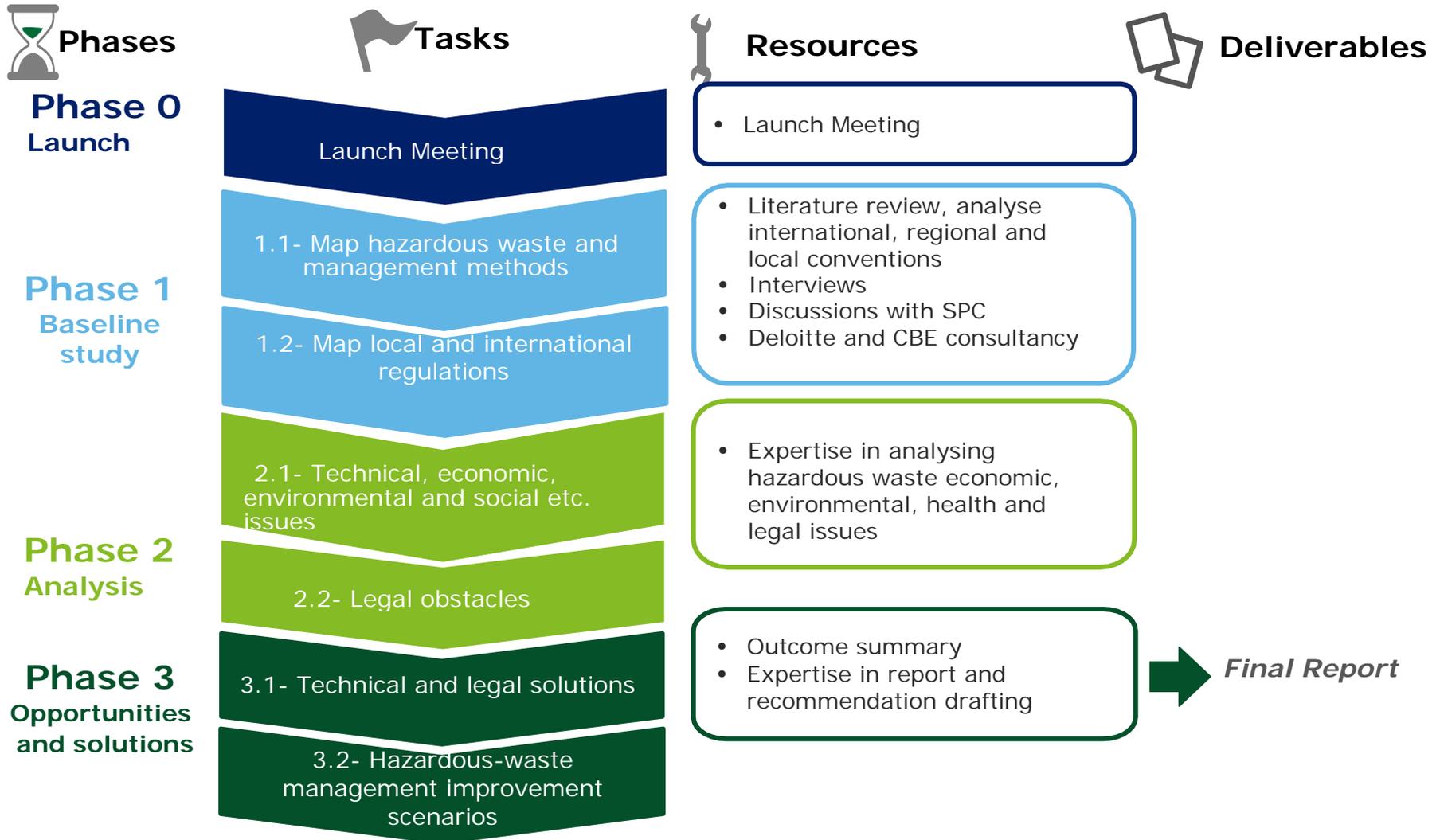
## SPC challenges and mission objectives



# Methodology approach

## Overview

The study was divided into four stages:



# Selected Countries

## 13 countries and territories selected for the study at project start-up

13 countries and territories were selected and the selection was approved by SPC.

The selection criteria were:

- Include **4 OCTs**
  - Include **representative countries for the various issues** encountered in the Pacific:
    - **geographical context**
    - **development** standards
    - **various ratified conventions** (Waigani or Basel or Waigani and Basel).
- Include countries that could offer **ideas for solutions**, such as those with processing facilities and/or located in shipping lanes through which OCTs' hazardous waste needs to travel when being exported.

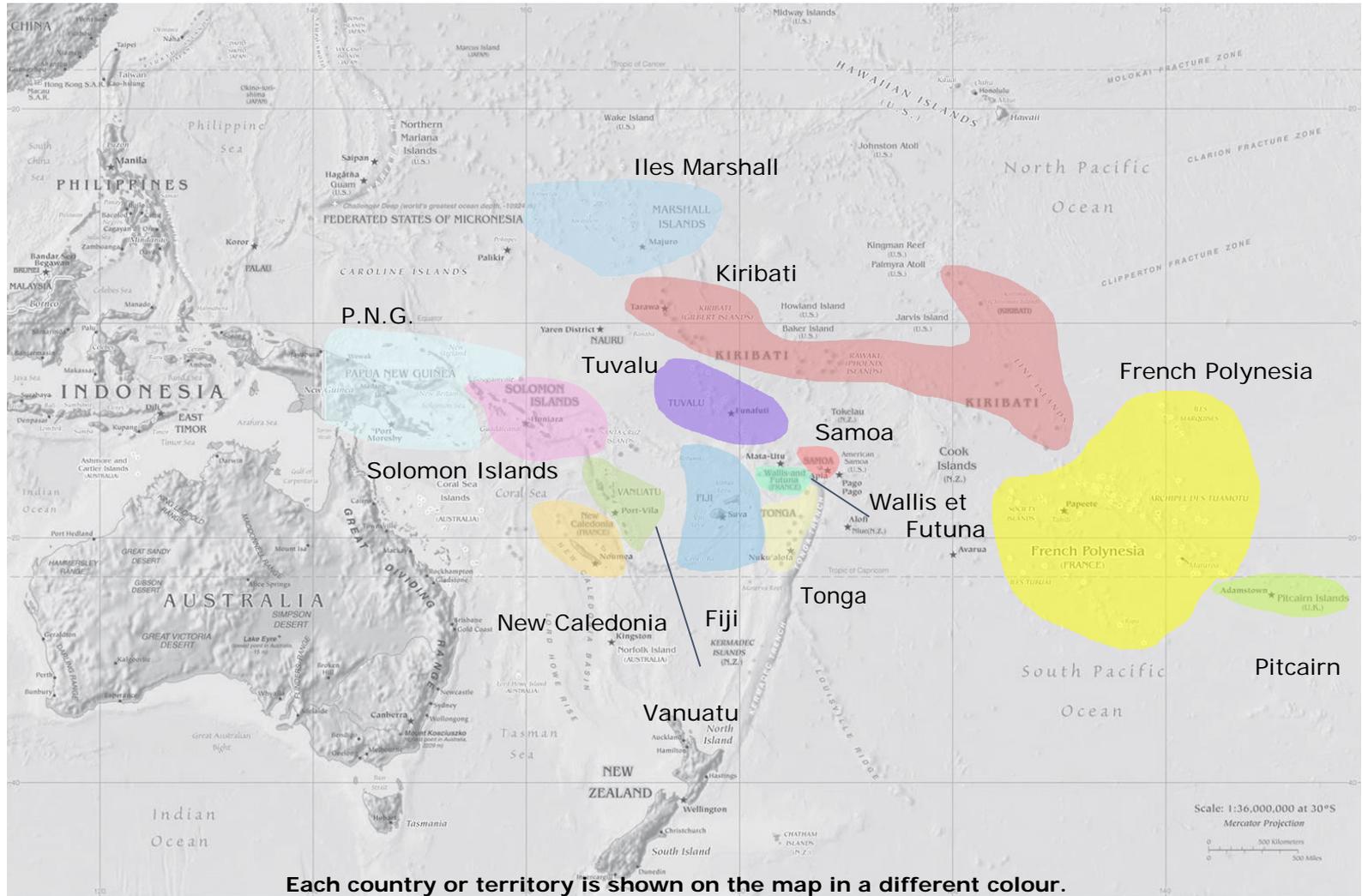
# Selected Countries

13 countries and territories selected for the study at project start-up

Countries	Surface Area (emerged land in km <sup>2</sup> )	Population	Waigani	Bale	Remarks
Fiji	18,270	909,000	x	–	Waigani only. Quite densely-populated and industrially-advanced country in the region. The waste trading issue has already been raised with Wallis and NC (at least for transit). As it is centrally located, Fiji could be a consolidation country.
New Caledonia, France	18,580	269,000	–	x	OCT. Basel only
French Polynesia, France	4,167	274,000	–	x	OCT. Basel only
Wallis & Futuna, France	140	12,200	–	x	Very small OCT that has ratified Basel only
Kiribati (35 islands)	811	110,000	x	x	Both conventions. A study is available on the SPREP website: little mining or industry; remote from the rest of the region (highly insular)
Republic of the Marshall Islands	181	71,000	–	x	Small but quite densely populated country. Basel only. Fairly remote (highly insular).
New Zealand	268,680	4,400,000	x	x	Major HW destination country. Both conventions.
Papua New Guinea	462,840	7,321,000	x	x	Major country that has ratified both conventions. Mining industry.
Samoa	2,831	193,200	x	x	Both conventions
Solomon Islands	28,900	561,230	x	–	Waigani only
Tonga	747	106,200	x	x	Both conventions. Highly agricultural. A transit country in shipping lanes
Tuvalu	26	9,916	x	–	Small country that has only ratified Waigani. A transit country in shipping lanes
Pitcairn Islands, United Kingdom	47	67	–	x	Very small OCT
Vanuatu	12,190	264,700	x	–	Waigani only and on shipping lanes to NZ. Very close to NC.

# Selected Countries

13 countries and territories selected for the study at project start-up



# Methodology approach

## List of contacted experts (1/2)

The table below shows contact, interviews and information provided during interviews or written correspondence.

Country/Territory	Organisation	Contacted Person(s)	Interview	Remarks	Information quality
All	SPREP	Frank Griffin, Clark Peteru	Yes	+ e-mails	Fair
Wallis and Futuna	Territorial Environment Department	Ataloto Malau, Department Head	Yes		Good
French Polynesia	Environment Department	Alexandre Legayic, Caroline Vieux	No	Alexandre Legayic about to leave (source: C. Vieux)	Fair
New Caledonia	DIMENC	Alexandra Rivière	Yes		Good
Pitcairn		No contact	No		Poor
Fiji	SPREP focal point	Ms. Laisani Lewanavanua, Mr. Aminiasi B. Qareqare	No	Several reminders (latest on 25/01/2017)	Poor
Kiribati	SPREP focal point	Mr. Taulehia Pulefou, Ms. Taouea Reiher, Mr. Teema Biko	No	Several reminders (latest in January 2017)	Fair
Papua New Guinea	SPREP focal point	Mr. Gunther Joku, Mr. Michael Wau, Mr. Maino Virobo, Mr. Veari Kula, Ms. Katrina Solien	No response to questionnaire	Sent + 5 reminders	Fair

# Methodology approach

## List of contacted experts (2/2)

Country/Territory	Organisation	Contacted Person(s)	Interview	Remarks	Information quality
Republic of the Marshall Islands	SPREP focal point	Ms. Moriana Phillip; Mr. Warwick Harris	No	Interview confirmation still pending (no reply despite reminders)	Poor
Samoa	SPREP focal point	Ms. Fiasosoitamalii Siaosi; Mr. Suluimalo Amataga Penaia; Ms. Fuatino Matatumua-Leota; Mr. Lucie Isaia	Yes	Interview and correspondence. Some information provided	Poor
Solomon Islands	SPREP focal point	Dr. Melchior Mataki; Mr. Joe Horokou; Ms. Rosemary Apa; Ms. Sarah Wickham	No	No reply to requests after information forwarded on the study	Poor
Tonga	SPREP focal point	Paula Ma'u; Mafile'o Masi	No	Promised written reply. Not received despite reminders	Poor
Tuvalu	SPREP focal point	Susana Minute Telakau; Walter Kaua	Yes	Written replies with some information	Fair
Vanuatu	SPREP focal point	Jesse Benjamin; Mr Jason Raubani; Carol Rovo; Trinison Tari; Touasi Tiwok	No	Sent + 5 reminders	Poor

# Methodology approach

## Difficulties encountered

The project team encountered issues during the study that required adjusting the methodology approach.

### Available literature:

- **A lack of literature:** the documents provided to the project team lacked sufficient information on hazardous-waste flows.
- **A lack of data:** Few countries, as a rule, had reliable hazardous-waste statistics on production, processing and treatment capacity and, when they did, they were often scattered and difficult to access, qualitative or outdated.

### Contacts:

- **Contacts notified late about the study:** with changes to INTEGRÉ and SPC leadership, the various country contacts were not notified by SPC about the study until over a month after it had started. This led to some toing and froing and necessary explanations by the project team of the study objectives and background.
- **Contacts often unavailable:** once the countries had been notified of the study, few were available for interviews, despite many reminders (up to four or five by email and/or telephone). Interviews were sometimes cancelled at the last minute and had to be rescheduled several times.
- **Variable feedback during interviews:** the countries that granted interviews were not always able to supply the requested information. This was partly due to one of the identified general issues, i.e. that Pacific-island countries often lacked hazardous-waste resources and the persons contacted often handled all types of waste or even the environment in the wider sense.

### Outcomes:

- **No more reminders sent:** the project team spent more time than expected on reminders and organising interviews. After consulting SPC, the project team closed Phase 1 (literature review and interviews) in late December 2016.
- **Processing the collected data:** despite the above difficulties, the team was able to collect hazardous-waste management information. Following Phase 1, the team focused on Phases 2 and 3 (assessments and scenarios).

# Baseline Study

# Baseline Study

## A word on population

*Source list appended at p.155*

# Selected countries

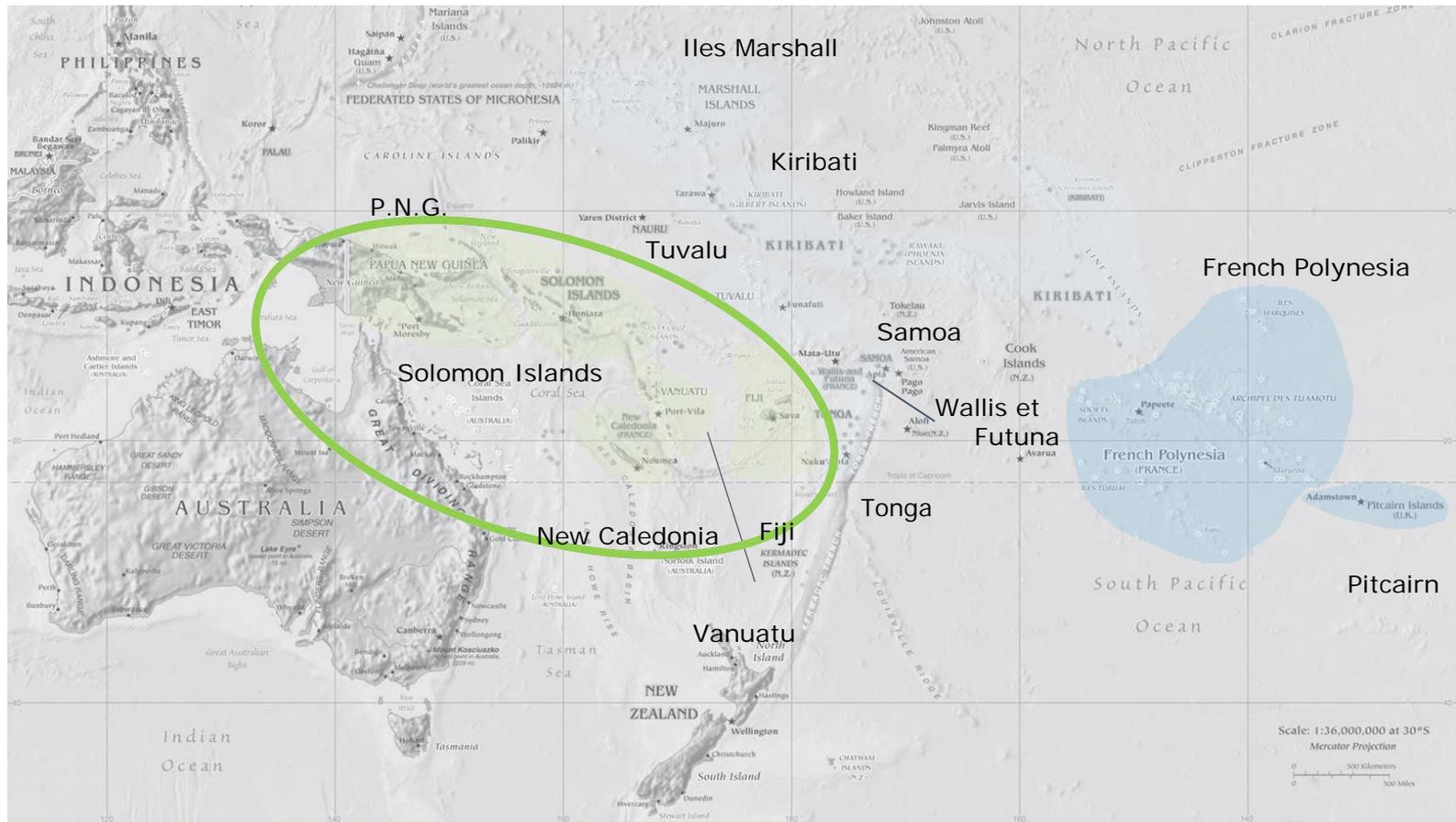
Population of the 13 countries/territories: 10 million

Country/Territory	Population	Pop (%)		Type of Population	Population Distribution
<b>Papua New Guinea</b>	<b>7,321,000</b>	72.50%	87%	Very large population	Very dense "continental" and island population
Highland Region	3,000,000				
Islands Region	1,000,000				
Momase Region	1,800,000				
Papua Region	1,300,000				
<b>Fiji</b>	<b>909,000</b>	9.00%	87%	Large population	Dense population on the main island + scattered pop
Viti Levu	600,000				
Vanua Levu	50,000				
<b>Solomon Islands</b>	<b>561,230</b>	5.56%	87%	Large population	2 densely populated islands + scattered pop
Malaita	140,000				
Guadalcanal	110,000				
<b>French Polynesia</b>	<b>274,000</b>	2.71%	12.75%	Medium population	Dense pop on main island + scattered
Tahiti	180,000				
<b>New Caledonia</b>	<b>269,000</b>	2.66%	12.75%	Medium population	Large urban area + scattered pop
Mainland	247,600				
<b>Vanuatu</b>	<b>264,700</b>	2.62%	12.75%	Medium population	Scattered population and no truly densely populated areas
Efate	65,829				
Espiritu Santo	39,606				
Tanna	28,799				
Malakula	22,934				
<b>Samoa</b>	<b>193,200</b>	1.91%	12.75%	Medium population	Dense pop on 2 main islands
Savai'i	43,103				
Upolu	135,000				
<b>Tonga</b>	<b>106,200</b>	1.05%	12.75%	Medium population	Dense pop on main island
Tongatapu	75,416				
<b>Kiribati</b>	<b>110,000</b>	1.09%	12.75%	Medium population	Dense pop on main island + scattered
Gilbert Islands	83,382				
<b>Marshall Islands</b>	<b>71,000</b>	0.70%	12.75%	Medium population	Dense pop on mail island + scattered
Majuro	37,141				
<b>Wallis &amp; Futuna</b>	<b>12,200</b>	0.12%	0.25%	Small population	Dense pop on main island
Wallis	10,000				
<b>Tuvalu</b>	<b>9,916</b>	0.10%	0.25%	Small population	Dense pop on main island + scattered
Funafuti	4,500				
<b>Pitcairn</b>	<b>67</b>	0.0007%	0.25%	Very small pop	Dense pop on main island
<b>Total</b>	<b>10,101,514</b>	100%			

# Selected countries

## Geographical distribution of the population

92.5% of the population is located on the western side of the area under study and "near" more heavily industrialised countries, such as New Zealand and Australia



# Selected countries

## Population in the main urban areas

Country/Territory	Population
<b>Papua New Guinea</b>	<b>7,321,000</b>
Port Moresby	410,000
Lae	100,000
Mount Hagen	46,000
<b>Fiji</b>	<b>881,065</b>
Suva urban area	245,000
Lautoka & Nadi	100,000
Labasa	30,000
<b>Solomon Islands</b>	<b>561,230</b>
Honiara	65,000
<b>French Polynesia</b>	<b>274,217</b>
Papeete urban area	120,000
<b>New Caledonia</b>	<b>269,000</b>
Greater Noumea	180,000
<b>Vanuatu</b>	<b>252,763</b>
Port Vila	45,000
<b>Samoa</b>	<b>190,372</b>
Apia urban area	45,000
<b>Tonga</b>	<b>105,323</b>
Nuku'alofa	25,500
<b>Kiribati</b>	<b>102,351</b>
South Tarawa	40,000
<b>Marshall Islands</b>	<b>52,634</b>
Majuro	37,000

**> 400,000 pop.:**

Port Moresby (PNG)

**100,000 to 250,000 pop.:**

Suva (Fiji)

Noumea (NC)

Papeete (FP)

Lautoka & Nadi (Fiji)

Lae (PNG)

**25,000 to 75,000 pop.:**

8 towns in 8 countries

14 towns totalling 1.5 million pop.,

i.e. 15% of the population involved

# Selected countries

## A word on population: summary

88% of the population lives in PNG, Fiji and the Solomon Islands

92.5 % live in the study area's west

Towns with < 25 000 pop. only account for 15% of the population

4 types of population density:

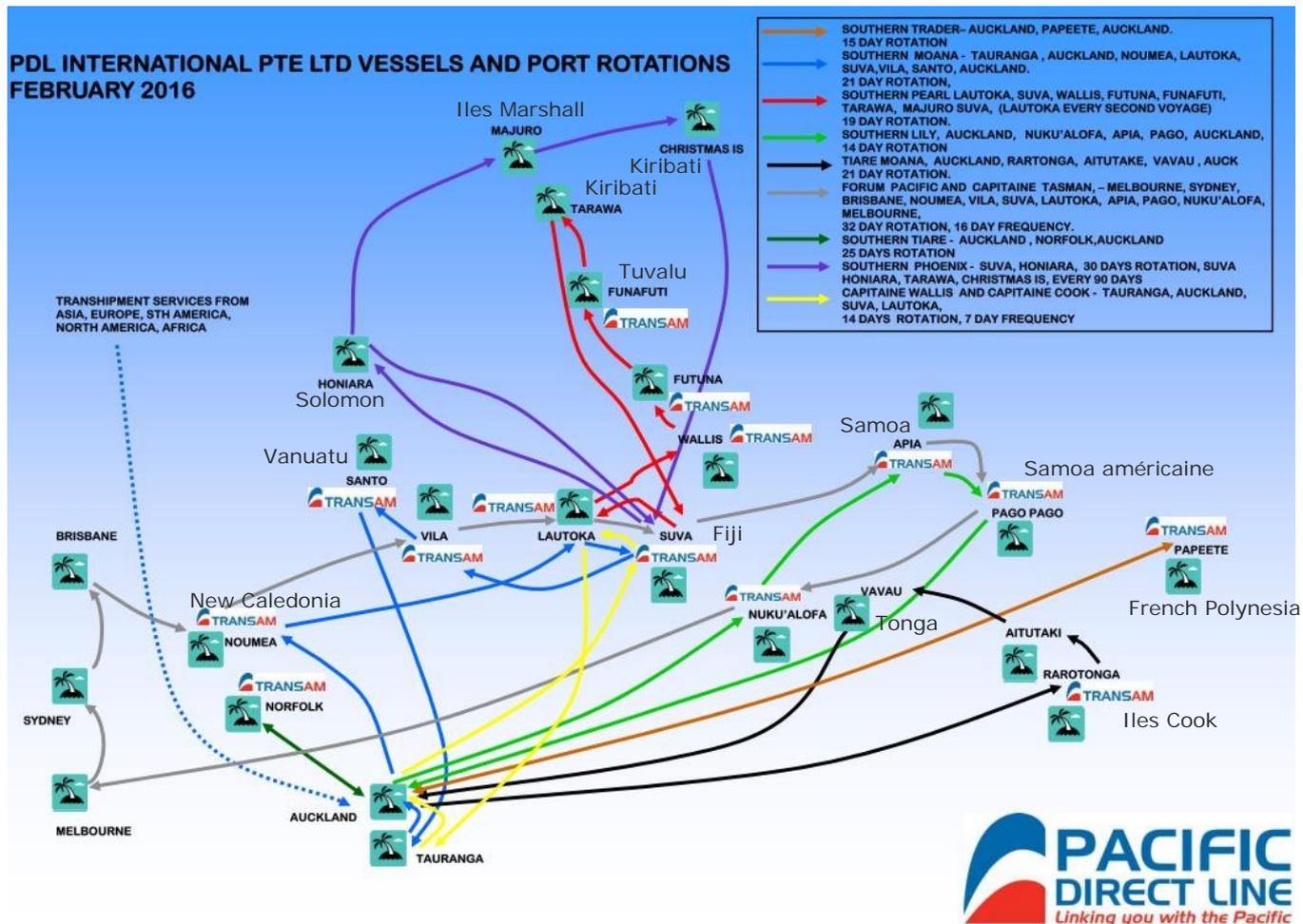
- Very dense population (PNG)
- Dense on one or two islands or in one urban area (Samoa, Tonga and W&F)
- **Highly scattered population in the remaining islands in 7 countries and territories**
- Scattered population (Vanuatu)

# Baseline Study

Shipping lines

# Existing shipping lines

## Pacific Direct Line



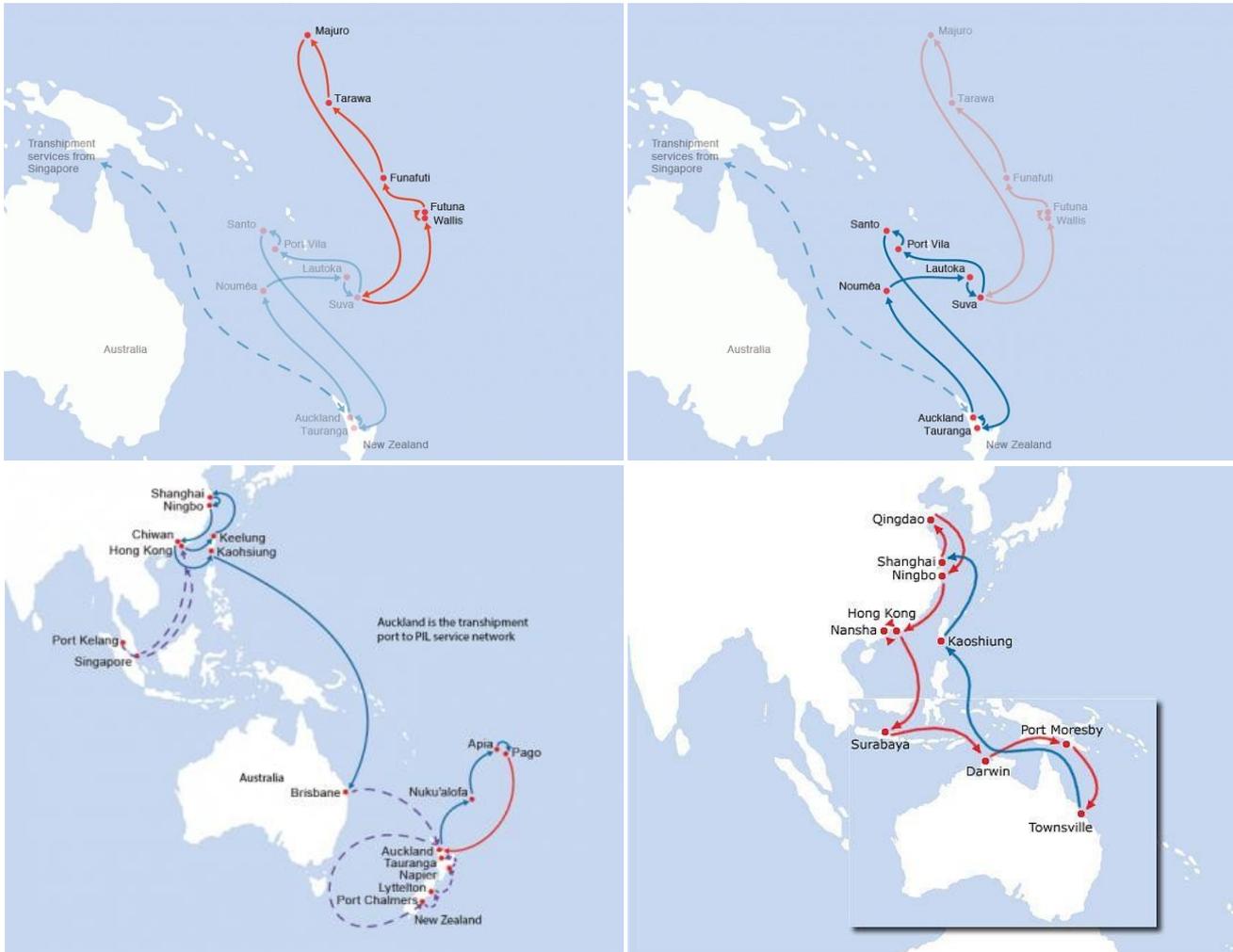
# Existing shipping lines

CMA CGM



# Existing shipping lines

## Pilship



Source: <https://www.pilship.com>

# Existing shipping lines

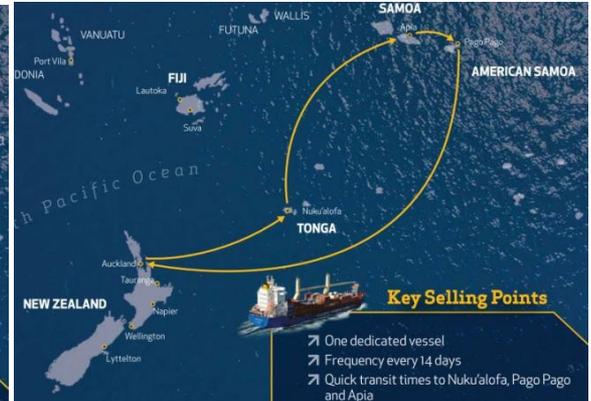
## Pilship



Source: <https://www.pilship.com>

# Existing shipping lines

## Pacific Forum Line



Source: <http://www.pacificforumline.com/services/>

# Existing shipping lines

## Mariana Express Line

### **Majuro South Pacific (MSP) Service**

Starting 28 February 2017

MSP Service services two loops alternating between Honiara, Solomon Islands and Majuro, Marshall

Islands with the following rotations:

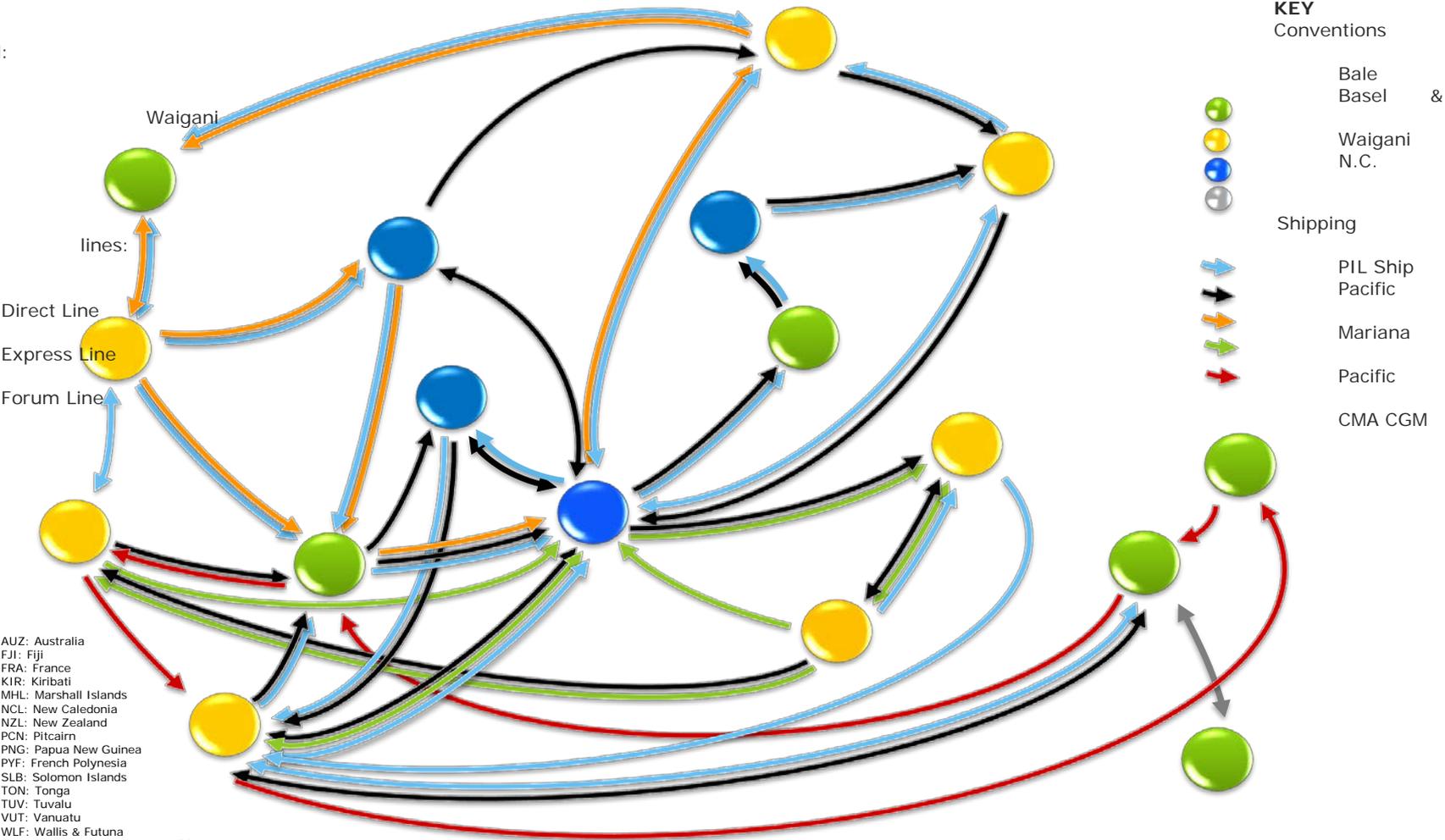
**Loop 1:** Nansha – Gaolan – Hong Kong – Shekou – Lae (1) – **Honiara** – Noumea – Suva – Lautoka – Lae (2)  
- Nansha

**Loop 2:** Nansha – Gaolan – Hong Kong – Shekou – Lae – Noumea – Suva – Lautoka – **Majuro** – Nansha

# Existing shipping lines

Overview (Jan. 2017) including hazardous waste transport management conventions ratified by the countries.

ratified:



AUZ: Australia  
 FJI: Fiji  
 FRA: France  
 KIR: Kiribati  
 MHL: Marshall Islands  
 NCL: New Caledonia  
 NZL: New Zealand  
 PCN: Pitcairn  
 PNG: Papua New Guinea  
 PYF: French Polynesia  
 SLB: Solomon Islands  
 TON: Tonga  
 TUV: Tuvalu  
 VUT: Vanuatu  
 WLF: Wallis & Futuna  
 Country abbreviation source: ISO standard 3166-1  
 and «NATO STANAG 1059 (7, 2000 and 8, 2003 eds) Distinguishing Letters for Geographical Entities for Use in NATO

# Existing shipping lines

**Overview** (January 2017) and hazardous waste transport management conventions ratified by the countries.

✓ **No companies servicing all 13 countries and territories (PDL services 11 at best)**

✓ **Geographical distribution of shipping routes among some companies (restricting choice):**

1 more to the area's north (Mariana Express Line)

1 more the south (Pacific Forum Line)

1 between the main French OCTs (CMA CGM)

✓ **2 lines only with fairly complete service: PIL Ship & PDL**

✓ **2 major shipping hubs: Fiji and New Caledonia**

but they have not ratified the same conventions

and have a one-way connection: NC to Fiji

✓ **Minor shipping connections between countries/territories that have not signed the same conventions:**

Fiji – Wallis & Futuna – Tuvalu

Solomon Islands – New Caledonia

Vanuatu – New Caledonia

✓ **PNG and FP logistically isolated from the other countries**

# **Baseline Study**

Hazardous-waste management

# Mapping hazardous waste and management methods

## Types of hazardous waste produced



Radioactive waste

PCB waste

Used oil

Used batteries

Medical waste

- The military (defence forces and *gendarmes*)
- Military research
- Medical research waste
- Hospital waste

- Contaminated electrical transformers
- Contaminated oil

- Used mechanical workshop lubricants
- Used agricultural lubricants

- Used car and lorry batteries
- Various batteries and storage cells (high stakeholder demand)

- Expired medicines (genuine stakeholder and community demand)

# Mapping hazardous waste and management methods

## Annual tonnages and estimated stocks

### Hazardous waste management in the 13 countries and territories examined

Quantitative and qualitative data collected

Radioactive Waste			
Produced (T/yr)	Stockpiled (T)	Locally Processed (T/yr)	Shipped (T/yr)
Fiji	?	?	?
Marshall Islands	?	?	?
Kiribati	?	?	?
New Caledonia	yes <sup>8</sup>	yes <sup>8</sup>	n <sup>8</sup>
Pitcairn	no	?	?
PNG	yes	?	?
French Polynesia	yes <sup>8</sup>	yes <sup>8</sup>	n <sup>8</sup>
Solomon Islands	?	?	?
Samoa	?	?	?
Tonga	?	?	?
Tuvalu	no <sup>3</sup>	?	?
Vanuatu	?	?	?
Wallis & Futuna	no <sup>5</sup>	?	?
<b>Total</b>			

*Notes 1-18 provided in superscript to the right of each datum refer to the years in which data were provided, sources and any web links*

# Mapping hazardous waste and management methods

## Annual tonnages and estimated stocks

### Hazardous waste management in the 13 countries and territories examined

Quantitative and qualitative data collected

Batteries										
	Produced (T/yr)				Stockpiled (T)		Locally processed (T/yr)		Shipped(T/yr)	
	Wet-cell batteries		Dry-cell batteries							
Fiji	yes	6 <sup>1</sup>	yes	6 <sup>1</sup>	?		yes	01/15	?	
Marshall Islands	yes	18 <sup>1</sup>	yes		?		no		?	
Kiribati	yes	1 <sup>1</sup>	yes		yes	1	no			
New Caledonia	1127	10	57	10	no		no		1127 +	10
Pitcairn	1	14	yes		6.5	14	no	14	project	14
PNG	600	6	yes		yes	6	no	4	?	
French Polynesia	240	11	90	11	no	11	no	11	yes	11
Solomon Islands	yes		yes		?		no		?	
Samoa	yes		yes		yes	6	no		?	
Tonga	yes		yes		yes	6	no		?	
Tuvalu	yes	6	yes	6	yes	6	no	6	no	6
Vanuatu	yes		yes		?		no		?	
Wallis & Futuna	8	6	yes	5	yes	5	no	5	150	5
<b>Total</b>	2123				6.5				1334	

Notes 1-18 provided in superscript to the right of each datum refer to the years in which data were provided, sources and any web links

# Mapping hazardous waste and management methods

## Annual tonnages and estimated stocks

### Hazardous waste management in the 13 countries and territories examined

Quantitative and qualitative data collected

		USED OIL							
		Produced (T/yr)		Stockpiled (T)		Locally processed		Shipped (T/yr)	
Fiji		2600	<sup>1</sup>	?		14	<sup>6</sup>	?	
Marshall Islands		167	<sup>1</sup>	990	<sup>6</sup>	11	<sup>1</sup>	?	
Kiribati		77	<sup>6</sup>	7	<sup>6</sup>	no	<sup>1</sup>	20	<sup>1</sup>
New Caledonia		3000	<sup>2</sup>	no		30	<sup>2</sup>	no	<sup>10</sup>
Pitcairn		yes	<sup>14</sup>	project	<sup>14</sup>	yes	<sup>14</sup>	project	<sup>14</sup>
PNG		yes		90000	<sup>4</sup>	yes	<sup>4</sup>	250	<sup>4</sup>
French Polynesia		2700	<sup>1</sup>	900	<sup>1</sup>	?		1800	<sup>1</sup>
Solomon Islands		720	<sup>1</sup>	no	<sup>1</sup>	no	<sup>1</sup>	no	<sup>1</sup>
Samoa		270	<sup>1</sup>	8	<sup>1</sup>				
Tonga		202,5	<sup>6</sup>	8100	<sup>6</sup>	0	<sup>6</sup>	?	
Tuvalu		5	<sup>1</sup>	13	<sup>1</sup>	?		4	<sup>1</sup>
Vanuatu		223	<sup>6</sup>	no	<sup>1</sup>	18	<sup>6</sup>	113	<sup>6</sup>
Wallis & Futuna		2.2	<sup>5</sup>	90	<sup>6</sup>	no	<sup>5</sup>	18	<sup>5</sup>
<b>Total</b>		<b>9966</b>		<b>100108</b>		<b>4699</b>		<b>2204</b>	

Notes 1-18 provided in superscript to the right of each datum refer to the years in which data were provided, sources and any web links

# Mapping hazardous waste and management methods

## Annual tonnages and estimated stocks

### Hazardous waste management in the 13 countries and territories examined

Quantitative and qualitative data collected

	PCBs			
	Produced (T/yr)	Stockpiled (T)	Locally processed (T/yr)	Shipped (T/yr)
Fiji	yes	?	no	?
Marshall Islands	1 <sup>9</sup>	?	no	?
Kiribati	5.5 <sup>9</sup>	?	no	?
New Caledonia	73 <sup>10</sup>	?	no	73 <sup>10</sup>
Pitcairn	?	?	no	?
PNG	yes <sup>9</sup>	?	no	168 <sup>4</sup>
French Polynesia	YES <sup>11</sup>	?	no <sup>11</sup>	yes <sup>11</sup>
Solomon Islands	1 <sup>9</sup>	?	no	?
Samoa	10 <sup>9</sup>	?	no	?
Tonga	8 <sup>9</sup>	?	no	?
Tuvalu	8 <sup>9</sup>	?	no	?
Vanuatu	13 <sup>9</sup>	?	no	?
Wallis & Futuna	no <sup>5</sup>	yes <sup>9</sup>	no <sup>5</sup>	no <sup>5</sup>
<b>Total</b>	131 <sup>9</sup> +241			241

*Notes 1-18 provided in superscript to the right of each datum refer to the years in which data were provided, sources and any web links*

# Mapping hazardous waste and management methods

## Annual tonnages and estimated stocks

### Hazardous waste management in the 13 countries and territories examined

Quantitative and qualitative data collected

	Hospital Waste									
	Produced (T/yr)			Stockpiled (T)		Locally Processed (T/yr)		Shipped (T/yr)		
	Healthcare Waste	Medicines								
Fiji	250	<sup>6</sup>	yes		yes	<sup>17</sup>	yes	<sup>17</sup>	?	
Marshall Islands	yes	<sup>6</sup>	yes		76	<sup>6</sup>	yes	<sup>17</sup>	?	<sup>17</sup>
Kiribati	15	<sup>6</sup>	yes		0.75	<sup>6</sup>	15	<sup>6</sup>	no	
New Caledonia	350	<sup>7</sup>	yes		no		350	<sup>7</sup>	7.6	<sup>10</sup>
Pitcairn	yes		yes	<sup>14</sup>	?		project	<sup>14</sup>	?	
PNG	182	<sup>6</sup>	yes		yes	<sup>17</sup>	182	<sup>6</sup>	no	
French Polynesia	450+35	<sup>12</sup>	yes		yes		yes	<sup>6</sup>	no	<sup>6</sup>
Solomon Islands	yes	<sup>17</sup>	yes		?		yes	<sup>17</sup>	no	
Samoa	35	<sup>6</sup>	yes		5	<sup>6</sup>	35	<sup>6</sup>	no	
Tonga	70	<sup>6</sup>	yes		no		70	<sup>6</sup>	no	
Tuvalu	yes		yes		no		yes	<sup>17</sup>	no	
Vanuatu	71	<sup>6</sup>	yes		no		yes	<sup>17</sup>	no	
Wallis & Futuna	yes	<sup>5</sup>	yes	<sup>5</sup>	no	<sup>5</sup>	yes	<sup>5</sup>	proj	<sup>5</sup>
<b>Total</b>			1458		82		652		7.6	

Notes 1-18 provided in superscript to the right of each datum refer to the years in which data were provided, sources and any web links

# Mapping hazardous waste and management methods

Potential annual tonnages calculated by extrapolating the collected data

In order to estimate the potential amounts of waste requiring processing in the region that could be shipped (as many figures could not be obtained), waste production ratios (kg/capita/year) were calculated based on the data obtained for:

- used wet-cell batteries
- dry-cell batteries
- used oil
- healthcare waste

according to two levels of waste-disposal system development:

organised disposal (relatively well-structured with significant capture rates, shown in green (e.g. batteries in NCL)

- underdeveloped disposal systems with little or no structure and much lower capture rates than developed disposal systems, shown in orange (e.g. batteries on WLF)

*As hospital waste disposal existed, but was not highly developed in many countries and territories, the organised disposal-system ratio was used to estimate quantities. For batteries and oil, the underdeveloped system ratio was selected. In any case, the higher of the two extrapolated amounts was selected.*

*As quantitative data on radioactive waste was totally non-existent and too old for PCBs, this approach could not be adopted for them.*

# Mapping hazardous waste and management methods

## Potential annual tonnages calculated by extrapolating the collected data

### Hazardous-waste management in the 13 countries and territories examined

Collected and extrapolated quantitative data

Kg/capita ratio showing **organised disposal systems**

**underdeveloped systems**

	population	Radioactive Waste		Batteries					USED OIL						
		Produced (T/yr)	Kg/cap	Wet Cell	Kg/cap	Extrapol min	Dry Cell	Kg/cap	Extrapol min	Produced (T/yr)	Kg/cap	Extrapol min			
Fiji	881,065	yes		yes	<sup>6</sup>	455	yes	<sup>6</sup>	23.0	2600	<sup>1</sup>	2.95	2600		
Marshall Islands	52,634	?		yes	<sup>18</sup>	27	yes		1.4	167	<sup>1</sup>	3.18	167		
Kiribati	102,351	?		yes	<sup>1</sup>	53	yes		2.7	77	<sup>6</sup>	0.75	202		
New Caledonia	262,000	yes	<sup>8</sup>	1127	<sup>10</sup>	4.30	1127	57	<sup>1</sup> <sub>0</sub>	0.22	57.0	3000	<sup>2</sup>	11.45	3000
Pitcairn	49	no		1	<sup>14</sup>	20.41	1	yes		0.001	yes	<sup>14</sup>		0.10	
PNG	7,321,000	yes		600	<sup>6</sup>	0.08	3779	yes		191.1	yes		14435		
French Polynesia	274,217	yes	<sup>8</sup>	240	<sup>11</sup>		142	90	<sup>1</sup> <sub>1</sub>	7.2	2700	<sup>1</sup>	9.85	2700	
Solomon Islands	561,231	?		yes			290	yes		14.7	720	<sup>1</sup>	1.28	1107	
Samoa	190,372	?		yes			98	yes		5.0	270	<sup>1</sup>	1.42	375	
Tonga	105,323	?		yes			54	yes		2.7	202.5	<sup>6</sup>	1.92	208	
Tuvalu	9,876	no	<sup>3</sup>	yes	<sup>6</sup>		5	yes	<sup>6</sup>	0.3	5	<sup>1</sup>	0.46	19	
Vanuatu	252,763	?		yes			130	yes		6.6	223	<sup>6</sup>	0.88	498	
Wallis & Futuna	15,500	no	<sup>5</sup>	8	<sup>6</sup>	0.52	8	emptied	<sup>5</sup>	0.4	2.2	<sup>5</sup>	0.14	31	
<b>Total</b>	<b>10,028,381</b>			1976			6169	57		312	9966			25342	

Min weighted average	0.52	0.03	1.97
Max weighted average (organised system)	4.30	0.22	10.63
Estimated minimum total production (T/yr)	6168	312	25342
Estimated minimum total production (T/yr) (organised disposal system)	43137	2182	106602

*In red: data disregarded as too low (PNG) or too high (Pitcairn) or imported product data (FP)*

# Mapping hazardous waste and management methods

Potential annual tonnages calculated by extrapolating the collected data

## Hazardous-waste management in 13 countries and territories examined

Collected and extrapolated quantitative data

Kg/capita ratio showing

Organised disposal

Underdeveloped disposal

Country/Territory	Population	PCBs		Healthcare Waste			
		Produced (T/yr)	Kg/cap	Healthcare Waste (T/yr)	Produced (T/yr) Extrapo	Medicine	
Fiji	881,065	yes		250	0.28	1372	yes
Marshall Islands	52,634	1	0.02	yes		82	yes
Kiribati	102,351	5,5	0.05	15	0.15	159	yes
New Caledonia	262,000	73	0.28	350	1.34	350	yes
Pitcairn	49	?		yes		0	yes
PNG	7,321,000	yes	0.02	182	0.02	11400	yes
French Polynesia	274,217	YES		450+35	1.77	485	yes
Solomon Islands	561,231	1	0.002	yes		874	yes
Samoa	190,372	10	0.05	35	0.18	296	yes
Tonga	105,323	8	0.08	70	0.66	164	yes
Tuvalu	9,876	8	0.81	yes		15	yes
Vanuatu	252,763	13	0.05	71	0.28	394	yes
Wallis & Futuna	15,500	no		yes		24	yes
<b>Total</b>	<b>10,028,381</b>			<b>131<sup>9</sup></b>		<b>1458</b>	<b>15616</b>

Min weighted average	0.024	0.070	4.5%
Max weighted average (organised system)	Inappropriate as only historical stockpiles	1.56	
Estimated minimum total production (T/yr)	241	1503	
Estimated minimum total production (T/yr)	Inappropriate as only historical stockpiles	15616	

*In red: data discarded as too high (Tuvalu)*

# Mapping hazardous waste and management methods

Potential annual tonnages calculated by extrapolating the collected data

	population	Radioactive Waste		Batteries						HUILESUSAGEES			
		Produced (T/yr)	Kg/cap	Wetries Cell	Kg/hab	Extrapol min 455	Dry Cell	Kg/c	Extrapol min	Produced (T/yr)	Kg/hab	Extrapol min	
Fiji	881,065	yes		yes	<sup>6</sup>	27	ap		23.0		2600	<sup>1</sup> 2,95	2600
Marshall Islands	52,634	?		yes	<sup>18</sup>				1.4		2600	<sup>1</sup> 3,18	167
Kiribati	102,351	?		yes	<sup>1</sup>		yes	<sup>6</sup>	2.7		77	<sup>6</sup> 0,75	202
New Caledonia	262,000	yes	<sup>8</sup>	1127	<sup>10</sup>	4,30	57	<sup>10</sup>	0,22	57,0	3000	<sup>2</sup> 11,45	3000

## Calculation example 1:

An underdeveloped disposal system or true production < the underdeveloped system average

(e.g. Kiribati oil: true ratio of 0.75 kg/capita and average of 1.97)

Potential production = 102,351 pop. \* 1.97 kg/capita = 202 T/yr

Min weighted average	0.52	0.03	1.97	
Max weighted average (organised system)	4.30	0.22	10.63	
Estimated minimum total production (T/yr)		6168	312	25342
Estimated minimum total production (T/yr) (organised disposal system)		43137	2182	106602

In red: data discarded as too low (PNG) or too high (Pitcairn) or imported product data (FP)

# Mapping hazardous waste and management methods

Potential annual tonnages calculated by extrapolating the collected data

	population	Radioactive Waste		Batteries & Piles						HUILES USAGEES			
		Produced (T/yr)	Kg/cap	Produits (T/an)			Produits (T/an)			Kg/hab	Extrapol min		
				Batteries	Kg/hab	Extrapol min	Piles	Kg/hab	Extrapol min			Produits (T/an)	
Fiji	881,065	yes		yes	<sup>6</sup>	455		no	<sup>6</sup>	230	2600 <sup>1</sup>	2,95	2600
Marshall Islands	52,634	?		yes	18	27		yes		1.4	167 <sup>1</sup>	3,18	167
Kiribati	102,351	?		yes	1	53		yes		2.7	77 <sup>6</sup>	0,75	202
New Caledonia	262,000	yes	<sup>8</sup>	1127	<sup>10</sup>	4,30	1127	57	<sup>10</sup>	0,22	3000 <sup>2</sup>	11,45	3000
Pitcairn	49												

## Calculation example 2:

An underdeveloped disposal system or true production > the underdeveloped system average (e.g. Fiji oil: the true data is used)

Potential production = 2600 T/yr

Min weighted average	0.52	0.03	1.97
Max weighted average (organised system)	4.30	0.22	10.63
Estimated minimum total production (T/yr)	6168	312	25342
Estimated minimum total production (T/yr) (organised disposal system)	43137	2182	106602

In red: data discarded as too low (PNG) or too high (Pitcairn) or imported product data (FP)

# Mapping hazardous waste and management methods

Potential annual tonnages calculated by extrapolating the collected data

	population	Radioactive Waste							UILESUSAGEES					
		Produced		Produits Batter			Batteries		ts					
		(T/yr)	Kg/hab	Batte	ries	Kg/hab	Ex (T/yr)	Batteries	Kg/cap	Extrapol	Produi	Kg/hab	Extrapol	
Fiji	881,065	yes		yes	6	18	455	yes	6	23.0	2600	1	2,95	2600
Marshall Islands	52,634	?		yes		1	27	yes		1.4	167	6	0,75	202
Kiribati	102,351	?		yes	10	4,30	53	yes		2.7	77	2	11,45	3000
New Caledonia	262,000	yes	8			1127								

## Calculation example 3:

A developed disposal system

(e.g. New Caledonia oil: the true data is used)

Potential production = true production = 3000 T/yr

Min weighted average	0.52	0.03	1.97
Max weighted average (organised system)	4.30	0.22	10.63
Estimated minimum total production (T/yr)	6168	312	25342
Estimated minimum total production (T/yr) (organised disposal system)	43137	2182	106602

In red: data disregarded as too low (PNG) or too high (Pitcairn) or imported product data (FP)

# Mapping hazardous waste and management methods

## A closer look at one-off and regular shipments



Radio-  
active  
waste

**VLLW from  
NCL and FP**  
=> Or: France,  
ANDRA  
stockpiling  
facility, Aube



PCB  
waste

**NCL**  
=> Or: France (Séché  
Trédi St Vulbas) and  
Germany

**PNG waste  
from the  
Philippines in  
transit)**  
=> Op (2003):  
France

**PNG**  
=> Op (2003):  
Australia



Used  
oil

**NC, PF**  
=> Or: NZ

**WLF:**  
=> Op (2016)  
NZ

**PNG:**  
=> Or?:  
Australia

**TUV:**  
=> Or: Fiji  
(Foundries)

**Kiribati,  
Vanuatu**  
=> Op?: India



Used  
batteries

**NCL, PYF**  
=> Or: NZ or  
Australia

**PNG**  
=> Op: Fiji (via  
Solomons)

### Key:

*Op: one-off shipment in the past*

*Or: regular shipments*

*NCL: New Caledonia, PYF: French Polynesia, W&F: Wallis & Futuna, NZL: New Zealand*

*VLLW: very low-level (radioactive) waste*

# Mapping hazardous waste and management methods

## A closer look at how waste is recovered or treated locally

A closer look  
at used oil



### New Caledonia

- Incineration (SLN) + 90% of UO

### P.N.G.

- Separator-regenerator (TWM mobile unit)

### Marshall Islands

- Incineration (Marshalls Energy Company) 60 to 100% of UO

### Fiji

- Incineration (steel foundries) 70% of UO + Tuvalu UO

# Mapping hazardous waste and management methods

## A look at local recovery/processing methods

### A closer look at the mobile used-oil processing unit used in PNG

(Information from operator Total Waste Management's advertising material)

20-foot container

Works with an ordinary power supply

#### Process:

Can process a range of hydrocarbon-based oils, fuels, sludge and contaminated water, whether homogenous or not (from 200L to bulk-storage tanks)

- physical filtration
- pre-treatment heating
- centrifugal separation
- final-pass flotation extraction

The process generates three separate flows with a mix of fuels, sludge and water.

Option: re-using the oil as fuel by blending

*The unit is fitted with a process-and-blend option that can process the waste oils and fuels to fuel-grade standard and then blend them with higher-grade fuels, such as diesel, to provide supplementary fuel meeting OEM standards.*



**WASTE OIL PROCESSING UNIT**

TWM is proud to introduce PNG's first mobile waste oil processing unit. This equipment is innovative and technologically advanced and has been designed to operate as a self-powered stand-alone unit or on site provided power.

The unit is fully contained within a 20 foot standard modular shipping container, making it robust and able to be deployed quickly and efficiently. The unit is able to be used equally effectively on large scale industrial and remote site locations due to its small operational footprint.

The unit has been designed to process a range of hydrocarbon based oils, fuels, sludges and contaminated waters, with the process recovering three distinct streams – fuel grade blends, heavy sludges and water.

The basic process flow utilises a number of proven separation technologies – physical filtration, pre-treatment heating, centrifugal separation and a final pass flotation extraction. The process is fully automated, using a sophisticated HMI interface to process a variety of homogenous and non-homogenous waste streams to a high quality feedstock.

The unit is fitted with a process and blend option that allows waste oils and fuels to be processed to fuel grade standard that is then blended with higher grade fuels (such as diesel) to provide a supplementary fuel that meets OEM standards. This is a highly cost effective way of creating a true closed loop option to manage hydrocarbon wastes in situ – removing the need for expensive transportation of this material off site and the resultant loss of a valuable energy producing resource.

The unit is able to extract waste hydrocarbons, sludges and wash waters from a variety of packaging mediums – from 205L drums through to bulk storage tanks, maximising flexibility to suit a number of project sizes and specifications.

For more information on our waste oil processing unit and how it could deliver a range of beneficial environmental and commercial outcomes for your business or project, please feel free to contact one of our team at [www.twm.com.pg](http://www.twm.com.pg)



Lukaslim kantri bilong yumi  
Caring for our country

[www.twm.com.pg](http://www.twm.com.pg)

# Mapping hazardous waste and management methods

## A look at local recovery/processing methods

### A closer look at batteries



#### Processing and re-use

- Fiji: Pacific Batteries Ltd (*unconfirmed*)

### A closer look at healthcare waste



#### Pre-treatment & Incineration

- New Caledonia: Promed followed by CSP
- FP: NIVÉE on Tahiti

#### Incineration

- Fiji
- PNG
- Tonga
- Samoa
- Wallis & Futuna
- FP (10 small units on remote islands)
- Kiribati
- Tuvalu (Margaret Hospital)
- New Caledonia (animal carcasses: Le Repos des Lacs)

#### Direct Landfill Disposal

- Marshall Islands
- Pitcairn

# **Baseline Study**

Legal aspects

# Legal aspects

## Contents

The following pages discuss:

1/ **the main international conventions** governing the movement of hazardous waste and their implementation in the region.

- Basel Convention
- Waigani Convention

*(A detailed discussion of the Basel and Waigani Convention requirements is **appended to the report**)*

- OECD Decision C(2001)107/FINAL concerning the Control of Transboundary Movements of Wastes destined for Recovery Operations
- EU Regulation 1013/2006 on waste shipments to, from and within the European Community
- Other hazardous waste conventions
- Applicable law in OCTs and a discussion on Decision AOD 2013/755/EU
- Current status of ratifications and incorporation into national law
- A discussion on incorporation into law applicable in OCTs
- An example of an agreement between OCTs: Special Agreement between the National Government, New Caledonia and the Territories of Wallis and Futuna

2/ **SPREP's role in hazardous-waste management** in the region.

# Legal aspects

## Basel Convention

### **Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal**

Signed on 29 March 1989 and came into force on 5 May 1992

Link: <http://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf>

#### **Scope**

- Excludes ship and radioactive waste

#### **Objectives:**

- Restrict or ban hazardous-waste shipments to developing countries and Antarctica
- Provide for monitoring hazardous-waste movements between states party and institute a single notification procedure
- Ban hazardous-waste shipments to non-Party countries and denial of hazardous-waste imports from non-Party countries

# Legal aspects

## Basel Convention

### General obligations regarding movements:

Each party is required, *inter alia*:

- to not permit hazardous or other waste shipments to and from **non-party countries** (art. 4.5);
- when notified, prohibit or not permit hazardous-waste shipments to **parties that have banned them** (art. 4.1 (b));
- prohibit or not permit hazardous-waste shipments to **parties who do not consent to the specific** import of such waste (when the importing party has not banned the import) (art.4.1 (c)); and
- prohibit hazardous-waste exports to states party or groups thereof, particularly **developing countries** that have prohibited imports or if there is reason to believe the waste will not be managed in an environmentally-sound manner (art. 4.2 (e)).

### Other General obligations:

- Provide for legal and administrative measures to implement and enforce the provisions of the Convention (checks and penalties) (art. 4.4)
- Reduce hazardous waste (art. 4.2 (a))
- Ensure adequate disposal facilities are set up (art. 4.2 (b))
- Require that hazardous waste intended for shipment be packaged, labelled and shipped in accordance with applicable international standards and regulations (art. 4.7 (b))

# Legal aspects

## Basel Convention

### Requirement to inform and notify about shipments

All parties are required to:

- inform the parties if they exercise their right to prohibit hazardous waste for disposal (art. 4.1 (a)).
- **Competent authority(ies)**: states party must designate one or more competent authorities and a focal point. In transit countries, one competent authority must be designated to receive notifications (art. 5.1)
- **Notification**: require that a notification be provided to assess the proposed shipment's effects on health and the environment (art. 4.2 (f))
- **Indicate consent** or otherwise to a transit or import: the importing party must inform the notifying party whether or not it consents (art. 6.2, 6.4)
- **Movement document**: the hazardous and other waste must be accompanied by a movement document from the departure point to the disposal location (art. 4.7 (c))
- **Statement of disposal**: the disposer must sign the movement document on delivery and inform the exporting country that the disposal is complete as per the requirements stated in the notification (art. 6.10)

# Mapping international and local regulations

## Other conventions following on from the Basel Convention

### OECD Decision C(2001)107/FINAL concerning Movements of Wastes Destined for Recovery Operations

Adopted 14 June 2001

Link: <http://acts.oecd.org/Instruments/ShowInstrumentView.aspx?InstrumentID=221&Lang=fr&Book=False>

#### Background to the decision and connection with the Basel Convention

The OECD decision was made in response to article 11.2 of the Basel Convention.

Difference: the OECD decision concerns transboundary hazardous-waste movements for **recovery** purposes.

#### Objectives:

- Incorporate Basel Convention procedures and requirements into OECD area practices (the 2001 decision more closely aligned definitions and procedures with Basel than the 1992 decision).
- Cost-effectively control transboundary movements of **recoverable** waste within the OECD area in an environmentally-sound manner. The system offers a simpler and more transparent means of monitoring waste movements than the Basel Convention.
- Facilitate transboundary recoverable waste movements between OECD member countries when one of them is not a party to the Bern Convention.

Sources: [OECD Manual]: manual for applying the OECD decision, <https://www.oecd.org/env/waste/42262259.pdf>

# Legal aspects

## Waigani Convention

### **(Waigani) Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement of Hazardous Wastes within the South Pacific Region**

Adopted 16 September 1995. Effective 21 October 2001

Link: <http://www.sprep.org/attachments/legal/WaiganiConvention.pdf> (There is no official French version of the Convention).

#### **Scope:**

- Excludes ship waste, but includes radioactive waste.

#### **Background to the Convention and connection with the Basel Convention**

This is a regional convention adopted by Pacific island countries in response to article 11 of the Basel Convention and encourages the states party to sign bilateral, regional and multilateral agreements aimed at fulfilling the Convention objectives.

Not all Pacific-island countries are parties to the Basel and Waigani Convention. Out of the countries examined on five are, i.e. Papua New Guinea, Marshall Islands, Kiribati, Samoa and Tonga.

The Waigani Convention is very similar to Basel, but is:

1. a regional agreement;
2. covers radioactive waste; and
3. covers exclusive economic zones, i.e. up to 200 nautical miles, as opposed to the Basel Convention's 12 nautical mile territorial waters.

# Legal aspects

## Waigani Convention

### Objectives:

- Reduce and ban hazardous- and radioactive-waste movements to and within the Pacific region
- Reduce hazardous waste production in the region
- Ensure hazardous waste is disposed of in an environmentally-sound manner
- Assist Pacific-island countries manage hazardous and other waste

### General obligations related to hazardous-waste movements:

- Pacific-island states party to the Convention are required to ban hazardous and radioactive waste imports (Art 4.1(a));
- co-operate so that no hazardous or radioactive waste is illegally imported to them from non-party countries (art. 4.2(b)); and
- ban hazardous-waste **shipments to or from non-party countries from the Convention area**, subject to specific agreements (art. 4.4(g))

### Other General obligations:

- Reduce hazardous waste production (art. 4.4(a))
- Ensure that processing and disposal facilities are made available (art. 4.4(c)) and, where they are unavailable, co-operate so that hazardous waste is safely disposed of (art. 4.4(c)).
- Develop national hazardous-waste management strategies (art. 4.4(e))

# Legal aspects

## Waigani Convention

### Requirements for waste shipments between the parties

- **Export notification:** a party wishing to export hazardous waste must notify all the countries concerned (art. 6.1)
- **Consent:** the importing and/or transit party must notify its consent or otherwise to the exporting party (art. 6.4)
- **Movement document:** all movements must be accompanied by a movement document (art. 6.9)
- **Information on hazardous waste disposal:** the disposer must confirm that the hazardous waste has been disposed of to the exporting country's competent authority (art. 6.9)
- **Alternative disposal:** if the originally-agreed disposal cannot be provided, the importing party must inform the exporting party whether there is an alternative environmentally-sound disposal process available (art. 8.2) (otherwise the hazardous waste must be returned to the exporting party and neither the transit nor importing countries may oppose this (art. 8.1))

# Mapping international and local regulations

## EU regulation 1013/2006 on waste shipments

### EC Regulation 1013/2006 on waste shipments to, from and within the European Community

Adopted 14 June 2006

Link: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006R1013&from=FR>

### Background to the decision and connection with the Basel Convention

The regulation incorporates the **Basel Convention** and **OECD Decision C(2001)107/final** provisions into European Union practice.

In terms of the Basel Convention:

The regulation applies to all waste whether harmless or virtually harmless to the environment (**green list**) or harmful (**orange list**).

The regulation applies to waste transfers:

- between members within the Community or transiting through third countries;
- imported into the Community from third countries;
- exported from the Community to third countries
- in transit through the Community [FR CCI Paris, explanatory note on EU regulation]

Sources: [FR CCI Paris, note Règlement UE] Paris Chamber of Commerce and Industry explanatory note: <http://www.entreprises.cci-paris-idf.fr/web/environnement/dechets/tout-savoir-dechets/cadre-reglementaire-transferts-dechets>

# Mapping international and local regulations

## EU regulation 1013/2006 on waste shipments

### Procedures:

"This Regulation establishes procedures and control regimes for the shipment of waste, depending on

- **the origin [of the waste];**
- **destination and route of the shipment;**
- **the type of waste shipped [orange or green lists]; and**
- **the type of treatment to be applied to the waste [processing or disposal]" (FR CCI Paris, note Règlement UE).**

Type of Waste	Type of Treatment	Procedure
Orange-list waste	Waste for disposal Hazardous and semi-hazardous waste for recovery	Notification and prior written consent
Green-list waste	Non-hazardous waste for recovery	Information

Sources: Paris Chamber of Commerce and industry explanatory note: <http://www.entreprises.cci-paris-idf.fr/web/environnement/dechets/tout-savoir-dechets/cadre-reglementaire-transferts-dechets>

# Mapping international and local regulations

## EU regulation 1013/2006 on waste shipments

### Related EU regulations

**EC Council regulation 1420/1999 of 29 April 1999 establishing common rules and procedures to apply to shipments to certain non-OECD countries of certain types of waste**

Link: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006R1013&from=FR>

- Bans waste shipments to countries listed in annex A thereto (i.e. Fiji, Papua New Guinea, Tuvalu, Vanuatu and Western Samoa)

# Mapping local and international regulations

## Other hazardous-waste conventions

### **MARPOL Convention for the prevention of pollution from ships**

Link: [http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx)

The Convention includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes. Special Areas with strict controls on operational discharges are included in most Annexes.

### **The London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972**

Link: <http://www.imo.org/en/OurWork/Environment/LCLP/Documents/LC1972.pdf>

Its objective is preventing all types of marine pollution.

### **The (also) London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972**

Link: <http://www.imo.org/en/about/conventions/listofconventions/pages/convention-on-the-prevention-of-marine-pollution-by-dumping-of-wastes-and-other-matter.aspx>

The London Convention contributes to the international control and prevention of marine pollution by prohibiting the dumping of certain hazardous materials. In addition, a special permit is required prior to dumping of a number of other identified materials and a general permit for other wastes or matter.

# Mapping local and international regulations

## Other hazardous-waste conventions

### **The Stockholm Convention on Persistent Organic Pollutants, 22 May 2001.**

Link: <http://chm.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>

### **Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 10 September 1998**

Also known as the **PIC** (prior informed consent) **Convention**.

Link: <http://www.pic.int/TheConvention/Overview/TextoftheConvention/tabid/1048/language/en-US/Default.aspx>

This convention enables countries to decide which chemicals or dangerous pesticides they are prepared to admit or wish to ban because they cannot be safely managed.

# Mapping local and international regulations

## Applicable law in OCTs

## OCT ability to negotiate international agreements

### **Power to sign international agreements**

The organic acts governing OCT status stipulate that foreign policy is a national government power.

OCTs may, nevertheless, sign agreements “with one or more countries, territories or Pacific regional bodies” subject to authorisation from central government. They also have power to initiate negotiations, but cannot sign until national government grants authority.

In other words, the French national government ultimately decides whether or not international conventions such as the Waigani Convention are signed.

# Mapping local and international regulations

## Applicable law in OCTs

Basel yes, but Waigani no (with a crowding-out effect)

### Basel Convention: YES

The OCTs are parties to the Basel Convention through their metropolitan countries, i.e. France for New Caledonia, Wallis & Futuna and French Polynesia, and the United Kingdom for Pitcairn.

### Waigani Convention: NO, but tantamount to banning exports to non-party countries

Neither France nor the United Kingdom have signed the Waigani Convention, for several possible reasons, i.e.:

- radioactive waste included in the scope;
- trust in the Basel Convention as adequate for optimum management of hazardous waste movements; or
- OCTs have not taken any initiatives towards signature.

The Waigani Convention has a crowding-out effect on the **OCTs who are prevented from exporting to the states party** (cf. detailed discussion in the "Assessment" section)

# Mapping local and international regulations

## Applicable law in OCTs: OECD decision

### OECD decision and EC regulation: YES FOR EXPORTS to European and OECD countries

**OCTs are not part of the European Union**, although they do belong to their metropolitan member country (FR shipping memo) and, as such, **EU law does not apply to them, except under the association system** based on Part IV of the Treaty on the Functioning of the European Union (known as the “EC Treaty”).

The relationship between the EU and the OCTs is defined by **Council Decision 2013/755/EU of 25 November 2013 on the association of the overseas countries and territories with the European Union** or Overseas Association Decision (OAD).

⇒ Under the decision, **OCTs may not receive hazardous waste from the European Union or any third country**. Article 47 **prohibits** non-recoverable hazardous-waste **imports** into OCTs.

⇒ **OCTs must comply with regulation 1013/2016 if they wish to export hazardous waste to the European Union.**

(cf. details overleaf)

Sources: [FR shipping memo]: French Government memo on transboundary waste shipments  
[http://www.developpement-durable.gouv.fr/IMG/pdf/note\\_TTD\\_taille\\_OK\\_BPGD-13-144-1.pdf](http://www.developpement-durable.gouv.fr/IMG/pdf/note_TTD_taille_OK_BPGD-13-144-1.pdf)

# Mapping local and international regulations

## Applicable law in OCTs: a closer look at the OAD decision

### Council Decision 2013/755/EU of 25 November 2013 on the association of the overseas countries and territories with the European Union

**Article 47 of the 2013/755 OAD sets forth requirements for waste shipments:**

- “the Union shall **prohibit all direct or indirect exports of waste to the OCTs, with the exception of exports of non- hazardous waste destined for recovery operations**
- “OCTs authorities shall prohibit the direct or indirect **import** into their territory of such waste **from the Union or any third country.**”

**Regulation 1013/2006 applies:**

Article 47.4 of the OAD requires that member countries promote regulation 1013/2006, namely:

- **article 40 regarding waste shipments to OCTs** prohibiting EU waste exports to OCTs; and
- **article 46 regarding waste shipments to the EU from overseas countries or territories**; “article 46 of regulation 1013/2006 provides that if waste from overseas countries and territories is imported to the Community, chapter 2 of the regulation applies *mutatis mutandis*. In other words, exports from an OCT to mainland France or a French overseas *département*, for example, are deemed to be shipments within the European Community, whether or not they transit through a third country. **Information and notification procedures apply.**” (FR shipment memo)

**“France does not avail itself of the option provided for in article 46(2) of the Regulation to apply national procedures instead of the Regulation to waste shipments from overseas countries and territories** (FR shipment memo).

Sources: [FR shipping memo]: French Government memo on transboundary waste shipments  
[http://www.developpement-durable.gouv.fr/IMG/pdf/note\\_TTD\\_taille\\_OK\\_BPGD-13-144-1.pdf](http://www.developpement-durable.gouv.fr/IMG/pdf/note_TTD_taille_OK_BPGD-13-144-1.pdf)

# Mapping local and international regulations

## Basel and Waigani Convention ratification status

The table below shows Basel and Waigani ratification by the countries of the region.

	Waigani	Basel	Both
Australia	X	X	X
Fiji	X	–	–
France – New Caledonia	–	X	–
France – French Polynesia	–	X	–
France – Wallis et Futuna	–	X	–
Kiribati (35 islands)	X	X	X
Republic of the Marshall Islands	–	X	–
New Zealand	X	X	X
Papua New Guinea	X	X	X
Samoa	X	X	X
Solomon Islands	X	–	–
Tonga	X	X	X
Tuvalu	X	–	V
United Kingdom – Pitcairn Islands	–	X	–
Vanuatu	X	–	–

# Mapping local and international regulations

## Ratification status and incorporation into national law

### The situation in OCTs

#### **New Caledonia:**

- In New Caledonia, in matters of external relations, the French national government is responsible for applying the Basel Convention, which it signed. Transboundary waste shipments are, therefore, a national government matter, which the High Commissioner has delegated to his industrial adviser, the Director of the New Caledonian Department of Industry, Mines and Energy (DIMENC). DIMENC, therefore, monitors hazardous-waste exports under the Basel Convention on behalf of the High Commissioner of the French Republic.
- The Basel Convention has been **published in New Caledonia's Official Gazette**.
- Other than this, the Basel Convention provisions have not been incorporated into national (New Caledonian) law and so the country cannot apply the convention penalties for illegal shipments, for example, and no department or agency has been designated to carry out checks or impose penalties. As a result, New Caledonia is unable to assess illegal shipment violations (cf. Assessment section).
- Competent authority: DIMENC

# Mapping local and international regulations

## Ratification status and incorporation into national law

### The situation in OCTs

#### Wallis & Futuna:

- The Wallis & Futuna Environment Code contains **a chapter on waste shipments** and provides that **Basel Convention procedures** must be adhered to and that **hazardous waste cannot be exported to** Fiji, Papua New Guinea, Tuvalu, Vanuatu or Western Samoa in pursuance of EC regulation 1420/1999.

Link: [Lien \(voir p. 59\): http://www.wallis-et-futuna.pref.gouv.fr/content/download/1474/8774/file/Code%20de%20l'environnement.pdf](http://www.wallis-et-futuna.pref.gouv.fr/content/download/1474/8774/file/Code%20de%20l'environnement.pdf)

- Competent authority: Department of the Environment. As in New Caledonia, the French national government is responsible for applying international conventions and, therefore, enforcing the Basel Convention, and the Territorial Department of the Environment implements them.

# Mapping local and international regulations

## Ratification status and incorporation into national law

### The situation in OCTs

#### **French Polynesia:**

- In French Polynesia, the Basel Convention has been published in the Official Gazette of French Polynesia (JOPF).
- The French Polynesia Environment Code, **does not contain a chapter on hazardous-waste shipments**. It merely refers to hazardous waste containing asbestos and provides for an asbestos tracking form. It also provides for authorisation requirements for hazardous-waste processing facilities.

Link: <http://lexpol.cloud.pf/LexpolAfficheTexte.php?texte=447384>

- Competent authority: Department of the Environment (DIREN)

[ADEME, PF] ADEME (French Environment and Energy Management Agency) report on waste management in French Polynesia: [http://www.environnement.pf/sites/default/files/fichiers-documents/guide\\_des\\_dechets-web.pdf](http://www.environnement.pf/sites/default/files/fichiers-documents/guide_des_dechets-web.pdf)

# Mapping local and international regulations

## An example of an agreement between OCTs: Special Agreement between National Government, New Caledonia and Wallis & Futuna

### **Special Agreement between the French National Government, New Caledonia and Wallis & Futuna**

Signed on 1 December 2003 pursuant to the Noumea Accord: "Relations between New Caledonia and the Territory of the Islands of Wallis and Futuna will be addressed in a separate agreement. The State's services will be organised separately in New Caledonia and in this Territory."

The agreement seeks to preserve Wallis and Futuna from the harmful effects of the options made available to New Caledonia by the organic act on the latter's status.

- Under article 3, *"The French National Government undertakes to take the necessary measures to develop the Territory of the Islands of Wallis and Futuna economically, socially and culturally, so as to curtail the harmful effects of action New Caledonia may take in pursuance of options made available by the Organic Act."*
- Under article 4, *"New Caledonia undertakes, insofar as necessary and in areas under its responsibility, to discuss issues with the Territory of the Islands of Wallis and Futuna that may affect the latter's people in New Caledonia."*
- Under article 5, *"the Territory of the Islands of Wallis and Futuna undertakes to create favourable conditions and, with assistance from the French National Government and New Caledonia under terms as yet to be defined, identify the necessary means for harmonious economic development giving rise to skilled training, access to jobs [etc.] so as to keep its population in Wallis and Futuna."*
- A monitoring committee has been set up.

On the other hand, **this agreement does not provide for direct co-operation between New Caledonia and Wallis and Futuna.**

# Mapping local and international regulations

## Role played by SPREP

PROE = Programme Régional Océanien de l'Environnement  
SPREP = Secretariat of the Pacific Regional Environment Programme

### SPREP:

- **Tasked by its members\* to promote better environmental management and protection**



### Regarding waste management, SPREP:

- Implement programmes for building countries' technical capacity (training programmes)
- Foster waste management infrastructure development (sharing best practices).

\*SPREP members are American Samoa, Australia, Northern Marianas, Cook Islands, Federated States of Micronesia, Fiji, France, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, United Kingdom, United States, Vanuatu and Wallis & Futuna

# Assessment

**Assessment**

Technical Issues

# Assessment

## A word about population

Main population points gleaned from the baseline review:

- Adopt different specific approaches for **densely populated areas** (urban areas with >25,000 pop. or main islands) and **sparsely populated areas**.

**densely  
populated  
areas**



**Blueprint for a sustainable waste-collection, consolidation and shipment**

Considerably or densely populated countries & territories (mostly to the west): the whole of PNG, Viti Levu (Fiji), Laita (Solomons), Guadalcanal (Solomons), Noumea (NC), Papeete (FP), Upolu (Samoa), Tongatapu (Tonga)

**sparsely  
populated  
areas**



**Blueprint by waste stockpiling/disposal campaign**

Sparsely populated islands (mainly to the east) & remote islands

# Non-legal issues

## Contents

### **Five main non-legal issues were identified:**

1. Public health and environmental issues
2. Operational waste-management issues
3. Economic and consumer issues
4. Social and societal issues
5. Geographical issues

Each issue is discussed below.

# Non-legal issues

## Public health and environmental issues

Because fragile water tables and lenses and freshwater lakes are the only drinking-water sources, island ecosystems are highly prone to pollution, including from unplanned waste dumping.

The environments' flora is also directly affected by pollutants that are then passed on to the surrounding fauna, such as fish, and on to the top of the food chain, i.e. to humans. Lead poisoning may occur with very harmful effects on the brain, such as mental and cognitive disorders, including learning disabilities in children.

In mining areas in NC and PNG, watercourses and their flora and fauna are also affected by pollution from stockpiles of unhealthy and environmentally-harmful substances.

### **Obstacles observed:**

- Users are **unaware** of the dangers to health and the environment from discarded materials.
- **Poorly stockpiled waste** left in the rain, which can pollute the soil and water systems due to unsheltered stockpiles and unimpounded, untreated water that has been in contact with waste.
- **Unprotected waste** prone to theft and damage, which can generate seepage and pollution as a result.

# Non-legal issues

## Operational waste-management issues

The main obstacle to good hazardous-waste management is efficient capture, stockpiling (consolidation) and packaging of discarded hazardous substances before they are even shipped.

It has often been said that hazardous-waste collection systems in the Pacific islands were passive (it was left up to people to bring waste as they wished), rudimentary and even non-existent.

Also, administrative (applications to each country/territory on the way and labelling), technical (tests approved by the processing site) and economic hurdles to shipment under the Waigani and/or Basel Conventions are hindrances to sustainable systems.

### **Obstacles observed:**

- **Little use made of** operational success stories
- **Too few incentives** for production companies
- **No viable and sustainable technical blueprints** for setting up compliant collection and stockpiling systems prior to local processing or shipment.
- **Poor knowledge of the requirements** for incoming waste quality and packaging at processing sites

# Non-legal issues

## Economic and consumer issues

Scarce funding is often perceived as a major issue leading to inadequate hazardous-waste management. With such low captured waste volumes, it is impossible to invest in local processing solutions or even compliant stockpiling solutions without assistance.

*Consumer habits and, therefore, waste output in each country/territory differed widely in the South Pacific area examined.*

*In New Caledonia and French Polynesia, for example, car purchases were high and hence so was the used car-battery output. Other more isolated and less wealthy countries and territories with fewer cars produced used batteries of another kind, however, since alternative stand-alone, particularly solar, electricity generating system had been installed.*

*This study did not set out to produce a detailed analysis of the various consumer trends and waste outputs of each target country, but this aspect will need to be examined and the various proposed scenarios fine-tuned to reflect it.*

### **Obstacles observed:**

- Heavy **cost** of setting up and **maintaining** facilities and operating hazardous-waste processing units
- **Poorly-allocated tax revenue** such as it exists
- **Patchy knowledge of** appropriate existing **organisations and technical solutions**

# Non-legal issues

## Human-resource allocation issues

An issue that often follows on from the lack of funding is that the skilled labour required for good hazardous-waste management (e.g. a sorting outreach officer, policy officer and CEPI inspector) cannot be recruited. This can be compounded by the lack of qualified labour in the countries and territories.

Pressed for time and understaffed or due to an inactive network between countries and territories, the waste-shipment focal points and departments in the various countries have not been clearly identified or, depending on the country or territory, can be the ministry of the environment, health, foreign affairs or maritime affairs, etc.

The stakeholders, i.e. central or local government bodies and the business community, do not always have a clear perception of environmental management priorities for the various types of waste.

Also, because it is easier to collect plastic bottles, change plastic-bag use habits or even buy back aluminium cans, a case can be made for setting up collection and recycling services, although the health and environmental impact from such waste is far less serious than from hazardous waste. Hazardous-waste capture relies mainly on private players, such as mechanical workshops who need convincing to collect and process hazardous waste at a much higher cost than for non-hazardous waste.

### **Obstacles observed:**

- Lack of **funding for attracting or recruiting** a full-time waste expert
- **Unskilled** labour pool
- Lack of **convincing arguments**, incentives or regulations for hazardous-waste producers to make hazardous-waste management a priority

# Non-legal issues

## Geographical issues

Remoteness further complicates waste management. Double and triple insularity are extra hurdles that need to be addressed when managing countries and territories, as they raise even more serious logistical and administrative issues than on main islands and lead to a shortage of material and human resources.

All islands are dependent on existing shipping lines, some of which are better developed in the north of the area examined and others in the south, while some only service French OCTs. The entire network, as mapped on slide 45, shows that while all countries are serviced, waste shipping routes to NZ, for example, are very rarely direct, requiring offloading in ports, which is a further administrative hurdle. Hazardous waste being shipped by Wallis & Futuna to NZ, for instance, has to transit through at least Tuvalu, Kiribati and Fiji, as there is no direct Wallis – Fiji route.

Also, waste shipments between islands depend on the willingness of shipping lines and/or shipmasters or transit countries that are under no obligation to grant transit (with or without transshipment) to hazardous waste from other territories (e.g. in December 2016, Vanuatu came back on its decision to allow a vessel carrying hazardous waste from WF to transit when it was already in Fiji).

### **Obstacles observed:**

- **Distance**
- **Economic** rationale of current logistical approaches
- Many **transhipments** increasing costs
- Shipmasters and shipping lines **reluctant** to carry hazardous waste
- **Weather**

# Assessment: summary of non-legal issues

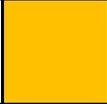
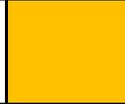
The table below shows criticality levels for each issue (cf. key). Criticality levels are defined based on stakeholder feedback at interviews.

Crit. = criticality level

 Noteworthy

 High

 Critical

Area	General Issues	Crit.	Specific Issues in Some Countries & Territories	Crit.
Health & Environment	Pollution hazard for land-based (watercourses, water tables & lakes) and marine (lagoons & ocean) ecosystems		Health hazard from drinking-water resource pollution by unplanned waste dumping (W&F, FP, Loyalty Islands [NC] and Tuvalu)	
Operational waste management	Poorly-structured, non-standardised waste collection and consolidation			
	High shipment costs and complex organisation			
Allocated funds and equipment	Little funding allocated		Highly variable development standards & consumer habits and hence waste outputs depending on the country/territory and its wealth	
	Building viable economic models difficult due to low hazardous-waste volumes generated		Poor allocation of current taxation revenue (W&F)	
Human resources allocated	No "hazardous-waste" focal points identified or different in each country: ministry of the environment, health, foreign affairs and maritime affairs, etc.		Insufficient resources to recruit human capacity (engineers, project managers and CEPI inspectors) (PNG, W&F and Tuvalu)	
			Stakeholders not environmentally prioritising the management of the different types of waste (HW and NHW) (W&F and Tuvalu)	
Geography	Insular remoteness		Remoteness through double insularity or more (almost all the countries & territories)	
	Dependence on existing shipping lines and their goodwill		Shipping logistics rationale that isolates some countries & territories (PNG and Kiribati)	

# Non-legal issues

## Priority non-legal issues and resulting action proposals

Area	Critical Issues	Priority Action for the Scenarios	Common-Core Issues in Scenarios
Health & Environment	Major health hazard (polluted water) from unplanned pollutant waste stockpiling Pollution hazard for land-based (watercourses, water tables & lakes) and marine (lagoons & ocean) ecosystems	Improve waste capture and treatment in compliance with current regulations	Standardise waste collection and stockpiling (consolidation) before processing or shipment Based on both population density levels
Operational waste management	Poorly-structured, non-standardised waste collection and consolidation	Organise and standardise waste capture	
Funding	High shipment costs and complex organisation	Give priority to local recovery and recycling solutions wherever possible	As with healthcare waste: assess existing or potential local solutions
Human resources	No "hazardous-waste" focal points identified or different from one country to another: ministry of the environment, health, foreign affairs and maritime affairs, etc.	Improve and centralise the information and knowledge network	Develop common operational assistance among the countries & territories to facilitate waste shipments
	Insufficient resources to recruit human capacity (engineers, project managers and CEPI inspectors)	Pool human and capacity-building resources	

**Assessment**

Legal issues

# Legal barriers

## Introduction

### **In legal terms, six major issues were identified:**

1. Ratification of the various conventions
2. International instruments not incorporated into national law
3. Shortcomings in implementing national and international regulations
4. Differences of interpretation
5. Lack of regional co-operation
6. Few one-stop shops and a lack of co-operation within countries

# Legal barriers to hazardous waste shipments

## Various conventions ratified

The countries and territories examined fall into one of the three following categories:

1/ **Basel-Convention-only** countries and territories: **OCTs**

Ship only to Waigani-Convention countries: deadlock

2/ **Waigani-Convention-only** countries: **Fiji, Niue, Solomon Islands, Tuvalu, Vanuatu**

Ship only to Basel-Convention countries: deadlock

3/ Countries party **to both the Basel and Waigani Conventions**: **Australia, Iles Cook, Federated States of Micronesia, Kiribati, Nauru, New Zealand, Papua New Guinea, Samoa, Tonga**

Exporting (below) / Importing (opposite) Country	Basel	Waigani	Basel & Waigani
Basel (OCTs)	Ok	Deadlock	Ok
Waigani	Deadlock	Ok	Ok
Basel & Waigani	Ok	Ok	Ok

Countries with the **most export options** are those that **ratified both conventions, as they can export their waste to all the region's countries**. Samoa, for example, indicated they had had no difficulties following ratification. Rejections resulted from clerical issues with the forms submitted.

Countries that have **only ratified one of the two conventions**, however, are at a disadvantage, as they have fewer export options.

# Legal barriers

Ratifying the various conventions: the OCTs are not party to the Waigani Convention

## OCTs and the Waigani Convention:

The OCTs are not party to the Waigani Convention (the possible reasons being listed in the “legal baseline” section, i.e. they are not part of France, are not entitled to sign the convention without consent from the French national government, have not initiated negotiations).

This raises the following question:

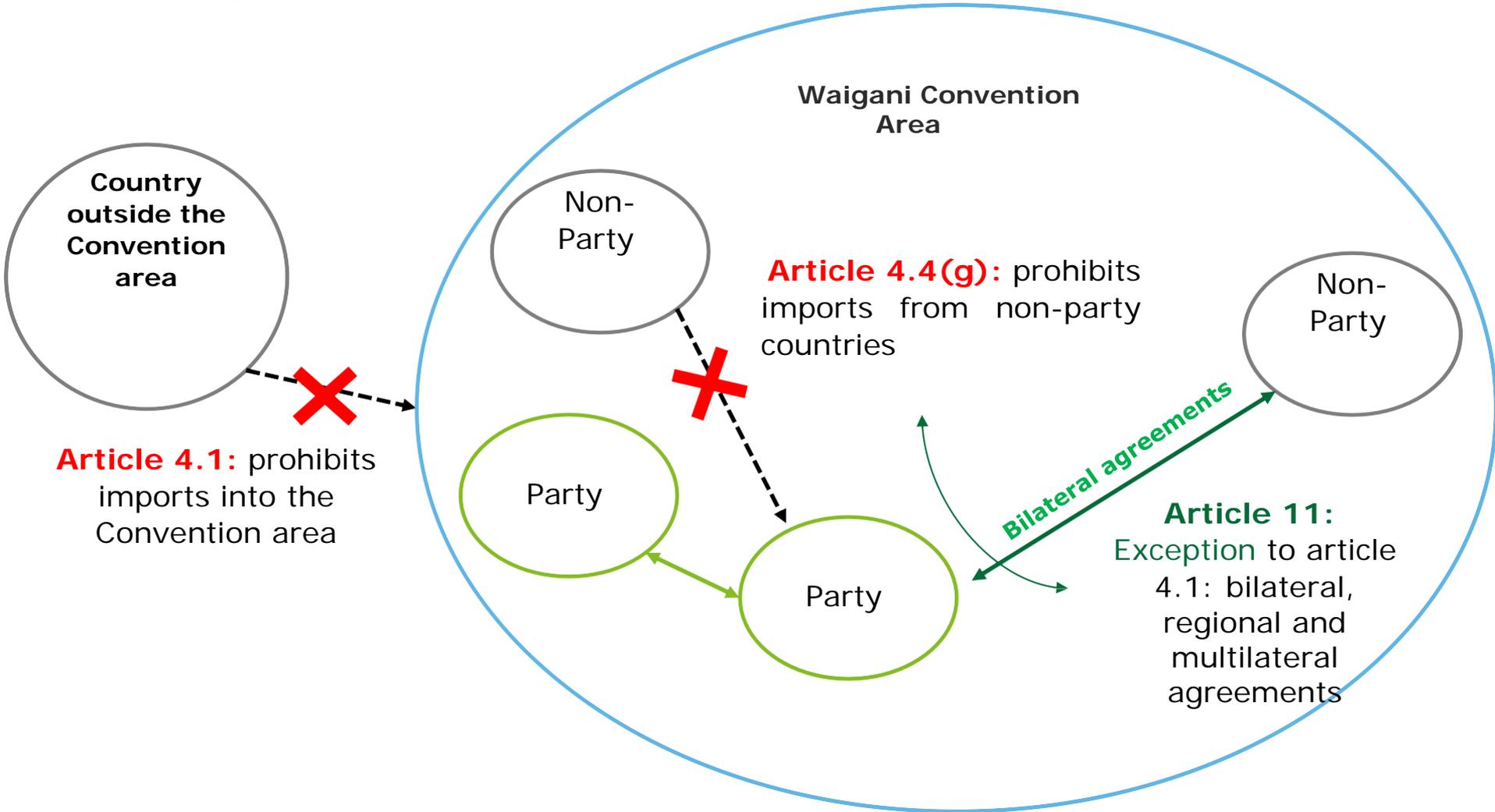
**To what extent can a state party to the Waigani Convention but not the Basel Convention (e.g. Fiji) deny entry or transit to hazardous-waste shipments from a Waigani non-party country, even if it is located in the Waigani Convention area?**

The following pages discuss the rationale based on three Waigani Convention provisions (cf. also the diagram of interactions between the provisions overleaf):

1. Article 4.1: ban on hazardous-waste imports into the Convention area
2. Article 4.4 (g): ban on hazardous-waste imports to parties from non-parties, subject to regional agreements
3. Article 11: bilateral, regional or multilateral agreements

# Legal barriers

Ratifying the various conventions: the OCTs are not party to the Waigani Convention



# Legal barriers

## Ratifying the various conventions: the OCTs are not party to the Waigani Convention

### Article 4.1: ban on hazardous-waste imports into the Convention area

Under article 4.1 of the Waigani Convention, the Convention area encompasses all South Pacific countries, including the OCTs, Australia and New Zealand.

Under article 4.1 of the Waigani Convention, **“Each Pacific Island Developing Party shall [...] ban the import of all hazardous wastes [...] from outside the Convention Area.”** The convention area includes the OCTs. In other words, article 4.1 of the Waigani Convention does not require the parties to ban hazardous-waste imports from OCTs to the states party.

### Article 1 defining the Convention area

- (i) the land territory, internal waters, territorial sea, continental shelf, archipelagic waters and exclusive economic zones established in accordance with international law of:

- |                                  |                          |
|----------------------------------|--------------------------|
| - American Samoa                 | - The Commonwealth of    |
| - Australia                      | Northern Mariana Islands |
| - Cook Islands                   | - Republic of Palau      |
| - Federated States of Micronesia | - Papua New Guinea       |
| - Fiji                           | - Pitcairn               |
| - French Polynesia               | - Solomon Islands        |
| - Guam                           | - Tokelau                |
| - Kiribati                       | - Tonga                  |
| - Republic of Marshall Islands   | - Tuvalu                 |
| - Nauru                          | - Vanuatu                |
| - New Caledonia and Dependencies | - Wallis and Futuna      |
| - New Zealand                    | - Western Samoa;         |
| - Niue                           |                          |

### ARTICLE 4

#### General Obligations

1. Hazardous Wastes and Radioactive Wastes Import and Export Ban
  - (a) Each Pacific Island Developing Party shall take appropriate legal, administrative and other measures within the area under its jurisdiction to ban the import of all hazardous wastes and radioactive wastes from outside the Convention Area. Such import shall be deemed an illegal and criminal act; and
  - (b) Each Other Party shall take appropriate legal, administrative and other measures within the area under its jurisdiction to ban the export of all hazardous wastes and radioactive wastes to all Forum Island Countries, or to territories located in the Convention Area with the exception of those that have the status of Other Parties in accordance with Annex IV. Such export shall be deemed an illegal and criminal act.

# Legal barriers

## Ratifying the various conventions: the OCTs are not party to the Waigani Convention

### Article 4.4 (g): ban on hazardous-waste imports to parties from non-parties, subject to regional agreements

Under article 4.4 (g) of the Waigani Convention, however, each party, subject to article 11 thereof (regional agreements) is required to **“prohibit within the area under its jurisdiction hazardous wastes from being exported to or imported from non-Parties within the Convention area.”**

This provision, therefore, lays down the **principle of banning imports from a Waigani-Convention non-party country, even if located within the Convention area, to a state party.**

#### Article 4.4 (g)

- (g) Subject to Article 11 of this Convention, prohibit within the area under its jurisdiction hazardous wastes from being exported to or imported from non-Parties within the Convention Area; and

# Legal barriers

## Ratifying the various conventions: the OCTs are not party to the Waigani Convention

### Article 11: bilateral, regional or multilateral agreements

As stated in article 4.4(g), however, the ban is subject to regional agreements reached in pursuance of article 11 of the Waigani Convention.

Article 11.1 of the Waigani Convention provides that states party may enter into bilateral, regional or multilateral hazardous-waste shipment agreements with non-parties, provided they do not infringe article 4.1 requirements on environmentally-sound waste processing.

#### ARTICLE 11

##### Bilateral, Regional or Multilateral Agreements or Arrangements

1. Notwithstanding the provisions of Article 4.4(g), Parties to this Convention may enter into bilateral, regional or multilateral agreements or arrangements with non-Parties regarding the transboundary movement and management of hazardous wastes provided that such agreements or arrangements do not derogate from the provisions of Article 4.1 or from the environmentally sound management of such wastes as required by this Convention.
2. The Parties shall notify the Secretariat of any bilateral, regional or multilateral agreements or arrangements referred to in paragraph 1 of this Article and those which they have entered into prior to the entry into force of this Convention for them, for the
3. The provisions of this Convention shall not affect transboundary movements of hazardous wastes which take place pursuant to such agreements or arrangements provided that such agreements or arrangements are compatible with the environmentally sound management of hazardous wastes as required by this Convention.

**As a result**, states party may accept waste imports or transits under bilateral arrangements with non-parties, such as OCTs, provided they do not originate from outside the Convention area.

In other words, **OCTs could theoretically ship their waste to Waigani Convention parties, subject to their consent (bilateral agreement, article 11).**

Countries outside the convention area, however, such as Germany or mainland France, may not ship hazardous waste to the convention area, because that would infringe article 4.1 of the Waigani Convention.

## Legal barriers

### International instruments not incorporated into domestic law

- Some countries **have not yet appointed competent authorities or “focal points”** or have designated persons who handle a number of other areas and so cannot effectively monitor hazardous waste.
- Other countries have not adopted **control measures**. For example, the Basel Convention has been published in the New Caledonian official gazette, but not incorporated into New Caledonian law. No department or agency has been designated to carry out inspections or impose penalties. So, in enforcement terms, New Caledonia lacks the means of assessing illegal shipments. If the Department of Industry (DIMENC) discovers differences between export and collection figures and suspects some operators might be infringing regulations, there is nothing it can do about it.
- Some countries **have not defined waste or the concept of hazardous waste**, although this is vital for knowing what waste can be shipped to other countries. It is also important for knowing what waste is the most harmful to humans and their environment.
- Tuvalu has only just started domestic training to implement the Waigani Convention.

# Legal barriers

## Shortcomings in implementing national and international regulations

- Pacific countries and territories **lack skilled resources** for developing, implementing and monitoring regulations, be they national or international. SPREP does not appear to have the resources either for supporting countries with implementing regulations.
- While all the countries have **waste monitoring systems, the quality of the quantitative data varies**. During SPREP workshops in Fiji, for example, it emerged that NC was one of the countries that had done the most to collect data, i.e. amounts of waste leaving per ship, arrival date in the importing country, date the waste was disposed of or recovered and certificate collection.
- With complex shipping routes and a host of regulations, both domestic and international, each shipment can become “unique”, requiring prior legal and technical analysis, which is time-consuming and calls for specific resources and skills.
- Wallis & Futuna: import duty revenue that is not allocated back to waste management.

# Legal barriers

## Differences of interpretation

- **Differences of interpretation** and/or definition in countries for the concepts of “waste”, “hazardous waste” and “environmentally-sound management methods” (the technical guidelines elaborate on some of the terms).
- E.g. New Caledonia and French Polynesia interpret requirements differently. FP applies European regulations to all hazardous-waste shipments leaving FP, while NC only to shipments bound for the EU.

# Legal barriers

## Lack of legal frameworks fostering regional co-operation, including between OCTs

- The **current co-operation system still appears inadequate** for optimum hazardous-waste management in the South Pacific region.
  - SPREP itself appears to lack capacity to act as the secretariat.
  - All the countries & territories appear, to varying degrees, to lack human, legal and technical, etc. capacity.
- Legal barriers also affect shipments between OCTs with NC rejecting any hazardous-waste imports pursuant to OAD 2013/755/EU.
  - Lessons learned: Wallis & Futuna requested that NC accept 200,000 litres of used oil, but the SLN processing facility CEPI order specified which countries it accepted used oil from as well as the quality and maximum quantities and excluded used oil from any country other than NC. It would have required amending the SLN processing facility rules. Also, the Wallis & Futuna oil specifications were not certain. As a result, the shipment was prohibited.
  - OCTs could benefit, however, from closer technical co-operation:
    - **Consolidation** could increase quantities and improve the bargaining position with shipping lines.
    - If they **co-operated**, OCTs could set up regional treatment facilities for all countries. Treatment facility projects have so far failed, mainly due to low deposits and high maintenance costs.

## Legal barriers

An illustration: the SPREP website has no active link to the list of competent authorities

---

### Competent Authorities and Focal Points

The Convention requires that in order to implement the Convention the Parties designate or establish a competent authority or a focal point (art.6).

This authority is responsible for transmitting and receiving information about the transboundary movement of hazardous wastes and of accidents.

Competent Authorities  here.

---

<http://www.sprep.org/legal/procedures-waigani>

# Legal barriers

## Few one-stop shops and a lack of co-operation within countries

- **Few one-stop shops:** waste can be administered by several authorities, such as national, territorial, provincial or regional government, etc., complicating the decision-making process.
- **Lack of co-ordination and communication** between the various waste-management stakeholders:
  - Data **scattered** among the various waste-management stakeholders
  - **Lack of communication with the Customs authorities in several countries:**
    - The role played by the Customs Department and its regulations is often not widely known or understood
    - Virtually no co-operation between Customs and the competent authorities on hazardous-waste shipments
    - Customs have data that could be cross-referenced with data collected under the Basel and Waigani Conventions, but there are often compatibility or confidentiality issues
    - Inadequate human, financial and technical resources make it difficult to set up and harmonise customs systems

### Few one-stop shops

#### The example of New Caledonia

- The provinces, who are responsible for the environment, define a provincial waste-management strategy based on their provincial blueprints, organise and structure regulated systems and monitor CEPI-rated (classified environmental preservation installation) facilities.
- The territorial government, which has cross-sector responsibilities such as health, oversees PIMW (potentially infectious medical waste) and unused medicines through the Department of Health and Social Welfare (DASS-NC).
- National government, which is responsible for external relations, oversees transboundary hazardous-waste shipments pursuant to the Basel Convention. The responsibility is delegated to the High Commissioner's industry adviser, the Director of the New Caledonia Department of Industry, Mines and Energy (DIMENC).

# Assessment

## Legal issues summarised (1/2)

The table below is a **summary of the various issues** classified under **common issues** throughout the region and **specific issues**, with a focus on OCTs wherever possible. Criticality levels are indicated for each issue (cf. key) and defined based on stakeholder interview feedback.

Crit. = criticality level  Satisfactory  High  Critical

Subject	Common Issues	Crit.	Specific Issues	Crit.
Ratification of the various conventions	Ratification of the various conventions is not critical at regional level. Some countries have no issues at all (e.g. Samoa). For countries/territories that have not ratified the Waigani Convention, however, the issue is critical (cf. specific issues).		Ratifying the various conventions is particularly critical for countries/territories that have not ratified the Waigani Convention, i.e. OCTs.	
Incorporation in domestic law	International instruments not incorporated in domestic law		New Caledonia: the Basel Convention has not been incorporated by specific implementation procedures and so there is no legal instrument for inspecting illegal shipments	
Regulatory enforcement	National regulations governing waste and hazardous waste are not being enforced		Some countries in the region have not defined the notion of hazardous waste. Most English-speaking countries have no shipment tracking records. New Caledonia has no legal framework for monitoring hazardous-waste management. Regionally, however, NC and FP appear more advanced than other countries.	

# Assessment

## Legal issues summarised (2/2)

Crit. = criticality level



Satisfactory

High

Critical

Subject	Common Issues	Crit.	Specific Issues	Crit.
Lack of resources and qualified resources	Lack of qualified resources: all the region's countries and territories lack capacity.		All the region's countries and territories lack capacity. Regionally, OCTs are less affected, as they are supported by metropolitan countries.	
Differences of interpretation	Differences of interpretation between countries and territories		There are differences of interpretation between French OCTs	
Regional co-operation	A lack of regional co-operation		OCTs could consolidate their waste to increase export volumes and so improve their bargaining position. Some Waigani Convention countries refuse to allow transiting or reject imports.	
Co-operation within countries	Few one-stop shops and lack of co-operation within countries		OCTs: powers widely distributed between mainland France, OCTs, provinces (NC) and the various authorities (health, maritime affairs and customs). An issue throughout the region, especially the lack of customs information.	

# Opportunities and Solutions

# Opportunities and Solutions

Introduction

# Improvement scenarios

A prerequisite: common core for the proposed scenarios

Before developing legal and technical scenarios to improve hazardous-waste shipments in the South Pacific, it would appear necessary to first structure waste capture (collection, consolidations, stockpiling and repackaging) before shipment so as to be in a position to standardise and apply joint measures.

The aim is also to gain recognition from all stakeholders (governments, organisations, public bodies and the logistics and processing industry) so as **to ensure the system remains sustainable and runs smoothly, because everyone understands it.**

**A common core for the various scenarios detailing these aspects has, therefore, been defined in advance.**

# Opportunities and Solutions

Improvement scenarios

Common core

# Improvement scenarios

## Common core

The common core to all the scenarios is based on three identified improvement areas:

**Standardise and improve upstream waste collection** and consolidation based on two types of territory:

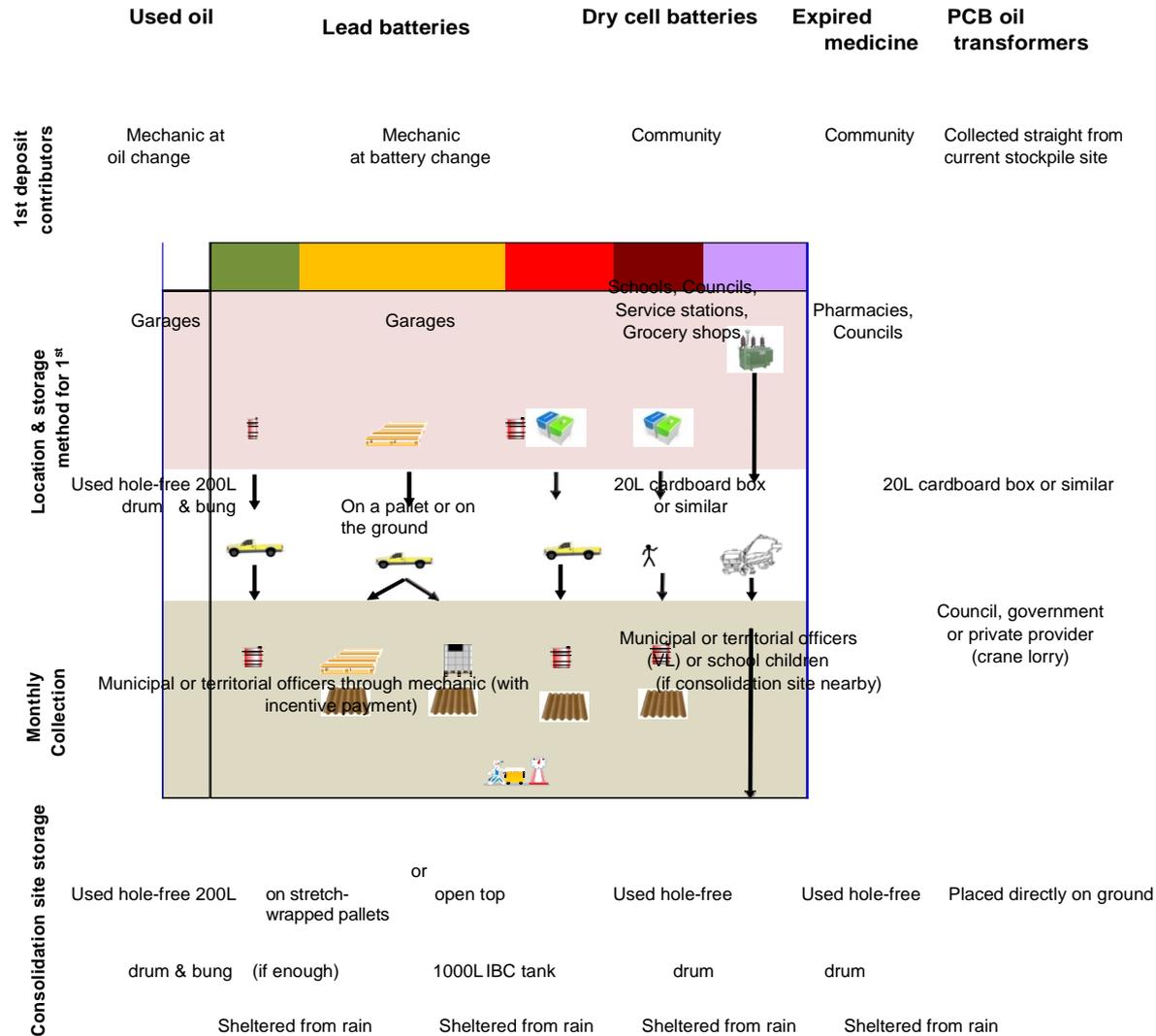
- Larger, main islands
- Smaller territories or outer (or even remote) islands

### **Standardise and improve consolidation practices**

- Site settlement and prerequisites for waste consolidation and shipment facilities
- Stockpile containers, shipping containers and administrative procedures for export

### **Strengthened operational assistance through SPREP for developing hazardous-waste shipments:**

- Gather Customs import data to improve waste capture rate monitoring
- Strengthen assistance for identifying all the stakeholders (governments and ministries in each country/territory)
- Strengthen assistance for community and stakeholder awareness training (same communication material)
- Assistance for following up and monitoring waste management based on national and Waigani-Convention recommendations
- Assistance with organising disposal, etc.



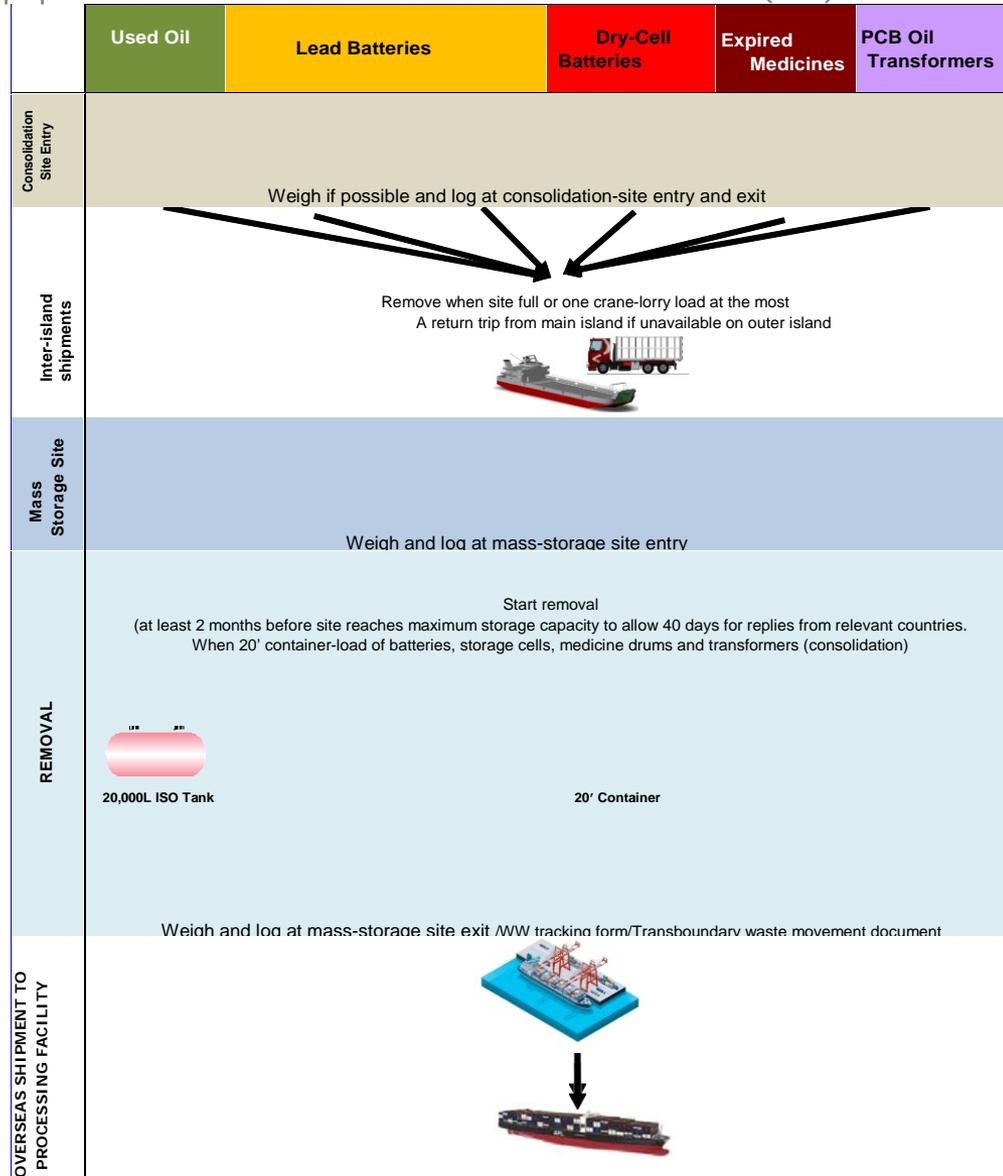
Drum may be left outdoors if securely bunged

Weigh if possible and log at consolidation-site arrival and departure

# Non-legal opportunities and solutions

Common core: pre-shipment collection and consolidation proposal

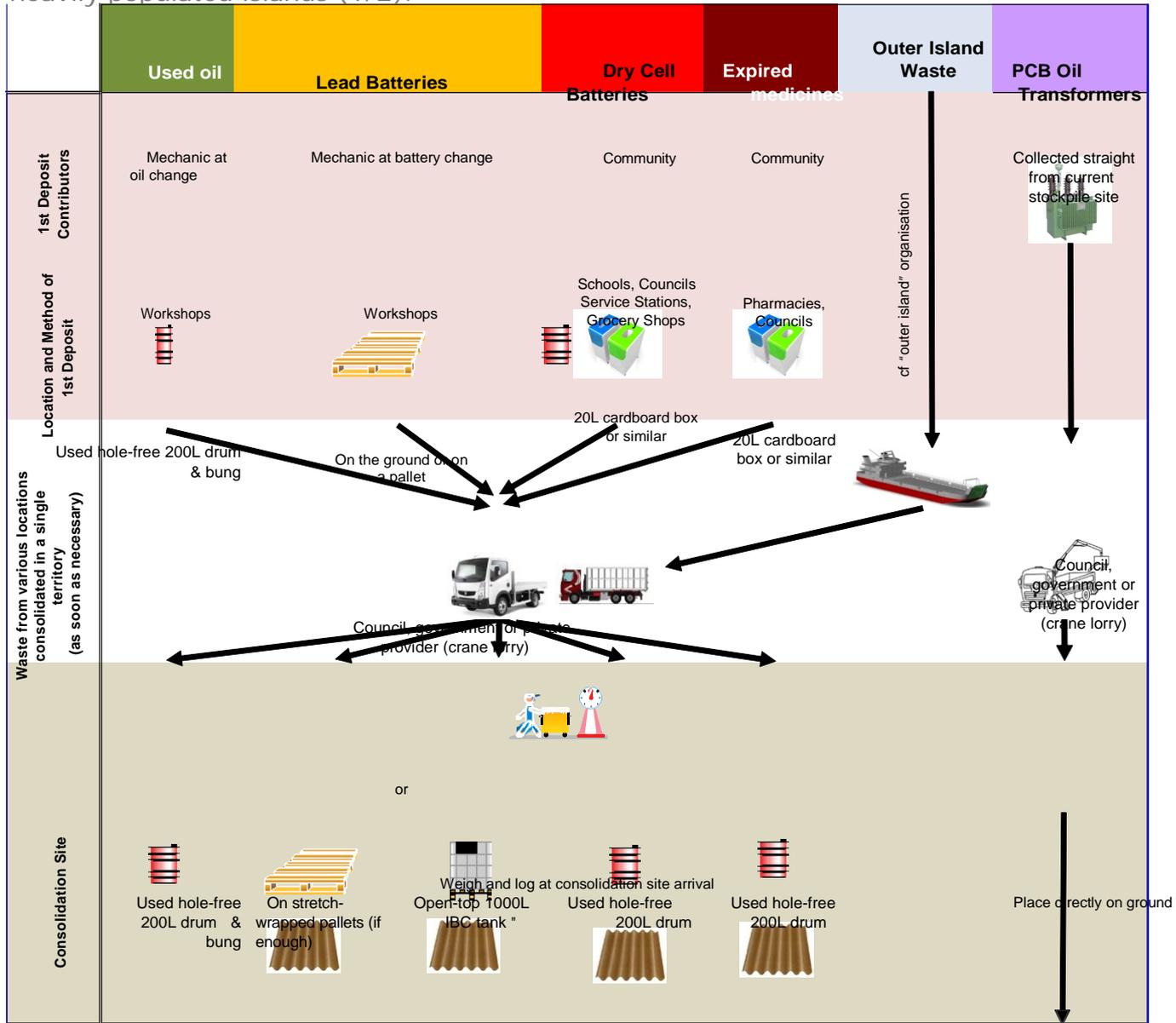
Least populated countries & territories and outer islands (2/2):



# Non-legal opportunities and solutions

## Common core: pre-shipment collection and consolidation proposal

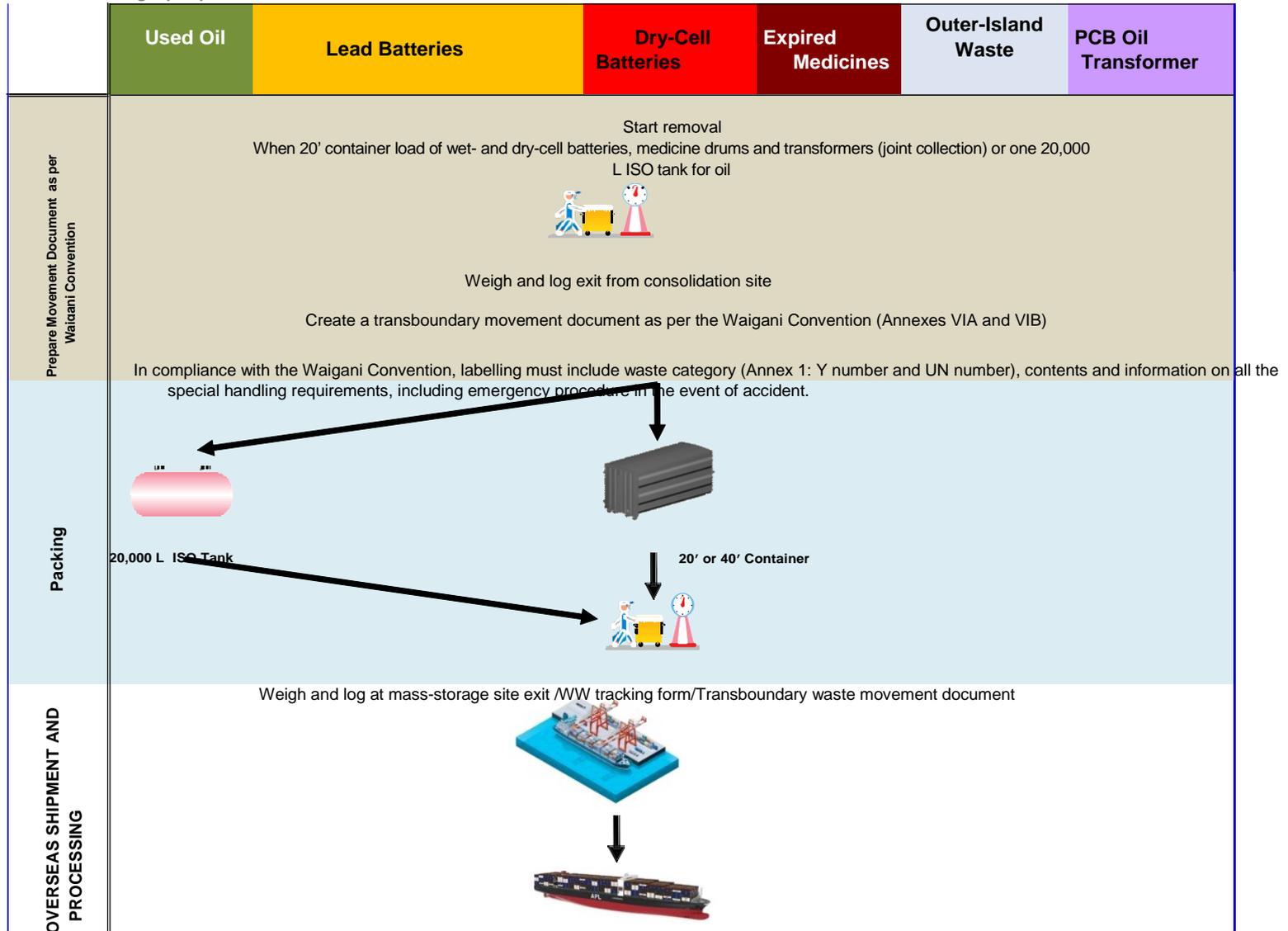
Main and more heavily populated islands (1/2):



# Non-legal opportunities and solutions

## Common core: pre-shipment collection and consolidation proposal

Main or more heavily-populated islands (2/2):



# Non-legal opportunities and solutions

Common core: pre-shipment collection and consolidation proposal

*(adapt to local regulatory requirements, CEPI type)*



## Recommendations for setting up consolidation sites:

- Fenced area to prevent pollution and damage to and dispersal of wastes
- Area sheltered from the elements to protect the waste from damage and prevent pollution
- Watertight slab linked to hydraulic separator with a holding area or mobile holding tank (if concrete building)
- An above-ground weighing system (at least) dispensing weigh tickets
- 1 pallet trolley
- Ways of checking entry-exit records, labelling, etc.

## Site location:

- Far from housing or public-access buildings
- Far from areas prone to industrial hazards (storage of inflammable substances or explosives)
- Far from areas prone to natural disaster (flooding, tsunamis or landslides)

# Non-legal opportunities and solutions

Common core: proposal for improving centralised operational and management support

## Objectives/tasks:

1. Hazardous-waste monitoring and management assistance in the South Pacific based on national recommendations and the Waigani and Basel Conventions – already provided by SPREP
2. Improve knowledge of consumer habits by monitoring imports of new batteries, oil, fuel, medicine and radioactive medical substances as a first step towards monitoring waste capture rates
3. Identify all the stakeholders responsible for hazardous-waste exports, transit and imports (governments and ministries of maritime affairs, foreign affairs, the environment and health, etc.)
4. Pool the countries & territories' operational needs (share good ideas and communication material, etc.)
5. Technical and administrative support for export and import paperwork.

## Resources:

Pool human resources to reduce costs to the countries & territories, e.g. project officers with a background in environmental engineering, specialising in international law

**All these tasks are part of SPREP's objectives and discussed further in scenario 2 on slide 110 onwards.**

# Opportunities and Solutions

Improvement scenarios

Assessment of existing local  
processing solutions

# Improvement scenarios

## Local processing solutions: used oil incineration (Marshall Islands, NC and Fiji)

### Definition



### Used oil incineration

#### DEFINITION

<http://www.larousse.fr>

*"Reducing to ashes, destroying by fire:  
household waste incineration."*

#### *Detailed definition:*

Incineration is burning as much waste as possible based on its net heating value (NHV – oils have a high NHV), effectively reducing its mass and producing energy.

Regulations require incineration to be supervised to varying extents and users must:

- recover the energy generated (through the steam produced)
- prevent waste from being released into the atmosphere
- use the clinkers (heavy residue)
- comply with certain restrictions (no unauthorized incineration).

#### PROCESS

- Waste is delivered and checked against requirements
- Burned in the furnaces
- Smoke is processed
- Electricity is generated with an alternator (optional)
- Water is heated by steam generation (optional)
- Clinkers used (optional)
- Ash and residue stored in a type-K1 hazardous-waste storage facility



# Improvement scenarios

Local processing solutions: used oil incineration

(Marshall Islands, NC and Fiji)

Advantages & disadvantages

## Advantages

- Financial benefit to the company
- Low investment requirements

## Disadvantages

- UO standards apply + prior testing for each delivery.
- Set incorporation rate for maintaining sufficient heating value, so small units can take very little UO.
- The incineration business depends on an industry that does not emphasise energy recovery with the risks that entails. *E.g. What will become of it in New Caledonia when SLN closes its diesel power plant?*



# Improvement scenarios

## Local processing solutions: used oil regeneration

(PNG)

### Definition



### Used oil regeneration

#### DEFINITION

<http://www.larousse.fr>

Chemistry: "Restore a substance's activity (catalyst, resin, etc.)"

- Regeneration is practiced on so-called "clear oil" (as opposed to very heavy, polluting black oil requiring incineration)
- Once an oil delivery is found to comply with standards, it is regenerated by cleaning and then re-used as a finished product

#### PROCESS

- Compliance testing
- Oil sorted on delivery
- Coarse and then finer straining
- Filtration and Decantation
- Depending on applicable regulations, VOCs (volatile organic compounds) must be treated



# Improvement scenarios

Local processing solutions: used oil regeneration

(PNG)

## Advantages & disadvantages

### Advantages

- Waste used in a closed loop
- Unit can be mobile and appropriate for islands
- Waste re-used on site
- No more waste shipments
- Investment can be shared as unit mobile

### Disadvantages

- UO standards apply (unconfirmed) + prior testing required for each delivery
- No experience feedback from TWM unit in PNG
- Requires investment



# Improvement scenarios

Local processing solutions: (Fiji, PNG, Tonga, Samoa, Wallis & Futuna, PYF (10 small units on remote islands), Kiribati, Tuvalu & New Caledonia)

## Advantages & disadvantages

### Advantages

- Only incineration residue (clinkers and ashes) is buried
- No transshipments between production and final processing

### Disadvantages

- Very heavy investment and considerable red tape\*
- Cannot be set up on outer islands, as not enough waste is produced (i.e. not profitable)
- High operating costs
- Airborne emissions
- Community resistance



\* *Varies according to local regulations*

# Improvement scenarios

Local processing solutions: pre-treating (decontaminating and sterilising) hospital waste (PYF, NCL)

## Advantages & disadvantages

### Advantages

- Moderate investment cost
- Low operating costs (low energy and water consumption) compared to incineration
- Reduces waste volumes (-80%)
- Pre-treated waste can be stored on site
- Suitable for islands producing small amounts of HCW
- Mobile solutions in 20-foot containers
- No airborne emissions

### Disadvantages

- Transshipment at storage location and final stockpile site
- 20% of generated waste volumes stockpiled



# **Opportunities and Solutions**

Improvement scenarios

# Opportunities and solutions

## Four legal scenarios and their underlying technical scenarios

### **Four scenarios have been considered:**

1. Allow OCTs to accede to the Waigani Convention
2. Examine the status quo by looking into all the potential improvements in managing the identified resource issues and enhancing compliance
3. Accession by all the region's countries to the Basel Convention
4. Explore ways of strengthening co-operation between OCTs through a regional agreement between them, for instance

# Opportunities and solutions

## Scenario 1: OCT accession to the Waigani Convention

The first scenario examines the potential for OCTs to accede to the Waigani Convention:

**Scenario 1.1:** The OCTs become parties to the Waigani Convention.

**Scenario 1.2:** The OCTs sign bilateral agreements with the Waigani Convention parties, whether long-term or ad hoc (at the time of export).

**Scenario 1.3** (which appears the most difficult to achieve): request the Waigani Convention be amended and a new provision expressly authorise exports from non-parties to the other countries and territories to facilitate environmentally-sound management in the convention area.

The scenarios are detailed below.

# Opportunities and solutions

## Scenario 1: OCT accession to the Waigani Convention

**Scenario 1.1:** the OCTs become parties to the Waigani Convention.

This scenario acknowledges the obstacles related to the OCTs' non-party status under the Waigani Convention and the complex process of negotiating bilateral agreements in pursuance of article 11 thereof (unsafe plus negotiations with several countries).

This scenario could **theoretically be achieved** if **France and the United Kingdom accede to the Waigani Convention** pursuant to article 23.2 thereof, first sentence:

*"Other States not members of the South Pacific Forum, which have territories in the Convention Area may accede to the Convention"* (an option confirmed by SPREP during the study).

There may, nevertheless, be **issues** in playing out the scenario, namely:

- the British and French Governments may be reluctant to accede to the Waigani Convention. Possible question marks or sticking points could include that the Waigani Convention also covers radioactive waste. The French Government's position on acceding to the treaty was not explored during this study.
- One solution could be to negotiate accession with provisos on the sticking points for France and Britain.
- No other major difficulties for achieving the scenario were identified.

# Opportunities and solutions

## Scenario 1: OCT accession to the Waigani Convention

**Scenario 1.2:** The OCTs sign bilateral agreements with the Waigani Convention parties, whether long-term or *ad hoc* (at the time of export).

As explained earlier, the Waigani Convention allows such bilateral, regional or multilateral agreements. This scenario appears fairly **easy to achieve**.

There are, nevertheless, difficulties that need to be considered:

- This scenario would require resources for negotiating with the states party concerned and involve obtaining the support of the metropolitan ministries of foreign affairs (France and Britain). SREP could act as a facilitator
- ❖ The solution would be to identify common interests (regionally consolidating waste, for example) to facilitate discussions.
  - ❖ SPREP could facilitate these.

# Opportunities and solutions

## Scenario 1: OCT accession to the Waigani Convention

**Scenario 1.3:** request **the Waigani Convention be amended** and a new provision expressly authorise exports from OCTs to the other countries and territories to facilitate environmentally-sound management in the convention area.

This scenario would be fairly **difficult to achieve**.

- This scenario would require a great deal of energy in negotiations with the states party and other stakeholders to review the Convention and include the metropolitan countries' ministries of foreign affairs (i.e. in Britain and France).
- Article 16 of the Waigani Convention provides that it may be amended by the conference of parties provided 2/3 of the parties are present and 2/3 of them vote in favour. Consensus should be sought and emphasised.  
As in scenario 1.2, the solution would be to identify common interests and highlight the benefits for the region as a whole.

# Opportunities and solutions

## Scenario 1: OCT accession to the Waigani Convention

### Technical benefits



This scenario would grant the OCTs (FP, WF and NC) access to battery recycling\* or oil incineration\*\* solutions in Fiji

*\* if approved*

*\*\* subject to the foundries' intake capacity*

# Opportunities and solutions

## Scenario 2: maintain the legal *status quo* and improve the current system

Scenario 2 is based on the assumption that the legal situation is not a major obstacle as such and that the main issues stem either from international conventions' not being incorporated into domestic law or from national waste, particularly hazardous-waste, regulations' not being implemented.

**Scenario 2, therefore,** seeks to improve the current system **without amending international conventions**. Based on the issues identified (cf Assessment section), the scenario covers three areas:

**Area 1: Initiate regional co-operation on the hazardous-waste issue**

**Area 2: Facilitate increased structure and skills in the countries & territories**

**Area 3: Foster reliance on existing legal options**

**Area 4: Explore existing or potential funding options**

# Opportunities and solutions

## Scenario 2: maintain the legal *status quo* and improve the current system

### Area 1: Initiate regional co-operation on the hazardous-waste issue

- It is recommended that greater use be made of regional co-operation on hazardous waste, particularly through SPREP, which could undertake the following:
- Conduct a baseline study not only of convention ratifications, but also implementation in all the region's countries, providing proactive support to countries & territories that are struggling with or lagging behind in implementation by maintaining **regular contact with the focal points individually**.
- Develop a **regularly updated (at least quarterly)** online **competent-authority table** (focal points). While the site mentions a list, the link is inoperative (accessed on 19/01/2017).
- Set up **and facilitate the** Waigani and Basel Convention **focal point network**, to foster feedback and sharing on potential mutual assistance and waste consolidation **with quarterly meetings lasting at least an hour and open to everybody by radio or video-conferencing**.
- Provide support to **studies on hazardous-waste deposits in all the countries** (partly done, but extend and consolidate the results to provide a broader overview of the situation Pacific-wide).
- Provide support for **setting up waste monitoring systems**.

### Implementation issues:

- SPREP itself appears under-resourced and funding needs to be obtained within SPREP for recruiting (if internal resources cannot be allocated) an at least part-time dedicated hazardous-waste worker to facilitate the focal point network. The funding could be sourced from the region's countries, but because they have scarce resources, it should ideally come from international development donors. Funding solutions should be explored.

# Opportunities and solutions

## Scenario 2: maintain the legal *status quo* and improve the current system

### Area 2: Facilitate increased structure and skills in the countries & territories

- Foster the **adoption of hazardous-waste regulations** and clarification of waste-shipment regulations. Specifically foster clarification of the definition of acceptable hazardous waste for import and/or, if applicable, transit. This shortcoming is what causes the hazardous-waste system to fail (no framework, no obligations, no funding and no control, etc).
- Foster the **publication of such regulations**.
- Foster **studies** on hazardous-waste deposit and output estimates.
- Foster setting up regulatory and operational frameworks to **monitor and control** hazardous-waste management and shipments (annual statistics and progress charts).
- Foster the **clarification of the various authorities** and stakeholders' **roles and duties** in hazardous-waste management, particularly shipments
- Foster the dedication and training of **internal resources** to hazardous-waste shipment management (e.g. a dedicated part-time waste-shipment officer).
- Foster **involvement in the work done by regional organisations** such as SPREP to improve hazardous-waste management regionally.

### Implementation issues:

- The countries and territories would be **unable to provide funding** and so it is vital for the scenario to succeed that the region's countries and territories be encouraged in their efforts to obtain the funding needed to reach the above objectives and build capacity.

# Opportunities and solutions

## Scenario 2: maintain the legal *status quo* and improve the current system

### **Area 3: Foster reliance on existing legal options**

- Scenario 1.2 would also need to be envisaged under scenario 2, i.e. resorting to the option of signing bilateral, regional and multilateral agreements with Waigani Convention countries to manage shipments, even when the countries involved are not parties to the same conventions (cf. **scenario 1.2**).

#### **Implementation issues:**

- Cf. scenario 1.2

### **Area 4: Explore existing or potential funding options**

- Explore all existing funding and management options.

- There is an indirect opening for developing infrastructure and obtaining funding by designating five ports that could admit ship waste under the MARPOL Convention. The MARPOL Convention working group has designated five ports for receiving ship waste, namely Noumea, NC, Papeete, FP, Suva, Fiji, Port Moresby, PNG and Samoa. This could be an opportunity, because funding could be provided to help fulfil this new responsibility and because the designated ports could admit ships that may carry hazardous waste. In New Caledonia, the Maritime Affairs Department is looking into this option.

- The XIth EDF could also be a potential funding source.

#### **Issues:**

- Unlikely. The MARPOL scenario is still relatively uncertain.

# Opportunities and solutions

## Scenario 3: All countries in the region accede to the Basel Convention

Scenario 3 is that all countries that are not yet Basel-Convention parties sign onto it, i.e. **Fiji, Niue, Solomon Islands, Tuvalu and Vanuatu**).

### **Benefits for OCTs:**

- OCTs could export to the region's countries under the Basel Convention.

### **Benefits for the countries involved and the region as a whole:**

- If all countries accede to the Basel Convention, it would pave the way for improving hazardous-waste management and movements in the whole region.

### **Feasibility**

- High. SPREP is working with the Pacific Regional Centre on accession by the five non-parties to the Basel Convention and Fiji, Tuvalu and Vanuatu have expressed interest in doing so. On the other hand, the three non-parties to the Waigani Convention, Marshall Islands, Nauru and Palau, have expressed interest in signing the latter convention. SPREP is working with these countries so that they accede to both conventions.

### **Implementation issues:**

- OCTs have no control over this scenario. On the other hand, they do not need to deploy any efforts towards implementation.
- While the accession process may be long, the benefits will be significant and sustainable.

# Opportunities and solutions

## Scenario 3: All countries in the region accede to the Basel Convention

### Technical discussion



**Advantages:** If all the waste meets preliminary shipment requirements (tests, packaging and content combinations):

**Regular hazardous-waste collection voyages to the main countries would be planned with a predefined roadmap (the Waigani document would be identical by default for each collection).**

The following is an example of the shipping route between the main countries based on population and current waste capture rates:

- 1 – PNG (Port Moresby)
- 2 – Solomon Islands (Honiara)
- 3 – New Caledonia (Noumea)
- 4 – Fiji (Suva): batteries and oil could be offloaded, if local units agree, at the predefined collection dates
- 5 – NZ (Auckland): offloaded based on predefined processing capacities
- 6 – Australia (Brisbane): offloaded based on predefined processing capacities

**Issue:** While routes exist between these ports, no shipping line as yet offers this route in full and so the containers would need to be transhipped in Noumea and reloaded for Suva, Fiji.

As French Polynesia and Pitcairn are geographically isolated from other Central Pacific shipping routes, particularly Fiji, it would be difficult to include them in joint waste collections. There are already routes between Papeete and Auckland and Noumea.

# Opportunities and solutions

## Scenario 3: All countries in the region accede to the Basel Convention

### Technical discussion



In addition to shipping routes that already exist between Waigani Convention countries, **there are shipping routes that could be used for collections without offloading containers:**

#### Route 1:

- 1 – PNG (Lae)
- 2 – NC (Noumea)
- 3 – Fiji (Suva): battery and oil processing facilities



#### Route 2:

- 1 – Suva, Fiji
- 2 – Mata-Utu, Wallis & Futuna
- 3 – Funafuti, Tuvalu
- 4 – South Tarawa, Kiribati
- 5 – Majuro, Marshall Islands
- 6 – Suva, Fiji: battery & oil processing facilities or transhipment to NZ



# Opportunities and solutions

## Scenario 3: All countries in the region accede to the Basel Convention

### Technical discussion



Secondary loops could be set up, adding collections from minor countries and territories or outer islands to the regular ports of call, if they have sufficient stock (secondary collection loops).

Examples of secondary loops:

Loop 1:

- 1 – Fiji
- 2 – Samoa
- 3 – Tonga
- 4 – Fiji
- 5 – New Zealand

Loop 2:

- 1 – New Caledonia
- 2 – Vanuatu
- 3 – (Fiji)
- 4 – New Zealand

## Opportunities and solutions

Scenario 4: strengthen co-operation between OCTs through, for example, a regional agreement between them

Scenario 4 is for OCTs to sign an agreement among themselves for joint hazardous-waste management and shipping.

### **Implementation issues:**

In theory, OCTs could sign co-operation agreements among themselves.

As hazardous-waste shipments are a French national government prerogative (June 2015 Ministry of Overseas Territories legal opinion), the metropolitan country (France) would most likely need to be involved in preparing such co-operation.

Co-operation could be based on bilateral or multilateral co-operation agreements between OCTs.

An in-depth legal study would be required to outline how the legal scenario would unfold based on the specific needs of OCTs.

# Opportunities and solutions

Scenario 4: strengthen co-operation between OCTs through, for example, a regional agreement between them

## Technical discussion

### **Technical advantages:**

All used batteries, oil, PCBs and miscellaneous waste (soiled waste and aerosols, etc.) would be shipped to Noumea from French Polynesia to be:

1. locally processed, if possible (oil incineration);
2. consolidated to obtain better processing rates from providers in New Zealand and Australia;
3. shipped to New Zealand or Australia after pooling New Caledonian and French Polynesian waste.

### **Implementation issues:**

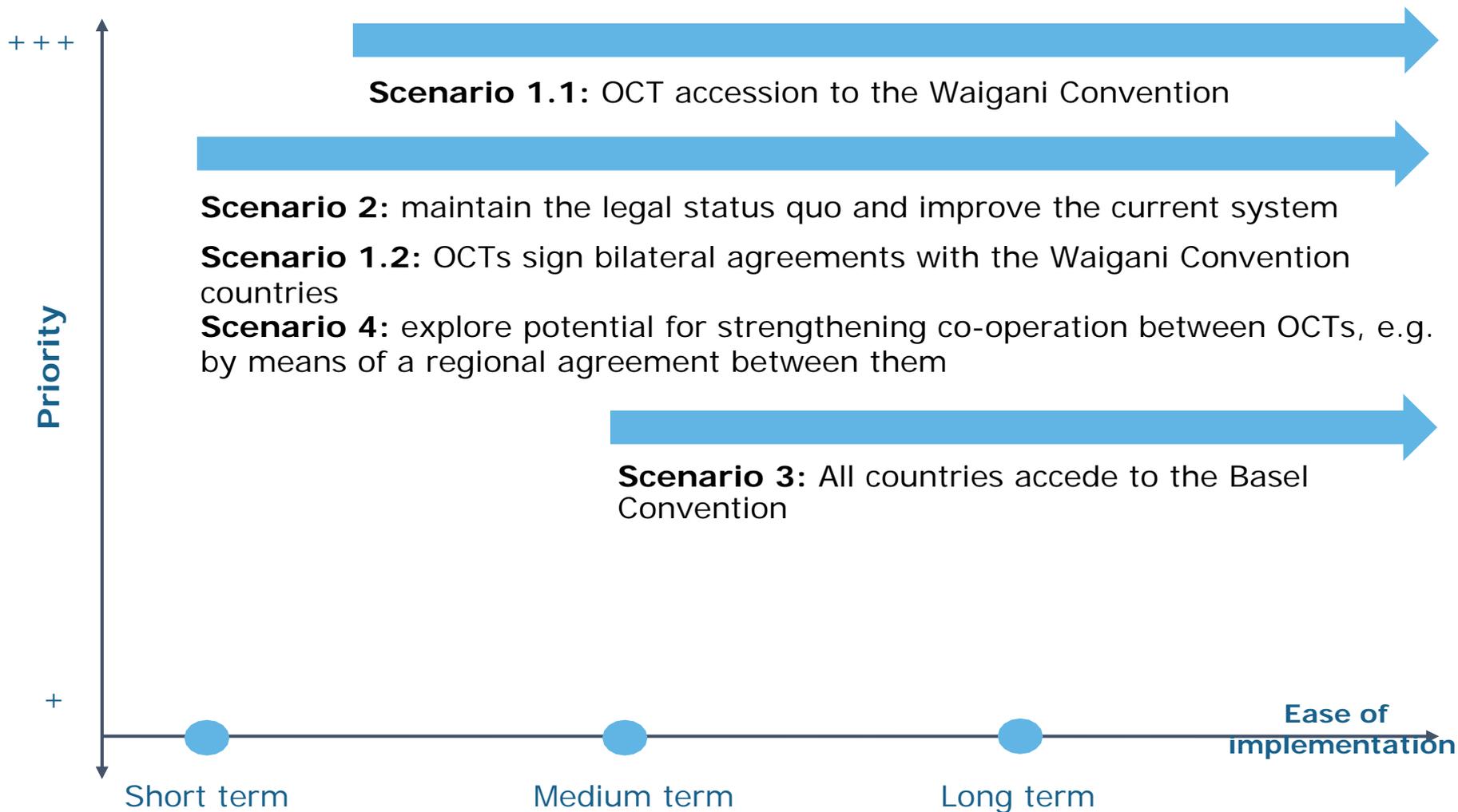
- There are as yet no direct shipping routes between Wallis & Futuna and New Caledonia or Wallis & Futuna and French Polynesia and so having a legal agreement would not completely solve the co-operation issue between OCTs.

# Conclusions

Scenario ranking and  
recommended action

# Conclusions

## Scenario ranking



# Conclusions

## Priority action recommendations

- 
- Start discussions between OCTs on hazardous-waste management with a view to preparing joint positions
  - Start discussions between OCTs and the French Government on France's accession to the Waigani Convention
  - Start discussions between certain key countries in the region to pave the way for bilateral waste shipment agreements
  - Analyse current regulations on hazardous waste and the shipment thereof in the OCTs individually
  - Start discussions with SPREP and other Pacific-island countries about acceding to the Basel Convention
  - Join SPREP in advocating for improved hazardous-waste management in the Pacific

# Appendices

## List of appendices:

- Population data sources
- Annual tonnages and estimated stocks – data source
- Basel Convention
- Waigani Convention
- Basel and Waigani Convention notification procedures (from a SPREP workshop on waste shipments)

# Appendices

## Population data sources

World Bank. Retrieved 30 July 2013.

United Nations: <http://unstats.un.org/unsd/demographic/products/socind/default.htm>

CIA, Factbook: [https://www.cia.gov/library/publications/the-world-factbook/wfbExt/region\\_au.html](https://www.cia.gov/library/publications/the-world-factbook/wfbExt/region_au.html)

Encyclopédie Universalis: [www.universalis.fr/encyclopedie/Fiji/#i\\_86431](http://www.universalis.fr/encyclopedie/Fiji/#i_86431)

ISEE (French Statistics and Economic Survey Institute): Population légale au recensement 2014

STSEE: Wallis & Futuna Territorial Department of Statistics and Economic Surveys

National Geographic (French edition) August 2002

The Economist, Sept. 10, 1977, p. 76

Official Fijian statistics: <http://www.statsfiji.gov.fj>

French Polynesia Statistics Institute, Évolution de la population, 2015, Populations aux 6 derniers recensements selon [la] géographie administrative

"Quality information to plan, monitor and improve population, health, and nutrition programs". The DHS Program. 2015-08-14. Retrieved 2016-09-24.

<http://www.geonames.org/PG/largest-cities-in-papua-new-guinea.html>

Central Statistics Division – Government of Tuvalu

# Appendices

## Annual tonnages and estimated stocks – data source

NOTE NO.	DATA YEAR	SOURCE		LINK
1	2016	SPREP	Cleaner Pacific Strategy 2025	
2	2016	Trecodec		
3	2016	Tuvalu	Interview and/or questionnaire	
4	2016	PNG	Interview and/or questionnaire	
5	2016	W&F	Interview and/or questionnaire	
6	2015	SPREP	Country Profiles	
7	2013	Southern Province, NC	Schema provincial de gestion des dechets province sud 2013	
8	2007	Andra		<a href="https://www.andra.fr/download/site-principal/document/inventaire/349.pdf">https://www.andra.fr/download/site-principal/document/inventaire/349.pdf</a>
9	2000	SPREP	Management of POPs in PICs	<a href="http://www.sprep.org/att/publication/000161_Management_of_POPs_in_PICs_web.pdf">http://www.sprep.org/att/publication/000161_Management_of_POPs_in_PICs_web.pdf</a>
10	2015	High Com's Office, NC	Export reports 2009 2015	
11	2015	ADEME FP	Guide déchets entreprise 2015	<a href="http://www.environnement.pf/sites/default/files/fichiers-documents/guide_des_dechets-web.pdf">http://www.environnement.pf/sites/default/files/fichiers-documents/guide_des_dechets-web.pdf</a>
12	2004	ADEME FP	Guide déchets entreprise 2015	<a href="http://www.environnement.pf/sites/default/files/fichiers-documents/guide_des_dechets-web.pdf">http://www.environnement.pf/sites/default/files/fichiers-documents/guide_des_dechets-web.pdf</a>
13	2015	SPREP	Management strategy for the Pitcairn Islands	<a href="https://www.sprep.org/attachments/Tenders/clarification%20answers%20%20questions.pdf">https://www.sprep.org/attachments/Tenders/clarification%20answers%20%20questions.pdf</a>
14	2016		A Solid Waste Management Plan for Pitcairn Island	
15	2016	PACIFIC BATTERIES	Company website	<a href="http://www.pacificbatteries.com.fj/about-us/our-goals.html">http://www.pacificbatteries.com.fj/about-us/our-goals.html</a>
16	20XX	SPREP	Lead-Acid Battery Management	<a href="http://www.sprep.org/solid_waste/documents/Solid%20Waste/Guidelines/Battery%20Management%20.pdf">http://www.sprep.org/solid_waste/documents/Solid%20Waste/Guidelines/Battery%20Management%20.pdf</a>
17	2013	World Health Organisation	Western Pacific Region	<a href="http://apps.who.int/iris/bitstream/10665/208230/1/9789290617228_eng.pdf">http://apps.who.int/iris/bitstream/10665/208230/1/9789290617228_eng.pdf</a>
18	2014	Asian Development Bank	Country Snapshot	<a href="https://www.adb.org/sites/default/files/publication/42669/solid-waste-management-marshall-islands.pdf">https://www.adb.org/sites/default/files/publication/42669/solid-waste-management-marshall-islands.pdf</a>
19		TWM	Company website	<a href="http://www.twm.com.pg/hazardous-waste-management.html">http://www.twm.com.pg/hazardous-waste-management.html</a>
20		Government of NC	Etude de faisabilité de filaire Médicaments non utilisés	
21	2010	Territorial Department of the Environment	Etat des lieux de la gestion des déchets au CET de Vailepo et préconisations (version provisoire)	At 300 batteries per year = approx. 8T/year

# Appendices

## Basel Convention

### **Basel Convention on the Control of Transboundary Movement of Toxic Wastes and Their Disposal**

Signed on 29 March 1989 and came into force on 5 May 1992

Link: <http://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf>

#### **Objectives:**

- Restrict or ban hazardous-waste shipments to developing countries and Antarctica
- Provide for monitoring hazardous-waste movements between states party and institute a single notification procedure
- Ban hazardous-waste shipments to and from non-Party countries

# Appendices

## Basel Convention

### General obligations regarding movements

Each party is required, *inter alia*:

- to not permit hazardous or other waste shipments to and from non-party countries (art. 4.5);
- not to allow the export of hazardous or other waste for disposal in Antarctica ("south of 60° South latitude"), whether or not such waste is being shipped across boundaries (art. 4.6)
- when notified, prohibit or not permit hazardous-waste shipments to parties that have banned them (art. 4.1 (b));
- prohibit or not permit hazardous-waste shipments to parties who do not consent to the specific import of such waste (when the importing party has not banned the import) (art.4.1 (c));
- prohibit hazardous-waste exports to states party or groups thereof, particularly developing countries that have prohibited imports or if there is reason to believe the waste will not be managed in an environmentally-sound manner (art. 4.2 (e));
- prevent the import of hazardous and other wastes if it has reason to believe such waste will not be managed in an environmentally-sound manner (art. 4.2 (g));
- require that hazardous or other waste to be exported is managed in an environmentally-sound manner in the importing country or elsewhere (technical guidelines are to be adopted under the Basel Convention) (art. 4.8);

# Appendices

## Basel Convention

- Only allow transboundary hazardous and other waste movements if:
  - a) the exporting country does not have the technical capacity or disposal sites for disposing of them in an environmentally-sound and efficient manner;
  - b) the waste is a raw material required for recycling or recovery industries in the importing country; and
  - c) the transboundary movement meets other criteria set by the parties, provided they do not contradict the convention's objectives (art. 4.9)

# Appendices

## Basel Convention

### Other general obligations:

- Take legal and administrative measures to implement and enforce the provisions of the Convention (checks and penalties) (art. 4.4)
- Reduce hazardous waste (art. 4.2 (a))
- Ensure adequate disposal facilities are set up (art. 4.2 (b))
- Regulate management operators to reduce pollution from waste management (art. 4.2 (c))
- Reduce transboundary hazardous-waste movements to a minimum consistent with efficient and environmentally-sound waste management (art. 4.2 (d))
- Co-operate with the other parties and interested organisations in disseminating information for improving environmentally-sound management and preventing illegal trade (art. 4.2 (h)).
- Require the hazardous-waste shipper under its jurisdiction be authorised to carry on such trade (art. 4.7 (a))
- Require that hazardous waste intended for shipment be packaged, labelled and shipped in accordance with applicable international standards and regulations (art. 4.7 (b))

# Appendices

## Basel Convention

### Obligation to inform and notify when shipping:

- All parties are required to inform the other parties when exercising their right to ban hazardous-waste imports for disposal (art. 4.1 (a))
- Competent authority: the parties must designate one or more competent authorities and a focal point. For transit countries, a competent authority must be designated to receive notifications (art. 5.1)
- Notification: require notification so as to assess the intended shipment's effects on health and the environment (art. 4.2 (f))
- General notification: provided when waste with the same specifications is regularly shipped (art. 6.6)
- Importing country's consent or otherwise: the importing party must inform the notifying party whether or not it consents (art. 6.2)
- Transit country's consent or otherwise: the transit party must inform the notifying party whether or not it consents (art. 6.4)
- Movement document: hazardous and other waste must be accompanied by a movement document from the port of origin to the disposal facility (art. 4.7 (c))
- The disposer must sign the movement document on delivery and inform the exporting country that the disposal is complete as per the requirements stated in the notification (art. 6.10)

# Appendices

## Waigani Convention

### **(Waigani) Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement of Hazardous Wastes within the South Pacific Region**

Adopted 16 September 1995. Effective 21 October 2001

Link: <http://www.sprep.org/attachments/legal/WaiganiConvention.pdf> (There is no official French version of the Convention).

#### **Background to the Convention and connection with the Basel Convention:**

This is a regional convention adopted by Pacific island countries in response to article 11 of the Basel Convention and encourages the states party to sign bilateral, regional and multilateral agreements aimed at fulfilling the Convention objectives.

Not all Pacific-island countries are parties to the Basel and Waigani Convention (e.g. Papua New Guinea, Marshall Islands, Kiribati, Samoa and Tonga).

The Waigani Convention is very similar to Basel, but is:

1. a regional agreement;
2. covers radioactive waste; and
3. covers exclusive economic zones, i.e. up to 200 nautical miles, as opposed to the Basel Convention's 12 nautical mile territorial waters.

# Appendices

## Waigani Convention

### Objectives:

- Reduce and ban hazardous- and radioactive-waste movements to and within the Pacific region
- Reduce hazardous waste production in the region
- Ensure hazardous waste is disposed of in an environmentally-sound manner
- Assist Pacific-island countries manage hazardous and other waste

# Appendices

## Waigani Convention

### General obligations related to hazardous-waste movements

- Pacific-island states party to the Convention are required to ban hazardous and radioactive waste imports (Art 4.1(a))
- The other parties (Australia and New Zealand) must ban hazardous and radioactive waste exports to Pacific island countries (art. 4.1(b))
- Co-operate so that no hazardous or radioactive waste is illegally imported to them from non-party countries (art. 4.2(b))
- Carry out all shipments of hazardous waste generated within the convention area in accordance with the provisions of the convention (art. 4.4(b))
- Ban hazardous-waste shipments to or from non-party countries from the Convention area, subject to art. 11 (art. 4.4(g))
- Prohibit all ships flying a party's flag or aircraft registered in its territory from carrying out activities that contravene the convention (art. 4.4(h))

# Appendices

## Waigani Convention

### Other general obligations:

- Define hazardous waste covered by the convention (art. 3.1)
- Prohibit the disposal of hazardous and radioactive waste in the sea (art. 4.3(a))
- Countries not party to the London Convention or the Protocol for the Prevention of Pollution of the South Pacific Region by Dumping should consider acceding to them (art. 4.3(a))
- Reduce hazardous waste production (art. 4.4(a))
- Ensure that processing and disposal facilities are made available for the environmentally-sound management of hazardous-waste generated in areas under their jurisdiction (art. 4.4(c))
- Co-operate so that hazardous waste is safely disposed of where such facilities are unavailable, (art. 4.4(c)).
- Develop national hazardous-waste management strategies (art. 4.4(e))
- Consider adopting the IAEA Code of Practice on the International Transboundary Movement of Radioactive Wastes (art. 4.5(a))
- Participate in relevant international fora to find global solutions to the problems associated with international trade in domestically-prohibited goods (art. 4.6(a))

# Appendices

## Waigani Convention

### Information and reporting obligations

All parties must:

- inform the secretariat of waste defined as hazardous in domestic legislation (in addition to the list at Annex 1) and all the requirements relating to its movement (art. 3.1);
- inform it of any illegal, hazardous or radioactive waste movements in areas under its jurisdiction (art. 4.2(a))
- submit reports, if required by the conference of parties, on hazardous waste generated in areas under its jurisdiction (art. 4.4(f))
- inform it and the parties of any accidents (art. 7.1);
- inform the parties of any change of focal point or competent authority or in the domestic definition of hazardous waste (art. 7.2);
- set up mechanisms for collecting and disseminating information on hazardous waste so that the secretariat can fulfil its duties under article 14 (art. 7.3)
- notify the secretariat of any arrangements entered into with non-parties (art. 11.2)

# Appendices

## Waigani Convention

### Obligations for shipments between the parties

- Export notification: the party intending to ship hazardous wastes must notify all the countries involved (art. 6.1)
- Consent or otherwise: The import and/or transit party must inform the notifying party whether or not it consents (art. 6.4)
- Movement document: each shipment must be accompanied by a movement document (art. 6.9)
- Information regarding disposal of the hazardous-waste: the disposer must provide confirmation to the export country's competent authority that the hazardous waste has been disposed of (art. 6.9)
- Accident notification: provided in the event of an accident (art. 7.1)
- Alternative disposal: if the originally-agreed disposal cannot be provided, the importing party must inform the exporting party whether there is an alternative environmentally-sound disposal process available (art. 8.2) (otherwise the hazardous waste must be returned to the exporting party and neither the transit nor importing countries may oppose this (art. 8.1))

# Appendices

## Waigani Convention: shipment procedure

### **Domestic definition of hazardous waste**

The Convention deems that the hazardous waste covered by it is the waste listed in Annexes I and II as well waste defined or deemed to be hazardous waste by the domestic legislation of the exporter, importer or transit country from or through which the waste is to be shipped.

That is why the convention requires parties to keep each other informed through the secretariat of changes to their domestic definition of hazardous waste.

### **Hazardous-waste shipping procedure between the parties to the convention**

The exporting party notifies the competent authority of the relevant country in writing through its own competent authority of any plan to ship hazardous waste overseas. The importer must acknowledge receipt of the notification within a fortnight and notify within 60 days whether or not it consents to the shipment. The same notification and acknowledgement timelines apply to transit countries. The information the country must provide in the notification is listed in Annex VI A to the convention.

It is important to note that the exporting party cannot authorise the transboundary shipment until it has received the importing party and each transit party's written consent.

All transboundary hazardous-waste shipments must be covered by insurance, a deposit or other guarantee that the importing/transit party may require or agree to.

All transboundary shipments must also be accompanied by a movement document (Annex VI B).

# The Basel/Waigani Conventions procedure: Stage 1 – Notification

Conclude a contract specifying ESM

Inform of  
proposed  
movement

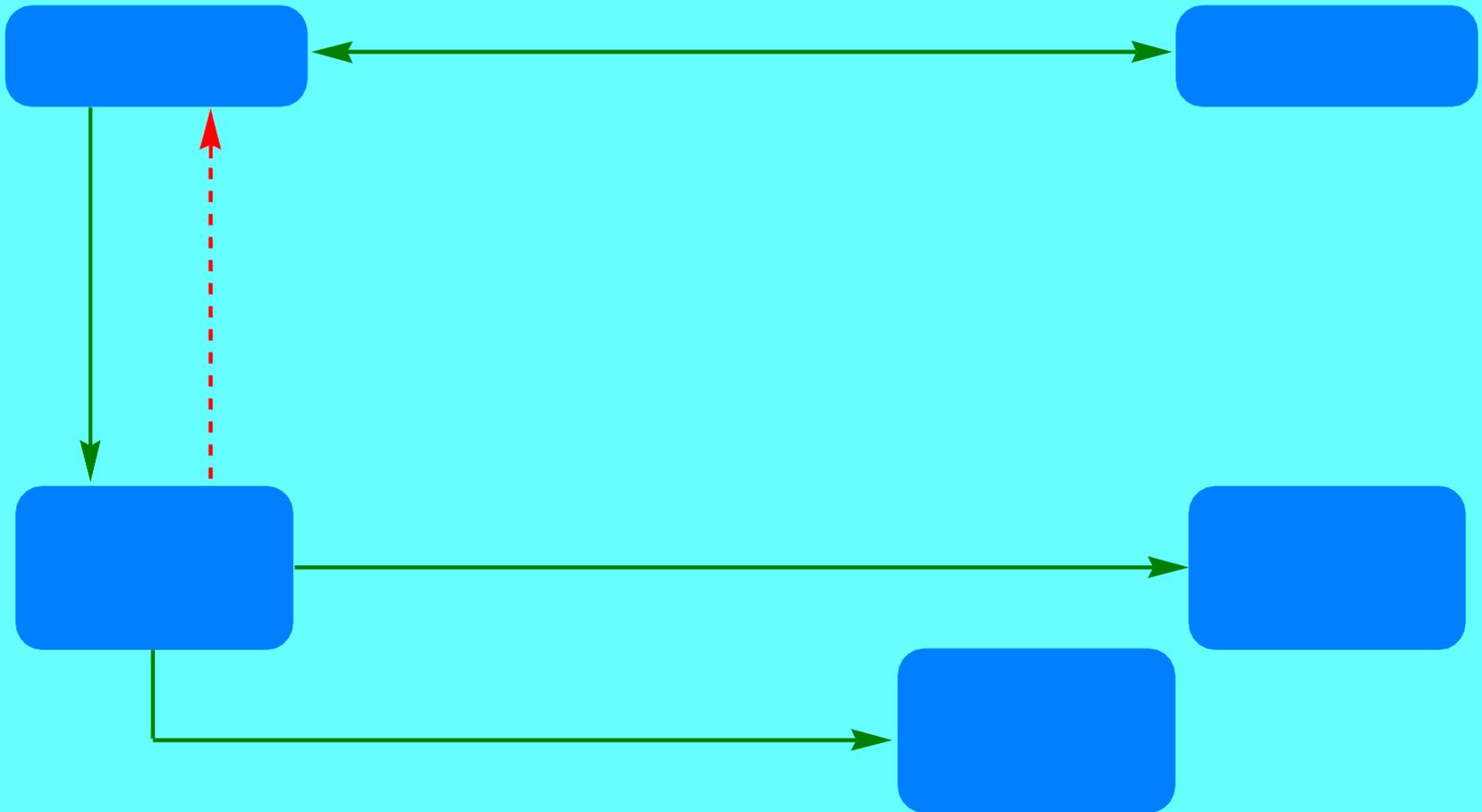
Refuse  
to allow  
export

Send Notification Document

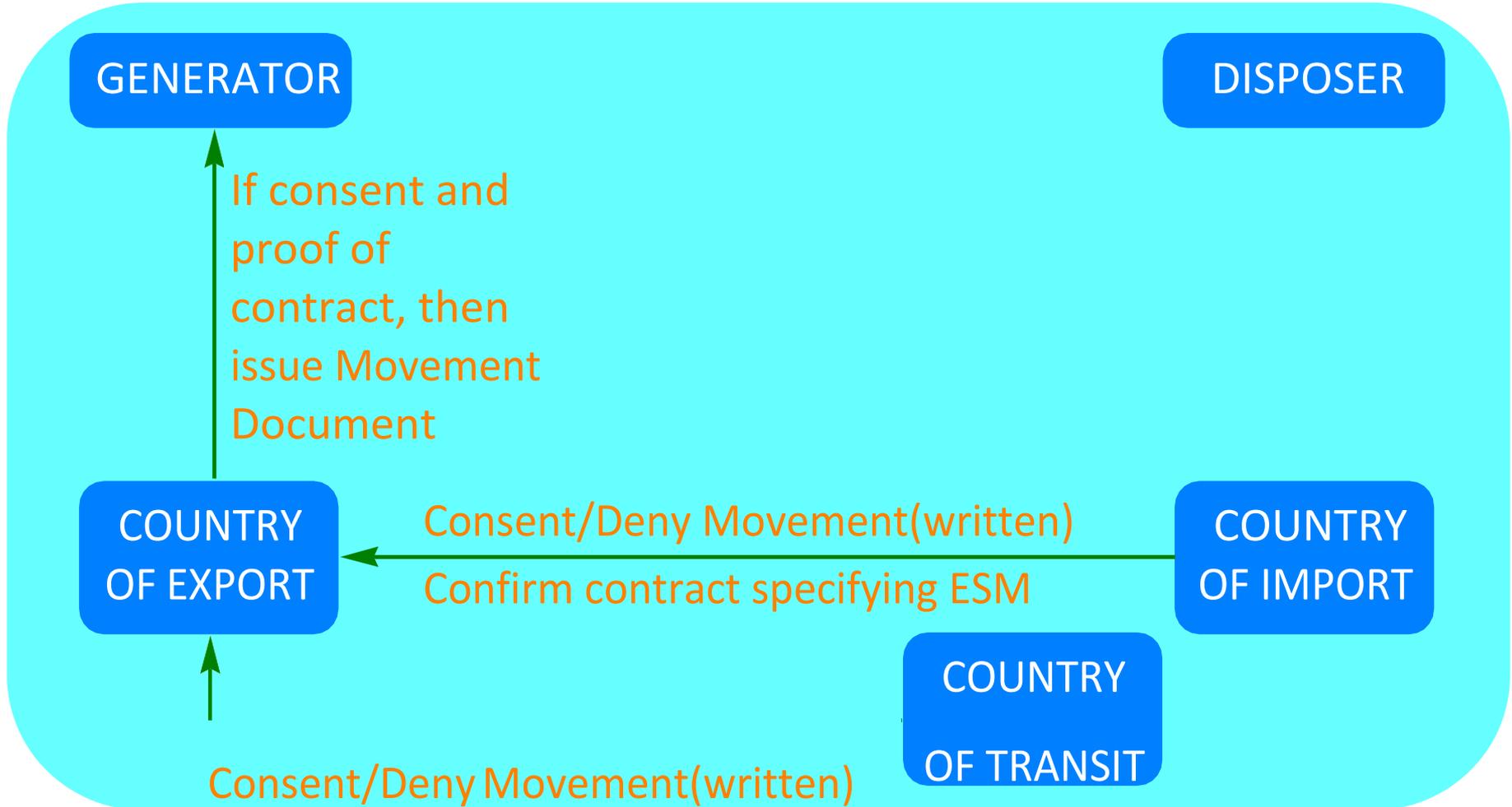
# The Basel/Waigani Conventions

## procedure: Stage 1 – Notification

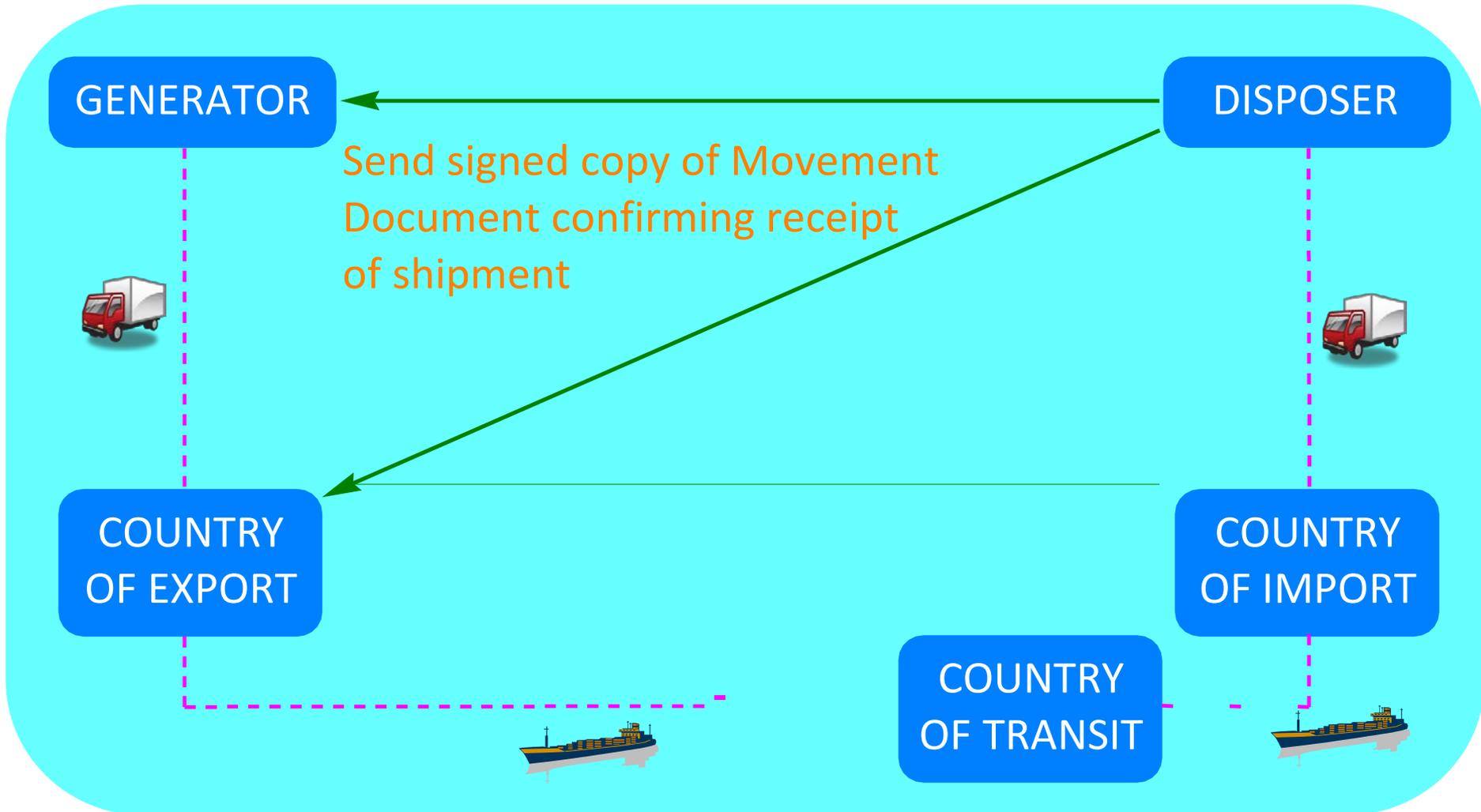
Send Notification Document OF TRANSIT



# Stage 2: Consent & Issuance of movement document



# Stage 3 – Transboundary movement



# Stage 4 – Confirmation of disposal

