



Pacific  
Community  
Communauté  
du Pacifique

RESCCUE

## TOWARDS GREENER TAXES AND SUBSIDIES IN PACIFIC ISLAND COUNTRIES AND TERRITORIES (PICTs)



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Front cover photo: Port Vila, Vanuatu (credit: Emma Watkins)

### **Overview of the objectives and components of RESCCUE project:**

The *Restoration of Ecosystem Services and Adaptation to Climate Change* (RESCCUE) project is a regional project implemented by the Pacific Community.

The overall goal of RESCCUE is to contribute to increasing the resilience of Pacific Island Countries and Territories (PICTs) in the context of global changes. To this end RESCCUE aims at supporting adaptation to climate change (ACC) through integrated coastal management (ICM), resorting especially to economic analysis and economic and financial mechanisms.

The RESCCUE project operates both at the regional level and in one to two pilot sites in four countries and territories: New Caledonia, Vanuatu, Fiji and French Polynesia.

RESCCUE is funded primarily by the *French Development Agency* (AFD) and the *French Global Environment Facility* (FFEM) for a duration of five years (01/01/2014 to 31/12/2018). The project budget is 8.5 million Euros from AFD/FFEM.

It is structured around five components:

**Component 1:** Integrated coastal management – supporting ICM implementation through ICM plans, ICM committees, and management activities concerning both terrestrial and marine ecosystems, capacity building and income generating activities.

**Component 2:** Economic analysis – using economic analysis to support coastal management and policy decisions.

**Component 3:** Economic and financial mechanisms – setting up economic and financial mechanisms to generate additional and sustainable funding for ICM: review of options (payment for ecosystem services, taxes, user fees, trust funds, quota markets, offsets, labels...); feasibility studies; implementation; monitoring.

**Component 4:** Capitalization, communication, dissemination of project outcomes in the Pacific – going beyond pilot sites activities in order to have impacts at the regional level, by fostering experience sharing between sites, cross-sectoral expertise, and communication and dissemination of the project outcomes.

**Component 5:** Project management – implementing and coordinating the project, by providing technical assistance, organizing local and regional steering committees, conducting audits and evaluations (mid-term and ex-post), etc.

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## List of acronyms

ACC	Adaptation to climate change
ADEME	Agence de l'Environnement et de la Maîtrise de l'Énergie (France)
AFD	Agence Française de Développement
AS	American Samoa
AUD	Australian dollar (currency)
CBD	Convention on Biological Diversity
CGT	Capital gains tax
CHPF	Centre hospitalier de Polynésie française
CK	Cook Islands
CO <sub>2</sub>	Carbon dioxide
DASP	Dispositif d'Aide et de Soutien à la Pêche (French Polynesia)
DDPL	Dotation pour le Développement de la Pêche Lagonaire (French Polynesia)
ECAL	Environment and Climate Adaptation Levy (Fiji)
EEZ	Exclusive Economic Zone(s)
EHS	Environmentally harmful subsidies
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
EL	Environmental Levy (Fiji)
ELV	End-of-life vehicles
EMP	Environmental Management Plan
ENSO	El Niño-Southern Oscillation
EPR	Extended producer responsibility
ETR	Environmental tax reform
EU	European Union
EUR	Euro (currency)
FEA	Fiji Electricity Authority
FIT	Feed-in tariff
FJ	Fiji
FJD	Fiji dollar (currency)
FM	Federated States of Micronesia
FOC	Flag of convenience
FRPH	Fonds de régulation des prix des hydrocarbures (French Polynesia)
FSC	Fiji Sugar Corporation
GDP	Gross domestic product
GHG	Greenhouse gas(es)
GPS	Global Positioning System
GU	Guam
IAS	Invasive alien species
ICM	Integrated coastal management
IFC	International Finance Corporation
IGF	Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development
INDC	Intended Nationally Determined Contribution
IPP	Independent power producer
IUU	Illegal, unreported and unregulated (fishing)
KI	Kiribati
LMC	Luganville Municipal Council
LNG	Liquid natural gas
MH	Marshall Islands
MPF	Mining Policy Framework for Mining and Sustainable Development
MRD	Minerals Resource Department (Fiji)

MSI	Mauritius Strategy for the further Implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States
NC	New Caledonia
NDC	Nationally Determined Contributions to support the Paris Climate Agreement
OECD	Organisation for Economic Co-operation and Development
PET	Polyethylene terephthalate (plastic)
PF	French Polynesia
PG	Papua New Guinea
PHA	Polyhydroxyalkanoates
PICTs	Pacific island countries and territories
PM	Particulate matter
PNA	Parties to the Nauru Agreement
PV	Photo-voltaic
PVMC	Port Vila Municipal Council (Vanuatu)
PW	Palau
RE	Renewable energy
RES	Renewable energy sources
RESCCUE	Restoration of Ecosystem Services and Adaptation to Climate Change
SDGs	Sustainable Development Goals
SPC	Pacific Community
SPEA	French Polynesian Water Services provider
SWAC	Sea Water Air Conditioning
TEAP	Taxe pour l'environnement, l'agriculture et la pêche (French Polynesia)
TERV	Taxe d'environnement pour le recyclage des véhicules (French Polynesia)
TO	Tonga
TV	Tuvalu
UN	United Nations
UNELCO	Utilities concessionaire for electricity and water in Vanuatu
US	United States
USD	United States dollar (currency)
VAT	Value added tax
VDS	Vessel day scheme
VEP	VAT Exclusive Price
VU	Vanuatu
VUV	Vanuatu vatu (currency)
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean
WS	Samoa
WST	Samoaan tala (currency)
WTO	World Trade Organization
XPF	Comptoirs Français du Pacifique Franc (currency)

## Executive Summary

This report presents information on **existing instruments and reform efforts of relevance for greening taxes and subsidies in the Pacific Island Countries and Territories (PICTs)**. A particular focus is placed on three of the PICTs involved in the RESCCUE project (Restoration of Ecosystem Services and Adaptation to Climate Change), namely **Vanuatu, Fiji and French Polynesia**, although interesting examples from many other PICTs are also included. **Nine specific economic sectors are addressed:** mining, fisheries, agriculture, transport, waste management, water management, urban development, tourism and energy. The report is not intended to be an exhaustive regional review, but rather to present illustrative examples of instruments from each of the economic sectors.

The examples of taxation and subsidies presented in the report demonstrate that whilst such instruments may have economic and social benefits, in some cases they also have the potential to generate **harmful or beneficial environmental impacts**. Where information has been found on specific environmental impacts of the identified taxes and subsidies, this is included in the text. In cases where no specific impacts are outlined, this information has not been readily available during the research for this report. However, efforts have been made to identify the potential environmental impacts that may arise from the various types of fiscal instruments outlined, and based on the expertise of the report's authors, many of the instruments have therefore been categorised as either broadly positive or (potentially) negative in terms of their environmental contribution.

There are many taxes and subsidies in place in the PICTs that may have **negative environmental impacts** and may be hampering the achievement of broader environmental objectives, for example related to climate change, emissions, ecosystem services, habitats and biodiversity, land, air and water quality, waste management and so on. Several **tax credits or tax, import or export tariff exemptions** are in place within the mining, fisheries, agriculture, transport and tourism sectors. **Fuel duty concessions or exemptions** are often provided to the fisheries, transport and energy sectors. **Direct subsidies for specific activities** are offered by all PICTs, for example for the production of certain agricultural crops, for marine and air transport, and to regulate the price of fossil fuels. In some cases, for example in the water and waste management sectors, **inadequate service fees provide de facto subsidies for poor environmental management**.

In contrast, many PICTs are already implementing **reform efforts and 'green' instruments**. Examples have been found across the whole range of economic sectors studied, indicating that the PICTs are aware of the potential of such instruments to provide economic signals in support of environmental outcomes, and are taking steps towards realising them. There are several examples of **taxes or charges for the use of certain resources or certain activities**, including those related to water pricing, material extraction, waste generation and management, and tourism-related activities. Several **tax-related incentives** are in place that offer financial incentives for more environmentally friendly choices, such as cleaner vehicles, investments in renewable energy and waste management, and material-related taxes. **Direct subsidies and support measures** are in place in areas such as renewable energy, public transport, cleaner vehicles, water supply, climate-adapted and organic agriculture, and



alternatives to conventional air conditioning. **Fees for licences, permits or registration** are applied to certain activities, including mining, fishing, access to conservation areas, and registration fees for vehicles. Such instruments can bring about **positive environmental impacts**, including more sustainable resource use, improved waste and water management, renewable energy generation, reduced GHG emissions, reduced air pollution, and improved water and soil quality.

This report therefore reveals a **mixed picture in terms of the greening of fiscal instruments and subsidies in the PICTs** to achieve environmental objectives. Some progress is undoubtedly being made, but some instruments appear more successful than others (both in terms of raising revenues and achieving environmental outcomes).

It is also evident that more still needs to be done in the PICTs to bring about **further reform of environmentally harmful taxes and subsidies**. Some instruments would benefit from a clear environmental rationale and **clear environmental objectives or criteria**. **Correct pricing** can help to give the economic signals to change environmentally damaging behaviours. **Earmarking of revenues for environmental purposes** can not only ensure that revenues are used in the economic sector within which they are raised, but can help to make an explicit link between taxes and environmental benefits, thereby increasing support amongst policy-makers, the public and those paying the tax. The introduction of **coherent packages of instruments and reforms** helps to ensure that one instrument does not prevent the achievement of the environmental objectives of another. **Good governance, implementation, enforcement and monitoring** are crucial to determine whether instruments are successful in achieving their environmental objectives. Finally, it is important that the **design of instruments is tailored to the local context** in which they are applied, and that **distributive impacts** are properly taken into account.

Figures 1-9 below provide a summary of the main taxes and subsidies identified in the PICTs during the preparation of this report, the judgement of the authors on the likely broad environmental impacts of the instruments, and potential reform options for consideration to contribute to their further greening. These reform options are indicative, and are intended at this stage to encourage discussion amongst technical and policy specialists in the PICTs for potential future reforms to green taxes and subsidies in their territories.

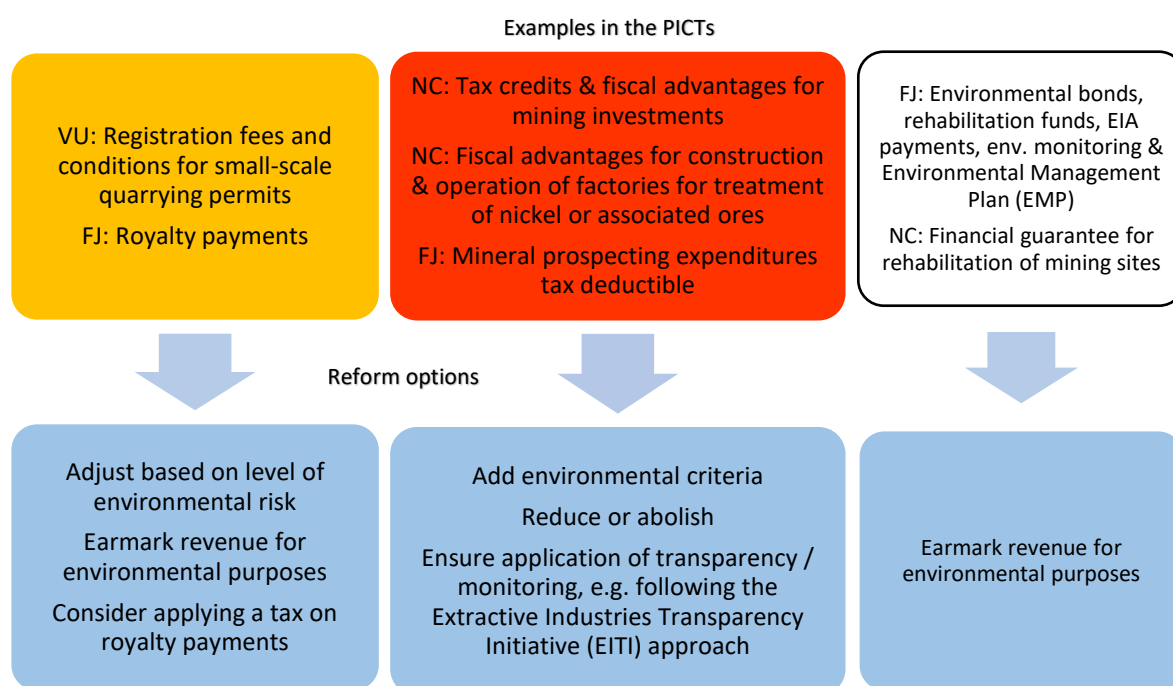
Figure 10 (in section 3) offers some insights into success factors for greener taxes and subsidies, and maps them against existing instruments from the PICTs (with a particular focus on the RESCCUE PICTs of Fiji, French Polynesia and Vanuatu).

**Key to figures 1-9:**

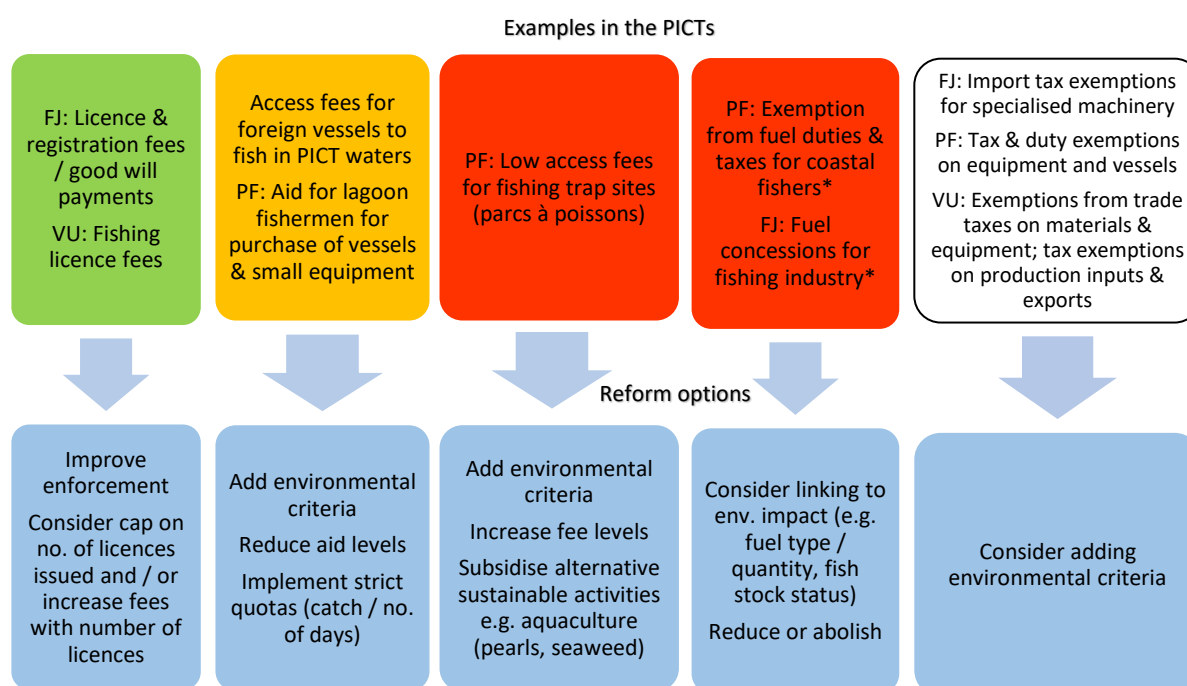
Mainly positive environmental impacts
Mixed environmental impacts
Potential negative environmental impacts
Environmental impacts unclear / no data found

- |                                     |                       |                       |              |
|-------------------------------------|-----------------------|-----------------------|--------------|
| AS – American Samoa                 | GU – Guam             | PF – French Polynesia | TV – Tuvalu  |
| CK – Cook Islands                   | KI – Kiribati         | PG – Papua New Guinea | VU – Vanuatu |
| FJ – Fiji                           | MH – Marshall Islands | PW – Palau            | WS – Samoa   |
| FM – Federated States of Micronesia | NC – New Caledonia    | TO – Tonga            |              |

**Figure 1 Fiscal incentives in the mining sector**

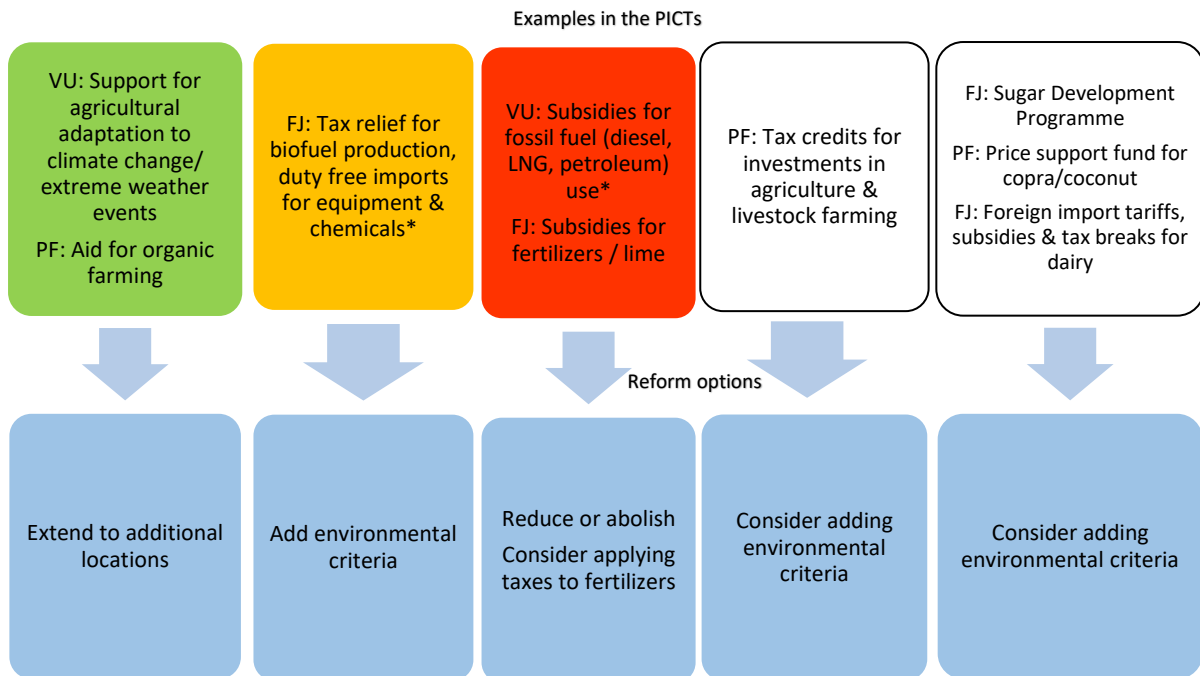


**Figure 2 Fiscal incentives in the fisheries sector**



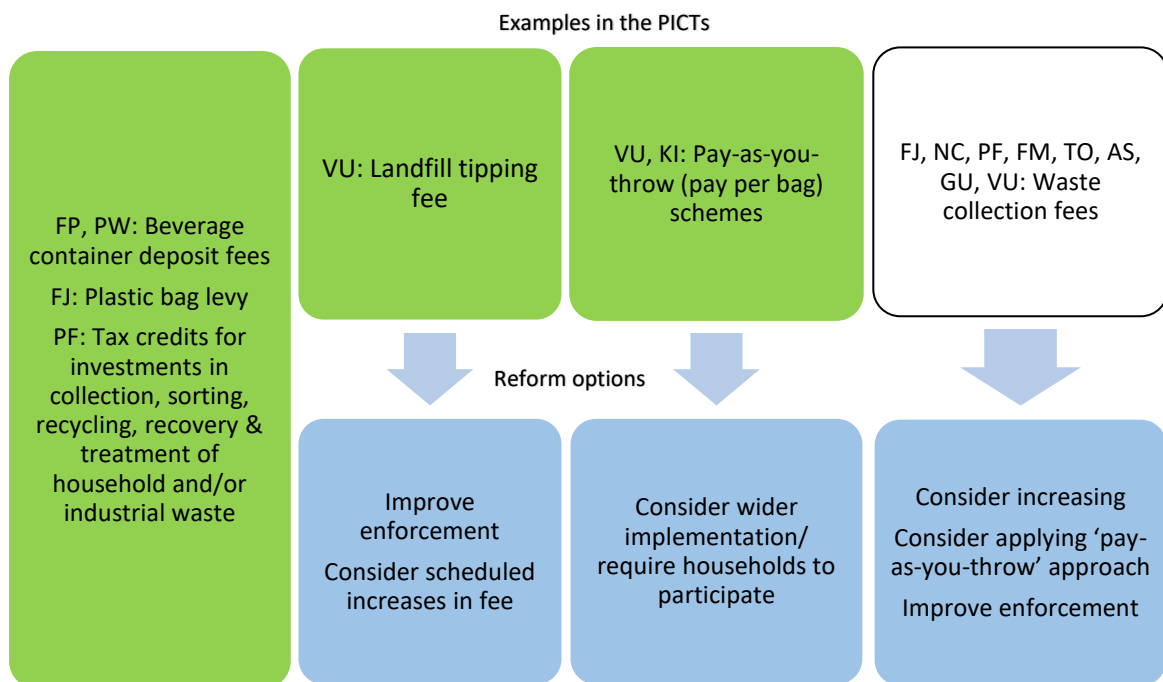
\*Also relevant for the energy sector

**Figure 3 Fiscal incentives in the agriculture sector**

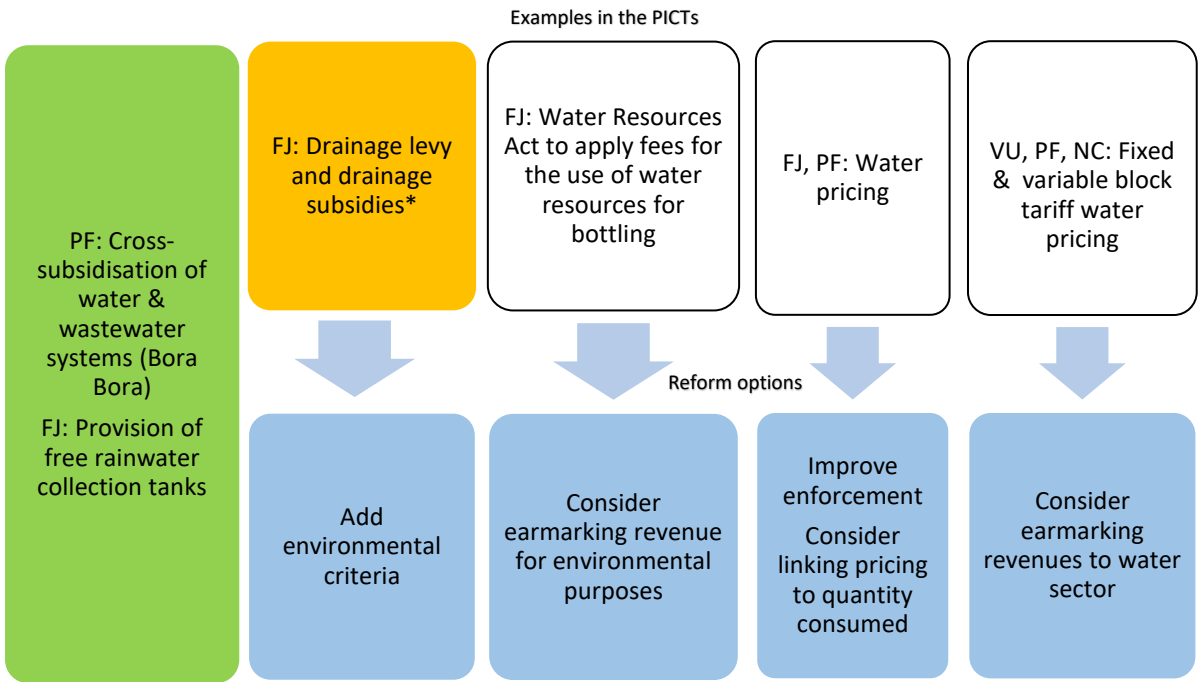


\*Also relevant for the energy sector

**Figure 4 Fiscal incentives in the waste management sector**

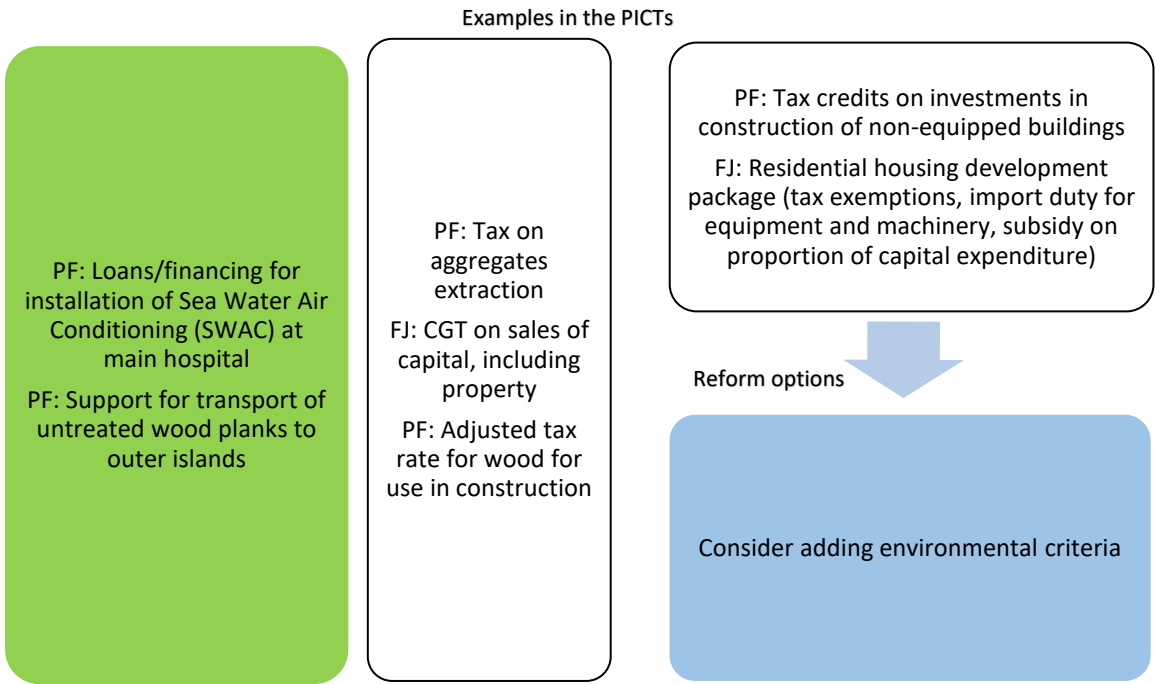


**Figure 5 Fiscal incentives in the water management sector**

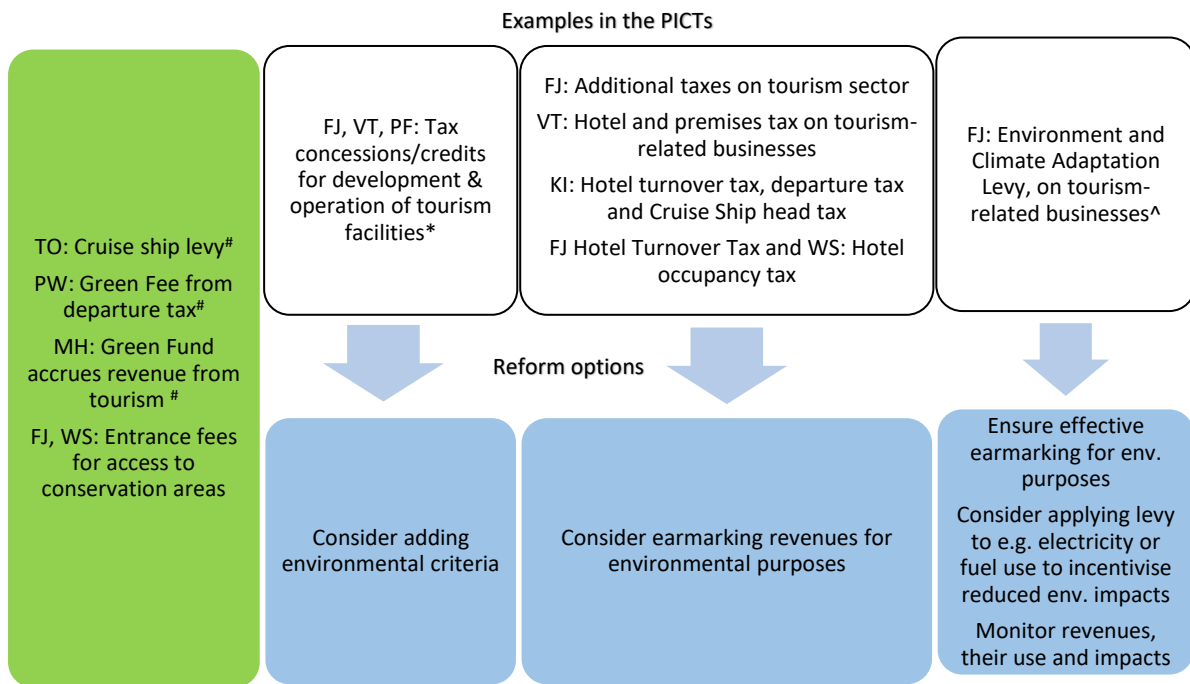


\*Also relevant for the agriculture sector

**Figure 6 Fiscal incentives in the urban development sector**



**Figure 7 Fiscal incentives in the tourism sector**

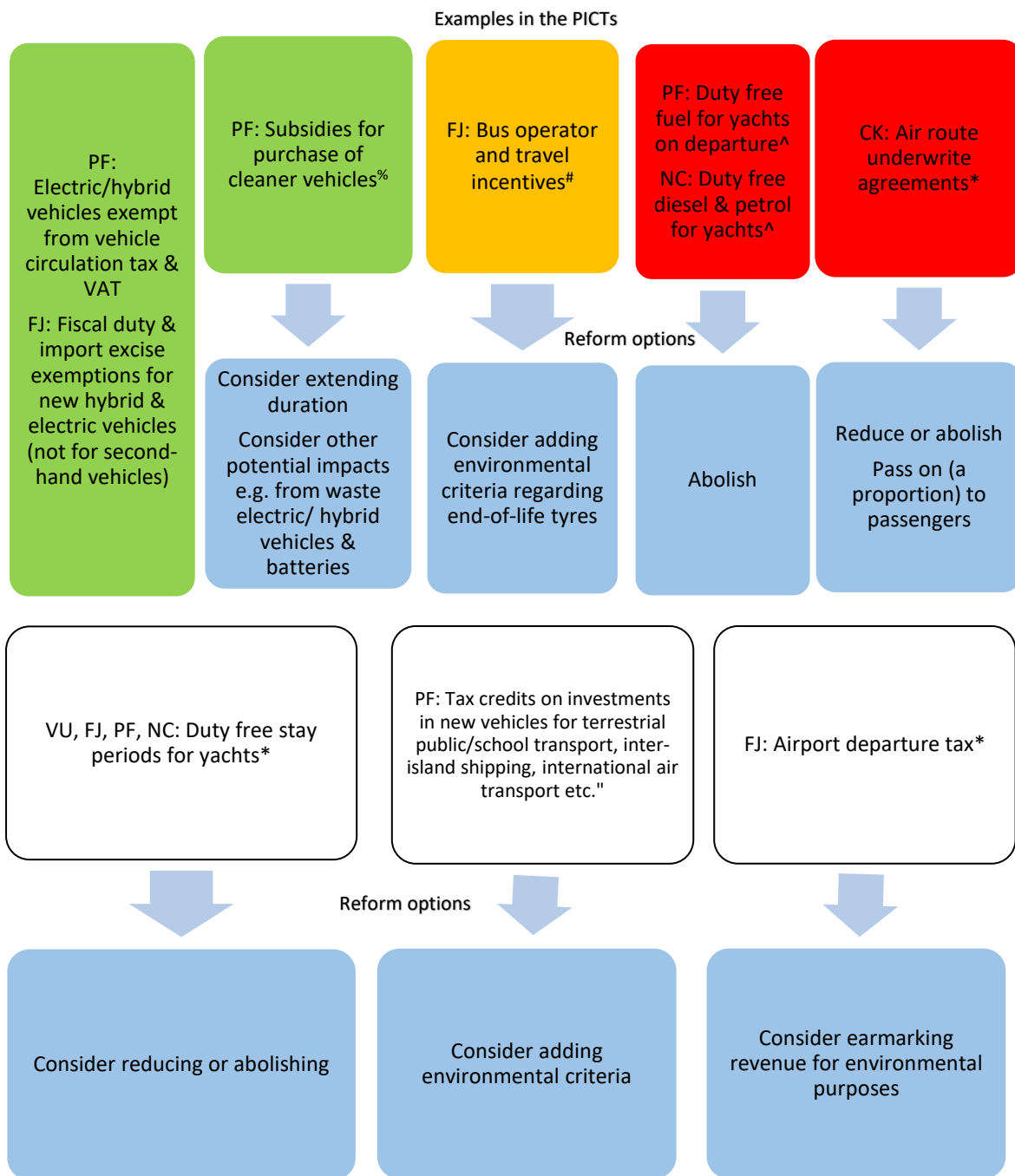


\*Also relevant for the urban development sector

<sup>^</sup> Also relevant for the urban development and transport sectors

<sup>#</sup> Also relevant for the transport and waste management sectors

**Figure 8 Fiscal incentives in the transport sector**



\*Also relevant for the tourism sector

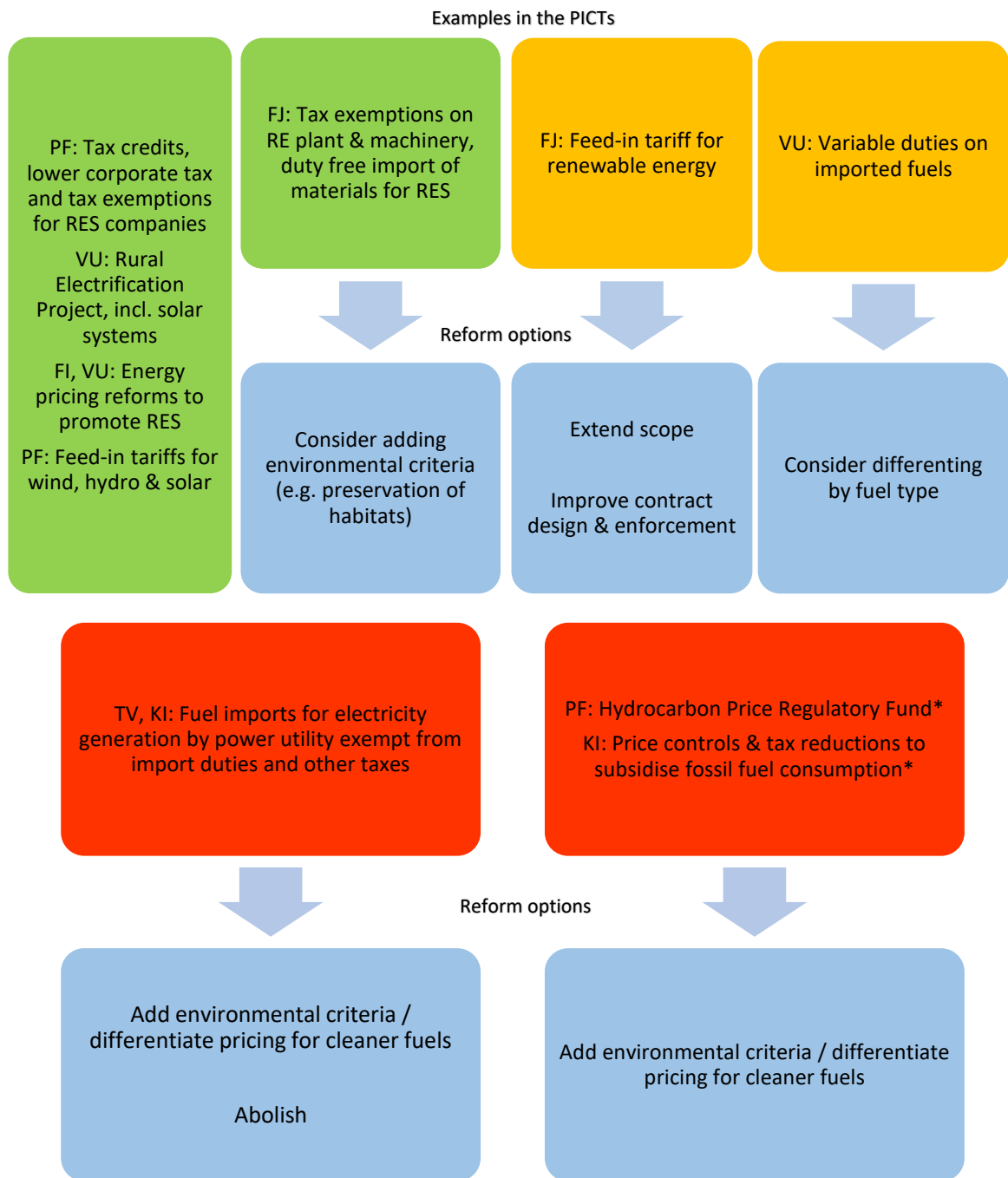
^Also relevant for the energy and tourism sectors

# Also relevant for the urban development sector

“ Also relevant for the tourism and urban development sectors

% Also relevant for the energy sector

**Figure 9 Fiscal incentives in the energy sector**



\*Also relevant for the transport sector

## 1.1 Objective of the report

This report is the final output of the study *Towards greener taxes and subsidies in Pacific Island Countries and Territories (PICTs)* (Contract No. CC16/273). The study is a contribution to the regional programme of activities of the RESCCUE project (Restoration of Ecosystem Services and Adaptation to Climate Change), which aims to help increase the resilience of Pacific Island Countries and Territories (PICTs), specifically Vanuatu, Fiji, French Polynesia and New Caledonia, in the context of global changes. This includes support for adaptation to climate change (ACC) through integrated coastal management (ICM), progress towards meeting Aichi Biodiversity Target 3 (to reform incentives harmful to biodiversity and to develop appropriate positive incentives for the conservation and sustainable use of biodiversity, both by 2020), and progress towards the Sustainable Development Goals (SDGs).

This report presents information found for Vanuatu, Fiji and French Polynesia as well as a limited number of cases from other PICTs. A two-phase approach was adopted, with an initial scoping exercise to identify existing instruments and reform efforts, followed by verification and identification of additional information during a series of regional workshops held in November 2017<sup>1</sup>.

Nine economic sectors are addressed: mining, fisheries, agriculture, transport, waste management, water management, urban development, tourism and energy. The report presents a series of actual examples of taxation and subsidies that have harmful or beneficial environmental impacts, and outline the potential for future tax and subsidy reforms. A range of instruments are explored, including: sector-specific taxes; sector-specific subsidies; tax credits, concessions and exemptions; price support; fuel duty; equipment subsidies; production subsidies; service provision fees (including inadequate pricing); fees for access to or use of natural resources; environmental bonds; and international donor financing. PICTs often have a choice of several different instrument types to achieve an end goal, meaning that the instruments applied in each PICT vary. In many cases a mixture of instruments are applied in one sector, demonstrating the need for coherent policy approaches. In addition, some instruments are relevant to more than one economic sector, meaning that instrument choice also needs to be coherent throughout the whole economy in order to achieve environmental, social and economic objectives.

The report is not intended to be an exhaustive regional review, but rather to present interesting illustrative examples. The examples were selected based on the scale of their (potential) environmental, economic and social impacts, and their relevance to the PICT region, to ensure they are representative of the broader region and any lessons learned from an example in one location could be transferable more widely.

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<sup>1</sup> The workshops were held in: Papeete, French Polynesia on 14 November; Port Vila, Vanuatu on 17 November; and Suva, Fiji on 24 November 2017. Summary notes from each of the workshops are provided in an annex to this report.



This report should be seen as a contribution to the future analysis of taxes and subsidies (and their reform) that can help to meet a range of challenges facing the PICT region. It aims to contribute to guiding the region towards greener taxes and subsidies, by building the knowledge and capacity of policy-makers and stakeholders and offering some ideas for the future further greening of instruments to support the achievement of environmental objectives.

## **1.2 Tax and subsidy reform: challenges and opportunities for PICTs**

Taxes and subsidies are increasingly being discussed and applied around the world in the area of environmental policy. This is driven by concerns over impacts on the environment, human health, biodiversity, energy, resource use and food security as well as the push for fiscal consolidation (including opportunities to shift from labour to environmental taxes), and growing recognition of the financial burden of some measures (such as fossil fuel subsidies in many developing countries). Economic instruments are an important part of the policy mix to support the shift to a green, inclusive global economy (UNEP 2011), helping to raise domestic public revenues and shift price signals in the economy to support sustainable development and green growth. Well-designed instruments can have a range of benefits and support financial, economic, social, environmental and security policy objectives. As well as individual instruments, packages of instruments are important, for example in the case of fiscal reform such as the reform of environmentally harmful subsidies (EHS) and environmental tax reform (ETR). Such instruments can be applied across a broad range of economic sectors, such as those explored in this report.

The overall objective of greening taxes and subsidies is to generate positive gains for the economy, environment and society (Withana 2015), and a wide range of instruments can be applied in order to achieve this, as outlined above. However, obstacles do exist to the further take up of these instruments. These include: concerns over the correct and proper gathering and appropriate use of revenues; limited revenue raising potential due to small tax bases and extensive exemptions<sup>2</sup>; difficulties in the administration of instruments (e.g. lack of transparency, inadequate human resources, limited capacities to collect revenues and enforce measures); unequal impacts across different economic sectors; potential competitive disadvantages from unilateral implementation of instruments; compliance with the policy objectives and commitments under international agreements; conditions of development assistance payments; and potential negative impacts on the income and wealth of different societal groups. For these reasons, it is critical to understand and clarify the impacts (both positive and negative) of greening/reforms when designing and implementing such actions, building on the outcomes of previous experiences.

The PICTs face a particular set of challenges, both environmental (in particular issues related to the impacts of climate change), and in terms of the potential for taxes and subsidies to play a role in addressing them.

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<sup>2</sup> Although some fiscal reforms such as fossil fuel subsidy reform could save quite substantial revenues which could be used for other purposes.

The climate-related challenges facing small island nations include higher temperatures, altered rainfall patterns, weather extremes, and sea level rise. These can lead to numerous detrimental impacts. Much of islands' critical infrastructure such as airports, sea ports and roads is located near the coast and is vulnerable to sea level rise and flooding. Water supply and energy systems face challenges such as increasing costs of future proofing, maintenance and damage repairs. For many islands, the agriculture sector may be threatened by climate change, potentially impacting on their food security as well as their potential to export produce. Many islands, including the PICTs, depend heavily on revenues from tourism, which can be compromised by climate related effects including heat, fires, flooding and biodiversity loss. Fisheries and other marine industries in many island nations may face a risk of lower catches and associated reduced incomes, whilst also affecting food security. Island nations are also rich in biodiversity, which may be endangered by climate change impacts with corresponding impacts on tourism. The environmental and economic imbalances resulting from climate change impacts may also lead to migration away from islands (IEEP 2013).

In addition to the general obstacles to the take up of greener subsidies and taxation outlined above, specific challenges for the use of such instruments in the PICTs include: small tax bases (e.g. due to large informal sectors of the economy, finite natural resources, small populations and multiple tax exemptions), lack of institutional and human resources to implement taxes, lack of transparency in governance structures, lack of sufficient objective data in certain economic sectors (e.g. reef fisheries), fragmentation within government (with ministries responsible for financial and tax matters less often advocates of green taxes and subsidies than environmental ministries), remote geographical locations and sparsely populated areas, and heavy economic reliance on certain sectors that can adversely impact the environment (e.g. fisheries, tourism, mining). These factors may lead to resistance to the application of green taxes, or to the use of subsidies that are environmentally harmful, but help to support economic and social objectives.

Finally, the further future greening of taxation and subsidies in the PICTs must take into account the international context within which they will take place. Greener taxes and subsidies have the potential to raise public revenues and contribute to regional and international commitments – see Box 1 below. In addition, high levels of reliance on aid among independent Pacific Island Countries, and fiscal transfers in the Pacific Island Territories, will also influence the adoption of greener subsidies and taxation, as some assistance may undermine green growth (e.g. support for energy inefficient buildings, vehicles or fuels). Steps should therefore be taken to address this by promoting greener subsidies and taxation at the domestic level (where possible without jeopardising essential future development assistance) and ensuring that international aid is coherent and supports the PICTs' international obligations.

**Box 1 Selected commitments relevant to green taxes and subsidies at the regional and international level**

- **Mauritius Strategy (MSI) of Implementation** for the Barbados Programme of Action for the Sustainable Development of Small Island Developing States.
- **Sustainable Development Goals (SDGs)**. In particular SDG 12 includes a target to rationalise inefficient fossil fuel subsidies and SDG 14 includes a target to prohibit/eliminate fisheries subsidies which contribute to overcapacity, overfishing, illegal, unreported and unregulated fishing by 2020.
- **Convention on Biological Diversity (CBD)** commitments under Aichi Biodiversity Target 3 which seeks to eliminate, phase out or reform 'incentives, including subsidies, harmful to biodiversity' by 2020, and Target 20, which seeks to mobilise additional resources from all sources to implement the Strategic Plan for Biodiversity 2011-2020.
- **Nationally Determined Contributions (NDCs)** to support the Paris Climate Agreement. Some form of carbon pricing or other fiscal policies are included in the NDCs of over 90 countries. The Paris Agreement provides a foundation for the further development of such market-based mechanisms and their potential linkages.

## 2 Key thematic areas

The following sections present the information found during a scoping exercise on existing taxes and subsidies (both harmful and beneficial in environmental terms) and reform efforts. The report focuses in particular on three of the RESSCUE PICTs, namely Vanuatu, Fiji and French Polynesia, although several examples from other PICTs are also referred to in order to provide a broader regional context. Nine economic sectors are addressed in turn: mining, fisheries, agriculture, transport, waste management, water management, urban development, tourism and energy.

### 2.1 Mining

#### 2.1.1 Introduction

Mining is an important economic sector in several PICTs. In New Caledonia, the nickel industry accounted for almost 10% of GDP in 2010, with ore exports of around 5.4 million tonnes and nickel exports of around 76,500 tonnes in 2014 (IEOM 2014). In 2013, mining contributed around 1% of GDP in Fiji, but is seen to be growing in importance as it offers significant opportunities for economic growth (ADB 2014d). In Vanuatu, quarrying activities include small-scale limestone quarrying and beach/sand mining, and there are considerable manganese deposits and significant potential for deep-sea mining activities (Commonwealth of Nations 2017). Mining is also important in Papua New Guinea, where the mining and petroleum sector's share of GDP has amounted to around 20% since 2014 (ADB 2015).

The environmental impacts of mining vary according to the type of resource extracted, the methods of extraction, and the regulatory framework in place. The extraction of fossil fuels and other minerals has global impacts through the associated greenhouse gas (GHG) emissions, as well as local impacts in the area surrounding the extraction site. The potential negative environmental impacts include land use change away from (subsistence) farming, pollution of local ecosystems (including coastal and marine ecosystems) and impacts on fisheries from increased sedimentation and nutrient loading due to offshore activities (SPREP 2012a). Negative social impacts include non-inclusive growth, corruption, health impacts on local communities and even threat to the lives of mineworkers. Nevertheless, in many cases extractive industries support local economies and wider socio-economic development, since mined materials are economically valuable and provide jobs. With a strong regulatory framework, negative externalities can be reduced and to some extent compensated by job creation, the development of a skilled workforce, and tax revenues that can be invested in education, health, environmental improvements and infrastructure.

For these reasons, there is growing consensus in international organisations that mining can contribute to sustainable development under appropriate conditions (see e.g. UN Resolution 66/288, adopted in 2012). Many international initiatives led by civil society, companies or governments have been launched since the 2000s to improve the sustainability of mining. These include the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF) which was launched in 2002, and works to advance good governance practices and policies that support sustainable development through its Mining Policy

Framework for Mining and Sustainable Development (MPF). The Forum comprises 55 member states including **Papua New Guinea** and **France** (which implies the inclusion of **French Polynesia** and **New Caledonia**). The World Bank, which actively promoted the liberalisation and deregulation of the mining sector in many developing countries during the 1980 and 1990s, acknowledged in the 2000s the need for state regulation of the sector and the consideration of social and environmental aspects. The Performance Standards of the International Finance Corporation (IFC) are relevant for projects in the mining sector, for example in their provisions on pollution prevention and biodiversity conservation. IFC Performance Standard 6 aims to ‘protect and conserve biodiversity, maintain ecosystem service benefits, and promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities’ (IFC 2012). Companies are also increasingly being encouraged to apply the mitigation hierarchy to their operations, mitigating environmental harm through avoidance, minimisation (or reduction) and restoration of detrimental impacts to biodiversity before using biodiversity offsetting to address any residual impacts (Flora & Fauna International n.d.).

Regulatory instruments have a critical role in reducing the environmentally harmful impacts of mining. In addition, taxes and subsidies also have a significant role to play in particular by raising domestic public revenues. The fiscal benefits of mining must therefore be optimised through fiscal policies and wider regulatory and reporting instruments designed to support economic benefits without compromising local communities and their environment (Vanclay & Esteves 2011). This implies efficient tax regimes that are able to attract investors whilst also raising adequate revenues to generate well-being benefits. Global market prices for mined minerals may also have implications for fiscal considerations within the sector. It is also important, however, to consider the use of instruments to support more environmentally friendly mining practices, for example extraction levies. The lack of internalisation of externalities, or lack of resource pricing, can sometimes act as a de facto subsidy and have potentially negative environmental impacts along with certain tax exemptions and other direct subsidies. Taxes and subsidies can also help mining companies to make financial provisions to implement environmental management plans and to rehabilitate mining sites once extraction is completed.

**Table 1 Mining-related instruments in the PICTs and potential environmental impacts**

<b>Type of tax or subsidy</b>	<b>Examples related to mining</b>	<b>Potential environmental impacts</b>
<b>Tax credits, concessions and exemptions</b>	Tax credits or fiscal advantages for investments in mining activities, infrastructure or equipment.	- Environmental damage due to lack of environmental criteria.
<b>Environmental bonds etc.</b>	Environmental bonds, rehabilitation funds and similar instruments.	+ Reduced extraction due to increased cost (application of polluter pays principle). + Financial support for environmental mitigation / site rehabilitation.
<b>Fees for access to / use of natural resources</b>	Royalty payments for extracted minerals. Registration or permit fees and associated conditions.	+ Reduced extraction due to increased cost (application of polluter pays principle). - Environmental damage if no /inadequate environmental conditions or low fees.

### 2.1.2 Existing (potentially) harmful instruments

*Tax exemptions and subsidies* granted to the mining sector can potentially contribute to negative impacts on ecosystems and biodiversity, by expanding or increasing the intensity of mining activities. This can include impacts on water, soil and air quality, degradation of habitats, issues with waste generation (including hazardous waste), and emissions and other impacts associated with mining-related transportation. This section provides examples from **New Caledonia** and **Fiji**.

In **New Caledonia**, companies can benefit from *tax credits and fiscal advantages* for investments to expand metallurgic or mining activities, if the investment is at least XPF 10 billion (EUR 83.8 million) and the number of jobs is maintained (DSF 2001, Art Lp. 45 bis 10).<sup>3</sup> Mining and metalworking industries also benefit from an *exemption from tariffs on imports and on exports* (DSF 1999, article 227).<sup>4</sup> In addition, added value on fixed assets is exempted from all taxes for companies with a majority of mining assets in New Caledonia, and added value from mining asset transfers (from a company with a majority of mining assets to a metalworking and/or mining company) is *exempt from corporation taxes*. Furthermore, companies in the extractive industry and metallurgic companies can benefit from a *tax credit for expenditure on professional training*, to a maximum of up to 30% of total training expenditure, and a maximum of XPF 100 million (EUR 838,000) per year for metallurgic companies and XPF 50 million (EUR 419,000) per year for companies subject to the mining tax system (DSF 1990, article 45.24).

In **New Caledonia**, businesses investing in industrial factories for the treatment of nickel or associated ores (e.g. cobalt and chrome ores), can benefit from *fiscal advantages for the construction and operation of their factory*, subject to certain conditions and limitations. The investment must be at least XPF 50 billion (EUR 41.9 million) and a minimum of 500 jobs must be created in New Caledonia. During the construction phase, *exemptions from corporate income taxes, property taxes, and taxes on metallurgic and mining activities* are available (DSF 2002, Article Lp.45 bis 1-5). In addition, during the operational phase, the company can benefit from *fiscal advantages* for up to 10 years (or 15 years in special situations). Furthermore, certain metallurgic companies can benefit from a *fiscal stability regime*, which can be applied during the construction phase and can continue for 15 years after the start of operational activities (DSF 2002, Article Lp.45 bis 1-5). From 2010-2015, mining and the metal industry accounted for 10% of the customs exemptions in New Caledonia, amounting to around XPF 2.5 billion (EUR 21 million) in 2015 (Pacific Community 2016a).

In **Fiji**, the Mining Act supersedes most other laws, effectively allowing precedence to be given to mining activities. In addition, stakeholders have suggested that the negative environmental and social impacts of mining tend to be felt disproportionately by certain communities (e.g. those where mining tailings are located), whilst others including landowners gain disproportionate financial benefits from mining activities<sup>5</sup>. Ministers could previously *exempt mining companies from paying taxes* on their whole income or reduce them as specified, if

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<sup>3</sup> <https://dsf.gouv.nc/reglementation/code-des-impots-de-la-nouvelle-caledonie>

<sup>4</sup>

<http://www.juridoc.gouv.nc/juridoc/jdcodes.nsf/CIPlan/740C7CBF52D9F2124B2575670074B9A0?OpenDocument>

<sup>5</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

deemed to be beneficial for economic development (FRCA 2014).<sup>6</sup> However, the Fiji Income Tax Act 2015 does not include such a provision (Government of Fiji, 2015).<sup>7</sup> Furthermore, *expenditures for the prospecting of minerals* are deductible when determining taxable income. In addition, mining companies can offset one-fifth of other expenditures in Fiji against their total income, for example capital expenditure to develop mines and the extraction, treatment, refinement and sale of minerals, and expenditure to acquire a mining lease or tenement (Government of Fiji 2015). See Box 2 below for an example of a mining tax exemption for a specific Fijian company.

#### **Box 2 Mining tax exemptions: The Emperor Gold Mining Company Limited (Fiji)**

Since 1952, the *Emperor Gold Mining Company Limited* was able to operate at Vatukoula in Fiji without contributing substantially to Government revenue, due to agreements with the Government. The company was allowed tax concessions since 1952 when exports of precious metals were exempt from the Port and Service Tax, and more tax concessions and subsidies were granted to the company from the 1950s to the 1980s. Governmental support contributed to the expansion of the company on the Island, with accompanying environmental impacts from their mining activities (Grynberg 1996). The tax concessions and subsidies continued into the 21st century with the Vatukoula Tax Agreement. From 1983 to 2004, and in the case of a new mine until 2011, the Agreement was settled between the Government and two joint ventures in which Emperor Gold Mining had a 50% or majority share. The Agreement included concessions on income tax, stamp duty, royalties, customs and fiscal duty. Due to the Agreement, the Fiji Government is estimated to have indirectly subsidised the Emperor Gold Mining Company to the tune of between FJD 4 and 6 million (EUR 1.8 and 2.7 million) per year from 1986 to 1991 (Grynberg 1996).

### **2.1.3 Reform efforts and existing 'green' instruments**

Instruments aimed at increasing the sustainability of the mining sector include permits (in **Vanuatu** and **New Caledonia**), royalty payments for the extraction of materials (in **Fiji**), and financial guarantees/bonds to be used for environmental purposes (in **Fiji** and **New Caledonia**).

The **Vanuatu Quarry permit regulation** (Order No. 8 of 2005) imposes registration fees and conditions on mining companies to obtain a permit for small-scale quarrying activities (quarrying on traditionally-owned land for building materials for customary/traditional purposes is exempt). Since 2005, permit applications must be approved by a commissioner for Mines and Minerals, appointed by the Ministry of Lands and Natural Resources. The mining company must pay a non-refundable application fee of VUV 2,500 (EUR 22), and a quarry permit costs VUV 50,000 (EUR 438) per year. An occasional quarry permit is subject to a fee of VUV 10,000 (EUR 88) per year. The forecast permit revenues for 2016 amount to VUV 35,623,670 (EUR 312,310). These revenues are integrated into the national budget, rather than being earmarked specifically for environmental purposes such as offsetting possible negative environmental impacts of mining. (Republic of Vanuatu 2005; Government of the Republic of Vanuatu 2016)

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<sup>6</sup><http://www.frca.org.fj/wp-content/uploads/2012/10/incometax.pdf>

<sup>7</sup> <http://www.parliament.gov.fj/getattachment/Parliament-Business/Acts/Act-No-32-Income-Tax.pdf.aspx>

In **Fiji**, Mining Regulations established under the Mining Act (1978) require mining companies to pay *royalties* to the Government for extracted minerals. The Act establishes fees as 3% of the value for bauxite or iron ore, and 5% for other minerals, but alternative royalty fees may also be set by the Director of the Department of Mining, with approval of the Minister. Royalties are paid to the Director of the Department of Mining, with a share payable to landowners. Whilst the royalties are designed as payment for the loss of a non-renewable resource, it should be noted that there is no obligation for these payments to be used for environmental management, and they may in fact act as a lever to incentivise landowners to agree to mining developments, thereby actually encouraging increased mining activity (Jupiter 2017, personal communication) with the associated environmental impacts. Consideration could be given to applying a tax on royalty payments; this could have the dual impacts of slightly reducing the financial attractiveness of mining whilst also raising some additional revenue<sup>8</sup>.

Several PICTs, including **Fiji** and **New Caledonia**, impose financial obligations such as *guarantees or bonds* on mining developers, with the specific aim of supporting improved environmental management of mining projects and limiting negative environmental impacts by making funds available for their remediation. Examples are presented in Box 3 below.

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<sup>8</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note



### Box 3 Mining guarantees and bonds: Fiji and New Caledonia

In Fiji each mining development may include the following financial obligations:

- A *security deposit* (Fiji Mining Act 1978) to guarantee the due performance of a project developer's legal obligations;
- An *environmental bond* (Fiji Environment Management Act 2005). If the security deposit is deemed insufficient following an Environmental Impact Assessment (EIA), the Minerals Resource Department (MRD) and Department of Environment can require a project developer to take out an environmental bond to cover the probable costs of environmental management. The amount of the bond is determined by the level of risk;
- *Contributions to a private mine closure and rehabilitation fund*. Since 2005, businesses (including mining operations) can benefit from a tax deduction of 150% on any cash donation of between FJD 10,000 and 100,000 (EUR 4,500 and 45,000) to a disaster rehabilitation fund (Government of Fiji 2015). There is currently no obligation to make such a donation, but the Revenue and Customs authority is looking to introduce legislation to address this; and
- *Payment for EIA, environmental monitoring and Environmental Management Plan (EMP)*. Since 2005, a mining project developer must cover the costs of the EIA and environmental monitoring undertaken by government-accredited experts, and the cost of their required EMP. It should be noted that in recent years, environmental NGOs have raised concerns about the quality of EIAs for mining operations. Court action is currently underway with respect to at least one development where the EIA is alleged to be sub-standard.

The environmental bonds are paid into an Environment Trust Fund administered by the Department of Environment (the mine closure and rehabilitation funds are separate and private). The fund is intended to finance debts for nature swaps (including compensation to land or resource owners for handing over the right to use land and natural resources for conservation purposes); expenses related to environmental monitoring or audits; environmental rehabilitation work; research programmes; refunds of environmental bonds and security of costs; and rewards under the Environment Management Act (2005). However, evidence is lacking on whether the funds are actually being used for these purposes (Jupiter 2017, personal communication), and suggestions have been made that bonds are not sufficient to address all the negative impacts of mining<sup>9</sup>.

**New Caledonia** imposes a *financial guarantee for the rehabilitation of mining sites*, in response to growing concerns about the environmental impacts of abandoned mining sites and the financial costs of their rehabilitation. Since 2009, an obligatory financial guarantee for mine closure and rehabilitation is associated with every mining permit. The amount is set under the governance of the president of the Assembly of the Province in which the mining project is established. The financial guarantee is accrued through progressive contributions to an approved private financial institution or the public Deposits and Consignments Fund, and can be fully or partially refunded once a site has been rehabilitated.

## 2.2 Fisheries

### 2.2.1 Introduction

Fisheries activities in the PICTs can be either inshore/coastal or offshore/oceanic, and fall into three broad categories: revenue generation from access fees for distant water fleets; domestic and foreign fishers operating in the EEZ and territorial sea to supply canneries,

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<sup>9</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

loining facilities and domestic processing facilities for fish export; and artisanal fisheries within the territorial sea for the domestic and export market (Grynberg 2003).

Many different types of taxes and subsidies, which can be either harmful or beneficial to the environment, are applied in the fisheries sector (Sumaila et al. 2013). Individual transferable quotas and resource taxes can be used for the sustainable management of fish stocks, whereas subsidies are generally provided to reduce the cost of fishing and/or increase revenue. Fuel subsidies tend to represent the largest proportion of total subsidies to the sector, followed by subsidies for management. Fisheries subsidies and taxes are an important issue for PICTs because many livelihoods in the region depend on marine ecosystem services; for example, offshore tuna fishing and coastal fishing play a central role in terms of food supply and foreign exchange (Gillett 2011). Inshore fishing provides much of the region's nutrition; coastal fish is mostly traded and consumed locally and is a critical source of food for Pacific islanders (FOA n.d.). Even most commercial fishing is on a small scale to supply local needs (The Parliament of the Commonwealth of Australia 2009). The fishing sector is also important in terms of welfare, culture, employment, and recreation.

Some studies (World Bank 2008; UNDP 2008) have shown that fisheries subsidies often provide incentives for overfishing and harm the sustainable provision of marine ecosystem services. Research has suggested that subsidies can hamper economic sustainability and community and environmental resilience by creating a dependency on government funding (OECD 2006). The fact that climate change – the ecological impacts of which are exacerbated by anthropogenic stress such as overfishing – is expected to negatively impact local fisheries in the Pacific through temperature change, sea level rise and the intensification of tropical cyclones, also suggests that it would be beneficial to ensure that environmental impacts are taken into account within fishery-related taxes and subsidies.

Fisheries management in PICTs is faced with declining coastal resources caused by overfishing due to population and socio-economic growth (Kronen et al. 2010), and in some cases poor management of urbanisation (e.g. extraction of coral material in lagoons, backfilling of fringing reefs and earthworks on watersheds). Due to ever-increasing catch, two of the four target species in the Western and Central Pacific Ocean (WCPO) (yellowfin and bigeye tuna) are at or beyond full exploitation. There is substantial concern over the future of these populations if fishing pressures are not reduced (Havice 2010). Reef fisheries are likely to be unsustainable in half of all (63 sites) South Pacific communities (Kronen et al. 2012). Finfish and invertebrates in many areas of **Fiji**, and many other Pacific reef fisheries, are overexploited (Gillett et al. 2014). Most of the fish obtained from reefs is critical to the diet of Pacific islanders, with consumption on **Kiribati** as high as 200 kg per person annually (UNEP 2005). In some islands the decline in coastal and reef-living stocks has forced many islanders to switch to imported and less nutritious food (UNEP 2005). In recent consultations on **Vanuatu's** National Sustainable Development Plan, one of the primary concerns of residents in outer islands was the decline of fish stocks caused by fishing of coastal waters by foreign vessels, including fishing allowed by international agreements (see below).

**Table 2 Fisheries-related instruments in the PICTs and potential environmental impacts**

Type of tax or subsidy	Examples related to fisheries	Potential environmental impacts
<b>Tax credits, concessions and exemptions</b>	Tax /duty exemptions for fisheries machinery / equipment. Tax exemptions on production inputs and exports.	+ Promotion of sustainable fishing methods through targeted subsidies (e.g. for specific types of equipment / fisheries) and development of reef survey networks (e.g. sensors). - Increased catch / depleted stocks due to cheaper equipment (in particular if no / inadequate environmental criteria).
<b>Fuel duty</b>	Exemption / concessions from fuel duties and taxes for fishing vessels.	+ Reduction of fishing pressure on sustainable capture-based aquaculture, - Increased GHG emissions due to cheaper fuel. - Increased catch /depleted stocks due to increased fishing facilitated by cheaper fuel.
<b>Production subsidies</b>	Aid for fishermen for purchase of vessels and small equipment.	+ Promotion of sustainable fishing methods through targeted subsidies. - Increased catch / depleted stocks due to increased fishing.
	Aid for fishermen for to study and develop expertise for product promotion.	+ Promotion and local expertise of sustainable fishing practices.
	Aid and subsidies for fisheries-related variable costs (e.g. ice).	- Increased catch / depleted stocks facilitated by lowering variable costs.
	Support for alternative fisheries-related activities, such as sustainable aquaculture (e.g. cage farming, seaweed cultivation and pearl culture).	+ Promotion of healthy stocks, habitats and ecosystems (e.g. condition of reefs, protection for juvenile fish, early indications of climate change-related bleaching, oxygen provision to lagoons, carbon capture potential).
<b>Fees for access to / use of natural resources</b>	Access fees for foreign vessels to fish in PICT waters.	+ Potential to reduce catch and preserve stocks if fees set adequately high and / or quotas applied. - Increased catch / depleted stocks (in particular if no / inadequate environmental criteria, quotas, or fees too low).
	Fishing licence and registration fees.	+ Promotion of more sustainable fishing methods through differentiated fees. + Preservation of stocks if number of licences limited and/or fees significantly increase with number of licences.

### **2.2.2 Existing (potentially) harmful instruments**

Several PICTs offer *concessions/aid to fishermen for fuel*. This is the case for example in **French Polynesia**, which offers an exemption from duties and taxes on fuel for coastal fishers (Direction de Ressources Marines et Minières 2017a), and **Fiji**, which offers a national fuel concession for the fishing industry (see Box 4 below). Some options for reform for fuel subsidies are outlined in section 2.2.3 below.

**Box 4 Fisheries fuel concessions: Fuel concession for the fishing industry (Fiji)**

It is likely that this concession aimed to reduce the relative operating cost of the fishing industry and to encourage participation in the sector. Local fishing vessels receive an exemption from the FJD 0.02 (EUR 0.009) per litre bunker fee and a duty free fuel concession, provided they meet eligibility criteria and receive approval from the Minister for Finance (Fiji Revenue and Customs Authority 2016). The fuel subsidy might keep operational costs artificially low and could contribute to excessive fishing pressure on an already overfished reef (Gillett et al. 2014).

Several PICTs, including **Fiji**, **French Polynesia** and **Vanuatu**, also offer *tax exemptions for various types of fisheries equipment*, to encourage investments, in particular in more modern technology and equipment (see Box 5 below). These exemptions effectively act as subsidies to the sector, and in some cases do not appear to be subject to any specific environmental criteria (e.g. by failing to take into account that some modern gear may be less harmful to habitats but more efficient in catching fish, thereby contributing to the depletion of stocks). Direct aid is also available for some specific types of fishery.

In **French Polynesia** subsidies tend to be concentrated on a small number of operators<sup>10</sup>, suggesting there may not be equal access to them for all fishermen. Public subsidies can lead to inequalities if they merely ‘fill the gap’ to make (certain) fisheries profitable. Social considerations are very important when using tax exemptions or concessions to affect the economic and environmental sustainability of fisheries. At the same time, inconsistent or unlawful implementation of subsidies can lead to inequitable distributional effects and, more generally, reduce the relative value of the money spent on subsidies. Adequate monitoring of fisheries subsidies is lacking in some PICTs, including **Fiji**<sup>11</sup>.

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<sup>10</sup> Ibid.

<sup>11</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

### Box 5 Support for fisheries equipment/investments: Fiji, French Polynesia and Vanuatu

In **Fiji**, specialised fisheries machinery for the fishing industry and processors is exempt from import taxes and subject to only 9% VAT (Fiji Revenue and Customs Authority 2016). The likely rationale is to overcome a competitive disadvantage caused by high prices due to the need to import items.

In **French Polynesia** coastal fishermen are exempt from duties and taxes on equipment and fishing vessels (Direction de Ressources Marines et Minières 2017), and tax credits of up to 60% are available on investments for new offshore fishing vessels (70% for vessels built in French Polynesia), and up to 40% on equipment for aquaculture, fish farming and pearl farming (DICP 2017a). No specific environmental criteria are applied, other than use of renewable energies where possible, and general efforts to reduce fossil fuel use. Registered lagoon fishermen can receive aid of up to XPF 500,000 (EUR 4,190) for the purchase of a boat, motor or trailer (through the *dotation pour le Développement de la Pêche Lagonaire*, DDPL) and up to XPF 100,000 (EUR 838) for the purchase of small items of equipment (through the *dispositif d'Aide et de Soutien à la Pêche*, DASP) (Direction de Ressources Marines et Minières 2017b). This aid, however, is usually focussed on livelihood fishery, rather than commercial lagoon fishery, which may mitigate the impacts on fish stocks (Remoissenet 2017, personal communication). Also in **French Polynesia**, in October 2017 a new law was introduced (*Loi du pays n° 2017-27 relative aux aides à la pêche*), that includes provisions on aid for investment in boats/equipment, studies/expertise/promotion, exports, ice and lagoon fishing (Conseil des Ministres 2017a). For example, fishermen may receive: up to XPF 2 million (EUR 16,760) to cover up to 60% of the purchase price of a new *poti marara* (small motorised fishing vessel) propelled by diesel (up to XPF 2.5 million (EUR 21,000) for one propelled by petrol); up to XPF 1 million (EUR 8,380) to cover up to 80% of the cost to replace key parts such as motors; and up to XPF 1 million (EUR 8,380) to cover up to 85% of the cost of outboard motors for lagoon fishermen (limited to XPF 500,000 and up to 80% of the cost for Tahiti and Moorea). Aid for the provision of ice at the port of Papeete will however be phased out by 2021.

**Vanuatu** offers exemptions from trade taxes to fisheries projects, covering boats and boat building materials, fuel oils, machinery, materials and equipment, including in-board and outboard motors and refrigeration equipment. Export manufacturers are exempt from trade taxes on their production inputs and from any taxes on exports. The concessions are intended to support employment opportunities by providing some protection to investors (Government of Vanuatu 2005) in the face of a small domestic market that results in reduced competitiveness against imports (in terms of both price and quality). Owners of licenced fishing boats also have access to *duty free gears, support for loan services, access to fishing around fish aggregating devices, training opportunities and access to marketing of their catches*. (Vanuatu Daily Post 2015)

*Access fees to fish in specific waters* are another instrument used in the fishing sector. In **French Polynesia**, access fees for marine concession for fishing trap sites are often low; when coupled with the lack of regulation in many atolls on the number of fish net traps (*parcs à poissons*), this can lead to unsustainable fishing practices and related damage to both stocks and lagoon sites (Remoissenet 2017, personal communication).

Third countries can also negotiate access fees to fish in the Exclusive Economic Zones (EEZ) of PICTs. For example, the EU has economic partnership agreements with **Fiji** and **Papua New Guinea**, and is negotiating agreements with other PICTs<sup>12</sup>, that include fish. Sustainable Fisheries Partnership Agreements allow EU fleets to fish in third countries' EEZ, within a

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<sup>12</sup> <http://ec.europa.eu/trade/policy/countries-and-regions/regions/pacific/>

regulated and guaranteed environment<sup>13</sup>. **French Polynesia**, on the other hand, has a policy of not granting fishing permits to foreign vessels in its EEZ, which has enabled the preservation of its resource (Joguet 2017, personal communication).

The WCPO tuna fishery is the world's most valuable tuna fishery (The Parliament of the Commonwealth of Australia 2009). Since the 1980s, PICTs have used licensing/access agreements with foreign fishing interests (Havice 2010). PICTs receive many different types of fees for access to their offshore fisheries and separate agreements are in place for foreign fleet access to tuna<sup>14</sup>. One example is the Fisheries partnership agreement between the EU and **Kiribati**, which ran from September 2012 to September 2015 (no protocol has been in force since then) (European Commission 2017). See Box 6 below for more detail on this.

#### **Box 6 International access fees for fishing: The EU-Kiribati Fisheries partnership agreement**

The agreement allowed four purse seine vessels and six longline vessels (from Spain, France and Portugal) access to a reference tonnage (i.e. proposed catch) of 15,000 tonnes of tuna per year in the Kiribati EEZ. Ship owners had to pay EUR 35 per tonne caught, plus a fee of EUR 131,250 per purse seiner and EUR 15,000 per long-liner. The agreement included some environmental and sustainability measures, including requiring fishing to be in accordance with the conservation and management requirements of the Western and Central Pacific Fisheries Commission (WCPFC), not allowing bottom fishing or coral fishing, not disrupting traditional, local-based fisheries, and reporting by-catch (Council of the European Union 2012). However, if the reference tonnage was exceeded, the EU could pay an additional EUR 250 per tonne (for the first additional 2,500 tonnes) and an additional EUR 300 per tonne for any further additional tonnes. Under the agreement, only 26% (EUR 350,000) of the payments from the EU to Kiribati were earmarked to support the Kiribati sectoral fisheries policy (European Commission 2017); the remaining EUR 1.325 million was not earmarked for any specific purpose. Concerns were raised by NGOs that the agreement allowed cheap and inadequately controlled access by third country vessels to Pacific waters (e.g. an unlimited number of days), as opposed to the vessel day scheme (VDS) adopted by eight Pacific Island Nations under the Parties to the Nauru Agreement (PNA) (see below), leading to the potential for reduced sustainability of stocks (Greenpeace Australia Pacific 2013).

### **2.2.3 Reform efforts and existing 'green' instruments**

Whilst *access fees for fishing* can be harmful in some cases, they can also allow for greater control over access to fish stocks. For example, cooperation is important to managing tuna stocks, as tuna is a migratory species and therefore a 'common pool' resource. The establishment of the vessel day scheme (VDS) by the Parties to the Nauru Agreement (PNA) is one of the most important developments in recent years. The scheme has successfully raised licensing revenue by uniting a group of governments from tuna stock-rich Pacific Islands into a coherent group with a uniform approach to selling and auctioning days during which foreign vessels may fish. In 2016, PNA members received around USD 400 million (EUR 376 million) in licensing revenues, compared with USD 64 million (EUR 49 million) in 2010. This is now the single largest source of government revenue in several PICTs (it represents 55% of domestic revenue in **Tuvalu**, an amount larger than foreign aid). By setting a limit on the number of overall days in which fishing occurs, the VDS has potential to improve the

<sup>13</sup> [http://ec.europa.eu/fisheries/documentation/publications/2015-cfp-international\\_en.pdf](http://ec.europa.eu/fisheries/documentation/publications/2015-cfp-international_en.pdf)

<sup>14</sup> e.g. <http://ec.europa.eu/fisheries/cfp/international/agreements/>

sustainability of the tuna fishery (which the WCPO has failed to do due to its membership base including distant water fishing nations).

*Fishing licence fees* are also present in **Fiji** and **Vanuatu**, as outlined in Box 7 below. These include formal licence fees and registration fees and in **Fiji**, the informal practice of ‘good will payments’ to obtain permission from rights holders to fish in traditional fishing areas.

#### **Box 7 Fishing licence fees: Fiji and Vanuatu**

**Fiji** charges for fishing *licences and registration fees* in certain areas. Different licence fees may be charged in different areas (set by a licensing officer appointed by the Minister) but tend to be in the range of tens of dollars, e.g. FJD 20 (EUR 9) in Lautoka. In 2014, total licence fees collected amounted to under FJD 10,000 (EUR 4,500) (Govan 2016). The issuing of licences is in effect an administrative procedure, and not designed or intended to be used as a resource management tool; indeed in the vast majority of locations licencing data is not managed in such a way that it could be used for this purpose (e.g. for capping the number of licences if limits were reached) (Govan 2016). Registration fees apply to individuals who fish for trade or business purposes. The fees are as follows: FJD 4 (EUR 1.80) per year for the captain of every fishing vessel plus FJD 1 (EUR 0.45) per year for each crew member or employee, and FJD 4 (EUR 1.80) per year for any other person carrying on the trade of business of a fisherman. There is no fee for persons who take crustaceans or shellfish by net or hand net for sale (under certain conditions). In addition, fees are charged per vessel: FJD 4 (EUR 1.80) per year for a motorised/sail powered fishing vessel and FJD 1 (EUR 0.45) per year for a vessel propelled by oars, paddles or poles. The licences and registration fees for offshore fishing are: FJD 5 (EUR 2.25) per year per offshore licence per Fijian vessel shorter than 2 metres, and FJD 50 (EUR 22.50) per year per offshore licence per Fijian vessel longer than 12 metres (Fiji Fisheries Act 1942, as amended). The fees are either waived or lower for net/hand fishers, vessels propelled directly by the fisher, and smaller offshore vessels, offering an effective concession/subsidy to lower intensity forms of fishing. In addition, there is a standard (although not legally recognised) practice of ‘good will payments’ associated with seeking permission from the rights holders of traditional fishing areas. These amounts are not standardised and can range into the hundreds of dollars. Such payments to traditional marine resource owners or rights holders may be worth additional consideration, as they are often influenced by the perceptions of the local community on stewardship and natural resource carrying capacity (Govan 2017, personal communication).

**Vanuatu** charges *fishing licence fees*, including for game or sport-fishing boats, which are paid to the Department of Fisheries. In 2005, the foreign fishing licence fee was USD 11,000 (EUR 10,445) per year. Motorised fishing boats in Port Vila and Luganville are charged annual license fees of VUV 20,000 (EUR 175) for boats shorter than 8 metres, VUV 25,000 (EUR 219) plus for boats longer than 8 metres, and VUV 50,000 (EUR 435) for game fishing charter boats. Fishing boats in the outer islands are charged lower fees: VUV 10,000 (EUR 87) for boats shorter than 8 metres, VUV 15,000 (EUR 130) plus for larger boats and VUV 30,000 (EUR 260) for recreational fishing boats. The fees are lower for smaller vessels, which may result in effective support for lower intensity fishing. Licences are also charged for buying and selling of coconut crab, lobster, sea cucumber and for commercial aquaculture farms. These fees are paid directly to the Government and do not include provincial access fees, which are paid to the respective provinces. Civil servants report that implementation is a problem, and that many small-scale producers selling produce locally do not purchase licences. Currently, there are no caps on the number of licenses issued by area, island or province, but this may be assessed in the future.

In some PICTs, aid is available for *investments in fisheries equipment* that can help to mitigate the overall environmental impacts of the sector. One example is the 2017 law in **French Polynesia** which allows fishermen to apply for up to XPF 10 million (EUR 83,800) in aid for investments in photovoltaics as an energy source for refrigeration equipment (Conseil des Ministres 2017a)<sup>15</sup>, which may help to reduce greenhouse gas emissions.

*Fuel subsidies* in all PICTs can be reduced, or potentially made redundant, by instead focussing financial aid on increasing the use of non-diesel fuel technology such as hybrid propulsion<sup>16</sup>. The introduction of novel technologies to reduce reliance on fossil fuels may need parallel investment in providing training to ensure repairs and maintenance of new hybrid engines is not prohibitively expensive. This is especially important in countries where fishers are often able to fix their own diesel engine but cannot apply this knowledge to the new technology and do not have adequate disposable income to pay for repairs to be done by someone else.

To reduce the overall cost to governments of fuel subsidies, a system of *fuel quotas* could be considered, with each fisher allocated a maximum amount of subsidised fuel<sup>17</sup>. Incentives to reduce the reliance on fossil fuels could be strengthened through, for instance, a progressive subsidy – where lower usage translates into higher subsidies. Fuel subsidies' environmental impact could also potentially be reduced by making the subsidy responsive to fish stock status, for example adjusting subsidies downwards if stocks seem depleted, to reduce fishing pressures. However, it is important to consider the social implications of implementing such a change as fishing communities that are already economically affected may be 'punished' twice for low stock status.

Another potentially positive type of instrument is to offer *support (e.g. subsidies) for alternative fisheries-related activities*, such as sustainable aquaculture (e.g. cage farming, seaweed cultivation and pearl culture). Whilst many such activities are already developed in the South Pacific, additional support for them could help to reduce fishing pressure and promote healthy stocks, habitats and ecosystems. For example, giant clams and corals can have a positive impact on the condition of reefs, offer protection to juvenile fish and provide early indications of climate change-related bleaching, whilst seaweed contributes oxygen to lagoons and offers carbon capture potential (Remoissenet 2017, personal communication).

On the other hand, consideration has to be given to the possible negative ecosystem impacts of aquaculture and labour interactions between aquaculture and wild catch fisheries. Aquaculture that uses non-native species, has high feed demand or produces certain types of waste (e.g. plastic) may have negative ecosystem impacts. In addition labour demand and transferability to aquaculture needs to be planned carefully, and projects must be supported by local communities, for enduring and successful aquaculture enterprise development. Implementation of systems of bonds or guarantees for aquaculture establishment, such as for pearl farming in **New Caledonia**, could ensure the environmental quality of inshore areas is maintained. The bonds must be commensurate with the potential damage and remedial

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<sup>15</sup> The same law also provides for aid to convert *poti marara* (small motorised fishing boats) from diesel to petrol, although the motivation for this seems to be financial (i.e. to reduce the cost to fishermen) rather than environmental.

<sup>16</sup> Workshop Greening taxes and subsidies (Papeete, French Polynesia, 14 November 2017): Summary note

<sup>17</sup> Workshop Greening taxes and subsidies (Papeete, French Polynesia, 14 November 2017): Summary note



costs otherwise aquaculture companies are likely to integrate the bond or guarantee cost into their overall investment cost and can thus still avoid their responsibility without significant financial implications.

Removing or changing available fisheries aid and subsidies, especially those that reduce variable costs (e.g. fuel, or ice) can result in increases in operating cost being passed on to the consumer through higher fish prices. Since much fish in the PICTs is traded in domestic markets for local consumption, food security issues and health implications must be considered in the context of potential price implications of subsidy removal.

Fiscal instruments, especially those that directly influence the operational costs of fishing, could potentially be better matched to biological considerations such as spawning seasons or migration patterns<sup>18</sup>, to better link the instrument to the health of the fish stocks and the broader marine ecology.

## 2.3 Agriculture

### 2.3.1 Introduction

The agricultural sector is one of the main drivers of climate change; the agriculture, forest and land use sector accounts for around 25% of overall anthropogenic GHG emissions (IPCC 2014). The sector also contributes to air pollution, biodiversity loss, and has significant impacts on nitrogen and phosphorus stocks, as well as on water quality (through the use of fertilizers and pesticides) and quantity (due to water abstraction for irrigation). Simultaneously, it has been estimated that agricultural production will have to increase by 60 to 70% to meet the needs of 9 billion people in 2050 (FAO 2016). Whilst agricultural productivity gains throughout the 20th century were essentially the result of the increasing use of chemical inputs, mechanisation, and the focus on monoculture and a reduced range of high-yield selected varieties, some studies have shown that sustainable forms of agriculture can be a new source of productivity gains (Pretty et al. 2006).

Reforming the tax and subsidy system in the sector can be an efficient way of promoting a shift towards sustainable agriculture. Instruments can be implemented during the production process – some European countries have created incentives to switch to organic farming (Rolfe, 1993) – or during the consumption/distribution phase – for example Hungary, Denmark and France have all created taxes on ‘unhealthy food’ (Mytton et al. 2012). Payments for specific agricultural practices or crops should support the most sustainable practices, and rebates or tax exemptions on pesticides, fertilizer and fuel should be reduced. Subsidies can be granted to sustainable agriculture in the form of direct payments for conservation actions.

The contribution of agriculture to GDP varies greatly between PICTs: it represents a major and increasing share of GDP in **Vanuatu** (28.2% in 2014 compared to 18.9% in 1980) (World Bank 2016a), a significant though decreasing share of GDP in **Fiji** (11.2% compared to 22.1% in 1980) (World Bank 2016a), and a very small share of GDP in **French Polynesia** (1.1% in 2009) (Pacific Community, n.d.) and **New Caledonia** (1.5% in 2010) (ISEE 2015).

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<sup>18</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

Very often, one specific crop is dominant in a country's agriculture (e.g. sugar in **Fiji**, coconut/copra in **French Polynesia**). This tendency to practice monoculture and intensive farming has deleterious effects on the environment. In the **Fiji** Islands agriculture is the main driver of deforestation, which has consequences on both health and biodiversity. As a result, it has been suggested that the country create either a grant system for forest rehabilitation, or a trading carbon stock system (Sue 2010). Importantly, sometimes an external 'shock' can create perverse environmental outcomes. For example in **Fiji**, Tropical Cyclone Winston destroyed many plantations so crop prices increased, providing an incentive to grow crops which contributed to deforestation in some areas<sup>19</sup>.

**Table 3 Agriculture-related instruments in the PICTs and potential environmental impacts**

Type of tax or subsidy	Examples related to agriculture	Potential environmental impacts
<b>Tax credits, concessions and exemptions</b>	Tax /duty exemptions for agricultural machinery / equipment. Tax relief for biofuel production.	+ Depending on the crop and the production process, reduced GHG emissions from increased biofuel use for energy production. + Potential 'circular economy' outcomes (reduced GHG emissions, waste recycling) if biomass is used in both biofuels and bioplastics production. - Increased GHG emissions and biodiversity / habitat impacts due to land use change, e.g. deforestation. - Risk of developing monoculture / intensification of agriculture, with associated impacts on biodiversity.
<b>Fuel duty</b>	Subsidies for fossil fuel use in agricultural sector.	- Increased GHG emissions due to cheaper fuel. - Air pollution.
<b>Production subsidies</b>	Subsidies for production of specific crops (e.g. sugar, copra / coconut, dairy produce).	- Risk of developing monoculture / intensification of agriculture, with associated impacts on biodiversity.
	Support for agricultural adaptation to climate change.	+ Increased resilience to climate change / extreme weather events.
<b>Drainage levies / subsidies</b>	Drainage levies / subsidies.	- Negative impacts on ecosystem / biodiversity if no / inadequate environmental criteria.

### 2.3.2 Existing (potentially) harmful instruments

In several PICTs, *subsidies or incentives to support the production of specific crops* are provided to farmers to develop or expand production of a particular economically important or valuable crop. These subsidies could be in the form of extension support services, direct payments for seeds, or tax incentives on income. Such instruments can afford the country in question a comparative advantage in producing a crop in the face of international competition, and/or provide crucial support for struggling producers and/or those who cannot easily diversify to other crops or economic activities. In these ways, crop

<sup>19</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

intensification, rather than diversification to other crops with a lesser global market value, has economic benefits. The economies of scale achieved through monoculture agriculture increase the financial incentives for pursuing it.

Overall however, intensification of agricultural production, especially with a focus on one or two crops, is known to have several negative impacts on the environment (see for example Regenerative 2014). For example, it generally encourages greater use of fertilizers and fossil fuels, which are in turn harmful to water resources (through run off) and contribute to climate change. Examples of PICTs with a subsidy or tax system in place that encourages monoculture agriculture are provided in Box 8 below.

### **Box 8 Farming payments: Sugar (Fiji), copra (French Polynesia) and dairy (Fiji)**

In 2016, the Government of **Fiji** provided FJD 5 million (EUR 2.3 million) in 2016 for the national *Sugar Development Programme*<sup>20</sup>, in place since 2011. The Programme is designed to increase sugar production and exports from 212 tonnes in 2016 to 262 tonnes in 2018. The 2016 funding allocation supported cane development grants and cash-back incentive initiatives. In addition, the 2016 Budget allocated FJD 1.5 million (EUR 680,000) to assist farmers with irrigation during prolonged drought seasons, FJD 0.6 million (EUR 272,000) for the digitisation of sugarcane sectors using satellite Global Positioning System (GPS) (through the Ministry of Sugar), and FJD 3 million (EUR 1.4 million) to improve cane access roads for a smoother flow and uninterrupted transportation of harvested cane to the mills. (PWC 2015) The six core areas<sup>21</sup> of the Sugarcane Industry Strategic Action Plan 2013 to 2022 focus more on the productivity, economic success and competitiveness of the industry than environmental requirements or outcomes. It is therefore possible that the funding could generate negative environmental impacts due to more land being put into sugar production and/or more intensification of production (as was the case with the earlier EU sugar subsidy). The funding for increased road access for ancillary services could also have an impact on the terrestrial environment around sugar plantations and processing establishments. Finally, the sugar cane industry is known to have detrimental impacts on freshwater and marine resources owing to run-off from fertilizer and pesticide use, and on soil erosion (see e.g. WWF, n.d.).

In **French Polynesia**, a price support fund exists for copra/coconut (*La Caisse de Soutien des Prix du Coprah*), to ensure revenue stability for producers (in particular in the outer islands). In 2015, the guaranteed price paid to producers by the S.A. Huilerie de Tahiti was XPF 128.31 (EUR 1.08) per kilogram. In total, copra subsidies amounted to XPF 1.78 billion (EUR 14.9 million) in 2015. Copra production was 14,556 tonnes in 2015 (Paierie de la Polynésie Française 2015). Copra oil exports were worth XPF 732 million (EUR 6.1 million) in 2015 (IEOM 2016). When compared with lower subsidies and production levels in 2013, this indicates that higher subsidies may lead to increased production, with the associated environmental impacts.

Government support is offered to the dairy industry in **Fiji**, including through tariffs levied on foreign imports. Most dairy products are subject to a 32% import tariff plus 9% VAT. The Fiji Government has also provided support to the sector through subsidies and tax breaks. In 2013, a FJD 1 million (EUR 448,000) budget allocation was provided to the sector, with a 20-year tax holiday for those who set up new dairy farms. This has supported producers that would otherwise not be competitive, with associated land use implications, particularly in the Rewa area.

*Subsidies or tax incentives for agricultural inputs* are also commonly provided to farmers for the purchase of key inputs to production, including land, water, labour, fuel, equipment, fertilizers or pesticides. All PICTs provide some subsidies in the agricultural sector, with the provision of subsidies for fossil fuel use being the most prevalent. For example, the **Vanuatu** National Energy Roadmap 2013-2020 explicitly addresses the challenges of energy access, security and affordability, and in turn introduces subsidies for fossil fuel (diesel, LNG, petroleum) use, including for the agricultural sector. In **French Polynesia**, tax credits of up to

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<sup>20</sup> The Programme should be understood in the context of declining prices for sugar paid by the European Union, which has ended its decade-long practice of paying above-market rates for sugar from African Caribbean and Pacific island countries. This unique foreign subsidy on agricultural production in Fiji was of immense economic benefit. However, it also had deleterious environmental impacts. Chand (2005) argues that the subsidy led to the deforestation and development of marginal land in Fiji (which may also have contributed to ethnic conflict).

<sup>21</sup> The six core areas of the Plan are: crop production and advice to growers; harvesting and transport; milling and processing; a cane quality payment system; revenue generation; and industry restructuring and legislation.

40% are available on investments in agriculture and livestock farming (DICP 2017a). No specific environmental criteria are applied, other than use of renewable energies where possible, and general efforts to reduce fossil fuel use. Also in **French Polynesia**, in October 2017 a new law was introduced (*Loi du pays n° 2017-26 relative aux aides à la filière agricole*), that includes provisions on aid for investment in materials/equipment, land development, livestock/planting/coconut palms and marketing (Conseil des Ministres 2017b). For example, up to XPF 30 million (EUR 250,000) can be claimed to cover up to 80% of the cost of agricultural and processing equipment, and fertilizers for the production of coconut palms are made available at a subsidised/reduced price (XPF 20 (EUR 0.17) per kg for iron sulphate, and XPF 40 (EUR 0.34) per kg of complete fertilizer<sup>22</sup>, with packaging and transport costs to the archipelagos also being covered by the authorities.

In **Fiji**, there are subsidies on fertilizers and lime which encourage their over-use. In addition there is currently no tax applied to the pollution they cause (which is common globally, not just in the PICTs).<sup>23</sup>

### **2.3.3 Reform efforts and existing 'green' instruments**

Efforts towards greener taxes and subsidies in the agricultural sector include small-scale support to assist in *agricultural adaptation to the impacts of climate change* (e.g. in **Vanuatu**) (see Box 9 below).

#### **Box 9 Adapting agriculture to climate change: Vanuatu**

Cyclone Pam and the severe El Nino of 2015/2016 led to loss of agricultural output in **Vanuatu**, with associated impacts on food security and livelihoods for local inhabitants. In 2016, farmers were provided with various *support for agricultural extension*, including a package of backyard garden material (seed trays, organic pesticides etc.) and access to expertise and training for over 100 farmers on each of the islands of Nguna, Pele and Emao. This has allowed farmers to start constructing backyard gardens with climate-change focused adaptations (e.g. raised seed trays and beds, organic pesticides and off-season coverings and treatments) to increase resilience to future extreme weather events. In addition, four farming cooperatives have been established on Nguna, Pele and Emao to support farmers through the growing, harvesting and marketing of their vegetables.

*Strategic planning for land use* should also be considered, to support tax and subsidy reform in the agriculture sector, particularly at a national level. Such planning enables authorities to make informed decisions about the best land use for different localities, thus identifying land that may be best suited for different purposes, such as agriculture, temporary set-aside, or environmental protection or rehabilitation. Building on the land use planning, land taxes could be applied to new plantations in conjunction with better land use planning, which could help to both keep track of land use and to raise revenue. The development of land use plans would need to provide for monitoring of land use, deforestation, encroachment into biodiversity rich areas etc. which can then be acted upon. In **Fiji**, the government is now

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<sup>22</sup> Complete fertilizer (*engrais complet*) is a fertilizer containing nitrogen (N), phosphorus (P), and potassium (K).

<sup>23</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

developing a national plan and moving towards improved tracking of crop production e.g. through registration of farmers.<sup>24</sup>

Similarly, to overcome negative environmental impacts associated with monocultures, subsidies could be used to support multi-cropping or agro-forestry as sustainable alternatives. Subsidies could also be used to support organic agriculture and related low-impact management approaches. In **Fiji**, organic agriculture is developing slowly and only in some areas (e.g. Kovalu island), and there are currently no incentives to support its uptake or expansion. Such incentives (e.g. a tax on pesticides, or tax breaks for farmers) could help to encourage organic agriculture development. Government support to farmers for certification/labelling of organic products would be an additional incentive to shift to organic production processes (due to higher market prices for organic products). In **French Polynesia**, the 2017 law identifies organic agriculture (and conversion to organic farming) and the processing of agricultural products using over 50% of local produce as priority areas for aid<sup>25</sup>. It also provides for aid of between XPF 2 and 3 million (EUR 16,750 to 25,000) for 'quality' projects, including projects that aim to improve the environmental performance of agriculture, small projects related to energy self-sufficiency through the use of renewables, and soil analysis (Conseil des Ministres 2017b).

Finally, in addition to encouraging organic production, fiscal incentives could also be used to encourage the *use of agricultural commodities for 'green' products*, for example coconut oil for cosmetic products, or biomass from bananas, coconuts or coffee in PHA biodegradable plastic production. Such interventions not only provide more favourable environmental outcomes, but also encourage new industries and employment opportunities.

## 2.4 Transport

### 2.4.1 Introduction

Road, air and sea transport are essential to the economies of the PICTs. Their remoteness and dependence on international trade result in high transportation costs. Transport is estimated to account for 75% of oil consumption for the PICTs (IRENA 2012). In contrast, for Germany (recognised as having a high share of fuel consumption in transport) the figure is closer to 50% (IEA, 2012). Furthermore, high dependence of the PICTs' transport sector on fossil fuel imports contributes to the estimated 10% of gross national expenditure spent on fuel imports. (More information on taxes and subsidies related to transport fuel are included in section 2.9 of this report.)

The transport sector generates negative externalities which can be either addressed or exacerbated by taxes and subsidies (or the lack thereof), including registration and circulation taxes (e.g. based on emissions or engine size), fuel taxes/incentives, and vehicle standards, taxes and incentives (Eskeland & Lindstad 2015). Taxes in the transport sector often address environmental externalities indirectly, focusing on fuel use or vehicle criteria rather than pure environmental variables such as CO<sub>2</sub> or particulate matter (PM) emissions. However, well

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<sup>24</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

<sup>25</sup> Other priorities, however, include timber, pineapple, vanilla, coconut and pig production, which may or may not be beneficial in terms of their environmental impacts.

designed instruments can alleviate negative environmental and socio-economic impacts both within the region and internationally, for example by managing stress on public infrastructures and congestion, generate revenue, and minimising noise and air pollution.

Illustratively, **New Caledonia**'s programme for energy transition outlines the significance of the transport sector due to the demands of the mining and metallurgy sector, potential vulnerability to volatility in global fossil fuel markets, transport emissions and the predominance of professional and personal cars (Gouvernement de la Nouvelle Calédonie 2015). It outlines ambitions to shift from private car usage towards public transport in urban and peri-urban areas. Similarly, for intercity transport of passengers and goods (including shipping) New Caledonia aims to reduce consumption and pollution and substitute fossil fuel use, as well as reducing traffic and improving road safety (Gouvernement de la Nouvelle Calédonie 2015). From this perspective appropriate taxes and subsidies, for example supporting alternative transport and energy sources, could support more sustainable transport to the benefit of New Caledonia and the PICTs more widely (IRENA 2012). The following sections provide some examples that are already being taken.

**Table 4 Transport-related instruments in the PICTs and potential environmental impacts**

Type of tax or subsidy	Examples related to transport	Potential environmental impacts
<b>Tax credits, concessions and exemptions</b>	Tax exemptions / subsidies / support for cleaner vehicles (electric, hybrid, low emissions).	+ Reduced GHG emissions from vehicles due to switch to cleaner vehicles. + Potential to prioritise cleanest vehicles through differentiated pricing. - Increased number of vehicles with associated impacts. - Waste impacts if inadequate measures in place to deal with resultant waste streams (e.g. electric/hybrid vehicles & batteries).
<b>Energy subsidies, price support</b>	Price controls / tax reductions to subsidise fossil fuels.	- Increased GHG emissions (or missed opportunity to reduce emissions). + Potential to encourage cleaner fuels through environmental criteria or differentiated pricing.
<b>Air transport taxes / subsidies</b>	Subsidies / support for specific air routes.	- Increased GHG emissions, especially when support given to underused routes (i.e. high emissions per passenger).
	Airport departure tax.	+ Potential to support environmental projects through revenue use. + Application of polluter pays principle.
<b>Public transport subsidies</b>	Public transport subsidies / tax credits, e.g. for investment in vehicles.	+ Reduced GHG emissions from private vehicles.

#### **2.4.2 Existing (potentially) harmful instruments**

There are a range of hidden subsidies in the transport sector of all PICT countries. One significant subsidy is government expenditure on the development and management of road networks. This can be financed through vehicle taxation (registration fees, heavy vehicle user charges), although such revenue is earmarked for transport-related investments in only some

countries. In practice, these *fees are rarely sufficient to cover the cost of the road network* (Dornan 2016). In **Fiji**, the Bainimarama Government has allocated considerable resources to the road sector, and the Fiji Roads Authority was granted 15% of the entire Government budget in 2016-17. Such hidden subsidies reduce the cost of transportation and therefore encourage greater vehicle use.

*Subsidies for marine transport* also exist in several PICTs, including **French Polynesia, Vanuatu, Fiji** and **New Caledonia** (see below and Box 10). Port infrastructure is often subsidised in PICTs, especially in smaller population centres that lack economies of scale. Again, the impact is to reduce the cost of transportation, encouraging increased transportation with associated fuel consumption and GHG emissions.

Concerning commercial shipping activities, **Vanuatu** is currently on a list of countries which operates a '*flags of convenience*' (FOC) ship registry (ITF 2016), with 94% of its fleet foreign owned in 2010 (CIA 2016). Some vessels favour registration under a foreign flag (i.e. a FOC) to reduce operating costs and avoid more stringent legislation under the maritime laws of their home country. The provision of FOCs can attract revenue from ship registrations. Although the actual impacts of FOCs are difficult to assess, the associated environmental risks and difficulties in enforcing maritime legislation for foreign vessels are widely acknowledged. Illegal fishing activities and high profile oil spills, e.g. Deepwater Horizon, have been attributed to FOCs (ITF 2016; WWF & ITF 2008; IUCN 2008).

A diversity of *charges and taxes are levied on recreational yachts* and cruise ships (see section 2.8 on tourism) that enter the PICTs' waters. These fees influence the number and use of yachts in the PICTs' marine and coastal environments and, depending on their magnitude and effectiveness, can influence the degree of environmental impacts from the leisure sector. Despite the relatively low traffic of super yachts in these areas (e.g. less than 100 per year in Tahiti, **French Polynesia**), this form of transport warrants attention as the size of the boats and the associated consumption of resources are disproportionately high compared with other forms of transport. Fees are levied according to the length of stay of foreign yachts and additional fees can be charged for obligatory services such as bio-security and health inspections. In some cases, however, duty fees are waived for a certain period. In addition, several PICTs provide duty free fuel for yachts. These provisions, together with the natural features of the PICTs, make boating related leisure sector attractive for supporting local economies with tourism revenues. Reductions on duties for foreign yachts and increased lengths of stay suggest efforts to attract these boats, with the associated potential environmental impacts. A more detailed comparison of taxes that apply to yachts is given in Box 10 below.



**Box 10 Shipping related taxes and charges: Yachts and Super Yachts (Vanuatu, Fiji, French Polynesia and New Caledonia)**

	Vanuatu	Fiji	French Polynesia	New Caledonia
Port dues and import duty	VUV 7,875 (EUR 66) for up to 30 days. VUV 100 (EUR 0.84) per day after 30 days. Extendable by 6 months. Maximum 18 months in any 24 month period import duty free.	Up to 18 months duty free. 15% VAT thereafter.	36 months duty free. Afterwards, 8% import duty of the value of the yacht.	Up to 6 months in 12 month period, or 12 months if first visit in 36 months. Custom duty 10% (for boats under 20 tonnes), large boats duty free. All 17% VAT.
Super yacht chartering	Permission required from Licensing section of Ports and Marine. Duty free access for up to six months.	Super Yacht Charter Fee 12.5% of the costs (since 2010).	Super Yacht charter tax of 5%.	Super yacht charter tax 5% of charter fees.
Other permits	'Inter-Island Cruising Permit' required to visit more remote and isolated destinations in Vanuatu.	Cruising Permits (valid for up to 6 months) issued free of charge for all areas of Fiji.	Customs declaration form. No charge.	6 month free cruising permit.
Fuel Duty	No duty free fuel for yachts.	No duty free fuel for yachts.	Duty free fuel on departure only.	Diesel and petrol duty free.
IAS and bio-security	Quarantine: VUV 5,000 (EUR 42) to VUV 8,000 (EUR 67) depending on amount of waste to be disposed of.	Bio-security Clearance: FJD 89.70 (EUR 41) (includes incineration fee for disposal of prohibited food). Out of hours overtime fee of FJD 182 (EUR 83). Health Clearance: FJD 172.50 (EUR 78); out of hours FJD 228 (EUR 104).	n/a	n/a Inspections likely.
Departure fees	n/a	Exit Fee/departure Tax: FJD 20 (EUR 9).	n/a	n/a
Source	Vanuatu Customs & Inland Revenue (2017)	FRCA (2012)	Douanes Polynésie française (2016)	Douanes de Nouvelle-Calédonie (2016a; 2016b)

Some PICTs also offer *subsidies for aviation*. Airport infrastructure is often subsidised in PICTs, especially in smaller population centres, to reduce the cost of transportation and encourage inter-island and international visits, with the associated fuel consumption and GHG emissions. An example from the **Cook Islands** is presented in Box 11 below.

#### **Box 11 Air travel: Air route underwrite agreements (Cook Islands)**

The Government of the Cook Islands has underwritten two direct air services to Rarotonga from Los Angeles (since 2010) and Sydney (since 2011), with the objective of expanding the tourism industry. The underwrite agreements guarantee to cover any losses by Air New Zealand on these routes in exchange for a minimum level of service (one Boeing 767 flight per week in each direction for each route). Both services currently make a loss, and required underwrite payments estimated at USD 6.55 million (EUR 6.2 million) on LAX-RAR and USD 3.74 million (EUR 3.5 million) on SYD-RAR for 2013/14. An economic analysis of these subsidies in 2013 found that the LAX-RAR underwrite agreement generates positive net economic benefits for the Cook Islands in the order of USD 5.1 million (EUR 4.8 million) per year. Approximately 60% of US and Canadian tourists travel direct from Los Angeles, with the vast majority 'new' tourists who would not have travelled to Cook Islands without the LAX-RAR route. In contrast, the SYD-RAR underwrite agreement was found to generate a small net economic loss of USD 0.1 million (EUR 94,000) per year for the Cook Islands, with only one-third of tourists from Australia using the SYD-RAR flights. The study concluded that only 40% of these passengers were 'new' tourists, with the remainder taking flights via New Zealand.

(Dornan 2014a)

#### **2.4.3 Reform efforts and existing 'green' instruments**

Some PICTs are using taxes and instruments to reduce environmental impacts from the transport sector (either directly or indirectly). This includes instruments to promote public transport (e.g. in **Fiji** and **French Polynesia**), including various incentives and subsidies for the purchase of collective transport vehicles and subsidised tickets (see Box 12 below).

#### **Box 12 Support for public transport: Bus incentives (Fiji) and tax credits for new vehicles (French Polynesia)**

**Fiji** offers numerous *bus operator and travel incentives and subsidies*. Buses are vital for Fijian transport and the Government is keen to promote them to reduce the fuel use, air pollution and congestion associated with private vehicle use. The instruments also aim to support fleet renewal (to improve quality and safety), to keep bus travel affordable for Fijians (including school children, elderly and disabled people). The instruments available include:

- A Bus Fuel Concession (reduced from FJD 0.18 to 0.15 (EUR 0.08 to 0.07) in 2012);
- A Bus operators' refund of FJD 0.02 (EUR 0.009) of duty per litre on diesel (with a sulphur content <500ppm) for licensed operators on approved routes (introduced in 2016);
- Reduced fiscal duty since 2010 (32% reduced to 5%) and reduced import excise (15% reduced to 5%) on new buses for 23 passengers or more, and reduced fiscal duty since 2016 on vehicles carrying 10-22 passengers;
- Since 2016, reduced duty on new tyres (32% reduced to 5%) and increased duty on second hand tyres (from FJD 16 to 30 (EUR 7 to 13.50) per tyre);
- VAT zero rating of bus tickets, a 50% fare reduction for people over 60, free travel for disabled people, and a Bus Fare Assistance Programme for school students.

In **French Polynesia**, tax credits of up to 40% are available on investments in new vehicles for terrestrial public/school transport, lagoon and inter-island shipping, mixed cargo transport, and inter-island and international air transport of passengers and goods (DICP 2017a). No specific environmental criteria are applied, other than use of renewable energies where possible, and general efforts to reduce fossil fuel use.

Although public transport is generally preferable in terms of GHG emissions per passenger, it should be acknowledged that due to the geographical nature of many of the PICTs, which leads to disbursed population centres, private vehicles remain essential for some inhabitants. All of the PICTs charge import and registration fees for vehicles. Imports of second hand or reconditioned vehicles into **Vanuatu**, including those used as local minibuses or private cars, are currently typically subject to 20% or VUV 200,000 (EUR 1,500) (whichever is greater) excise tax (or up to 40% or VUV 250,000 (EUR 1,900) for private cars with larger engine capacity) (Republic of Vanuatu 2015). A ban on the import of second hand vehicles will come into force in 2018, partly to reduce emissions but also to reduce the cost of maintenance and repairs (Vila Times 2017). Whilst such vehicles are commonly used as local public minibuses, it was felt within government that the benefits of the ban would outweigh the potential social impacts<sup>26</sup>. In **Fiji** fiscal duty and import excise are not applied to new hybrid cars but are payable on second hand cars, and hybrid or electric vehicles over 8 years old may not be imported (FRCA 2015).

**Fiji, Vanuatu and New Caledonia** additionally charge annual circulation taxes (**French Polynesia** does not apply an annual road/circulation tax). Rates are generally defined by the engine capacity of the vehicle or its weight. However, some instruments are being used to encourage greater use of *more environmentally-friendly private vehicles*. It should be noted, of course, that whilst this results in lower emissions from the individual vehicles themselves, the overall impact on GHG emissions will depend on other factors, e.g. the method of electricity generation for electric vehicles, how vehicles are imported to the PICTs, whether they lead to an overall increase in the number of vehicles on the road, and so on. Examples of support for cleaner vehicles in **French Polynesia** and **Fiji** are outlined in Box 13 below.

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<sup>26</sup> Workshop Greening taxes and subsidies (Port Vila, Vanuatu, 17 November 2017): Summary note

**Box 13 Support for cleaner private vehicles: Fiscal exemptions (Fiji and French Polynesia) and *Opération voiture propre* (French Polynesia)**

In **Fiji**, fiscal duty and import excise are not applied to hybrid and electric vehicles. A reduced fiscal duty rate applies to imports of new (unleaded) vehicles not exceeding 2500cc (5% rather than 15% since 2016) (Republic of Fiji 2016). A 'Luxury Vehicle Levy' of between FJD 7,500 and 20,000 (EUR 3,400 and 9,000) is charged on the import of new and used vehicles with an engine capacity between 2500cc and 3000cc and greater than 3000cc respectively (FRCA 2016). In **French Polynesia**, a one-off circulation tax of between 3% and 11% of the vehicle's price is applied (according to engine size and fuel type), but vehicles with an engine size under 90 cm<sup>3</sup>, new electric or hybrid vehicles are exempt from the tax, and from VAT (which is otherwise charged at 5%, 13% or 16%). Estimates suggested that the reduced circulation tax would only affect about 100 vehicles in 2015, and would therefore have only negligible budgetary impacts (Assemblée de la Polynésie Française 2014a) but anticipated environmental benefits from reduced emissions.

Further support to purchase greener vehicles was made available in **French Polynesia** during 2016 through *Opération voiture propre*. Whilst the measure was aimed predominantly at stimulating vehicle sales to support the automotive sector there were accompanying environmental goals, i.e. to remove older more polluting vehicles from circulation. From August 2016 any person, company/association with fewer than 10 employees, or owner of a vehicle that is seven or more years old could receive a financial incentive from the Government to purchase a new (cleaner) motor vehicle. The incentives were degressive according to the type of vehicle and the level of CO<sub>2</sub> emissions (i.e. a larger incentive for cleaner vehicles), as follows:

- For an electric vehicle: XPF 250,000 (EUR 2,095);
- For a hybrid vehicle: XPF 225,000 (EUR 1,885);
- For a vehicle emitting 0-165 grams CO<sub>2</sub>/km: XPF 200,000 (EUR 1,676); and
- For a vehicle emitting 166-210 grams CO<sub>2</sub>/km: XPF 150,000 (EUR 1,257).

These incentives were matched by the car dealership, effectively doubling the incentive to the consumer. The incentive was available on cars to a maximum purchase price of XPF 4 million (EUR 33,520), effectively limiting it to 'city cars' and other smaller cars. *Opération voiture propre* had a total budget of XPF 400 million (EUR 3.4 million) and was expected to generate up to 600 additional vehicle sales by the end of 2016. Around 400 had already been sold by the end of October 2016. (Sources: Vanizette 2016, personal communication; Radio 1 2016)

Charges for transport in urban areas, such as *congestion charges* and (increased) *parking charges*, could be explored in larger towns/cities (e.g. Papeete in French Polynesia, Suva in Fiji) as a way of providing a disincentive for private vehicle use and addressing associated impacts such as emissions and congestion.

Air travel has considerable environmental impacts, notably from its significant GHG emissions, but is vital to the PICTs. It therefore offers an opportunity to gather revenue. Several PICTs have airport taxes, although **Vanuatu** repealed its Airport Departure Tax in 1999. **Fiji** has the highest such tax in the region, which is briefly outlined in Box 14 below. Tax revenue from air travel can, in principle, be earmarked for environmental purposes and contribute to the financing of environmental objectives.

#### **Box 14 Air travel taxes: Airport departure tax (Fiji)**

Since 1986 an airport departure tax is included in the cost of any airline departure from Fiji, and is paid by all airline passengers (with a few exemptions). The rate was initially FJD 100 (EUR 45), then increased to FJD 150 (EUR 68) in 2012, including a FJD 5 (EUR 2.25) environmental levy. In 2014 the tax was increased to FJD 200 (EUR 90), including a FJD 10 (EUR 4.50) environmental levy. The environmental levy was removed following the introduction of the broader Environmental Levy in 2016 (see section 2.8.3 below). The airport departure tax contributes a significant share of Fiji's budget and tax revenues, steadily increasing from FJD 87.1 million (EUR 39.4 million) in 2012 to an estimated FJD 149.3 million (EUR 67.6 million) in 2016. Money from the tax is earmarked for investment in airport infrastructure and developing tourism in Fiji.

It was unclear whether the environmental levy was actually used for environmental purposes (see e.g. Fiji Times 2016a) and explicit information on the use of revenues and their impacts has not been found. The impact of the levy on tourism is not expected to be significant, since the tax is 'hidden' within the flight cost. However, any price increase will have some impact on tourism numbers, meaning that air traffic and emissions are likely to be slightly reduced.

## **2.5 Waste management**

### **2.5.1 Introduction**

Numerous taxes, subsidies and charges can be applied to waste management, including taxes for waste disposal, charges for households or businesses based on the weight/volume of waste they dispose of ('pay-as-you-throw' schemes), deposit refund schemes (e.g. for beverage containers) and product charges (e.g. plastic bag charges). Such instruments typically aim to increase the cost of waste disposal to make waste management options such as recycling more attractive in economic terms. Direct subsidies include financial support from governments or donor organisations for the development of waste management infrastructures, whilst the lack of cost recovery for the environmental impacts of waste management can act as an indirect subsidy for poorly managed waste disposal.

The PICTs face particular challenges with regards to waste management, including remoteness, landfills in coastal areas susceptible to sea-level rise, low population densities (which can reduce economies of scale for waste collection), and limited land space for managing large amounts of residual waste (SPREP/JICA 2009). This makes collection infrastructures, waste avoidance/minimisation and recycling crucial. Municipal solid waste in the PICTs typically consists of around 60% organic waste and 35% potentially recyclable waste (Haynes 2014) such as paper, plastics, glass and metals. Frequent collection (3 times a week in Suva, **Fiji**) of rubbish and the absence of recycling options increases the amount of waste collected. There is therefore significant potential for recycling, composting and anaerobic digestion, and the use of economic instruments could help to further encourage this. Waste collection and landfill tipping fees, such as those applied in **Fiji, Vanuatu** and other PICTs could potentially be applied more widely in the region, helping to divert waste from landfills to waste management methods that are better for the environment (e.g. recycling), and potentially providing funds for improvements in recycling infrastructures if revenues can be ring-fenced. Hazardous wastes are also an issue in the PICTs; e-waste and used oils are particular issues in the region (Haynes 2014), together with 'new' or future waste streams

including solar panels, hybrid/electric vehicles and their batteries, for which adequate waste management infrastructures are not yet in place in many PICTs. Such waste streams could potentially be addressed through the increased use of (extended) producer responsibility or deposit-refund schemes. The Pacific Regional Solid Waste Management Strategy for 2010-2015 (SPREP/JICA 2009) set out an overall goal of PICTs adopting cost-effective, self-sustaining waste management systems. The remoteness of PICTs and their low population densities also reduce the economies of scale for waste collection.

**Table 5 Waste-related instruments in the PICTs and potential environmental impacts**

Type of tax or subsidy	Examples related to waste management	Potential environmental impacts
<b>Tax credits, concessions and exemptions</b>	Tax credits for investments in waste management activities.	+ Increased rates of collection and recycling due to improved infrastructure.
<b>Service provision fees (including inadequate pricing)</b>	Waste collection fees. Landfill tipping fee. Pay-as-you throw (pay per bag) schemes. Beverage container deposit fees.	+ Increased rates of collection and recycling due to revenue use for infrastructure. - Increase in illegal dumping to avoid fees. - Limited environmental improvements if e.g. low fees / fees inadequate to cover waste management costs.
<b>Tax on certain activities / sectors</b>	Levies (e.g. for cruise ships, tourists) with revenues earmarked for waste management.	+ Increased rates of collection and recycling due to revenue use for infrastructure.

### 2.5.2 Existing (potentially) harmful instruments

Waste collection fees are widely applied in the PICTs, including in **Fiji, New Caledonia, French Polynesia, the Federated States of Micronesia, Tonga, American Samoa and Guam**<sup>27</sup>. This approach is broadly positive, allowing the application of the polluter pays principle, the financing of collection and treatment infrastructures, and associated improvements in waste management and reductions in the negative environmental impacts of waste. However, the fees in some PICTs are *inadequate to cover the full cost of waste management*. This appears to be the case in both **French Polynesia** and **Vanuatu**, acting as a de facto subsidy to poor waste management.

In **French Polynesia** communes are legally responsible for waste management, but the fees charged to households are lower than the cost of waste management (Vanizette 2016, personal communication; Fauvet 2016, personal communication). In addition, many households simply fail to pay the relevant fees (*redevances*), and non-payments are inadequately pursued by the communes. This is partly due to political considerations, since elected officials wish to remain in office and therefore do not wish to upset local residents, and as a result waste management is underfunded and therefore sub-standard. Household waste amounts to around 347 kg per person per year, with around 36% estimated to be recyclable. Selective waste collection is in place in the Society Islands (and some of the

<sup>27</sup> Examples of monthly waste collection fees in the PICTs: Fiji USD 0.99-3.51 (EUR 0.93-3.30), Federated States of Micronesia USD 0-5 (EUR 0-4.70), Tonga (Tongatapu) USD 5.40 (EUR 5), American Samoa USD 8.64 (EUR 8.10), French Polynesia (Papeete) USD 15-19.50 (EUR 14-18.30), Guam USD 30 (EUR 28), New Caledonia USD 7-79 (EUR 6.50-74) (SPREP PROE and JICA, 2016).

Gambier Islands), representing around 50% of municipalities and 76% of the population. 44% of municipalities have green waste and bulky waste collections. Nevertheless, the recycling rate in French Polynesia remains at only 6%. (Direction de l'environnement 2015) Additional revenue directed to waste management could be used to help improve infrastructures and therefore improve collection and further increase the rate of recycling.

In **Vanuatu**, a *waste collection fee* is charged by the Port Vila Municipal Council (PVMC) as a separate item in the twice yearly property taxes charged to household, government and commercial properties (including hotels) (ADB 2014a). The standard fee is USD 12 (EUR 11.40) per month (SPREP PROE and JICA 2016). The rate does not vary based on the amount of waste collected, although hotels are charged as multiple units (ADB 2014a). Revenues finance solid waste management in the PVMC area, and amounted to around VUV 28.8 million (EUR 242,700) in 2012 (ADB 2014a). It is estimated that only around 20% of all properties in the PVMC area actually pay the waste collection fee (ADB 2014a). This implies that only a small percentage of properties finance waste collection and disposal, whilst all waste put out for collection is collected, meaning that many properties have their waste collected 'for free' and there is a low incentive to actually pay collection fees. If effective enforcement systems were in place and all properties paid the fee, it is estimated that the revenues raised could comfortably support the operation of the waste collection and disposal systems in the PVMC area (ADB 2014a). However, it is unclear whether any reforms to either the collection system or the governance system are being planned.

### **2.5.3 Reform efforts and existing 'green' instruments**

There are numerous examples of PICTs using taxes and subsidies in an attempt to encourage and provide financial support for improved waste management. In **French Polynesia**, tax credits of up to 40% are available on investments in waste collection, sorting, recycling, recovery and treatment of household and/or industrial waste (DICP 2017a). No specific environmental criteria are applied, other than use of renewable energies where possible, and general efforts to reduce fossil fuel use. **Vanuatu** applies a landfill tipping fee, at the Bouffa landfill. The fee averages USD 30 (EUR 28.5) per tonne and is paid by commercial and self-haul trucks upon delivery of waste to the site. Revenues from the fee, which amounted to VUV 20 million (EUR 168,500) in 2012, are used to finance solid waste management in the PVMC area (ADB 2014a).

Several PICTs, including **Vanuatu** and **Kiribati**, use 'pay-as-you-throw' schemes. Such schemes typically aim to link the fees paid by households (or businesses) for waste management to the actual amount of waste they generate, for example based on quantity, waste, or the number of bags disposed of. The examples from Vanuatu and Kiribati are summarised in Box 15 below.

**Box 15 Pay-as-you-throw schemes: Luganville red bag scheme (Vanuatu) and South Tarawa green bag initiative (Kiribati)**

Since 2015 the *Luganville Red Bag scheme* has aimed to encourage citizens to change their behaviour and attitude towards waste (Vanuatu Daily Post 2015a), and to finance waste management in the area (e.g. maintenance of waste collection trucks) (Luganville Waste Management 2015). The main purpose is to encourage the minimisation of waste at source (e.g. through home composting and aluminium can separation) to minimise final disposal of waste via landfilling (Department of Environmental Protection & Conservation 2016). Households in the Luganville Municipal Council (LMC) area buy official red rubbish bags (around 80 litres in volume per bag) for disposal of non-compostable waste. The bags cost VUV 80 (EUR 0.67) per single bag or VUV 1,400 (EUR 11.80) for a pack of 20 (equivalent to VUV 70 (EUR 0.60) per bag) (Vanuatu Daily Post 2015a). Every household was given one free bag when the scheme was introduced (Vanuatu Daily Post 2015c). It was estimated in 2015 that around 250,000 red bags would be used per year (Vanuatu Daily Post 2015c), providing revenues in the range of VUV 17.5 to 20 million (EUR 147,500 to 168,600). The LMC achieved a 96% participation rate for weekly red bag use (VSA 2015).

Under the South Tarawa *green bag initiative*, households pay AUD 0.20 (EUR 0.14) per bag for the disposal of non-organic waste. The bag fees finance waste collection by private contractors (ADB 2014b). Few households participate in the scheme, but those that do feel it is both efficient and fair (ADB 2014b). In environmental terms, the scheme has been successful. By the end of 2005, waste generated (sent to the Nanikai landfill) had been reduced by 50%, and between February 2004 and December 2005 the amount of household waste landfilled dropped by around 60% (from 0.2kg to 0.08kg per person per day) through the removal of organics and recyclables (Leney 2006). In economic terms, from its inception to December 2005, the green bag system saved at least AUD 14,000 (EUR 9,867) in landfill space through waste reduction. It was estimated in 2006 that green bag use had the potential to save 60% of landfill space (i.e. up to AUD 100,000 (EUR 70,466) per year in avoided landfill costs) (Leney 2006). To achieve full cost recovery, it is estimated that the cost of a green bag will need to increase to AUD 0.40 (around EUR 0.28) (ADB 2014b).

Taxes or charges can be applied to certain products that make a significant contribution to waste and/or have a significant environmental impact when they become waste. In response to the damage that can be caused by single-use plastic bags when they become waste in land and marine environments, many countries around the world have introduced plastic bag charges (see Box 16 below for an example from **Fiji**).

**Box 16 Plastic bag levy (Fiji)**

In **Fiji**, a levy of FJD 0.10 (EUR 0.04) per plastic bag was introduced in 2017, payable by the person to whom the bag is distributed (Fijian Government 2017b). The stated aim is to reduce plastic waste and use. The charge is part of the Environment and Climate Adaptation Levy (see section on Tourism below), and will be phased in to all businesses, starting with those with the Point of Sale System. In parallel, the Ministry of Industry, Trade and Tourism is introducing reusable bags for shoppers through the Fijian-Made Campaign to provide an alternative (Fijian Government 2017a).

The Environment Ministry of **French Polynesia** has launched a feasibility study on how to move away from plastic bag use in the territory<sup>28</sup>.

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<sup>28</sup> Workshop Greening taxes and subsidies (Papeete, French Polynesia, 14 November 2017): Summary note



Although not a tax or subsidy, it is also worth mentioning that some PICTs are starting to ban particularly problematic products. The **Republic of the Marshall Islands** has banned the import, manufacture and use of single-use shopping plastic bags, Styrofoam cups and packaging since March 2017 (SPREP 2018). A ban on the use, manufacture and import of single-use plastic bags and polystyrene takeaway food containers entered into force in **Vanuatu** on 1 February 2018 (although shops and businesses have a six month grace period to use up their existing stocks), and the Government also plans to take steps to stop the use of plastic knives, forks, straws and bottles (SPREP 2018).

Deposit-refund schemes, typically applied to bottles (or other packaging), are another instrument that can be used to finance waste management. These exist in both **French Polynesia** (for bottles of the locally produced Hinano beer) and **Palau** (see Box 17 below). The Department of Environment in **Fiji** has prepared legislation for a deposit scheme for plastic bottles. This has not yet been approved by the Government, although there is a scheme in place for glass (beer) bottles, and the Fiji Revenue and Customs Service taxes PET bottles at a rate of FJD 0.10 (EUR 0.04)<sup>29</sup>.

**Box 17 Deposit refund schemes: Beverage container deposit fee program (Palau)**

Since 2011, beverage manufacturers/importers pay a USD 0.10 (EUR 0.9) deposit for each imported plastic, glass or metal beverage container of 32 fluid ounces or smaller that is used to contain a deposit beverage<sup>30</sup> (The Republic of Palau Public Law - RPPL No. 7-24). Consumers can redeem USD 0.05 (EUR 0.05) of this when returning the container to a designated redemption centre for recycling (ADB, 2014c). Refunds of USD 50 (EUR 48) or less are paid in cash; higher amounts are paid by cheque (Koror State Government, 2015). The deposits are paid into a separate Recycling Fund (RPPL No. 7-24) which is used to administer the recycling program, to conduct recycling education/demonstration projects, and/or to promote recyclable market development activities. Up to USD 0.025 (EUR 0.024) per deposit goes to the redemption centre receiving the container.

Year	Number of deposits paid	Total value of deposits	Revenue to Recycling Fund	Deposits returned to consumers
2011	10.3 million	USD 1.035 million (EUR 987,225)	USD 912,722 (EUR 870,538)	USD 1,714,531.40 (over EUR 1.6 million)
2012	14.8 million	USD 1.484 million (EUR 1.4 million)	Redemption centres received up to USD 857,265.70 (over EUR 817,000)	
2013	11.3 million (to Sept)	USD 1.131 million (EUR 1.1 million)		

(Source: Government of Palau 2014)

From January 2011-September 2013 a deposit was redeemed on 34,290,628 containers – around 94% of containers upon which the deposit fee was paid (Government of Palau 2014). It is estimated that 311,793 kg of aluminium beverage containers, 118,785 kg of PET bottles and 15,689 kg of other metal beverage containers – a total of 446,267 kg – were exported (for recycling) between April 2011 and September 2013 (Government of Palau 2014), removing 98% of aluminium cans from the waste stream and reducing pressure on the M-dock landfill (ADB 2014c).

<sup>29</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

<sup>30</sup> 'Deposit beverages' include beer, ale, spirits, wine, tea and coffee drinks, soda, non-carbonated water and all non-alcoholic liquid drinks. The following are not classed as deposit beverages: syrups, concentrated liquids,

Another instrument to encourage improved waste management is *extended producer responsibility (EPR)*, whereby the producers of specific types of product are made responsible (financially and/or logistically) for their products when they become waste at the end of their useful life. In **French Polynesia**, EPR was due to be introduced for medicines in 2017, but is yet to be implemented as the financial arrangements are still to be finalised. EPR schemes for batteries, oils, tyres and end-of-life vehicles (ELV) are also being planned (Fauvet 2016, personal communication).

## **2.6 Water management**

### **2.6.1 Introduction**

The UN resolved in 2010 that access to adequate, safe freshwater is a basic human right. However, many Pacific island countries did not meet the Millennium Goals for water and sanitation. PICTs face unique challenges in sustainable development, especially in water and sanitation, due to their vulnerability and diversity (Duncan 2011). Having access to, and the availability of, safe freshwater and appropriate sanitation are some of the highest priority concerns for PICT communities and industries. Culturally, water is seen as a public good or 'gift of God' in many communities. This can make it challenging to extract revenues from community members for water provision, although some attempts at it have been made, especially in urbanised settings (see examples below). Water management challenges in the PICTs are exacerbated by increasing levels of development, population growth, urbanisation, tourism development and changes in land use and accompanying governance structures. Safe freshwater supplies are also already disrupted by frequent and severe El Niño-Southern Oscillation (ENSO)-related droughts, floods and major cyclones, with such issues likely to worsen in the future with the impacts of climate change, especially rising sea-levels and temperatures (White and Falkland 2012).

A significant number of taxes are in place for water management, including abstraction charges, pollution charges and penalties for pollution incidents. Subsidies (or de facto subsidies) include the tacit acceptance of illegal (unpaid) bore holes, preferential pricing, and guarantees of a minimum level of supply for communities (e.g. by governments/funded by donors). Globally, these instruments can help to limit water over-consumption and pollution, provide access to water for vulnerable populations at low cost or for free, while recovering for the cost of water management, and allow modest profit in the case of public private partnership. The careful design of the tax and subsidy system is thus essential to provide such a vital service while fairly distributing its costs.

The evolution of the tax and subsidy system in the PICTs is also linked to various international factors, including some development projects. The 6<sup>th</sup> and 8<sup>th</sup> programmes of the European Development Fund in French Polynesia supported the development of water and wastewater systems, and the implementation of a drainage levy in Fiji is related to internationally funded drainage projects. It should be noted that the privatisation of parts of the water management

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extracts/sauces/condiments/flavourings, medicines and nutritional supplements, products frozen at the time of sale to the consumer or designed to be consumed frozen, instant drink powders, broths/soups and milk/dairy-derived products (RPPL No. 7-24). The scheme may be amended to include all sizes of beverage container and containers for milk and dairy-derived products in the future (Government of Palau 2014).

system, if not compensated through effective taxes and subsidies, can lead to a twofold system in which only wealthier populations have access to clean water.

**Table 6 Water-related instruments in the PICTs and potential environmental impacts**

Type of tax or subsidy	Examples related to water management	Potential environmental impacts
<b>Drainage levies / subsidies</b>	Drainage levies / subsidies.	- Negative impacts on ecosystem / biodiversity if no / inadequate environmental criteria.
<b>Equipment subsidies</b>	Provision of rainwater tanks with partial costs of installation provided by households.	+ Reduced water extraction from streams leading to decreased streambank erosion. - Potential for environmental impact of embedded materials and tank transport.
<b>Fees for access to / use of natural resources</b>	Fees for the use of water resources for bottling.	+ Reduced water extraction through application of user pays principle.
<b>Service provision fees (including inadequate pricing)</b>	Water pricing (domestic, hotel / tourism related), e.g. through fixed / variable block tariffs, cross-subsidisation etc.	+ Reduced water extraction through application of user pays principle, including differentiated pricing for different users. - Missed opportunity to reduce water extraction if prices too low.

## 2.6.2 Existing (potentially) harmful instruments

Governments in many PICTs offer financial support for the provision of water, often in the form of ad hoc subsidies to responsible ministries or state-owned enterprises (Pacific Region Infrastructure Facility 2014). In **Fiji**, the Water Authority receives Government funding to support its operations through budget allocations. User fees cover just 41% of the total costs of supplying water to households. This lowers household costs for water supply, but simultaneously increases water usage and acts against water conservation. Similarly, in **French Polynesia**, communes have legal responsibility for water provision but many residents simply fail to pay the relevant fees ('redevances') (Vanizette 2016, personal communication; Lallement 2016, personal communication).

In **Fiji**, a *Drainage Levy* was in place from 1961-2008<sup>31</sup>, to support the development and maintenance of viable agricultural land in low lying areas of land in the Fiji river deltas near the sea that can become waterlogged and not feasible for growing crops, and also as a flood mitigation measure. Land users paid the levy to drainage boards controlled by the Ministry of Primary Industries. Exemptions could be granted by the individual drainage area boards or the Government (e.g. to farmers affected by natural disasters). The revenues were used to maintain and develop drainage systems in the drainage board area (including weeding of channels and dredging). It should be noted that drainage works projects are also often sponsored through international donor funds (e.g. Asian Development Bank).

The levies allowed farmers and land users to collectively invest in the maintenance and protection of their farmland. Some anecdotal media reports suggest that the money given by farmers to the boards was not always directly reinvested as designed. In many cases poor

<sup>31</sup> Most sections of the drainage Act including on levies/rates were repealed in 2008.

farmers were unable to pay the levies, especially in times of natural disasters (e.g. floods/cyclones). There is however some debate over the use of drainage. On one hand, drainage works against the natural environment (i.e. by draining wetlands), with associated negative impacts on ecosystems and long-term maintenance needs. On the other hand, it allows for agricultural development in areas not ideally suited to agriculture, which can be beneficial in economic and food security terms. The Fijian Government is now budgeting for FJD 2 million (EUR 909,000) in drainage subsidies for the year 2016-2017 (Government of Fiji 2016).

### **2.6.3 Reform efforts and existing 'green' instruments**

*Fixed and variable block tariff water pricing, coupled with private concession management of water systems* (under contract to the Government), exist in **Vanuatu, French Polynesia and New Caledonia**.

In **Vanuatu**, the mechanism was introduced so the Government could meet its need for long term growth and economic development and have sufficient capacity to manage the systems and support improvements and future investments in water supply. This instrument was introduced in **New Caledonia** and in Efate in **Vanuatu** for similar reasons. The tariffs in Bora Bora in **French Polynesia** were introduced to address pollution in the lagoon (which was impacting on tourism) and to support the supply of water both to luxury hotels and local communities on the island. Typically the pricing structures aim for ongoing cost recovery and modest profit making for water supply infrastructure, treatment and maintenance costs that are managed by a private business. In these cases, all of the water companies managing these contracts are subsidiaries of the French Company ENGIE (formally GDF SUEZ).

In **Vanuatu**, Port Vila and other villages on the island of Efate are managed under concession by UNELCO. The volumetric pricing mechanism started just after the 40 year UNELCO concession in 1994 was signed. In **French Polynesia**, water pricing structures exist in Papeete, Moorea and Bora Bora (Pirae is managed by the same company Polynésienne des eaux, but with a fixed subscription price). In **New Caledonia**, Calédonienne des Eaux prices water in this way in Nouméa; water services were privatised in Nouméa in 1989. Most of the pricing systems are managed at an island or more local level, with the private water company/service provider collecting the payments from water users.

Pricing structures are only in place in areas where it is affordable and viable for the business to charge the proposed tariffs (e.g. in parts of **Vanuatu** not covered by UNELCO, water supply and distribution are run by the Public Works Department of Vanuatu). Other small water utilities and individuals also provide services in communities throughout the country (e.g. in informal settlements in Vanuatu, a 44 litre drum of water costs VUV 100-200 (EUR 0.84-1.70) (10-20 times the piped price), and is charged by residents with a connection to the piped water supply). In Nouméa, **New Caledonia**, the water price is made up of a number of components that are fixed (one part for the company, one part for the Ville de Nouméa and another to cover aqueduct development costs) and another part that is charged on a volumetric basis.

In **Vanuatu**, cost recovery (revenue to expenditure) is 157% in UNECLO. Revenues from water pricing are typically used to maintain and improve water and wastewater distribution and treatment systems; and also to run an effective business for stockholders.

In terms of environmental impacts, different supply and wastewater treatment systems require different quantities of energy to run and materials to be developed. Full life-cycle assessment of water systems and alternatives in the Pacific Islands is rare, but newer development projects and private water operators often optimise their water solutions for energy usage and sustainability, installing solar rather than diesel generation to support them. In such systems, both water and electricity pricing and incentives need to be considered concurrently (see section 2.9). This may be easier in countries where both water and electricity fall under the same utility manager. Another key environmental impact that can be mitigated through pricing and incentives is lagoon and marine/land and groundwater pollution from poorly treated wastewater and water polluting practices. Although pollution is sometimes visible and can be measured de facto through statistics such as diarrheal diseases and infant mortality, water quality data in many Pacific Islands is scarce or patchy so the level of environmental impact from particular treatment systems or lack thereof is difficult to effectively quantify (e.g. ISF-UTS 2011 for Vanuatu). More generally, where water prices are low, water use can increase, also augmenting the potential for water shortages and associated environmental impacts such as saline intrusion or a lack of adequate water for other uses, including island ecosystems and agricultural crops.

Regarding socio-economic impacts, water supplied by these companies tends to be only in key (richer) urban or touristic areas. Other parts of the population rely on either informal water provision of questionable quality, or water bought more on the more expensive informal market. In urban serviced areas, water bills can be very expensive for poorer residents and prices are considered to be very high for a service of questionable quality in some places. There are some exceptions, such as Bora Bora in **French Polynesia**, where solidarity funding has been arranged between richer and poorer users (see Box 18). However, local managers in French Polynesia note that this model is unlikely to have wider applicability in French Polynesia due to local specificities<sup>32</sup>. Despite this, the general principles of cross-subsidising water infrastructure and supply could be attractive in other water supply and treatment areas, provided they are carefully translated to match the needs of the local context to ensure effective outcomes (Mukhtarov and Daniell, 2017).

In other areas of French Polynesia, there is still a noted need for improvement in developing access to improved water supplies and wastewater treatment, including in the collection systems for water abstraction fees. The Government subsidises the transport of locally produced bottled spring water from Tahiti to outlying islands, as a ‘first necessity product’ (*produit de première nécessité*), resulting in the transport of plastic bottles. On the atoll island of Fakarava in the Tuamotus, the municipality (with aid from the French state) has built a rainwater reservoir and filtration system, allowing for the free distribution of drinking water as an alternative to imported bottled water (Roger de Villers 2018, personal communication). Stakeholders consider that this approach could be implemented more widely, and also that

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<sup>32</sup> Workshop Greening taxes and subsidies (Papeete, French Polynesia, 14 November 2017): Summary note

subsidies could be provided to networks of small businesses to co-invest in collective water systems, including collective waste-water management<sup>33</sup>.

**Box 18 Water pricing: Cross-subsidisation of water and wastewater systems in Bora Bora (French Polynesia)**

Pollution in the Bora Bora lagoon was impacting on tourism, leading to a need for better wastewater treatment. Support was also needed for the supply of water both to luxury hotels and local communities on the island. Local communities could not pay the cost of the improved systems, so a system of cross-subsidisation was introduced to generate enough revenue to provide both hotels and local residents with access to improved water and wastewater systems.

SPEA (the French Polynesian Water Services provider) collects water services charges from both hotels and local residents. Hotel businesses pay greater charges than local residents, meaning that in effect hotels are taxed and residents subsidised. In 2000, hotels paid XPF 210 (EUR 1.75) per m<sup>3</sup> (without tax) and local residents paid XPF 10 (EUR 0.08) per m<sup>3</sup> (without tax); in 2008 the rates were XPF 280 (EUR 2.35) per m<sup>3</sup> (without tax) for hotels and XPF 30 (EUR 0.25) per m<sup>3</sup> (without tax) for local residents. Rates include fixed charges based on water meter diameter, plus a volumetric charge per m<sup>3</sup>, with a block tariff to encourage payment of higher costs by the biggest water users. Hotel users also now pay XPF 1,004 (EUR 8.40) per m<sup>3</sup> of their volumetric water charges into a 'solidarity fund', which can be used to subsidise the costs of more precarious users. Hotels are effectively paying approximately 80% of the system costs, compared to only 20% for domestic users (ASPA Utilities, 2008). In this way, businesses are supporting community access to improved services.

In terms of environmental impacts, sampling suggests good water quality in the lagoon which is adequate for swimming. Regarding socio-economic impacts, domestic users in this part of French Polynesia have access to one of the best quality systems, with the associated health benefits. The system of cross-subsidisation allows them to pay reduced costs for a good level of service.

Another type of instrument is fees for the use of water resources for bottling. Bottled water is hugely environmentally draining (in terms of energy and water use to produce bottles), and large extractions could lead to water scarcities for local populations in specific areas if there is major competition for resources. In **Fiji**, a national *Water Resources Tax* was implemented in 2009 to raise revenue and ensure that bottled water companies pay for their use of this natural resource. Until 2011, businesses extracting less than 5 million litres/month paid FJD 0.011 (EUR 0.005) per litre; those extracting 5-10 million litres/month paid FJD 0.022 (EUR 0.01) per litre; and those extracting 10 million litres/month or more paid FJD 0.033 (EUR 0.015) per litre (Water Resource Tax Promulgation 2008). In 2011, the tax for extraction of over 3.5 million litres/month was significantly increased to FJD 0.15 (EUR 0.07) per litre. A further adjustment occurred in 2016 to increase the tax to FJD 0.10 (EUR 0.045) per litre for less than 3.5 million litres/month and FJD 0.18 (EUR 0.08) per litre for 3.5 million litres/month or more. Revenues are paid into the general Government budget, with the aim of reinvesting in basic human needs and infrastructure, including water systems for the local population. FJD 35.1 million (EUR 15.9 million) was raised in 2014-15, with FJD 42.3 million (EUR 19.2 million) expected in 2015-16 under the reformed tariff structure.

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<sup>33</sup> Ibid.

Subsidisation of the development of household water supplies is also practiced in PICTs such as **Fiji**, where the Government provides free rainwater tanks to some households. Although the tanks are free, households must cover the costs of gutters and tank bases, which equates to a Government subsidy of approximately 70% of the cost (Fiji Water Authority 2017). Since streams were previously used by families for all water supply and washing, this is likely to have beneficial impacts on streams and bank erosion. The Fijian Government also provides a 91,250L free water per year scheme, which applies to households on an income under FJD 30,000 (EUR 11,800) per year; 25,000 households have benefitted so far (Fiji Times 2016b). Whilst subsidies are important to support access to improved water in Fiji, stakeholders have noted that there are currently few financial incentives in water rates to reduce water consumption<sup>34</sup>.

## 2.7 Urban development

### 2.7.1 Introduction

Cities and towns in the PICTs serve as hubs for administration, the provision of essential social services, and drivers of economic growth. However, many of the region's urban centres are located in hazard-prone areas such as coasts, flood plains, or low-lying atolls. There is also evidence in some areas (for example in the French Polynesian capital Papeete), that many buildings deteriorate rapidly and are left abandoned<sup>35</sup>. The impacts of a changing climate – increasing frequency and intensity of natural hazards, increased and prolonged heatwaves, and sea level rise – will therefore contribute to rising risk exposure to Pacific nations' cities and urban centres. To mitigate those risks, urban resilience can be built in several ways. This can include: collecting better information on natural hazards and climate change; ensuring basic urban services for all residents; adopting risk-resilient land use planning, zoning and infrastructure design; preserving natural ecosystem functions such as natural drainage channels, green space, and natural shoreline buffers; and implementing effective early warning systems, emergency disaster response, and post-disaster recovery (ADB 2013).

However, as is the case in many countries, the ability for state urban planning authorities and associated stakeholders to achieve these goals is hindered by the existence of various perverse incentives, including regulations, subsidies or taxes, that either actively *encourage* unsustainable land development or impede the adoption of more resilient dwellings and infrastructure (for example through water sensitive urban design); subsidies that support centralised electricity generation by state-owned power utilities which prevents the adoption of decentralised electricity systems which could lessen the incidence of power outages etc.; regulations pertaining to, or taxes on, 'brownfield' development which provides a disincentive for retro-fitting existing dwellings in favour of 'greenfield' development; and lack of 'fit-for-purpose' information on where the greatest gains from reforms could be achieved.

**Fiji, Vanuatu and French Polynesia** have all, to varying degrees, introduced measures that affect urban development in one way or another. They include: Capital Gains tax and land sales taxes; vehicle registration fees and stamp duties; exemptions for residential housing developments (and conversely increases in taxes for tourism development, e.g. in **Fiji**);

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<sup>34</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

<sup>35</sup> Workshop Greening taxes and subsidies (Papeete, French Polynesia, 14 November 2017): Summary note

subsidies for investments in public infrastructure and specific ‘lump sums’ in annual budgets for its development; and reforms to water and electricity tariff structures that in turn affect urban development. It should be noted, therefore, that urban development has strong links to some of the other sectors covered in this report, including water management, energy, transport and waste management.

**Table 7 Urban development-related instruments in the PICTs and potential environmental impacts**

Type of tax or subsidy	Examples related to urban development	Potential environmental impacts
Tax credits, concessions and exemptions	Tax credits on investments in building construction.	- Increased construction material use and construction waste generation; potential unsustainable practices if no / inadequate environmental criteria.
	Variable tax rates for different construction materials and/or type of construction (e.g. stilt houses in mountain areas).	+ Promoting use of sustainable materials (e.g. if rates for wood lower than concrete).
Fees for access to / use of natural resources	Tax on the extraction of aggregates. Tax / charges on earthworks in mountain areas.	+ Reduced extraction through application of user pays principle. + Increased recycling of construction / demolition waste. + Reduced mud flow into lagoons.
International donor financing	Loans/financing for Sea Water Air Conditioning (SWAC).	+ Reduced energy / fuel use (and associated GHG emissions) compared with conventional air conditioning.

### 2.7.2 Existing (potentially) harmful instruments

In **French Polynesia**, tax credits of up to 40% are available on investments in the construction of non-equipped buildings intended for the pursuit of economic activities (DICP 2017a). No specific environmental criteria are applied, other than the use of renewable energies where possible, and general efforts to reduce fossil fuel use. Some anecdotal evidence suggests that developers take advantage of these tax credits for financial gain without ensuring that the resulting buildings are well used (Lallement 2016, personal communication).

### 2.7.3 Reform efforts and existing ‘green’ instruments

One of the biggest opportunities for more sustainable, ‘greener’ urban development lies in buildings and infrastructure owned and operated by the public sector, including local authorities. Such entities can (and should) lead by example, for example by using renewable energy, securing and promoting green spaces, and applying environmental criteria for public housing<sup>36</sup>. In **French Polynesia**, the French Environment and Energy Management Agency (ADEME) provides important resources to local authorities to raise stakeholders’ awareness about the need to anticipate the consequences of climate change, the resulting benefits of action, and take into account climate change in the design and construction of sustainable infrastructures (urban planning, buildings, transport, infrastructure, water supply and waste management networks, etc.).

<sup>36</sup> Workshop Greening taxes and subsidies (Papeete, French Polynesia, 14 November 2017): Summary note



Another significant source of 'green' reforms lies in the use of taxes. Many local authorities oversee a range of taxes and can therefore have an influence on their reform (e.g. land tax, development tax, environmental levies, sales tax, rebates and subsidies for particular outcomes, or favourable interest rates for borrowing from public funds). A number of country-specific examples are outlined below, but the overarching principle is that authorities can seek to reform existing tax arrangements through providing preferential arrangements or exemptions for environmentally-friendly outcomes, or securing a portion of tax revenue for reinvestment in climate adaptation projects, such as coastal protection.

In 2016, **Fiji** introduced a national *residential housing development package* to support the development of affordable housing. A developer of residential housing can receive the support measures for development projects of at least 20 unit strata titles or 20 lots. The first element of the package is a developer profit exemption, i.e. the income of the company undertaking the residential housing development is exempt from tax on profits from the sale of residential units. Secondly, the company is granted a subsidy of up to a rate of 5% of the total capital expenditure incurred in the residential housing development if capital expenditure is between FJD 2 and 10 million (EUR 908,700 and 4.5 million), up to a rate of 7% of the total capital expenditure of over FJD 10 million (EUR 4.5 million). Finally, the company is entitled to import duty exemptions for all capital goods (e.g. equipment, plant, machinery, but not kitchenware, raw materials, furniture, fittings or motor vehicles) required to carry out the residential housing development project.

Although this is a very new measure, it is anticipated that it will have positive environmental impacts because it has been introduced alongside other measures in the 2016 Fijian budget that aim to develop a 'stronger, fairer and healthier' Fiji. One such measure is an increase in taxes/reduction in subsidies for hotel development. It is yet to be seen how this will balance with the Fijian Government's promotion of tourism (see section 2.8.2).

**Fiji** replaced its Land Sales Tax with a *Capital Gains Tax (CGT)* in May 2011. The CGT of 10% is levied on profits or gains realised on the disposal of capital assets. It is calculated based on the VAT Exclusive Price (VEP) of the capital asset in question, and is imposed and collected on a self-assessment basis. The vendor is liable for the tax. In general, the tax applies to items including: real property, structural improvement or an interest in real property; vessels of over 100 tonnes; yachts; airplanes, helicopters or other aircraft; membership interest in a company, security or other financial asset; intangible assets e.g. goodwill; an interest in a partnership or trust; and options, rights or other interests in an asset. Exemptions include: capital gains for individuals of less than FJD 16,000 (EUR 7,270); gains made on disposal of an individual's first residential property or principal place of residence; gains from the disposal of shares listed on the South Pacific Stock Exchange; gains from the disposal of an interest in a family home if the interest is transferred to an existing joint tenant or tenant in common; some gains made by the trustee or beneficiary of a deceased estate. Trading stock and assets not listed in the Income Tax Act 2015 are also exempt.

Revenues from the CGT are available to finance public services. Although no specific information has been found on environmental impacts, they should be positive as the CGT acts as a dampener for development transfers.

Efforts could also be made to coordinate local environmental taxes across the 14 provinces of **Fiji**; all provinces have Yaubula Management Support Teams (YMST) which could potentially assist in this effort<sup>37</sup>. Such harmonisation would likely lead to less inequality and ‘gaming’ between provinces, which in turn would see environmental taxes become mainstreamed as standard and predictable. In addition to environmental taxes, preferential tax rates (e.g. 0%) could be applied to eligible environment-related projects<sup>38</sup>, to encourage positive environmental impacts from urban developments. Economic actors could apply for these reduced rates based on appropriate environmental criteria (in addition to standard development investment criteria).

In **Fiji**, *land leases* play a significant role in environmental management. In addition, a ‘*land bank*’ system allows communities to ‘place their land in the land bank’ whilst government bodies undertake to find suitable development opportunities. Whilst in the bank, communities may not lease out the land for other uses.

Air conditioning represents a significant use of energy in many PICTs. It is estimated that 40% of the electricity consumed in French Polynesia is used by conventional air conditioning units. In 2012, the European Investment Bank pledged around EUR 8 million to the Government of **French Polynesia** to install Sea Water Air Conditioning (SWAC) at the territory’s main hospital, the *Centre hospitalier de Polynésie française* (CHPF) in Pirae. The project, which is also co-financed by the AFD, ADEME and the Government of French Polynesia, is due to be completed during 2017. SWAC, developed in Polynesia, pumps sea water to a depth of 900 metres and uses it to cool buildings. SWAC was installed at the Intercontinental Hotel in Bora Bora in 2006, and installation was finalised at the Brando Hotel in Tetiaroa in 2016. The system uses between 70 and 90% less energy than conventional air conditioning. It is estimated that the system will save around 13 GWh of electricity per year, halving the hospital’s energy bill to around EUR 3.7 million (EIB 2012). Consideration could be given to supporting SWAC across the PICTs, through fiscal measures and/or provisions in building codes.

**French Polynesia** is also in the process of introducing two materials-related instruments: an adjusted tax rate for wood for use in construction (to favour the use of wood rather than concrete, and reduce the use of sediments in concrete manufacture) (Fauvet 2016, personal communication) and a tax on the extraction of aggregates (with the latter due to be in place from 1 January 2017) (Dexter 2016, personal communication).

## 2.8 Tourism

### 2.8.1 Introduction

Tourism is of crucial economic importance in the PICTs, in terms of generating employment, income and foreign exchange, with an increasing dependence on income generated by foreign tourism. In 2014, travel and tourism accounted for 14% of GDP in **Fiji**, 18% in **Vanuatu** (with some estimates as high as 65%) and 10% in **Kiribati**. Estimates for some of the smaller

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<sup>37</sup> Workshop Greening taxes and subsidies (Suva, Fiji, 24 November 2017): Summary note

<sup>38</sup> Workshop Greening taxes and subsidies (Papeete, French Polynesia, 14 November 2017): Summary note

island economies for 2012 were more substantial: 20% for **Samoa** and 50% in **Palau**, with tourism making up more than 75% of economic growth in the latter (World Bank 2016b). For most PICTs, tourism is the primary export earner.

Tourism has increased over the past decades and has had a knock-on effect to the service sector with heightened demand for the production of goods and services such as transport, communication, wholesale and retail trade, banking, insurance, hotel and accommodation services (Pacific Economic Monitor 2015). Tourism in the Pacific Islands has increased steadily since 2010, with **Fiji** accounting for nearly 40% of all visitors to the region (SPTO 2016). Visitors to Fiji increased by 5% between 2015 and 2016, and by 24% since 2010, with roughly 75% visiting for holiday purposes (Fiji Bureau of Statistics 2016a and 2016b; SPREP 2012b). Holiday visitors injected over FJD 1.2 billion (EUR 544 million) in 2015 into the Fijian economy, with similar figures projected for 2016. Other key tourist destinations include the **Cook Islands** (where 86% of visitors are tourists), **French Polynesia** (86%) and **Vanuatu** (70%).

Although tourism has many positive economic impacts, it also brings potential for environmental damage and socio-cultural disruption (Maheshwar 2002). In the context of PICTs in particular, hotel septic tanks and swimming pools generate liquid waste which may exceed the capacity of existing treatment facilities at peak times, and hotels also generate substantial solid waste (packaging, kitchen waste etc.) which needs appropriate disposal. Hotel construction to meet increasing demand can also potentially create environmental damage (SPREP 2012b). However, the PICTs are by nature very diverse and accurate data on the magnitude and distribution of the environmental effects of tourism is difficult to obtain.

Since environmental quality is intricately linked to the tourism experience in the PICTs, tourism can also be a driver for environmental conservation. Beaches, coral reefs, rainforests and other natural features are all key attractors of tourism in the region. For tourism to be sustainable, these natural features need to be effectively managed and conserved, and financial resources obtained through tourism taxes or levies can be used to support environmental management.

Some straightforward examples of taxes that are directly levied on tourists include, for instance, airport taxes (see section 2.4.3 above), taxes on tourist vessels and cruise ships, tourist taxes, and charges for tourism activities (e.g. diving) that involve the use of the natural environment, e.g. marine protected areas (MPAs). Tourism businesses and operators may also be subject to many taxes and subsidies that are levied as a component of other economic sectors. For example, tourism infrastructure is a component of urban development and tourism logistics fall under transport issues. On the other hand, explicit or de facto subsidies may also be afforded to the tourism sector, for example through subsidies for the development of tourism-related infrastructures (e.g. hotels, transportation services) or a reduction in (or lack of) certain charges, e.g. berthing fees or waste-related fees for cruise ships calling at port. Overall in the PICTs the revenue derived from visa fees (mostly from tourism) has increased (Pacific Economic Monitor 2015 #1175).

A series of taxes are levied on tourist vessels and cruise ships that visit the PICTs (see section 2.4.2 above). Vessels arriving in **Vanuatu** face a clearance fee<sup>39</sup>. In addition there are port dues and sometimes a fee to anchor (especially close to urban areas). In **Fiji** the main fees are Bio-security Clearance and Health Clearance fees linked to the prevention of plant and animal pests and diseases. The Ports Authority of Fiji levies a fee applicable to all vessels entering a number of ports. Some villages may levy an anchoring charge. On departure there is an exit fee or departure tax (Supplement 2015 #1176). Fiji also has multiple conveyancing costs for cruise liners, the number of which are increasing in the PICS (mostly originating in Australia) (Supplement 2015 #1176). The **Solomon Islands** levy a clearance fee, immigration charges, quarantine fees, a visitors permit and a daily anchoring charge<sup>40</sup>. (See also section 2.4.2 for fees and exemptions for yachts in the PICTs.)

**Table 8 Tourism-related instruments in the PICTs and potential environmental impacts**

Type of tax or subsidy	Examples related to tourism	Potential environmental impacts
Tax credits, concessions and exemptions	Duty free stay periods for yachts.	- Increased impacts from increased yacht stays (e.g. waste generation, water use).
	Tax concessions/credits for development and operation of tourism facilities.	- Increased impacts (e.g. waste generation, water use, ecosystem damage due to construction) if no / inadequate environmental criteria.
Fuel duty	Duty free fuel for yachts.	- Increased GHG emissions due to cheap fuel. - Increased impacts from increased yacht visits (e.g. waste generation, water use).
Air transport taxes / subsidies	Subsidies / support for specific air routes.	- Increased GHG emissions, especially when support given to underused routes (i.e. high emissions per passenger).
	Airport departure tax.	+ Potential to support environmental projects through revenue use. + Application of polluter pays principle.
Fees for access to / use of natural resources	Entrance fees for access to conservation areas.	+ Revenues available for e.g. habitat / ecosystem conservation through application of user pays principle.
Tourism-specific taxes	Tax / VAT on hotels e.g. premises tax, turnover tax, occupancy tax. Environmental levy for tourism-related businesses. Departure tax for tourists. Cruise ship levy / head tax.	+ Revenues available for environmental uses (conservation, waste management, water infrastructure etc.) through application of user pays principle.

### 2.8.2 Existing (potentially) harmful instruments

Most of the PICTs have an objective of increasing tourist numbers, and actively support tourism marketing activities and infrastructure development aimed at improving access for tourists and therefore increasing tourist numbers. While this has positive economic benefits for the PICTs, it has the potential for adverse environmental impacts unless other compensating actions are undertaken. For example, the incidence of severe flooding in Nadi

<sup>39</sup> <http://www.noonsite.com/Countries/>

<sup>40</sup> <http://www.noonsite.com/Countries/>

(Fiji) has increased in recent years, attributed to the extensive clearing of mangroves associated with tourism development (Bernard and Cook 2013). Many PICTs offer subsidies for the tourism sector, including Fiji, Vanuatu, French Polynesia and Tonga. A number of examples are summarised in Box 19 below.

**Box 19 Tourism related subsidies: Tax concessions and credits (Fiji, Vanuatu and French Polynesia)**

**Fiji** has made significant efforts to attract tourism development, with substantial tax concessions to both development and operation of tourism facilities. For example, hotels can deduct 55% of capital expenditure (in addition to normal depreciation) against business income, while capital investments in excess of FJD 7 million (EUR 3.2 million) attract a 10 year tax holiday. Smaller operators with annual turnover of less than FJD 1 million (EUR 453,000) (e.g. backpacker hotels) receive income tax exemptions and duty exemptions on imports of raw materials and building equipment. Small tour operators with a turnover of less than FJD 0.5 million (EUR 227,000) also receive income tax exemptions (WTO 2016).

**Vanuatu** exempts international companies registering in the country from paying any tax for the first 20 years. While not specifically focused on attracting tourism development, this provides an incentive for tourism developers to establish their operations in Vanuatu.

In **French Polynesia**, tax credits of up to 60% are available on investments to build or expand hotels and residences for international tourism, and up to 40% for international golf courses attached to such hotels or residences, and for new cruise ships and boats for charter navigation within French Polynesian waters (DICP 2017a). No specific environmental criteria are applied, other than use of renewable energies where possible, and general efforts to reduce fossil fuel use. As any adjacent beach also becomes private property, the tax credits contribute to loss of public beach access.

### **2.8.3 Reform efforts and existing 'green' instruments**

In spite of the economic importance of the tourism sector in the region, several PICTs (including **Fiji, Vanuatu, Samoa, Kiribati, Tonga, Palau** and the **Republic of the Marshall Islands**) nevertheless apply taxes and charges to the sector. These have largely been focused on raising revenue rather than changing behaviour, with revenues raised used for the provision of enhanced tourism infrastructure, and sometimes for environmental management.

Several Pacific Island states have introduced a *tourism-based tax*, usually on hotel accommodation, to generate revenue. This is not a green instrument *per se*, as the tourism-derived revenue is not necessarily diverted to environmental management or conservation. However, such taxes have the potential to be directed to support activities linked to environmental management and protection that might otherwise be underfunded.

In **Fiji**, VAT is 9% for all businesses registered for VAT. Tourism operators pay an additional 6% Service Turnover Tax (for hotels this is the 6% Hotel Turnover Tax which is applied to visitors (Tourism Fiji 2017)) and 10% Environment and Climate Adaptation Levy (see below). The total tax on tourist accommodation in Fiji therefore amounts to 25%, which can act as a barrier to some small and medium tourism enterprises, which may have lower overall environmental impacts than larger hotels or resorts. Tourism related taxes operate in the context of increased funding for Tourism Fiji to attract new visitors, so the net effect on visitor numbers

is unclear (World Bank 2016b). **Vanuatu** imposes a hotel and premises tax of 10% on the gross turnover of small businesses, and 12.5% on larger tourism based business. The value added tax (applied to all consumption goods) is the sole source of revenues raised by the Vanuatu Government and applies to both tourists and residents. **Kiribati** imposes a hotel turnover tax, departure tax and a Cruise Ship Head tax, with revenues going to the general budget (Ministry of Communications, Transport & Tourism Development 2009). **Samoa** has introduced a 5% hotel occupancy tax, with most of the money raised used to support the administration and maintenance of the airport.

**Fiji** introduced an *Environmental Levy (EL)* in 2016 with the stated aim of generating revenue for environmental works and measures to reverse environmental degradation and decline. Now reformed and renamed the *Environment and Climate Adaptation Levy (ECAL)*, it is applied nationally to businesses in the tourism sector, including hotels, tourist vessels, bars, tour and recreational operators, cinemas, rental/hire car operators, licenced restaurants, bistros and coffee shops, aircraft operators, water sports operators, home stay operators and unlicensed service operators (Fiji Revenue and Customs Service 2016a). The rate is 6% of turnover, i.e. 6% of the total charges for prescribed services billed to consumers. Various penalties apply if the levy is not paid.

Information on revenues raised by the EL/ECAL, and on environmental and socio-economic impacts, is not available yet, given its recent introduction. Following its introduction, the EL was criticised by environmental groups and tourism operators. There are anecdotal accounts that the existence of the levy could be interpreted by operators as a disincentive from investing in environmental conservation activities, considering that the levy should be supporting such activities (Manley 2017, personal communication). There were also no specific indications of EL revenues being earmarked or invested in environmental protection activities. Such criticism is supported by international research on similar funding arrangements. One study on green funds concluded that earmarking of such funds toward environmental activities was crucial if they were to be effective (Bayon et al. 1999). Reflecting this criticism, revenues from the ECAL are directed to the new Environment and Climate Adaptation Fund. The Fund may only finance ecosystem and biodiversity conservation (including forests, flora, fauna and wildlife), and climate change mitigation and adaptation activities (Fijian Government 2017b). If revenues from the ECAL are indeed earmarked and used for activities related to environmental protection, the environmental impacts should be positive. Earmarking does already occur in other PICTs. Some additional examples are provided in Box 20 below.

**Box 20 Use of tourism related revenues for environmental purposes: Tonga, Palau and the Republic of the Marshall Islands**

In **Tonga**, a cruise ship levy of USD 5 (EUR 4.70) per passenger is earmarked for waste management purposes and is channelled directly to the Waste Management Authority.

In **Palau**, a Green Fee raised through a departure tax of USD 30 (EUR 28) helps to finance improvements to the water and sewage system, as well as local community conservation efforts under the Protected Areas Network (SPREP 2012c). A proposal is in place to consolidate the departure tax and Green Fee into a single (higher) arrival fee for non-citizens (Pacific Islands Report 2015).

The **Republic of the Marshall Islands** has also recently established a Green Fund that accrues revenue from tourism. The fund is earmarked for environmental purposes.

Resorts have a direct interest in maintaining the natural environment in their immediate area. Some have supported environmental programmes independently (e.g. in **Fiji**), whilst in other cases entrance fees are charged for access to conservation areas (e.g. in **Fiji** and **Samoa**). For example, a resort on Navini (**Fiji**) has implemented a marine management area around the island in collaboration with the indigenous island residents. The resort offers compensation to local residents for the value of fish previously taken from the area (Niesten et al. 2013). Access to most marine reserves in **Fiji** attracts a charge, with the funds used for site management. For example, access to Namena Marine reserve costs FJD 30 (EUR 13.60) for an annual pass<sup>41</sup>, while visits to Waitabu Marine Park reserve cost FJD 20 (EUR 9)<sup>42</sup>. In **Samoa**, these fees are relatively modest (WST 2 to 5, EUR 0.74 to 1.85) and apply to both tourists and residents<sup>43</sup>.

## 2.9 Energy

### 2.9.1 Introduction

The energy sector must be reformed for global climate change mitigation targets such as those recently agreed in the Paris Agreement (2015) to be met. Taxes and subsidies can either provide incentives for the development of renewable energies or for the production and consumption of fossil fuels. In 2014 global subsidies for the production and consumption of fossil fuels were estimated at USD 490 billion (EUR 467 billion), whilst subsidies for renewable energy were only USD 112 billion (EUR 107 billion) (Financial Times 2016). Taxes and subsidies can also incentivise either energy over-consumption or energy efficiency. Examples in the energy sector include energy taxes and subsidies, emissions trading and feed-in tariffs for power generation from renewables. The development of renewable energy in Germany has successfully illustrated how feed-in tariffs can be a key factor in rapidly redirecting a country's energy mix towards a sustainable path (IEA RETD TCP 2016, forthcoming).

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<sup>41</sup> <http://www.namena.org/>

<sup>42</sup> <http://www.waitabu.org/park-management/admission-rules/>

<sup>43</sup> <http://www.samoatoz.com/p/>

The 2015 OECD climate financing report raises concerns over some developed countries around the Pacific region (notably Japan and Australia) calling for financing of high efficiency coal plants to be considered a form of climate finance (OECD-CPI 2015). If clean coal technology sales to large Asian nations like China, Indonesia and India are prioritised, this is likely to distort international climate financing away from crucial adaptation needs in PICTs, where potential for significant private sector co-financing is limited (Oxfam 2016, forthcoming). The proposed Pacific Climate Treaty, presented at the 2016 Pacific Islands Development Forum Leaders’ Summit, includes several commitments towards phasing out fossil fuels, including a regional ban on mining of coal and fossil fuels, and elimination of subsidies for fossil fuel production or consumption. Pacific leaders will further consider the proposal (Oxfam 2016, forthcoming). In addition, in April 2017 the Energy and Transport Ministers of PICTs will be presented with a paper from the Pacific Community encouraging a review of energy subsidies (including tax and excise policies) in the PICTs, and exploration of the possibility of the Pacific region becoming a region free of fossil fuel subsidies (Fifita and Peltovuori 2017, personal communication).

Over the last decade PICTs have established some of the most ambitious renewable energy targets in the world (Dornan 2014b) to strengthen their position in international climate change negotiations and support the push for ambitious global targets. The promotion of renewable energy has also been motivated by a desire to lessen dependence on costly imported fossil fuels (which account for almost half of Fiji’s energy consumption). Energy efficiency measures are also considered to be the most cost-effective means of reducing reliance on fossil fuels in the PICTs (Dornan and Jotzo 2015).

Despite ambitious renewable energy targets, however, the use of renewable energy technologies for power production has to date been limited in most PICTs, and the economies of PICTs remain very energy intensive. PICTs have so far primarily relied on development assistance for renewable energy development.

**Table 9 Energy-related instruments in the PICTs and potential environmental impacts**

Type of tax or subsidy	Examples related to energy	Potential environmental impacts
Tax credits, concessions and exemptions	Tax relief for biofuel production.	+ Reduced GHG emissions from increased biofuel use for energy production. - Increased GHG emissions due to land use change. - Risk of developing monoculture / intensification of agriculture, with associated impacts on biodiversity.
	Tax credits / lower tax / tax exemptions for renewable energy companies / equipment.	+ Reduced GHG emissions from increased renewable energy production replacing fossil fuel energy. - Risk of habitat degradation if no / inadequate criteria applied.
Fuel duty	Variable duties on imported fuels.	+ Potential to encourage cleaner fuels through environmental criteria or differentiated pricing.



Type of tax or subsidy	Examples related to energy	Potential environmental impacts
Energy subsidies, price support	Tax exemptions for fuel imported for electricity generation.	- Increased GHG emissions from energy production (from fossil fuels). + Potential to encourage cleaner fuels through environmental criteria or differentiated pricing.
	Differentiated energy pricing to promote renewable energy generation.	+ Reduced GHG emissions from increased renewable energy production replacing fossil fuel energy.
	Feed-in tariffs for renewables (e.g. wind, hydro, solar).	+ Reduced GHG emissions from increased renewable energy production replacing fossil fuel energy.
	Price controls / tax reductions to subsidise fossil fuels.	- Increased GHG emissions (or missed opportunity to reduce emissions). + Potential to encourage cleaner fuels through environmental criteria or differentiated pricing.

### 2.9.2 Existing (potentially) harmful instruments

Fuel subsidies have led to detrimental environmental outcomes in a number of PICTs. In many countries, fuel imports used for electricity generation by the power utility are not charged import duties or other taxes. This is currently the case in **Tuvalu** and **Kiribati**. In **Fiji**, the Fiji Electricity Authority was previously allowed to import diesel fuel for its generators on a duty free basis, but this is no longer the case.

The control of retail fossil fuel prices, which is common in the region, also has the potential to lead to hidden subsidies. For example in **French Polynesia**, the Hydrocarbon Price Regulatory Fund (*Fonds de régulation des prix des hydrocarbures*, FRPH) regulates and supports the price of fuels to allow them to be sold at the same price across the whole territory. For many years, increased global oil prices led to a persistent deficit in the FRPH (XPF 3 billion, EUR 25.1 million at the end of 2012). However, the decline in global oil prices had resulted in a surplus of XPF 2.9 billion (EUR 24.3 million) by the beginning of 2016. On 1 February 2016, the cost of a litre of unleaded petrol fell by XPF 15 to XPF 128 (EUR 1.07), whilst the diesel price fell XPF 10 to XPF 130 (EUR 1.09) per litre. (IEOM 2016) This very small difference in price represents a missed opportunity to encourage the use of cleaner unleaded petrol over diesel. A recent SPC study of fuel subsidies in **Kiribati** concluded that price controls had led to subsidised prices, with adverse environmental and social impacts (see Box 21 below).

In **Fiji** and **Vanuatu**, kerosene for household use is exempt from fiscal duty and VAT (Pacific Community 2016b). Whilst this enables poor households to access energy, it would be interesting to explore other fiscal incentives that encourage households to switch to renewable energy generation, e.g. small scale solar power, as a cleaner energy source.

### **Box 21 Fuel subsidies (Kiribati)**

Kiribati is highly dependent on fossil fuel imports. All petroleum products (e.g. diesel, benzene, kerosene and lubricants) are imported, amounting to 26% of the total value of imports in 2013 and slightly exceeding the export value of all goods and services. Fuel subsidies also increase their consumption, increasing oil dependency and vulnerability to volatility in international prices. Price controls and tax reductions are used to subsidise fuel consumption, with benzene and kerosene prices controlled by a price ordinance. Whilst diesel is not formally included in the ordinance, data suggest that in practice the price of diesel is also controlled. Prices appear to be subject to political decision, with no apparent pricing formula.

The estimated average subsidies from 2011-2015 were AUD 0.60 (EUR 0.42) per litre for kerosene, AUD 0.45 (EUR 0.32) per litre for benzene and AUD 0.20 (EUR 0.14) per litre for diesel. This results in estimated annual subsidies of AUD 7.1 million (EUR 5 million) for the three fuels (equivalent to around 4-5% of GDP, 42% of education expenditure and 53% of health care expenditure between 2011 and 2014). In 2011 the subsidies would have corresponded to 8.6% of Government revenues, which is high compared to other countries in the world.

Whilst subsidies generally aim to make fuels affordable for the poor, experience from other countries shows fossil fuel subsidies are inefficient at doing so. For example, benzene subsidies tend to favour private car owners, who are often in wealthier households. The limited available data suggests this may also be the case in Kiribati, with no solid evidence to support that idea that diesel and kerosene subsidies would effectively help the poor. Compared to general fuel subsidies, targeted transfers and other social policy instruments are generally considered more effective to support the poor (see e.g. Komives et al. 2005; and Sdravovich et al. 2014). Regarding environmental impact, it is estimated that eliminating the subsidies would cut Kiribati CO<sub>2</sub> emissions by almost 7% compared to 2008 levels, making a significant contribution to its Nationally Determined Contribution (INDC) target of a 13.7% reduction in GHG emissions by 2025. In addition, subsidising kerosene has adverse health impacts on the people in the form of indoor air pollution.

(Pacific Community 2017)

### **2.9.3 Reform efforts and existing 'green' instruments**

Many instruments are in place in various PICTs that can help to reduce environmental impacts from energy consumption and generation. For example, *energy pricing reforms* have been used in **Fiji** and **Vanuatu** to promote the development of energy generation from renewable sources. The Government of **Fiji** has established ambitious targets for renewable energy supply (81% by 2020 and 100% by 2030). Its electricity pricing reform is summarised in Box 22 below.

### Box 22 Energy pricing: Reform of the national electricity price regulation (Fiji)

The reform of national electricity prices in Fiji aimed to facilitate investment in renewable energy technologies by making such investments profitable. Financial support was given to the Fiji Electricity Authority (FEA)<sup>44</sup> to enable investment in renewable technologies, and through higher FIT for independent power producer (IPPs) (see separate instrument description in Box 23 below). Since 2009 the Commerce Commission (the independent regulator established by the Fiji Government) has increased electricity prices by approximately 90%. A uniform customer tariff applies, which involves cross-subsidisation of rural areas by urban areas. The current residential electricity price is FJD 0.331 (EUR 0.15) per kWh, but a governmental subsidy allows for a 'lifeline tariff' of FJD 0.172 (EUR 0.08) per kWh for household usage below 3.12kWh per day, to address concerns over the impact of higher prices on low-income households (although some still argue that the policy is insufficient and does not account for household size). Commercial/business customers and high volume customers are charged a higher price.

The pricing reform is largely regarded as a success. Higher electricity prices have improved the FEA's financial performance, and higher revenues combined with Government guarantees on FEA debt have enabled several new renewable energy investments, to mitigate risks from high oil prices. Although climate change mitigation is a secondary objective, renewable energy production has increasingly replaced oil-based power generation. However, this has not gone uncriticised. Much renewables expansion has taken the form of hydropower, and environmental groups have criticised the construction of dams in pristine forest environments. The rigour and independence of the environmental approval process is clearly important in this context.

Subsidies to promote energy generation from renewable sources are in place in several PICTs. Through the **Vanuatu** Rural Electrification Project, the Government has used donor funding to subsidise the purchase of 5W to 30W 'Plug and Play' solar systems to provide lighting and charge mobile phones. Phase two is expected to expand the scheme to include the establishment of mini-grid systems. The initiative is important in a country where only 27% of households have access to electricity.

Feed-in tariffs (FIT) are a common means of promoting renewables. These are in place in several PICTs, including **Fiji** (biomass) and **French Polynesia** (the *Rachat de l'électricité d'origine renouvelable* for wind, hydro and solar). In order for FIT to be successful, they must be priced in a way that ensures they are financially sustainable. This has been a challenge in the past in **French Polynesia**, where a FIT for solar power was too high and became financially unsustainable<sup>45</sup>. Whilst the FIT used in **Fiji** is generally considered to be appropriately priced, the Fijian experience shows that more is needed to attract investment than a good FIT (see Box 23 below).

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<sup>44</sup> The Fiji Electricity Authority (FEA) is the state-owned monopoly provider of all grid-supplied electricity. IPPs can however supply electricity to the FEA, which then sells it on to consumers. The Fiji Government has had plans since 2010 to sell a 49% stake in the FEA, and has incorporated revenue from this sale into consecutive Government budgets, but the sale has not yet proceeded.

<sup>45</sup> Workshop Greening taxes and subsidies (Papeete, French Polynesia, 14 November 2017): Summary note

### Box 23 Feed-in tariffs for renewable energy: Fiji

A minimum national *feed-in tariff (FIT)* is paid to independent power producers (IPPs) to encourage investment in renewable energy technologies. The FIT is offered for a 15 year period at a fixed rate. When introduced in 2010, the rate was FJD 0.27 (EUR 0.12) per kWh, but in 2011 it was reduced by 5% to FJD 0.2565 (EUR 0.116) per kWh. This was nevertheless still significantly higher than rates previously paid (just FJD 0.088 (EUR 0.04) per kWh to the Fiji Sugar Corporation (FSC) in 2009 and FJD 0.13 (EUR 0.06) per kWh to Tropik Wood in 2008, to produce electricity as a by-product of sugar production and timber milling respectively). FSC and Tropik Wood, the two main IPPs in Fiji, represent only around 2% of total generation. If a FIT makes energy crops (e.g. sugar and timber) more profitable for growers, this may result in increased production of these crops with any associated environmental impacts. In addition, the proposed establishment of biomass facilities may pose potential risks for food security if not managed well.

The FIT reform was part of a broader 'Tariff Alignment' which increased consumer power prices to facilitate renewable energy development and allow an increase in FIT rates. The impact of the reform has been disappointing. Whilst the FEA has signed a number of Power Purchase Agreements with new IPPs, poor contract design has allowed these companies not to invest. The small-scale of production, difficulties in accessing land, and FEA development of attractive hydro-power resources has hindered investment by IPPs.

Several PICTs provide various *fiscal incentives* for renewable energy generation. In **French Polynesia**, tax credits of up to 40% are available on investments in renewable energies, including energy generation from solar, wind, hydro, geothermal, wave, biomass and waste sources (DICP 2017a). In addition, since 2015 energy companies generating energy from only renewable sources pay a lower rate of corporate tax than other energy companies (20% compared with 25% or 35%), and new renewables companies also enjoy a longer exemption period than other new energy companies (four years rather than two) (IEOM 2016).

**Fiji** also has national *fiscal incentives for renewable energy*. A 100% tax write-off is available in the year of expenditure on renewable energy plant and machinery. A *5-year tax exemption for new renewables and power co-generation projects* is available to companies and taxpayers. In addition, *duty free importation of materials used for renewables* is available. The country has also cancelled a previous VAT and duty-free exemption for fuel imported by the FEA for electricity generation, to remove the promotion of oil-based power production. These measures aim to promote investment in renewables technologies amongst both households (in particular solar PV and solar hot water heating) and power producers (both the FEA and IPPs). Such incentives are likely to have promoted household purchases of renewable energy (mainly solar) technology through lower prices. This will contribute to the reduction of GHG emissions and the achievement of Fiji's renewable energy targets for the electricity sector. On a global scale, although renewable energy investments in the PICTs are insignificant, they are notable at a national level. In socio-economic terms, higher income households are more likely to benefit from duty-free exemptions on PV and solar hot water systems, so there may be some concerns over the distributional impacts of the instruments.

With regards to biofuels, **Fiji** offers: a *10-year tax holiday* to taxpayers undertaking a new activity to process agricultural crops into biofuels; *duty free import of plant, machinery and equipment* to establish a biofuel factory; and *duty free import of chemicals* for biofuel production (Pacific Community 2016b) (see Box 24 below).

**Box 24 Support for biofuels: Tax relief for biofuel production and duty free imports (Fiji)**

Fiji offered a 10-year tax relief for biofuel production, available to taxpayers starting new activity in processing agricultural commodities into biofuels between 1 January 2009 to 31 December 2014 (subject to a minimum investment of FJD 1 million (EUR 448,000) and employment of at least 20 local employees). *Duty free imports of plant, machinery and equipment* for the initial establishment of the factory, and *duty free imports of chemicals required for biofuel production* are also available. They are intended to encourage the replacement of expensive fossil fuel imports with domestic biofuel production, to encourage more sustainable fuel use and reduction in carbon emissions (though the latter is likely to be a secondary consideration). Strong demand for biofuels from elsewhere in the world (in particular the EU) may also be driving this incentive scheme to increase biofuel exports.

No data has been found on environmental impacts. However, it can be assumed that the instrument will lead to increased biofuel production and displacement of fossil fuel imports and consumption. Due to the small scale of production the impacts are unlikely to be of global significance, but local environmental benefits could be significant due to reductions in environmentally damaging agricultural production and less fuel use in Fiji (provided that the growth of biofuel crops is undertaken in a sustainable manner, taking into account other potential negative environmental impacts such as soil erosion from sugar cane). It is however important to recognise that there can also be negative impacts from the displacement of fossil fuel use by biofuels. Whilst less fossil fuel use typically reduces GHG emissions, increased demand for biofuels (and thus biomass) can see agricultural land use shift to monocultures for biofuel production which can be negative for the environment, affect food security and impact on world food prices.

Fiscal duties can also be applied to encourage the importation of energy efficient appliances. Many PICTs lack a minimum energy performance standards (MEPS) or labelling regime, a fact that encourages consumers to purchase household appliances (such as fridges, air conditioners, washing machines) that may be cheap upfront, but are not energy efficient. The implementation of MEPS or an energy labelling system (which informs consumers of the energy efficiency rating of different appliances) is worth considering in these countries. Use of fiscal duties provides another option for encouraging the purchase of energy efficient appliances. **Vanuatu** is currently preparing a law to reduce customs duty on the importation of household appliances to encourage the purchase of energy efficient appliances<sup>46</sup>.

Variable duties on the import of fuels are also applied in the PICTs. Whilst **Vanuatu's fuel import and excise duties** are primarily a revenue raising measure, with import duties the second most important revenue source for government after VAT (excluding donor funds), they may also make the blending of diesel and coconut oil for electricity generation (by UNELCO, Vanuatu's largest power utility) more commercially attractive. The country's National Energy Roadmap aims to produce 40% of electricity from renewables by 2015, 65% by 2020, and 100% by 2030.

VAT of 12.5% is applied on all fuels in Vanuatu, but import and excise duties vary according to fuel type:

- Diesel: VUV 20/litre (EUR 16/litre) import duty and VUV 15/litre (EUR 12/litre) excise;

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<sup>46</sup> Workshop Greening taxes and subsidies (Port Vila, Vanuatu, 17 November 2017): Summary note

- Unleaded petrol: VUV 15/litre (EUR 12/litre) import duty and VUV 20/litre (EUR 16/litre) excise;
- Aviation fuel: 5% import duty and VUV 4/litre (EUR 3/litre) excise;
- Kerosene and residual fuel oil (the latter used for electricity production): 5% import duty and zero excise; and
- Biodiesel: 5% import duty and zero excise.

Excise revenues from motor spirits in 2015 amounted to VUV 675,795,889 (EUR 5.5 million) and import duties received were VUV 534,180,934 (EUR 4.3 million), representing 7.5% of total government revenue (including donor funding). The revenues are not earmarked for any specific purpose.

Whilst the import duties for other fuels may make the use of domestically-produced coconut oil in mixed fuel for electricity generation somewhat more attractive, other factors are also important. UNELCO has made efforts to address issues around quality of the oil (important for generator performance) and consistency and reliability of supply. UNELCO has set up a company to manage its own coconut plantation and enter into long-term supply arrangements with other copra farmers. The company sells the manufactured oil to UNELCO and may not export it without UNELCO approval, which has contributed to the relative success in Vanuatu of the use of a coconut oil-diesel fuel blend for power production. Looking ahead, continued use of coconut oil in electricity production may be challenged by higher prices being paid for copra and coconut oil, with the latter receiving very high prices in the cosmetics market.

Increased use of copra and coconut oil will generate associated environmental benefits from reductions in diesel and heavy fuel oil use (although there may be implications for food security if more agricultural land is used for fuel production). Since production of copra and coconut oil is a rural activity, this may also benefit lower income rural areas, which are primarily of lower socio-economic status. However, these can be seen as unintended positive side-effects of the duties, which are primarily a revenue raising measure. In addition, revenues from import duties are likely to decline in coming years as part of Vanuatu's accession to the WTO and its likely signature of the PacerPlus trade agreement with Australia and New Zealand.

## 3 Conclusions and suggestions for potential reforms

This report provides a review of information on taxes and subsidies in the PICTs in nine economic sectors that have, or have the potential for, either positive or negative environmental impacts. It should be noted that the report is not intended to be an exhaustive regional review, but rather to present interesting illustrative examples of existing instruments and reform efforts from the region, with a particular focus on three of the PICTs involved in the RESSCUE project (Fiji, French Polynesia and Vanuatu). It should also be noted that limited quantitative information has been found on the environmental effects of the instruments, which makes assessing their actual environmental impact difficult. However, based on the expertise of the report's authors, the instruments have been categorised as either broadly positive or (potentially) negative in terms of their environmental contribution.

The following sections provide some conclusions on the current situation with regards to harmful instruments, reform efforts and potential future actions.

### 3.1.1 Existing (potentially) harmful instruments in the PICTs

There are still many taxes and subsidies in the PICTs that may have negative environmental impacts and may be hampering the achievement of broader environmental objectives, including those related to climate change, water security, waste management and biodiversity.

**Tax concessions or exemptions** are in place in many PICTs for companies investing in several economic sectors with the potential to lead to environmentally damaging land- or resource use practices. Examples include:

- *Tax credits or tax, import or export tariff exemptions* for mining and prospecting activities in **New Caledonia** and **Fiji**; for investments in the fisheries sector in **Fiji**, **French Polynesia** and **Vanuatu**; for the dairy industry in **Fiji**; for investments in agriculture and livestock farming in **French Polynesia**; for new tyres for buses in **Fiji**; for building construction in **French Polynesia**; for tourist developments in **Fiji**, **Vanuatu** and **French Polynesia**;
- *Fuel duty concessions or exemptions* for other operational fisheries costs in **Fiji** and **French Polynesia**; for aviation fuel and fuel oil in **Vanuatu**, for yachts in **French Polynesia** and **New Caledonia**; for fuel imported for electricity generation in **Tuvalu** and **Kiribati**; and
- *Reduced duty fees or duty-free periods for yachting* in **Fiji**, **Vanuatu**, **French Polynesia** and **New Caledonia**.

Whilst these instruments are undoubtedly beneficial in terms of supporting and maintaining activity, employment and productivity in vital economic sectors in the PICTs, many do not adequately consider environmental externalities in their design, for example where tax concessions or subsidies are not subject to any specific environmental criteria. This could lead to support for activities that cause detrimental environmental impacts, including increased mining activity, increased GHG emissions, greater imports of tyres (a difficult to manage

waste stream) or overfishing. It should be noted that the extent and type of potential environmental impacts will be different for each sector or type of activity, which complicates the assessment of which are the most environmentally damaging. One potential assessment method could be to estimate the carbon consumption of each sector / activity to determine which may be the most detrimental, and therefore which could be afforded fewer concessions or exemptions.

**Direct subsidies for specific activities** are offered by all PICTs in certain economic sectors. Examples include:

- In the *agriculture sector*, the Sugar Development Programme in **Fiji**, the price support fund for copra/coconut in **French Polynesia**, support to the dairy industry in **Fiji**, subsidies for agricultural fuel use in **Vanuatu**, and subsidies for fertilizers and lime in **Fiji**;
- Subsidies for *marine transport* in **French Polynesia**, **Vanuatu**, **Fiji** and **New Caledonia**, and for certain air transport routes (e.g. the underwrite agreements in the **Cook Islands**);
- In the water sector, a *drainage subsidy* in **Fiji**; and
- *Price controls for fossil fuel consumption*, such as the *Fonds de régulation des prix des hydrocarbures* (FRPH) in **French Polynesia** and the price ordinance for benzene and kerosene in **Kiribati**.

Whilst generally successful in increasing economic activity (e.g. crop production, tourist numbers, fuel consumption) in the sectors concerned, without the application of specific environmental criteria to the provision of subsidies, they can lead to various negative environmental impacts. In the agriculture sector this could include land use change to increase and intensify production, and impacts on ecosystems and biodiversity (e.g. from monoculture, increased fertilizer use polluting water). In the energy and transport sectors in particular, the additional activity resulting from subsidies will generate increased GHG emissions. For example, it is estimated that eliminating fuel subsidies in **Kiribati** could cut CO<sub>2</sub> emissions by almost 7% compared to 2008 levels. Instruments that offer support for increased tourism may contribute to increased environmental impacts in terms of water use, fuel consumption and waste and wastewater generation.

**Payment of access fees:** International agreements can be harmful in some sectors. One example is the *payment of access fees by foreign vessels to fish* in the waters of the PICTs, including in **Kiribati**, **Fiji** and **Papua New Guinea**. Whilst such agreements may include environmental considerations (e.g. complying with certain sustainability and conservation requirements), they may also allow agreed quotas to be exceeded by payment of an additional fee, which effectively allows overfishing and the depletion of stocks.

**De facto subsidies to poor environmental management:** Failure to adequately charge for certain vital services, including water and waste management, can act as a *de facto subsidy to poor environmental management*. This is the case for waste management fees in **French Polynesia** and **Vanuatu**, and for water supply fees in **Fiji** and **French Polynesia**, which are either non-existent or too low to cover the full costs of waste management, or simply not paid by those who should pay. This can result in a lack of adequate financial signals for behaviour change (e.g. reduced waste generation, reduced water consumption) and therefore failure to



realise the potential associated environmental gains (e.g. increased recycling, enhanced efficiency, preservation of freshwater resources).

### **3.1.2 Reform efforts and existing 'green' instruments**

A substantial number of efforts have already been made in the PICTs to use taxes and subsidies to contribute to the achievement of environmental objectives, both at national and global level. Such instruments have been found across the whole range of economic sectors studied, which is an encouraging sign that the PICTs are already aware of the potential of such instruments to achieve environmental outcomes, and are taking steps towards realising them. Nevertheless, as noted above, a lack of information on quantified environmental impacts means that their specific impacts in addressing externalities remains somewhat unclear.

**Taxes or charges for the use of resources, or for certain activities** with the potential for negative environmental impacts can help to generate revenue. Such taxes are particularly relevant for activities that must, or are likely to, continue but which have significant environmental impacts and/or risks, such as water supply, waste management and tourism related travel.

Existing examples in the PICTs include:

- Fixed and variable block tariff water pricing in **Vanuatu, French Polynesia** and **New Caledonia**; cross-subsidisation in water pricing in **French Polynesia** and energy pricing in **Fiji**;
- Royalty payments for material extraction and fees for the use of water for bottling, both in **Fiji**; an aggregates extraction tax in **French Polynesia**; environmental bonds or financial guarantees for mining operations in **Fiji** and **New Caledonia**;
- Landfill tipping fees in **Vanuatu**; pay-as-you-throw schemes for household waste in **Vanuatu** and **Kiribati**; deposit refund schemes for beverage containers in **French Polynesia** and **Palau**; and
- Tourism-based taxes (e.g. airport departure taxes, taxes on hotel stays or construction), in **Fiji, Vanuatu, Samoa, Kiribati, Tonga, Palau** and the **Republic of the Marshall Islands**.

If earmarked and actually used for environmental purposes, revenues raised through such instruments can be used for environmental improvements including management of the environmental impacts of mining and tourism, and improved water and waste management. For example, tourism related revenues are used for waste management, water and sewerage services and conservation in **Tonga, Palau** and the **Republic of the Marshall Islands**. In some cases, such instruments may also encourage more environmentally friendly behaviours, such as reduced waste landfilling and increased recycling.

**Tax-related incentives**, including differentiated rates, tax exemptions and concessions, are used in several PICTs to offer financial incentives for more environmentally friendly choices, such as switching to cleaner vehicles. Such measures can have beneficial environmental impacts including reductions in fossil fuel use and energy consumption, GHG emissions reductions, substitution to less environmentally damaging materials and improved waste management. Regarding biofuels, it is important to take into consideration all of the potential

environmental impacts (including emissions, land use change, potential for soil erosion, damage to habitats and biodiversity etc.) when deciding whether to offer fiscal incentives for their production.

Examples include:

- Fiscal incentives (tax credits and exemptions and duty free imports of equipment) for investments in renewable energies in **French Polynesia** and **Fiji**; tax relief and duty free imports of equipment to farm biofuel crops in **Fiji**; and lower corporate tax rates for renewable energy companies in **French Polynesia**;
- Lower import and excise duties for biodiesel in **Vanuatu**;
- Exemptions from fiscal duty and import excise for electric/hybrid vehicles (together with a luxury vehicle levy) in **Fiji**; exemption from the circulation tax for electric/hybrid vehicles in **French Polynesia**;
- Tax credits on investments in waste management related activities in **French Polynesia**;
- A plastic bag levy in **Fiji**; and
- An adjusted tax rate for wood for use in construction in **French Polynesia**.

***Direct subsidies/support for specific activities*** in certain economic sectors can, if applied carefully with environmental considerations taken into account, encourage greener activities or technologies. Such instruments can have several positive environmental impacts, including increased renewable energy generation, reduced GHG emissions, air pollution and congestion, improving river quality, and greater agricultural resilience to the impacts of climate change and extreme weather events.

Examples include:

- Energy pricing reforms and subsidies in **Fiji** and **Vanuatu** to promote the development of energy generation from renewable sources;
- Feed-in tariffs (FIT) for the promotion of renewable energy generation in **Fiji** and **French Polynesia**;
- Support for the provision of public transport in **Fiji** and **French Polynesia**;
- Purchase subsidies for greener vehicles in **French Polynesia** (through *Opération voiture propre*);
- Subsidies for household water supply in **Fiji** through the provision of free rainwater tanks (although households bear the costs of gutters and water tank bases);
- Support for agricultural adaptation to the impacts of climate change in **Vanuatu**, and aid for organic agriculture in **French Polynesia**; and
- International donor financing for the installation of Sea Water Air Conditioning (SWAC) at **French Polynesia**'s main hospital with the potential to reduce the energy used for air conditioning by between 70 and 90%.

***Fees for licences, permits or registration*** are applied to certain activities in many PICTs. Such fees can help to regulate the amount of certain types of activity and therefore the associated use of natural resources. For example, differentiated licence fees for fishing can support smaller-scale artisanal fishing (which may both contribute to local food security and have less impact on fish stocks, thereby potentially contributing to stock sustainability) and help to limit

recreational and sport fishing. Measures of this type may be more likely to be sustainable if the fees are managed and collected by local communities.

Examples include:

- Mining permits in **Vanuatu** and **New Caledonia**;
- Registration fees for vehicles in **Fiji**, **French Polynesia**, **Vanuatu** and **New Caledonia**; annual circulation taxes in **Fiji**, **Vanuatu** and **New Caledonia**;
- Access fees for fishing in **Fiji** and **Vanuatu**; and
- Entrance fees for access to conservation areas in **Fiji** and **Samoa**.

### ***3.1.3 Suggestions for potential future reforms and actions***

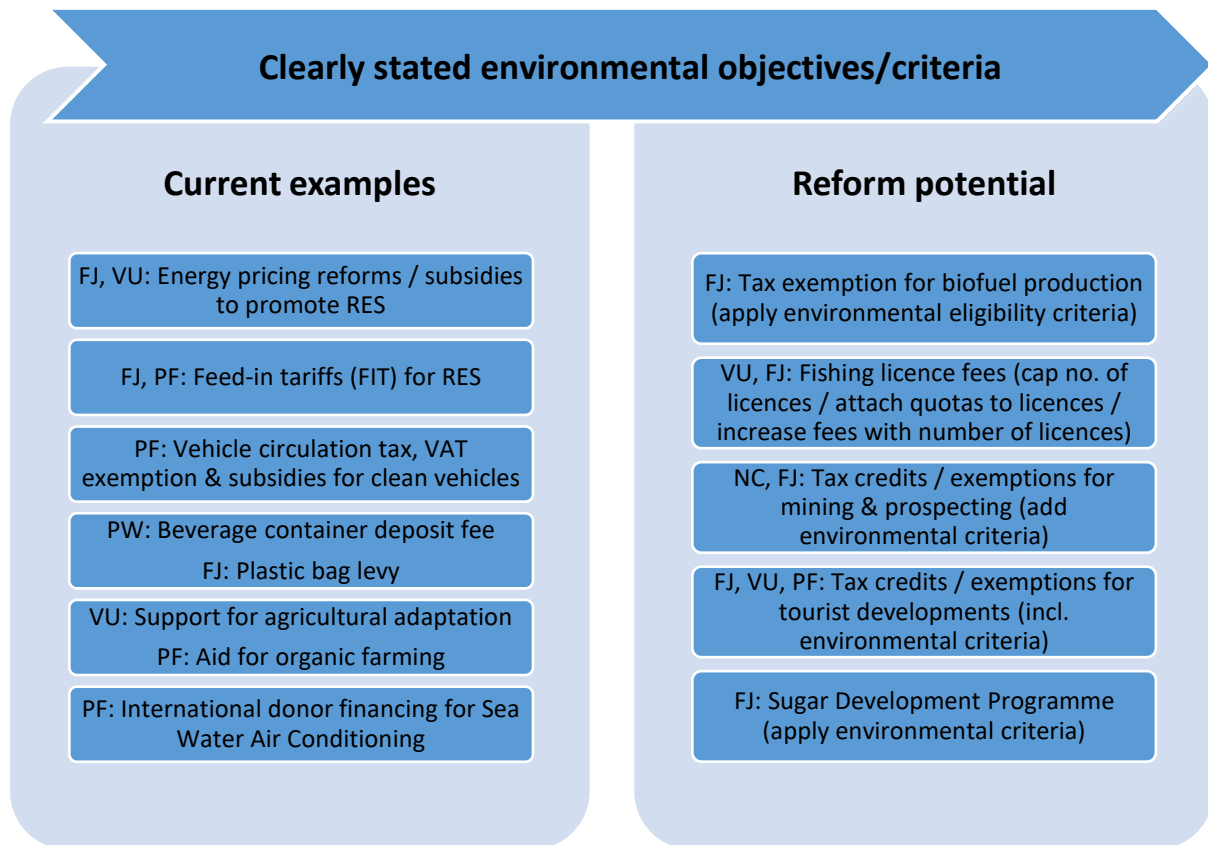
Figure 10 below summarises some of the key features of taxes and subsidies that can contribute to their success in achieving beneficial environmental outcomes. These include:

- Clearly stated environmental objectives and/or criteria;
- Correct pricing (i.e. to give the correct economic signals to achieve environmental objectives);
- Earmarking of revenues for environmental purposes;
- The adoption of coherent packages of instruments/reforms;
- The application of good governance, enforcement & implementation;
- Robust monitoring;
- Design of instruments that is tailored to the local context; and
- Proper consideration of distributive impacts.

For each key feature, examples of existing instruments from the PICTs that already apply the feature are listed, together with existing instruments from the PICTs that could benefit from reforms in order to apply the feature (with a particular focus on the RESCCUE PICTs of Fiji, French Polynesia and Vanuatu).

In summary, this report reveals a mixed picture in terms of the greening of fiscal instruments and subsidies in the PICTs to achieve environmental objectives. Some progress is undoubtedly being made, but some instruments appear more successful than others (both in terms of raising revenues and achieving environmental outcomes). As shown in the figure below, some areas can nevertheless already be identified as having the potential to improve instruments to help them contribute further to achieving climate change and biodiversity-related objectives in the future.

Figure 10 Key features and success factors of greener taxes and subsidies



## Correct pricing

### Current examples

FJ, VU: Access fees for fishing

VU, KI: Pay-as-you-throw schemes

PF: EPR for medicines (and batteries, oils, tyres and ELV)

PW: Beverage container deposit fee

PF: Cross-subsidisation of water pricing on Bora Bora

FJ: Fees for water use for bottling

FJ, NC: Environmental bonds / financial guarantees for mining activities

PF: Aggregates extraction tax

PF, FJ: Fiscal incentives for RES

VU: Lower import & excise duties for biodiesel

FJ, PF: Incentives for electric / hybrid vehicles

### Reform potential

FJ, VU: Better reflection in fishing access fees of monitoring costs (to reduce IUU fishing)

FJ: Mining royalty payments (consider applying a tax)

VU: Quarry permit fees (adjust based on level of environmental risk)

VU: Variable fuel import & excise duties (adjust to env. impacts of fuel; consider support for coconut / copra for biodiesel)

FJ, PF: Fuel subsidies for fishermen (Consider linking to env. impact (e.g. fuel type / quantity, fish stock status))

PF, VU: Waste management fees (ensure fee level covers full cost of waste management)

FJ, PF: Water supply fees (ensure fee level covers full water supply cost or is effectively cross-subsidised by large water users)

FJ: Fertilizer / lime subsidies

## Earmark revenues for environmental purposes

### Current examples

FJ: Environmental bonds for mining activities

NC: Financial guarantee for rehabilitation of mining sites

VU: Landfill tipping fee / waste collection fee

PW: Beverage container deposit fee

VU, PF, NC: Water pricing

PW, TO, MH: Tourism revenues

### Reform potential

VU: Quarry permit fees  
FJ: Mining royalties

FJ: Fees for water use for bottling

FJ: Environment and Climate Adaptation Levy (ensuring proper use of funds)

PF: Tax for environment, agriculture & fisheries (TEAP)

PF: Vehicle recycling tax

PF (and elsewhere): Consider bonds/guarantees in aquaculture to fund remedial/clean-up activities

## Adopt coherent package of instruments/reforms

### Current examples

FJ: Residential housing development package & increased tax / reduced subsidies for hotel developments

FJ: Fiscal incentives for renewable energy

FJ: Bus operator & travel incentives

### Reform potential

FJ: Tourism-related taxes and subsidies

*Packages of measures can help align taxes & subsidies towards a common objective*

## Good governance, enforcement & implementation

### Current examples

FJ, VU: Introduction of independent regulatory authorities to set electricity prices

### Reform potential

PF, VU: Waste & water related fees (enforce payment by all households)

FJ: Power tariff alignment (improve quality of contracts to ensure expected investment in RE)

FJ (and elsewhere): Boost small scale fishing and encourage community management of fisheries

*Cooperation is needed between finance/tax ministries & sectoral ministries responsible for environmental management  
Transparency of reforms and implementation needed*

## Robust monitoring

### Current examples

PF: Monitoring of circulation tax & VAT exemption for clean vehicles

*Improved monitoring can help increase public support for taxes & subsidies by showing link between revenues & environmental improvements*

### Reform potential

FJ: Tax exemption for biofuel production (conduct rigorous EIA)

FJ: Air departure tax (list as separate item in ticket cost)

VU: Pay-as-you-throw scheme (specify how much of revenue used for waste collection)

FJ: Environment and Climate Adaptation Levy (thorough monitoring)

## Tailor design to local context

### Current examples

VU: Support for agricultural adaptation

PF: Cross-subsidisation in water pricing on Bora Bora

VU: pay-as-you-throw scheme

FJ, WS: Entrance fees for access to conservation areas

### Reform potential

*All taxes and subsidies should be designed to reflect the local context, including taking into account the social and economic impacts of reform (e.g. creating / maintaining jobs and creating added value from important economic sectors)*

*Schemes of interest should thus be re-tailored to new contexts rather than directly transferred*

## Take into account distributive impacts

### Current examples

PF: Cross-subsidisation in water pricing on Bora Bora

FJ: Lifeline tariff in electricity pricing

### Reform potential

KI: Price ordinance for benzene & kerosene (consider variable impacts on different socio-economic groups)

*Instrument design should take into account social and economic impacts, e.g. applying ILO Guidelines for a just transition towards environmentally sustainable economies and societies for all (ILO 2015)*



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## Annex 1 Summary notes from the regional workshops

The information found on existing instruments and reform efforts during the initial scoping exercise of the study was discussed with stakeholders at three regional workshops held in:

- Papeete, French Polynesia on 14 November 2017;
- Port Vila, Vanuatu on 17 November 2017; and
- Suva, Fiji on 24 November 2017.

The aim of the workshops was to present and verify the information found in the first phase of the study, and to complement it with additional information shared by stakeholders. The summary notes from each of the workshops are reproduced below.

It should be noted that these summary notes are a simple record of discussions on the day of each workshop, and that the comments are those of the participants alone, not the authors of the report or of the Pacific Community.



Pacific  
Community  
Communauté  
du Pacifique



RESCCUE

Atelier

# Verdissement de la fiscalité et des subventions publiques dans les États et Territoires insulaires océaniques

Mardi 14 novembre 2017

Salle de la Présidence

Avenue Pouvana a Opa

Bâtiment du gouvernement (1<sup>er</sup> étage)

Papeete

Crédit photo : Emma Watkins

Organisateurs :



Institute for  
European  
Environmental  
Policy



Australian  
National  
University

## NOTE DE SYNTHÈSE

### *Version finale*



FONDS FRANÇAIS POUR  
L'ENVIRONNEMENT MONDIAL

**Introduction**

La présente note constitue une synthèse des principaux points soulevés par les participants lors des séances de groupe organisées pendant l'atelier. Ce document rend donc essentiellement compte des points de vue exprimés par les participants – il ne les commente ni ne les filtre, et ne constitue pas la production technique des auteurs ni de la CPS.

Les présentations de la Communauté du Pacifique, du groupe de travail sur le verdissement de la fiscalité et des subventions publiques (IEEP et Australian National University) et de l'équipe chargée de l'étude en Nouvelle-Calédonie (Vertigo Lab et Université de la Nouvelle-Calédonie) ne sont pas résumées, mais seront mises à disposition de toutes les personnes inscrites à l'atelier.

**Discussions de groupe sur la fiscalité et les subventions existantes nocives pour l'environnement**

Les premiers débats ont porté sur la fiscalité et les subventions existantes qui pourraient avoir un effet néfaste pour l'environnement. Les groupes ont évoqué les points ci-après.

***Pêche, agriculture et exploitation minière******Pêche et aquaculture***

- Le secteur de la pêche bénéficie de nombreuses aides : glace, exportations, carburant, navires ou encore cotisations sociales sont subventionnés. Cependant, toutes ne peuvent pas être mises sur le même plan en termes d'impacts écologiques et doivent être mises en regard du contexte économique et social du territoire concerné.
- Le 9 octobre, une nouvelle loi (la loi n° 2017-27 du 9 octobre 2017 relative aux aides à la pêche) est entrée en vigueur. Elle prévoit des aides à l'investissement pour les bateaux et les engins de pêche, les études, l'expertise et la promotion, les exportations, la glace ainsi que la pêche lagonaire.
- Un participant a fait remarquer que certaines des subventions à la pêche peuvent être durables en termes environnementaux, mais celles qui ne le sont pas (par exemple qui contribuent aux émissions de gaz à effet de serre ou à l'épuisement des stocks) doivent être réexaminées. Cela sans perdre de vue bien sûr leurs autres objectifs et bénéfiques, par exemple en termes d'emploi, de sécurité alimentaire ou de compétitivité des exportations. Les considérations d'ordre social (et non seulement environnemental) ont toute leur importance et doivent être prises en compte dans toute analyse future des subventions dans ce secteur.
- La majorité des subventions sont versées à une poignée d'exploitants.
- Actuellement, ce sont les subventions publiques qui assurent la rentabilité de la pêche, ce qui constitue une source d'inégalités.
- Les déchets de plastique issus de la perliculture sont un problème. Il faut mettre au point des méthodes pour les récupérer et les recycler.
- À Moorea, l'utilisation des poti marara (petits bateaux à moteur de pêche côtière) est éminemment politique. Les pêcheurs veulent des moteurs (ou autres équipements) simplement parce qu'ils reçoivent des subventions pour cela, et non parce qu'ils en ont un réel besoin. Les conséquences ne sont pas vraiment prises en compte. Dans ce cas, les subventions publiques soutiennent des pratiques polluantes et néfastes pour l'environnement.

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- Un participant a mentionné l'exemple de Hao, dans l'archipel des Tuamotu, où des investissements publics (et des investissements privés d'origine chinoise) ont déjà été réalisés dans un projet aquacole, promettant 10 000 emplois et 50 000 tonnes de poisson par an. Ces investissements prennent diverses formes : baux gratuits, aménagement de routes desservant les aérodromes, formations de cadres, exonérations sur le matériel, nettoyage des sites ou encore construction de barrières autour des sites. Une étude d'impact environnemental a été effectuée sur la structure, mais pas encore sur le processus.

#### *Agriculture*

- Le 9 octobre, une nouvelle loi (la loi n° 2017-26 du 9 octobre 2017 relative aux aides à la filière agricole) est entrée en vigueur. Elle prévoit des dispositions d'aide à l'investissement pour le matériel et l'équipement, l'aménagement des terres, l'élevage, les plantations et les cocoteraies, le marketing, etc.

#### *Exploitation minière*

- Dans l'idéal, les granulats ne doivent pas être extraits du tout. Par conséquent, si la taxe sur les granulats, relativement récente, vaut mieux qu'une absence totale de taxe, elle ne doit pas être considérée comme relevant d'une fiscalité verte.

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#### ***Gestion de l'eau et des déchets***

- Aucun instrument particulièrement néfaste pour l'environnement n'a été relevé, mais il reste beaucoup à faire, et donc des systèmes d'incitations fiscales pourraient être proposés.
- La plupart des instruments en place visent précisément à optimiser la gestion de l'eau et des déchets.

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#### ***Énergie, transports, urbanisation et tourisme***

##### *Énergie*

- Un participant a fait remarquer que dès que le prix du coprah dépasse celui du gazole, son utilisation comme biocarburant n'est plus viable sur le plan économique.
- Les cultivateurs dégagent actuellement davantage de bénéfices en vendant leur coprah à l'unique transformateur de coprah de Tahiti, l'Huilerie de Tahiti.
- Les économies d'énergie permettent également d'abaisser les coûts. Dans certains cas, les avantages sont tant économiques qu'écologiques, et il n'est pas toujours judicieux de séparer les deux points de vue.
- Le Fonds de régulation du prix des hydrocarbures (FRPH) a dévié de son objectif initial, qui était de réguler le prix des carburants. À l'heure actuelle, il apporte un soutien indirect à certains acteurs économiques (notamment les boulangers, les pêcheurs, les perliculteurs, les centrales électriques et les transports en commun), par exemple en reportant les paiements pour les années où il est excédentaire. L'unique opérateur sur le marché tahitien de l'électricité (Électricité de Tahiti, EDT) bénéficie d'un régime préférentiel, sous forme de subventions spéciales pour le fioul lourd.
- Le FRPH n'opère aucune distinction entre l'essence et le gazole. Une position claire doit être adoptée sur ce point, mais le processus est actuellement au point mort en raison du déficit pour l'essence.
- Un tarif de rachat avait été mis en place pour l'électricité d'origine solaire revendue à EDT, afin d'encourager ce secteur. Cependant, il s'est révélé trop élevé et non viable sur le plan économique, et a donc été abrogé.
- Le monopole d'EDT rend difficile toute action sur les prix de l'énergie.
- L'archipel des Tuamotu a besoin de soutien pour passer aux énergies renouvelables, mais, sur ce type de sites, la maintenance et la cession du matériel nécessaire sont particulièrement complexes. Le matériel utilisé doit être adapté au contexte local (par exemple au climat).



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*Transport*

- Il n'existe à l'heure actuelle aucune mesure incitant réellement à abandonner la voiture pour les transports en commun (mais il existe des dispositifs pour favoriser la reprise de véhicules anciens et l'achat de véhicules aux émissions moins importantes).
- Cela s'accompagne d'un manque d'infrastructures adaptées aux besoins des populations.
- Il faut veiller à éviter tout effet d'aubaine ou encouragement pervers créé par les instruments. Citons par exemple les avantages fiscaux accordés aux véhicules hybrides, qui ne représentent peut-être pas la solution la plus durable, et pour lesquels aucune infrastructure de recyclage adaptée n'est en place pour le moment.
- Les mesures de soutien aux véhicules hybrides ne sont guère adaptées au contexte des Tuamotu.

*Tourisme*

- Le complexe Brando, sur l'île privée de Tetiaroa, a reçu plus de 12 millions de francs CFP de subventions, soit une défiscalisation de 110 %. Cela représente un coût réel, sans véritable augmentation de la capacité hôtelière.
- Les autorités ferment les yeux sur les problèmes d'aménagements illégaux/sauvages du littoral (effectués tant par des particuliers que par des acteurs du secteur touristique).
- Les redevances d'accès au littoral ne sont pas toujours payées par ceux qui le devraient, le niveau des redevances est très faible, a peu évolué depuis des décennies, et le mode de calcul est plutôt opaque. Cependant une réforme actuelle vise l'augmentation progressive (en commençant par un doublement) face au succès limité des propositions de régularisation du DPM d'attirer des locataires. De plus, une fois accordé, l'accès au littoral est quasi permanent, ce qui limite l'accès du public au capital naturel des côtes.

*Urbanisation*

- Ce secteur a une lourde empreinte énergétique et sur l'occupation des sols.
- De nombreux bâtiments se dégradent rapidement et sont laissés à l'abandon (comme on peut le voir à Papeete). L'Office polynésien de l'habitat (OPH) est responsable de l'entretien de quelques-uns, mais cela ne suffit pas à résoudre le problème.

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*Généralités*

- L'environnement préservé de la Polynésie française constitue un atout remarquable. Toutefois, il n'est pas suffisamment respecté ou soutenu par des investissements adéquats, qu'ils soient publics ou privés.
  - Un participant a souligné qu'il n'existe pour l'heure aucune définition précise de l'éco-responsabilité ou de la durabilité. De telles définitions – peut-être différentes selon les secteurs – doivent être inscrites dans la réglementation afin de permettre la mise en place de subventions ou d'aides à l'appui des pratiques durables.
  - Le changement nécessite du courage – et pas seulement de la volonté – politique, notamment en ce qui concerne des modifications de la fiscalité (ou des redevances pour DPM). L'opportunité politique est généralement plus présente en début de mandat.
  - La population de Polynésie française est sensibilisée aux questions de protection de l'environnement, mais les décideurs et les responsables politiques ne possèdent pas de culture écologique.
  - L'impulsion du changement doit être donnée par les consommateurs, les entreprises et le grand public.
  - Des subventions peuvent se justifier pour une durée déterminée, par exemple afin de soutenir une mutation structurelle.
  - De nombreux instruments et mesures étaient pertinents au moment de leur mise en place, mais doivent à présent être rapprochés des objectifs environnementaux.
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- Aucun critère d'ordre environnemental n'est imposé dans le cahier des charges des initiatives de défiscalisation.
- Le suivi de la mise en œuvre des subventions et de la fiscalité doit être optimisé en termes environnementaux, pour mieux comprendre les impacts. En effet, il existe souvent une discordance entre la réglementation et la pratique, notamment en ce qui concerne la biodiversité. Les recettes issues de la fiscalité environnementale pourraient servir à financer ce suivi.
- Les subventions indirectes peuvent constituer une source de problèmes, mais leurs effets sur l'environnement sont souvent très difficiles à évaluer isolément. Néanmoins il devrait être possible de proposer un cadre d'analyse pour certaines subventions indirectes connues ou d'importance.
- Les effets d'aubaine (à savoir les avantages financiers procurés par des subventions sans lien avec le bénéfice pour l'environnement) sont un problème.
- Les mesures doivent être adaptées aux conditions locales. Par exemple, la réglementation française doit être adaptée à la situation de la Polynésie française et elle doit pouvoir être déclinée de différentes manières dans les archipels et îles qui la composent.



Photos © Jean Kapé

### Discussions de groupe sur le verdissement de la fiscalité et des subventions publiques

Le second ensemble de débats visait à rassembler des propositions de mesures susceptibles d'optimiser les retombées de la fiscalité et des subventions publiques sur la protection de l'environnement. Les groupes ont évoqué les points ci-après.

#### ***Pêche, agriculture et exploitation minière***

##### *Pêche*

- Une caution ou une garantie pourrait être demandée aux perliculteurs, afin qu'ils remettent en état l'environnement de leurs sites d'exploitation (un sujet dont la faisabilité a été étudiée dans le cadre du projet RESCCUE).
- La suppression des aides et subventions à la pêche présente des risques importants, tant sur le plan économique que sur le plan social, car cela augmenterait le prix du poisson, ce qui pourrait nuire aux entreprises et causer des suppressions d'emplois. On pourrait peut-être se concentrer plutôt sur la réforme des aides à l'export.
- Aucune redevance n'est imposée aux bateaux de pêche de Polynésie française (uniquement pour les bateaux étrangers). Une idée qui pourrait être suivie est de faire financer les systèmes d'observateurs en mer par les recettes de la vente de licences de pêche aux bateaux de Polynésie française.
- La mise en place de quotas en lien avec le carburant consommé pourrait être envisagée.

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- Plusieurs tentatives d'abandon du gazole (actuellement plus économique) en faveur de l'essence sur les bateaux de petite taille sont en cours d'étude. La propulsion hybride pourrait être envisagée pour les sorties de pêche de courte durée (pour les sorties plus longues, le carburant est nécessaire afin de réduire le temps de trajet).

#### *Agriculture*

- Les possibilités de réformer la fiscalité, afin d'encourager l'utilisation de biocarburants à base d'huile de coco, doivent être étudiées. C'est toutefois une question difficile, dans la mesure où le prix du pétrole a une incidence considérable.

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#### **Gestion de l'eau et des déchets**

##### *Gestion des déchets*

- Des systèmes de transport de retour pourraient être étudiés afin de rapporter les déchets des îles périphériques.
- Des systèmes de consigne, similaires à ce qui existe déjà dans d'autres pays océaniques, pourraient être envisagés pour les emballages en plastique.
- La taxe pour l'environnement, l'agriculture et la pêche (TEAPS) pourrait être réformée de façon à couvrir d'autres déchets, notamment l'électroménager. Pour le moment, les recettes issues de la fiscalité sur les déchets sont affectées au budget général.
- La mise en place d'une responsabilité élargie des producteurs (REP) doit être envisagée pour certains produits ou types de déchets, ce qui implique la fondation d'un (ou plusieurs) eco-organisme.
- Il est essentiel de soutenir le développement de nouvelles activités et de nouveaux secteurs de l'économie verte, par exemple en créant des réseaux de petites entreprises responsables.
- Une taxe pourrait être appliquée sur les industries ou les activités polluantes.
- L'abandon des sacs en plastique à usage unique pourrait se révéler difficile en Polynésie française, mais une étude de faisabilité a été lancée par la Direction de l'environnement (DIREN) pour mieux en appréhender les enjeux sociaux et économiques.
- La réforme de l'utilisation des sacs en plastique (par exemple l'interdiction ou la facturation de chaque sac) pourrait favoriser la création de filières locales (notamment du pandanus).

##### *Gestion de l'eau*

- Le modèle de subventions croisées de l'eau existant à Bora Bora ne peut guère être appliqué à d'autres îles de Polynésie française, du fait de spécificités locales telles que l'importance du secteur touristique haut de gamme.
- Subvention de réseaux de petites entreprises (y compris pour l'assainissement collectif).
- Besoin d'un système de collecte des redevances pour les captages.
- Une commune a investi dans le développement de l'alimentation en eau potable et du traitement des eaux, plutôt que de financer le transport d'eau en bouteille. De telles initiatives pourraient être imitées largement.

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#### **Énergie, transports, urbanisation et tourisme**

##### *Énergie et transports*

- Il serait pertinent de développer des entreprises de petite taille dans le secteur de la production d'huile de coco.
  - Le développement de la méthanisation à partir du lisier pourrait être étudié.
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- La fiscalité des transports doit être revue afin de soutenir la réalisation de grands objectifs écologiques. Plusieurs idées ont été avancées, notamment le développement des transports maritimes, ou encore la prise de mesures afin de réduire la pression de l'urbanisation à la périphérie des villes.

#### *Urbanisation et tourisme*

- Des incitations fiscales doivent être mises en place pour soutenir le développement de l'air conditionné à l'eau de mer (système SWAC) ; il pourrait s'agir de prêts à l'installation de tels dispositifs (40 % de l'électricité consommée sert à alimenter des climatiseurs conventionnels).
- Les bâtiments publics doivent montrer l'exemple : recours aux énergies renouvelables, création d'espaces verts et fixation de critères environnementaux pour le logement. Le rôle de l'ADEME à cet égard est essentiel.
- Des objectifs écologiques doivent être fixés afin de soutenir les réformes dans ce domaine. Ils pourront ensuite être traduits par des politiques en accord avec l'intérêt général, et des outils d'accompagnement appropriés pourront être mis en place.
- Un participant a suggéré que des taux d'imposition préférentiels (par exemple 0 %) pourraient être appliqués à certains projets en rapport avec la protection de l'environnement ; les acteurs économiques pourraient demander l'application de ces taux réduits. Cependant il faut noter que l'AFD offre, dans le cadre du PSP Vert, des prêts à taux 0 % pour lutter contre le changement climatique et ses effets. En tout 12,4 millions d'euros de prêts ont été déployés en 2017 pour financer des projets d'adaptation au changement climatique, de transition énergétique, d'aires marines protégées, de bâtiments bioclimatiques etc. en Polynésie française.
- La modulation ou la variation des redevances d'occupation du territoire, avec par exemple l'affectation d'un certain pourcentage à la protection du littoral, est une idée à creuser.
- Des chartes ont été publiées afin de stimuler le tourisme vert, mais l'écotourisme doit être davantage soutenu (par exemple grâce à un mécanisme de labellisation ou de certification).

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#### **Généralités**

- Les changements constants de l'environnement politique compliquent la mise en place de politiques fiscales cohérentes à long terme (on dénombre 13 changements de gouvernement sur les 10 dernières années).
  - Les recettes fiscales doivent profiter aux secteurs où leur utilité sera maximale. En Polynésie française, la loi ne permet pas l'affectation formelle des recettes. Toutefois, le montant des recettes issues de chaque taxe est consigné, ce qui signifie qu'il est possible, même sans affectation formelle, d'orienter l'utilisation des recettes vers leur but prévu (par exemple gestion de l'eau ou des déchets).
  - Les recettes pourraient également être versées à un « fonds vert », destiné à des mesures en faveur de l'environnement.
  - Les aides et subventions doivent être modifiées afin de soutenir des pratiques durables. Elles doivent également être financées de manière autonome, par exemple par le recours à des mécanismes d'autofinancement.
  - Pour que les produits non durables puissent être taxés, des produits de substitution durables doivent être disponibles.
  - Des cautions ou des garanties pourraient être mises en place pour assurer la réparation des dommages environnementaux. Cependant, il faudrait instaurer des mécanismes de recouvrement de la garantie pour les cas où ces dommages ne seraient pas réparés.
  - Un participant a suggéré que des systèmes (additionnels) d'amendes forfaitaires pourraient être mis en place afin de sanctionner les activités néfastes pour l'environnement.
  - L'idée d'un bonus/malus intégré à la fiscalité pourrait être étudiée plus avant.
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- Un comité/organe pourrait être constitué afin d'évaluer les conséquences environnementales des politiques publiques.
  - L'environnement est un bien public et un élément essentiel de l'économie polynésienne. Il est donc juste que tous les acteurs (citoyens, entreprises et pouvoirs publics) contribuent à le préserver.
  - Des chartes ou des engagements pour les secteurs économiques permettraient de responsabiliser ces derniers.
  - Les appels d'offres doivent intégrer des critères environnementaux.
  - Des appels à projets et des aides financières publiques sont disponibles pour les entreprises actives dans les secteurs de l'économie circulaire.
  - La solidarité et l'équité sont deux principes fondamentaux en matière d'aides et de subventions ; il n'existe pas de solution universelle.
  - Il y a une différence entre les taxes (compétence de niveau national) et les redevances (compétence des communes).
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### Participants

Prénom	Nom	Titre	Organisation
Raphael	BILLÉ	Coordonnateur du projet RESCCUE	Communauté du Pacifique (CPS)
Mireille	BRESSON	Chargée de mission	Direction des impôts et des contributions publiques
Mahé	CHARLES	Coordinateur du projet RESCCUE en Polynésie française	Agence française pour les Biodiversité
Katherine	DANIELL	Maître de Conférences, Fenner School of Environment and Society	Australian National University (ANU)
Sylviane	FAUVET	Conseillère technique environnement	Ministère en charge de l'environnement
Makalio	FOLITUU	Troisième questeur	Conseil Economique Social et Culturel (CESC)
Samuel	GOROHOUNA	Maitre de Conférences en Sciences Economiques	Université de Nouvelle-Calédonie (UNC)
Hinano	IENFA	Élue en charge de l'aménagement du territoire	Commune de Moorea-Maio
Vincent	JOGUET	Chargé de mission secteur public Agence de Papeete	Agence française de Développement
Jean	KAPE	Bénévole et Coordinateur BEST III	Union Internationale de Conservation de la Nature (UICN)
Nastasia	KEURMEUR	Chargée de Projets	Vertigo Lab
Vanessa	KLAINGUER	Chargée d'affaires – Responsable BAE p.i	Bureau des affaires européennes
Brice	MEUNIER	Responsable de la cellule QHSE	CCISM
Isabelle	MOGNAT	Directrice Commerciale Polynésie française	ECOFIP
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Paul	ROGER DE VILLERS	Consultant indépendant	
Mike	TERIAMARAMA		Circonscription des Tuamotu-Gambier
Olivier	TOUBOUL	Président	Club EPER Club des Entreprises Polynésiennes Eco-Responsables
Francine	TSIOU FOUC	Cellule Protection des milieux	Direction de l'environnement
Marie-Laure	VANIZETTE	Secrétaire	Te Ora Nao - Fédération des Associations de Protection de l'environnement
Emma	WATKINS	Analyste Senior des Politiques	Institute for European Environment Policy (IEEP)



Pacific  
Community  
Communauté  
du Pacifique



Workshop

# Greening taxes & subsidies in Pacific Island Countries and Territories

Friday 17 November 2017

Government training room,  
VIPAM, Independence Park, Port Vila

Image: Enterprise Challenge Fund

In partnership with:



Institute for  
European  
Environmental  
Policy



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National  
University

## SUMMARY NOTE

### *Final version*



FONDS FRANÇAIS POUR  
L'ENVIRONNEMENT MONDIAL

## Introduction

This note provides a summary of key points made by participants during the discussion sessions of the workshop.

The presentations given by the Pacific Community, the 'Greening Taxes and Subsidies' study team (IEEP and the Australian National University) and the team working on the New Caledonia study (Vertigo Lab and Université de la Nouvelle-Calédonie) are not summarised, but will be made available to all who registered for the workshop.

## Group discussion on existing environmentally harmful taxes and subsidies

The first discussion aimed to look at existing taxes and subsidies that may be harmful in environmental terms. Specific environmental problems relevant to Vanuatu were also discussed, some of which could potentially be addressed by taxes/subsidies. The following points were raised by the participants:

### *Waste management*

- Waste management infrastructures are currently inadequate: there is only one recycling site in Vanuatu, and there is poor management of dumpsites.
- There are particular problems with hardcore rubbish, plastic waste, imported used tyres (no import duty is currently applied), end-of-life vehicles, and waste solar panels/batteries. The latter are currently shipped to other countries for treatment, although discussions are ongoing on how the islands could deal with them.

### *Transport*

- There is a problem with fuel leakage/dumping, including from the tanks of vehicles and boats into the sea.
- There are also issues around dealing with ship/yacht wreckage, particularly during and after storm events.
- Ship owners/responsible companies are typically not required to deal with or provide compensation for damage/oil spills etc caused by wrecks. Higher taxes could be considered to help address this issue.

### *General points*

- Revenues are not currently earmarked for environmental purposes, but go to the general budget. To change this, there would need to be a change in mentality (see below), as the government is currently quite silent on environmental issues.
- No specific points were made related to agriculture, fisheries, mining, water management, energy, urban development or tourism.



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**Group discussion on greening taxes and subsidies**

The second discussion aimed to provide information on greener taxes and subsidies in addition to those already identified in the background document, and also to discuss ideas for what could be done in the future to make taxes and subsidies more beneficial in environmental terms. The following points were raised by the participants:

***Agriculture***

- Farming in Vanuatu is mainly organic and small scale, although there is some larger scale farming.

***Waste management***

- Whilst VAT is applied to non-biodegradable plastic bags, there is no duty applied to biodegradable plastic bags. This effectively provides a subsidy to biodegradable bags.
- There is a ban on plastic bags and polystyrene for food effective since 1 January 2018.
- There is a recycling system for plastic water bottles (with collected bottles recycled by an Australian company). However, local people also buy plastic bottles for use for drinking kava. Locals typically pay more (VUV 25) per bottle than the water company (VUV 5).
- Drinks cans are sold for recycling at VUV 4 per kg.
- Yellow garbage bags in Port Vila cost VUV 100 per large bag or VUV 75 per small bag. This is expensive (taking into account income levels) and only rubbish in these bags is collected. The alternative is for citizens to have their waste collected by a private company (or take it to a dumpsite).
- An excise tax could be considered on the import of used tyres.

***Energy***

- A law is being prepared to give preference to household appliances (e.g. fridges and air conditioning units) that meet a minimum energy standard. This will be supported by labelling, and the Energy Ministry will take product registrations. Customs duty will be reduced for more efficient appliances.
- A measure is also in place related to ozone depleting substances. These require a permit from the Department of Environment, documents are inspected at the time of import, and non-compliant products are seized.

***Transport***

- A higher excise tax is applied to used/reconditioned vehicles. A ministerial order to ban the import of such vehicles will come into force in 2018, with the aim of reducing environmental impacts from the vehicles (e.g. poor fuel efficiency, high emissions, problems with end-of-life vehicles). The measure may also improve road safety by removing older vehicles from the roads. Whilst the public have been notified of the new measure, it may still have social impacts due to the widespread use of older vehicles as local public minibuses.

***Tourism***

- There are currently no tourism-related taxes, but such taxes could be beneficial in helping to balance the budget (e.g. cruise ship and/or airport taxes). A suggestion was made to look at the Palau Visitor's Fee, which includes a USD 30 'Green Fee', to consider whether something similar could be applied in Vanuatu.

- The department of tourism is soon to launch its 'Vanuatu Sustainable Tourism Development Policy', now at the final draft stage (January 2018). The main focus of the policy is environment and sustainability.

### **General points**

- The Council of Ministers has called on the Government to find new sources of revenue. Instruments that both raise revenue and deliver environmental benefits would be likely to prove popular.
- Vanuatu has a national 'revenue matrix' that outlines different revenue frameworks and helps to allocate funds. This is currently being updated/revised.
- Vanuatu needs to be mindful of its WTO/trade/customs related obligations, which may make new taxes a challenge to implement. There is potential to make changes to excise duties and non-revenue taxes (such as fees and charges), however.
- Consideration could be given to earmarking revenues for specific (environmental) purposes, for example through an amendment to the Public Finance and Economic Management Act (2006) to allow for revenues to be allocated to the sector(s) they are intended to be used for.
- No specific points were made related to fisheries, mining, water management or urban development.

### **Participants**

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Pacific  
Community  
Communauté  
du Pacifique



# Workshop Greening taxes & subsidies in Pacific Island Countries and Territories Friday 24 November 2017

Media training room  
Pacific Community (Nabua Campus)  
3 Luke Street, Nabua, Suva

Image: Tourism Fiji

In partnership with:



Institute for  
European  
Environmental  
Policy



Australian  
National  
University

# SUMMARY NOTE

## *Final version*



AFD  
AGENCE FRANÇAISE  
DE DÉVELOPPEMENT



FOND FRANÇAIS POUR  
L'ENVIRONNEMENT MONDIAL

24/11/17

## Introduction

This note provides a summary of key points made by participants during the discussion sessions of the workshop.

The presentations given by the Pacific Community, the 'Greening Taxes and Subsidies' study team (IEEP and the Australian National University) and the team working on the New Caledonia study (Vertigo Lab and Université de la Nouvelle-Calédonie) are not summarised, but will be made available to all who registered for the workshop.

## Group discussions on existing environmentally harmful taxes and subsidies

The first discussion session aimed to focus on existing taxes and subsidies that may be harmful in environmental terms. Some key environmental problems relevant to the Fiji islands were also discussed. The following points were raised by the participants:

### *Fisheries*

- There are subsidies related to fishing gear/boats to support the sector, but they are not always used well or correctly. Boats designated for one area sometimes fish in other areas, with resultant impacts on both fishing grounds and local fishing communities.
- There is no proper monitoring of subsidies.
- Although quotas/numbers of fishing licences are decided by the communities, there is no monitoring/follow-up, and also no link between quotas/fish stock levels and fiscal instruments.
- Some incentives are specifically targeted, e.g. the fisheries fuel concession only applies to 11 companies, with the rest paying the full rate.

### *Agriculture*

- There is no national land use plan in Fiji (although there is a rural land use policy, mainly related to agriculture, and a Task Board is currently working on developing a land use plan). Agriculture and rural development can therefore currently move freely when land becomes less fertile. This also means there is no monitoring of land use, deforestation, encroachment into biodiversity rich areas etc.
- Tropical Cyclone Winston destroyed many plantations so crop prices increased, providing an incentive to grow crops, which contributed to deforestation in some areas.
- Fertilizers and lime are subsidised, and in addition there are no taxes applied to the pollution they cause.

### *Mining*

- The Mining Act supersedes most other acts, which has potential to give precedence to mining activities. The sector is generating revenue.
- Mining tailings have negative environmental and social impacts. There are perceived to be lost revenues due to the environmental impacts of mining, and typically the landowner where the mine is located gets the financial benefits, whereas other communities suffer from the environmental impacts of tailings.
- Only 1-2 companies have licences for mining activities.
- Other companies are currently only prospecting, an activity which is not taxed (this is the case across the Pacific region) but subsidised, to encourage investment. Taxes are applied at the extraction phase, although there is no tax on royalties.

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- Whilst there is a strong environmental management scheme for the sector, environmental bonds are not sufficient to cover all the negative impacts of mining.
  - The world prices for mined minerals also have a key impact on fiscal considerations for the sector.
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#### ***Waste management***

- There are not currently adequate measures to deal with end-of-life hybrid vehicles and batteries. A concern was raised that Fiji is becoming a 'dumping ground' for second hand hybrid vehicles.
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#### ***Water management***

- Currently any household earning less than FJD 30,000 receives 90,000 litres of water for free. However, pricing that accounts for water consumption otherwise does not exist (i.e. there are no financial incentives in the water rate to reduce consumption).
  - Many areas do not have proper waste water treatment systems (even if they are connected to mains water supply), meaning that flush toilets lead to pollution issues.
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#### ***Transport***

- Diesel is currently subject to lower tax than petrol, partly because it is widely used for public transport.
  - It is unclear whether an increase in hybrid vehicles has led to a corresponding reduction in other vehicles, or simply added to the total number of vehicles on the roads. There is certainly increased congestion.
  - Bank loans are available to poorer citizens to support the purchase of vehicles; they do not differentiate between different types of vehicle (e.g. based on emissions or type of fuel).
  - There is a road levy, but this has not translated into better roads.
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#### ***Energy***

- Fuel subsidies are an obvious initial target for reform, e.g. subsidies for fuel for the fisheries sector.
  - Nevertheless, fuel subsidies are important in some cases, e.g. for supporting local transport between the islands of Fiji. Reforms/removal of subsidies would therefore have social and local economic impacts. This highlights the need for a case-by-case approach to reform.
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#### ***Tourism***

- There has been flooding in the Nadi area due to the destruction of mangroves in association with the development of tourism.
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#### ***General points***

- The workshop was timely in terms of revisiting old incentives – many are 20 years old and have not yet been reviewed. The regional review is also useful in helping to identify environmentally harmful instruments.
  - It is not clear how much of the revenue from environment-related taxes is actually used for environmental purposes, e.g. impact assessments, monitoring or other environmental measures.
  - A Green Growth Framework exists, but does not include anything on environmental taxes.
  - It is important to identify the correct point (e.g. in a supply chain or activity) where taxes can best be applied to meet environmental objectives or bring about environmental improvements.
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24/11/17

- Better systems are needed to monitor both the environmental and economic impacts of taxes. If it can be demonstrated that tax revenues are being used for environmental purposes, this can help to demonstrate the environmental benefits and gain support.
- Coherent packages of measures within and between economic sectors are important. These should have the end environmental goals in mind from the start, to ensure that taxes/subsidies help to achieve them.



Photos © Nastasia Keurmeur

### Group discussions on greening taxes and subsidies

The second discussion aimed to provide ideas on what could be done in the future to make taxes and subsidies more beneficial in environmental terms. The following points were raised by the participants:

#### *Fisheries*

- Closer links could be made between fish stocks and fiscal instruments, e.g. taxes could be varied based on breeding periods for certain species, migratory species, seasonal bans (e.g. on grouper). This would make a clear link between ecological status and taxation.

#### *Agriculture*

- A land tax could be applied to new plantations. In conjunction with better land use planning, this could help both to keep track of land use and to raise revenue. Indeed the government is now moving towards improved tracking of crop production e.g. through registration of farmers.
- Whilst organic agriculture is developing in some areas (e.g. Kuvalu island), government does not currently provide any incentives. Incentives (e.g. a tax on pesticides) could help to encourage greater development of organic agriculture. This could be supported by certification/labelling of organic products.
- One example would be organic virgin coconut oil (VCO) – subsidies and certification could help producers to reach the A grade of quality, allowing them to sell their produce for a higher price.
- Whilst mono-cropping is good commercially/financially, in the long term it is environmentally damaging. Subsidies could be used to support e.g. multi-cropping or agro-forestry as sustainable alternatives.

#### *Mining*

- A tax could be applied on royalty payments, to gain some revenue.
- A gravel extraction tax could be beneficial – the road and construction industries are currently booming, so this could also be a way to generate revenue.

### ***Waste management***

- The Fiji Customs and Revenue Authority (FRCA) taxes PET bottles at a rate of FJD 0.10. There is also now a FJD 0.10 tax per plastic bag.
  - The Department of Environment has prepared legislation for a container deposit system to reduce plastic waste, but this has not yet been approved by government. A deposit scheme does already exist for glass (beer) bottles.
  - More incentives are needed to support businesses to implement green business initiatives, including improvement of their supply chain and business processes. Competition prevents many businesses from undertaking such initiatives where their competitors don't. This could potentially be supported through the environment management system, which could accredit such green technologies.
  - Urban city councils are currently responsible for waste management. A national approach to waste management is needed, incorporating the private sector (e.g. small businesses collecting bottles for recycling). The government is currently exploring the establishment of a statutory waste management authority.
  - Consideration should be given to linking waste taxes/payments to the level of waste generation, e.g. through landfill taxes or other waste charges. Waste water charges could also lead to environmental benefits.
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### ***Water management***

- Efforts should be made to link water pricing to scarcity, to allow for different regimes for water rich and water stressed areas (e.g. Suva v the west). A one-size-fits-all approach is not suitable, and political considerations currently override the economic rationale to adjust pricing.
  - If water prices are to be based on consumption levels, the shared supply of water in urban settlements would need to be taken into account.
  - Rainwater tanks are free for those in rural areas, but not for urban households.
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### ***Transport***

- There is no import duty on new hybrid cars, whereas a small duty is payable on used cars. Cars can only be imported under these arrangements if they are less than 5 years old.
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### ***Tourism***

- Airport departure taxes (for provincial airports) could be implemented, and revenues could be used e.g. for environmental monitoring and impact assessments.
  - Eco-tourism and agri-tourism should be supported through subsidies, e.g. for the provision of organic food to hotels.
  - Community-based management of marine areas currently suffers from lack of resources. The group discussed the potential for use of grants and subsidies to help fund these initiatives, e.g. to support the purchase of boats or bikes for monitoring of protected areas. (See for example an evaluation for SPC on the use of subsidies for marine protected areas (MPAs) by Nicolas Pascal.)
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### ***Urban development***

- Efforts could be made to coordinate local environmental taxes across the 14 provinces of Fiji. All provinces have Yaubula Management Support Teams (YMST) which could potentially assist in this effort.
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**General points**

- Indirect taxes are very easy to administer, and could (and do) create useful revenue.
- Subsidies should be provided for sustainable activities and not for environmentally harmful ones.
- A national land use plan could support the implementation of environmental taxes and subsidies, providing a basis and rationale.
- The system of national accounts/ecosystem accounts could potentially be linked to tax incentives.
- Cost assessment studies (showing financial and environmental costs/benefits) for economic sectors would help to support the introduction of taxes and subsidies. They could provide both a logic for their introduction and a baseline for measurement of impacts (both financial and environmental). Taxes could then be better linked to environmental and ecological functions, e.g. provision of ecosystem services.
- Family and community businesses do often try to do things that are environmentally beneficial or not environmentally harmful. Government measures could support such activities more widely.
- For extractive sectors (agriculture, fisheries and mining) public-private partnerships could be investigated.
- A general election will be held in Fiji in 2018. This, and the new government, may provide a window of opportunity to discuss issues of fiscal reform, including environmental taxation and subsidies.
- Political will, greater transparency and monitoring are all important in developing policy and measures related to environmental taxes and subsidies.

**Participants**

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