



Clean Development Mechanism (CDM) Investors' Guide

Republic of Fiji



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Front Cover Photo: Kinoya Sewerage Treatment Plant GHG Emission Reduction Project, one of the two registered CDM projects from Fiji

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ABBREVIATIONS

African, Caribbean and Pacific countries
Clean Development Mechanism
Certified Emission Reduction
Methane
Carbon Dioxide equivalent
Component Project Activities
Carbon Trading Technical Team
Designated National Authority
CDM Executive Board
European Union
Fiji Department of Energy
Fiji Electricity Authority
Fijian Dollar (currency)
Gross Domestic Product
Global Environment Facility
Greenhouse Gas
German Agency for International Cooperation
International Energy Agency
Japan International Cooperation Agency
Least Developed Country
Landfill gas
Letter of Approval
Letter of No-objection
Multilateral Environmental Agreements
National Adaptation Programme of Action
Organization for Economic Co-operation and Development
CDM Project Design Document
Pacific Hydro Limited
Pacific Island Country
Project Idea Note
Papua New Guinea

РоА	CDM Programme of Activities
REDD	Reducing Emissions from Deforestation and Forest Degradation
SIDS	Small Island Developing State
SOPAC	Pacific Islands Applied Geoscience Commission
SPC	Secretariat of the Pacific Community
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services
URC	UNEP Risø Centre
WSD	Water supply & Sewerage Department

1. INTRODUCTION

1.1 About the CDM Component of the ACP MEA project

Since 2009, the UNEP Risø Centre (URC) has been implementing the Clean Development Mechanism (CDM) of an umbrella EU- funded UNEP four-year project on 'Capacity Building related to Multilateral Environmental Agreements (MEA) in African, Caribbean and Pacific (ACP) Countries'. The purpose of the CDM Component of the ACP MEA project is to develop capacity for CDM project development in the ACP countries.

In the Pacific, based on discussions at the inception workshop held in May 2009, the CDM component has been designed as a regional programme with Fiji and Vanuatu as focal countries. It also includes some DNA capacity building support in Samoa and Tonga and Solomon Islands and PNG representatives are also invited to the regional workshops.

Under the project, a series of capacity building activities are being carried out to support participating countries in establishing and operationalizing their DNAs (Designated National Authority), creating a business-friendly environment for the development of CDM projects, and developing a portfolio of CDM projects. As part of the project activities, four CDM capacity building workshops have been organized.

1.2 Aim of this Investor Guide

This investor guidebook is being developed with the aim of supporting potential investors and project developers with the basic knowledge on the environment surrounding CDM project development in Fiji. In addition to general demographic information for Fiji, the investor guide will provide country specific information from a practical aspect of identifying and developing CDM projects in Fiji. The investor guide contains information such as the country profile; potential CDM projects; CDM related institutional framework; project approval procedures; related regulatory framework; relevant simplified rules under the CDM and contact details for project developers and investors.

The objective of the report is to provide guidance to stakeholders investing in Fiji. This in turn is believed to benefit the host country as a whole through carbon revenues and associated sustainable development benefits.

2. COUNTRY OVERVIEW

2.1 Location, Population and Climate

Fiji lies between 177° E and 178° W Longitude and 12° to 22° S Latitude with a land area of 18,333 km2. It covers about 1.3 million square kilometers of the South Pacific Ocean. It includes 320 islands of which about a third are inhabited. The majority of the land is on continental-like volcanic islands that rise to well over 1,000 metres in elevation. Over 87% of the land is concentrated in the islands of Viti Levu and Vanua Levu.



Figure 1 Map of Fiji

Population

Fiji's 2009 estimated population is 944,720, with an annual growth rate of 1.38%. More than 75% of the population lives on Vitus Levi, making it the economic and political centre of the island group. Fifty-seven percent of the population is Fijian, while 38% is Indian. Sixty-four percent (64%) are Christian, 28% Hindu, and 6% Muslim. Fijian and English are the official languages. Local currency in Fiji is Fijian Dollar (FJD).

Climate

The climate in Fiji has an oceanic tropical climate. Average daily temperatures remain relatively constant year-round at 25 °C (77 °F), only becoming a few degrees higher during the rainy season. Annual rainfall distribution on the main island of Vitu Levu is affected by the island's central mountain range. As a result, the eastern half of the island receives 3-5 meters of annual rainfall, while the western half receives 2-3 meters. The rainy season lasts from November to April, and Fiji is frequently affected by tropical cyclones during this period. El Niño events are associated with reduced rainfall on the islands, in part due to shifts in the typical path of tropical

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cyclones away from Fiji. The 1997-1998 El Niño events contributed to bringing about one of the worst droughts on record.

2.2 Economy, Energy and Electricity Access

Key Economic Sectors

Fiji has one of the largest economies among Pacific Island Countries (PICs), and is one of the PICs least dependent on foreign aid. The Gross Domestic Product (GDP) of Fiji was US\$3.78 billion in 2008, or US\$3,900 per person. The GDP grew by 1.2% in 2008 after shrinking by 6.6% in 2007, a byproduct of the December 2006 coup. Even though 70% of the Fijian workforce is in the agricultural sector, agriculture and industry together account for less than 25% of GDP. The rest comes from the service sector, mostly from tourism. Within the agricultural and industry sectors, sugar production and processing are by far the most important economic activities. Sugar processing makes up one-third of all industrial activity, and sugar is the country's primary export product. Other agricultural products produced in the country include coconuts, tapioca, rice, sweet potatoes, and bananas, but these are primarily used for domestic consumption. Apart from sugar, exports include garments, gold, timber, and fish. Imports include manufactured goods, machinery, and petroleum products.



Figure 2: GDP Share by sector (2011)

Table 1: Gross Domestic Product Summa	ary FJD)
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Indicator	2005	2006	2007	2008	2009	2010[p]
GDP (per capita) current	5232.5	5475.9	5587.3	5855.1	5770.2	6182.8

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Indicator	2005	2006	2007	2008	2009	2010[p]
GDP (per capita) at constant 2005 prices	5232.5	5310.2	5252.3	5274.9	5176.8	5156.6
GDP Current Prices [FJD million]	4327.3	4545.0	4648.6	4900.7	4858.5	5243.0
GDP Current Prices (Annual Growth Rate %)		4.7	2.0	408	-1.4	7.2
GDP Constant (2005 prices) [FJD million]	4327.3	4407.5	4369.9	4415.1	4358.9	4372.8
GDP Constant (2005 prices) (Annual Growth Rate %)		1.5	-1.1	-0.4	-1.9	-0.4

Source: Fiji Bureau of Statistics

Energy Consumption

Fiji's energy demand can be categorized into sectors namely industrial, commercial and domestic. In terms of energy demand all these sectors are interrelated. An increase in one sector triggers energy demand in another. By taking this into consideration, the relationship between the industrial and transportation sectors can be illustrated. Likewise, growth of the industrial and commercial sector increases use of transportation, electricity and use of petroleum based other heavy machinery.

The primary energy consumption in Fiji is derived from three sources: coal, crude oil and electricity. Most of the imported fossil fuels are being used for transportation and for diesel generators to produce electricity.



Figure 3: Energy Consumption, by Sector

Electrification

Fiji is ranked 152nd in terms of electricity production in the world, with total electricity production of 928 million kWh (2008) and consumption of 735.6 million kWh (2008), of this 81.5 percent comes from hydro electricity production and 18.5percent comes from fossil fuels.

The state-run Fiji Electricity Authority (FEA) supplies the energy in Fiji. With an energy demand increasing at 5percent per year for the country, Fiji needs hundreds of millions of dollars to increase its energy capacity.

Fiji continues to seek alternative sources of energy to supplement its large fuel import bill. Current renewable energy projects although small, if successful, could provide the much needed answers to Fiji's energy problems. The Fiji Department of Energy (FDoE) is continuing its investigations to assess the economic viability of a number of renewable energy resources. The major areas of investigation have been biofuel, wind, geothermal and hydropower. A number of projects have been commissioned in these areas by Fiji Electricity Authority (FEA) which includes Butoni wind farm, Wainikasou, Nagado and Nadarivatu hydro projects, coconut oil fuelled village generators in Vanua Balavu and Taveuni coordinated by The Pacific Islands Applied Geoscience Commission (SOPAC) and FDoE are some of the examples. Solar lighting systems are being promoted and disseminated as an option for rural electrification.

2.3 Main Sources of Greenhouse Gas Emissions

The Fiji assessment of GHG emissions employs IPCC 1996 guidelines and the relevant OECD and IEA guidelines. In all cases the IPCC guidelines default emission factors and conversion coefficients are used.

The National Greenhouse Gas inventory focuses on energy activities, industrial processes, agricultural, and use change and forestry and waste. Energy activities and industrial processes account for nearly all the carbon dioxide emissions. Energy activities including public electricity, transport, manufacturing and construction activities and residential/commercial sector account for 94.5% of carbon dioxide emissions.



Figure 4: Main sources of CO₂ emissions

Source: Fiji National Communications

The main sources of methane emissions are agricultural, land use change and forestry and waste.



Figure 5: Sources of CH₄ emissions

2.4 Mitigation Options

The following sectors are considered strategic to GHG reduction in Fiji:

<u>Energy</u>

Fiji, similar to other countries in the Pacific region, is heavily dependent on imported fuel to meet a major component of its energy demand. As such, the country is vulnerable to the continuous fluctuation of world crude oil prices. For the past few years, demand in Fiji has increased from around \$400 million in 2004 to \$1.3 billion in 2010.

With respect to electricity production, about 60% of the country's needs are met from renewable energy, the remainder is met from fossil fuels, specifically utilising Heavy Fuel Oil for electricity generation. Government of Fiji considers reliable and affordable electricity as a major element of economic and social development. Hence, recently the country has set itself a target to generate ninety percent (90%) of electricity in the country by renewable sources by 2016. There is no specific roadmap for the current targets but a strategy has been put in place identifying specific investments in various forms of locally available renewable energy sources such as hydro, wind, biomass, and biogas, which can be developed to address the target that has been set.

Energy Efficiency and Conservation

Energy Conservation and Efficiency programmes in Fiji are taken care by Fiji Department of Energy (DOE). Energy conservation has significant impact on Fiji's economy as this deters increase in domestic commodity production. Energy efficiency along with appliance labelling is actively promoted by DOE. This programme aims at reducing the annual electricity consumption by 10% from Fiji Electricity Authority (FEA) grid connected consumers. The programme includes public awareness and incentives for using energy efficient appliances. Energy audit training is also conducted by DOE staff and industry energy managers. DOE has actively targeted the urban residential (target of 15% reduction in consumption) and commercial/tourism sector. DOE also plans to aim at reaching targets set in industrial premises, and the transport sector.

The Government of Fiji recognizes importance of better use of energy and aims to put Fiji onto a path of low-carbon growth by improving its energy efficiency. As a major energy consumer, the Government plans to take a lead role by introducing best practice guidelines in the public sector. It will use public sector purchasing to accelerate technological change that favours energy efficiency, for example, through commissioning more energy efficient buildings and purchasing energy efficient vehicles and machinery.

Waste Water/Solid Waste Management

Fiji, like all other Small Island Developing States in the Pacific region, recognizes that waste management is the single most pressing issue that needs immediate action. It is recognized as a major concern with high methane emitting potential. Government of Fiji has launched National Solid Waste Management Strategy (NSWS) for Fiji .The NSWMS details the current waste management practices and outlines the inadequacies that exist in the institutions; it provides a platform from which future waste management activities can be developed and the mechanisms for coordinating the programmes. It provides implementation at national, municipality, local and community level.

The key objectives of the national solid waste management strategy are to:

- \succ reduce the amount of waste that each community generates;
- make best use of the waste that is generated;
- develop and implement economic and social incentive mechanisms to change
- > wasteful behaviour, improve and upgrade existing waste management and disposal systems;
- > encourage/provide waste management practices, which minimize the environmental risk and harm to human health; and
- > Provide a guideline template for rural or community level solid waste management practices work.

A number of waste management workshops and training have been conducted for the industrial business community and the rural communities on waste minimization.

The Department of Environment has been charged with addressing Objective 6 of the (NSWMS&AP). Objective 6 stipulates that a Minimum Operating Guideline for all dump sites be established as well as upgrade at least 3 current dump sites to meet the Operating Guidelines.

Biofuel usage in Transport

The Government of Fiji considers biofuel industry as an alternative and cheaper source of fuel. Coconut oil and ethanol from sugar have great potential to generate the much needed energy for the country. Development of the biofuel industry has been assessed to be economic, and socially it will provide secure employment for sugar cane and coconut farmers. Recent issues arising in the world claim that exploring bio-fuel or 'renewable energy crops' will threaten food security. For Fiji,

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Department Of Environment assured that the country had a substantial landmass of close to two million hectares and a small population which gives it the impetus that many countries do not enjoy. It is estimated that only 45.6 per cent of the land is being used or developed and one million hectare is lying idle as either forest cover or unused. Thus, Department Of Environment is very optimistic that Fiji can sustain both food and fuel needs, which is a necessity for the success of developing the biofuel industry.

The government of Fiji is working to encourage investment in its local biofuel industry. Coconut oil and its derivatives can be used as alternatives to diesel fuel in vehicles as well as electrical power generators. The country is currently producing only 1.5 million litres (400,000 gallons) of biofuel, but needs to increase production to 60 million litres. The nation's transportation industry requires 300 million litres of fuel per year.

Rural Electrification

In the area of Rural Electrification, the Government of Fiji is committed to promote access to affordable, efficient and renewable energy services for disadvantaged households, small businesses, small farms and community services. There are hundreds of remote un-electrified villages and settlements for which FEA line extension is not cost effective. The great majority of residents in these locations have modest energy needs for evening lights and small appliances. Solar-home –systems (SHSs) can be used in most locations as an alternative to the present situation.

<u>Agriculture</u>

Agriculture contributes 13.5% of global greenhouse gas emissions. Of this, soil represents 6%, and livestock and manure represent 5.1%. Key areas where the agriculture sector can contribute to the reduction of greenhouse gas emissions and increased sequestration are listed below:

- the use of fuel-efficient farming equipment;
- farming practices that maintain or increase forest cover (agroforestry);
- ensuring minimal soil tillage and soil cover to prevent release of carbon in soil;
- reducing the use of fertilisers that can be converted and released as greenhouse gases;
- intensification of small scale commercial and subsistence agricultural activities to optimise production can minimise forest clearance;
- capturing methane gas from manure.

Forestry

Forests are critical components of the climate system due to their potential for sequestering greenhouse gases. Forestry management practices will have a significant impact on Fiji's net greenhouse gas emissions. The Forestry sector contributes 17.4% of global greenhouse gas emissions (IPCC 2007b). An assessment of Fiji's national forest carbon stock was conducted in 2010. The total national forest carbon stock was assessed at 192,270,000 tCO2e in 2010, most of it associated with indigenous forests. Increased sequestration and reduced emissions can be achieved through:

- sustainable management of forests (a huge carbon reservoir);
- promotion of reforestation, afforestation and enrichment planting, as only growing forests are continually sequestering carbon dioxide from the atmosphere;
- sustainable management of mangrove areas and swamp land, which store huge amounts of carbon.

3. OVERVIEW OF THE CLEAN DEVELOPMENT MECHANISM (CDM)

The Clean Development Mechanism, or CDM, (established under Article 12 of the Kyoto Protocol) allows Annex I Parties to obtain emissions credits for projects that reduce emissions in non-Annex I countries; provided that the projects also help the non-Annex I Parties achieve their sustainable development goals. The credits are known as Certified Emission Reductions (CERs), and can be used by Annex I Parties to help meet their emissions targets.

According to the Protocol, the CDM projects must have the approval of the Parties involved, and must lead to real, measurable and long-term benefits related to the mitigation of climate change, in the form of emission reductions or GHG removals that are additional to any that would have occurred without the project. The CDM is intended to generate investment in developing countries, especially from the private sector, and promote the transfer of environmentally sound technologies. However, the finance and technology transfer commitments of Annex II Parties under the Convention and the Kyoto Protocol are separate and remain binding (Institute for Global Environmental Strategies 2008; United Nations Framework Convention on Climate Change 2003).



Figure 6: Concept of CDM

Source: Institute for Global Environmental Strategies 2008

The six GHGs are not equal in terms of global warming potential (GWP), which measures the relative radiative effect of GHGs compared to CO2. For example, one tonne of methane has a GWP as potent as 21 tonnes of CO2

Table 2: Six greenhouse gases addressed under the Kyoto Protocol

Greenhouse gas	Global Warming Potential
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	21
Nitrous Oxide (N ₂ O)	310
Hydrofluorocarbons (HFCs)	140-11,700
Perfluorocarbons (PFCs)	6,500 – 9,200
Sulphur Hexafluoride (SF ₆)	23,900

3.1 The Clean Development Mechanism – How does it work?

Article 12 of the Kyoto Protocol sets out the legal framework for operation of the CDM. This is also supported by the Marrakesh Accords consisting of the decisions made by the Parties to the Protocol and the rules developed by the CDM Executive Board. Under this framework, there are two key prerequisites for developing countries that wish to participate in the CDM by hosting a CDM project:

- Host countries must have ratified the Kyoto Protocol.
- Host countries must have a designated national authority for the CDM, which has adopted a CDM approval process.

The CDM is a voluntary mechanism wherein each country or the Parties can assess the potential costs and benefits of developing such projects under the mechanism and may decide to participate or not. The mechanism has a provision to include all the stakeholders such as governments, private entities, international organisations, NGOs, and so on in designing, development and implementation of CDM project in the host countries.

Even though it is not required under the Kyoto Protocol, some developing nations have endorsed appropriate legislation to incorporate the underlying legal concepts of CDM into their domestic national law. Annex I countries must fulfil other requirements to participate in the CDM activities such as to invest in CDM projects to trade the Certified Emission Reductions (CERs). These requirements relate to their own national GHG inventories, emissions reporting and compliance.

The CDM allows emission-reduction (or emission removal) projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one tonne of CO_2 (United Nations Framework Convention on Climate Change 2003). These CERs can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol. The UNFCCC believes that the mechanism stimulates sustainable development and emission reductions, while giving industrialized countries some flexibility in how they meet their emission reduction limitation targets (United Nations 2008).

The projects must qualify through a rigorous and public registration and issuance process designed to ensure real, measurable and verifiable emission reductions that are additional to what would have occurred without the project. The mechanism is overseen by the CDM Executive Board, answerable ultimately to the countries that have ratified the Kyoto Protocol.

Operational since the beginning of 2006, the CDM has already registered more than 4600 projects and is anticipated to produce CERs amounting to more than 2200 million tonnes of CO_2 equivalent in the first commitment period of the Kyoto Protocol, 2008–2012.

3.2 The Objectives of CDM

The key objectives of CDM include:

- > Contributing to sustainable development goals of the host country.
- Supporting developed countries to meet their emission reduction obligation under the Kyoto Protocol at the least overall cost.

The Protocol provides no clear definition of sustainable development as it is left to the host countries to determine whether or not a project will assist in meeting its sustainable development objectives as determined by national policies and plans (Decision 2/CMP.1 para 5 and Decision 3/CMP.1 Annex para 31-32). A general criterion that is being used by many countries includes whether a proposed project:

- Is capable of providing net benefit to the environment
- Can contribute towards economic and social development of the host country (Article 12(2) Kyoto Protocol)

When compared on a per ton of CO_2 emission reduction basis, it is imperative that the emission reduction projects implemented in developing countries will yield cheaper emission reduction options compared to the cost to the developed nations of domestic emission reductions. It is also agreed by Parties under the protocol that Annex I countries need to carry out domestic actions along with utilising the flexibility mechanisms under the Protocol in order to achieve their emission reduction targets.

3.3 CDM Project Requirements

 Apart from contributing to the sustainable development objectives of the host country the CDM projects should be able to meet three other requirements as agreed at the international level, which are: the projects should be 'additional' i.e. not business as usual projects. The additionality for a project can be established comparing the baseline emissions with that of post project implementation scenario (Decision 3/CMP.1 'Modalities and Procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol' Annex para 43-44).

- 2. The CDM projects should yield real, measurable and long-term emission reductions. The projects should be 'additional' i.e. not business as usual projects. The additionality for a project can be established comparing the baseline emissions with that of post project implementation scenario (Decision 3/CMP.1 'Modalities and Procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol' Annex para 43-44).
- 3. The projects should not result in diversion of existing Overseas Development Assistance (ODA) (Decision 17/CP.7 preamble and Decision 3/CMP.1 Appendix B para 2(f)). This requirement mandates that even though ODA can be utilised for host country capacity building for participating in the CDM as a whole, it is not allowed to use the ODA for project investment and CER payments.



Figure 7: Overview of Additionality Tool

Source: Annex 20 to the Meeting Report of CDM EB 69th Meeting, http://cdm.unfccc.int

Role of Private Sector

The CDM is innovative in the sense that both private and public sectors are envisaged to participate in the mechanism activities. It is believed that major investment for implementation of CDM projects will be from the private entities investing in environmentally benign projects in order to capitalise on the opportunity to participate in the developed country markets in trading emission reductions (Article 12(9) Kyoto Protocol - Decision 3/CMP.1 Annex para 33).

The main implications from private and public sector participation are that cost effective implementation of the market based mechanism justifies the investment for emission reduction. In addition, rigorous monitoring and verification requirements are set for CDM project activities at the international level in order to keep the process as transparent as possible including ensuring that the CERs reflect the real and actual emission reductions.

It is also crucial to keep a constant vigil on the CDM projects as projects in developing countries will allow for an equivalent ton of additional emissions in a developed country with a Kyoto target.

3.4 Key Concepts in the CDM

Project Design Document (PDD)

The Project Design Document (PDD) specifies the key data and information about the proposed CDM project and the PDD format is specified by the CDM EB. The project developer will usually prepare the PDD which generally includes the methodology used to establish baseline emissions, a monitoring plan, an analysis of the environmental impact of the project, and a certification from the host country that the project is undertaken voluntarily and will assist it in achieving sustainable development.



Figure 8: CDM Project Cycle.

Source: MoE 2007

As seen in Figure 8, the proposed CDM project is required to go through a CDM EB specified CDM project cycle which includes project preparation, registration and monitoring. The PDD also includes carrying out project stakeholder consultation as part of the CDM design process. The project proponents are obliged to invite local stakeholders for comment, summarise those comments and report on how relevant concerns were addressed (Decision 3/CMP.1 Appendix B).

Approved methodologies from the CDM EB can be readily used by the project developers for development of baseline emissions and the potential emission reductions. In case a new methodology needs to be developed, the project proponents may do so thorough a Designated Operational Entity (DOE) to the CDM EB for consideration and approval if appropriate (Decision 3/CMP.1 Annex para 38 and Appendix C).

Crediting Period

The crediting period for the CDM project activity can be 10 years or 21 years (three renewals after 7 years each). The project developer can choose the most appropriate crediting period for a CDM project activity. Once the project has commenced, the project participants are required to implement the monitoring plan contained in the registered PDD (Decision 3/CMP.1 Annex para 56).

CER Issuance

Based upon the verification report and a request to issue CERs received by the DOE, the CDM EB will instruct the CDM registry administrator to issue the CERs and distribute them to the project participants (Decision 3/CMP.1 Annex para 66).

Small-scale CDM Project Activities

The CDM EB introduced 'small-scale' CDM project activities to encourage the development of smaller CDM projects, which typically would be less attractive in terms of the volume of CERs generated relative to transaction costs (the cost of preparing the PDD, validation, registration, verification etc). Small-scale project activities can utilise simplified modalities and procedures that do not require the rigorous and expensive approval and assessment processes as required for larger scale projects.

A CDM project activity qualifies as small-scale, if:

- It is a renewable energy project activity with a maximum output capacity equivalent of up to 15 megawatts.
- It is an energy efficiency improvement project activity that reduces energy consumption by up to the equivalent of 60 gigawatt hours per year.
- It is any other project activity that both reduces anthropogenic emissions by sources and directly emits less than 60 kilotonnes of CO₂ per year.

The small-scale CDM project activities can take advantage of

- > A simplified PDD
- Simplified methodologies for determining a baseline and creating a monitoring plan.
- > The ability to bundle project activities (discussed later).
- > Simplified procedures for the demonstration and assessment of additionality.
- > Simplified provisions for environmental impact analysis.
- Lowered registration fee.
- The ability to utilise the same DOE to validate and verify emission reductions for a single project.

Small scale projects have the potential to contribute substantially to sustainable development objectives, particularly those associated with the deployment of energy technologies that will improve the livelihoods of rural communities. However, the transaction costs associated with developing small scale projects under the CDM are relatively high relative to the direct emission reduction benefits that may be available.

<u>Bundling</u>

Bundling is a concept that allows a large number of small projects to be combined within one PDD, thereby reducing potential transaction costs. Projects may be bundled as long as the total size of aggregated projects is below the threshold levels for a single project as outlined in the section earlier.



Figure 9: CDM Project Bundling.

Bundling can include multiple technologies, i.e. a number of small solar, hydro and biomass projects could be bundled together in one PDD. Due to the size of many potential projects across the globe, bundling has great potential throughout the world.

The key benefits of bundling include:

- Reduced project development costs
- > The project implementation costs are reduced due to lower procurement costs
- Reduction in operation and maintenance costs
- Lower transaction costs when compared to individual CDM projects

3.5 Organisations involved in CDM

Designated National Authority

Parties participating in the CDM must designate a National Authority to approve proposed CDM projects. The DNA is the person or body within the host country responsible for oversight of CDM project activities.

The role of DNA in a host country involves:

- > Development of host country CDM project approval criteria, including assessment of CDM projects contributing to sustainable development.
- > Assessment of CDM projects with respect to national policies and development activities
- > Issuing letters of approval for CDM project activities i.e. 'Host Country Approval'.

DNAs may also be involved in other activities including promoting and marketing CDM investment opportunities in the host country, providing technical assistance to project developers and attracting donors and financing. Some DNAs are also involved in the on-going monitoring of project activities.

Currently 161 countries, including 129 developing countries, have established a DNA for facilitating active participation in the CDM processes. The establishment of a DNA in a host country depends on the legal and administrative culture and structure, funding availability and the potential and expected number of CDM projects. It may also be noted that active participation and inclusion of private entities and NGOs in the activities of DNA will provide an opportunity for diverse stakeholders to participate and influence national politics on DNA decision making.

The size and scope of activities undertaken by these bodies varies depending upon the needs and resources of individual countries. The DNA need not be a new government entity or dedicated department. In Fiji and PNG, for example, DNA functions are carried out within the broader mandate of the Department of Environment and Department of Natural Planning and Rural Development respectively. In contrast, China's DNA, which oversees hundreds of CDM project activities, is large. Legislation has been passed which sets out the DNAs mandate and provides criteria for participation in the CDM.

The host country authority on CDM, i.e., DNA, is required to have continuous liaison with all the key stakeholders within the host country including the UNFCCC. Therefore it is essential that a dedicated point of contact within the DNA needs to be established. It is also apparent that the DNA should have the necessary expertise to assess potential projects against host country criteria, through the expertise that can be found within existing departments or ministries or externally. The DNA should be accessible, able to facilitate effective and efficient CDM approval, and able to facilitate coordination between government departments to avoid delays in approvals.

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Designated Operational Entity (DOE)

The Designated Operational Entities (DOEs) are the organisations/agencies which are accredited by the CDM EB and are responsible for reviewing the PDDs against all the requirements under CDM. DOEs are responsible for approving the technical and legal aspects of a proposed CDM project including the project's justification for additionality, its greenhouse gas emissions baseline and its monitoring plan.

The DOEs will also validate the CDM project activity based on the sectoral scope of the proposed project activity (see Table 4), upon which the PDD for the project will be submitted to the CDM EB for registration. Once the project is registered and implemented, a DOE will also verify the emission reductions resulting from registered CDM project activity.

Scope No.	Sectoral Scope
1	Energy industries (renewable - / non-renewable sources)
2	Energy distribution
3	Energy demand
4	Manufacturing industries
5	Chemical industries
6	Construction
7	Transport
8	Mining/mineral production
9	Metal production
10	Fugitive emissions from fuels (solid, oil and gas)
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
12	Solvent use
13	Waste handling and disposal
14	Afforestation and reforestation
15	Agriculture

Table 3: CDM Sectoral Scope.

Source: http://CDM.unfccc.int

The CDM EB also specifies that not all the DOEs will be able to validate all the projects as many DOEs are proficient in dealing with certain selected sectors only such as energy industries, energy demand, construction, transport, waste, afforestation and reforestation, or agriculture. Depending on the type and nature of the project it might also be necessary to select a different DOE for each of the validation, verification and certification functions.

As a general rule, in order to avoid conflicts of interest, different DOEs will be selected for different steps in the process. However, for small scale projects, in order to minimise costs and simplify the process, a single DOE can perform both validation and verification.

CDM Executive Board (CDM EB)

The CDM Executive Board is the entity which registers a CDM project activity under the norms of the Kyoto Protocol. The CDM EB consists of ten members and ten alternate members, and represents a regional balance of developed and developing countries (Decision 3/CMP.1 Annex para 7-9) (United Nations 2008).

The key activities of the CDM EB include (Decision 3/CMP.1 Annex para 5):

- > reviewing modalities and procedures for CDM activities and making recommendation to the COP/MOP
- > approving new methodologies (e.g.: for establishing baselines, project boundaries and monitoring)
- > accrediting and designating operational entities
- maintaining the CDM project registry
- > reviewing project validation and verification reports prepared by designated operational entities and issuing verified CERs.

Once a project is registered with the CDM EB it is considered that the board has accepted the validated project as a CDM project activity. Registration is a prerequisite for the verification, certification and issuance of CERs (Decision 3/CMP.1 Annex para 36). Unless a participating party or three EB members request a review of the project, its registration becomes final after eight weeks (Decision 3/CMP.1 Annex para 41).

3.6 Programme of Activities (PoA)

A Programme of Activities (PoA) is a voluntary coordinated action by a private or public entity which coordinates and implements any policy/measure or stated goal (i.e. incentive schemes and voluntary programmes), which leads to anthropogenic GHG emission reductions or net anthropogenic greenhouse gas removals by sinks that are additional to any that would occur in the absence of the PoA, via an unlimited number of CPAs¹.

CDM PoA makes it easier for project developers to create smaller projects in dispersed locations and facilities, to scale up the amount of emission reductions while simplifying the CDM-related work load. . An unlimited number of activities can be registered under one PoA which helps in reducing transaction costs. CDM PoA provides an opportunity to PICs to overcome the barriers of low economies of scale & high transaction costs to the volume of CERs.

A Programme of Activities (PoA) provides the organizational and methodological framework for component project activities (CPAs) with the same stated goal to operate within a single registered CDM programme activity

Multi Country PoA

The physical boundary of a registered PoA can be extended to more than one country provided that each participating non-annex I Host Party provides confirmation that the PoA, and thereby all CPAs, assists it in achieving sustainable development (EB 32, Annex 38)².

Multiple technology/measure

It is possible to develop a PoA which implements various combinations of technologies/measures and/or approved methodologies. This will help reduce the transaction cost, especially in LDCs, as the PoA can cover a combination of technologies/measures and the PoA boundary can be expanded to more than one country.

Key Advantages of PoA

- Drastically shorter time to market for project implementers who wish to secure CER revenues since the inclusion of CPAs in a registered PoA no longer require approval from the CDM Executive Board in Bonn.
- Substantially lower transaction costs because the registration and verification processes for CPAs are streamlined.
- > Full scalability since, in contrast to a standard CDM project, a PoA does not need to define ex-ante the scale and location of each project activity. Thus, they can serve as the first step towards establishing sectoral approaches for

¹ A CPA is a project activity under a PoA. A CPA is a single, or a set of interrelated measure(s), to reduce GHG emissions or result in net anthropogenic greenhouse gas removals by sinks, applied within a designated area defined in the baseline methodology/ies. ² http://cdm.unfccc.int/EB/032/eb32 repan38.pdf

reducing GHG emissions and can be seen as the CDM tool for implementing government policies.

Opportunities to convert future carbon revenues into upfront carbon finance by reducing the risk of non-registration and shortening the lag before CDM income is realized.

3.7 Simplified CDM Rules Applicable for Pacific Island Countries (PICs)

Micro scale additionality

As per 'Guidelines for Demonstrating Additionality of Micro-scale Project Activities' (EB 68, Annex 26)³ the following projects <u>are considered additional</u> if implemented in Least Developed Countries and/or Small Island Developing States (LDCs/SIDS)

- Project activities up to five megawatts that employ renewable energy technology.
- Energy efficiency project activities that aim to achieve energy savings at a scale of no more than 20 gigawatt hours per year.
- Type III project activities that aim to achieve emission reductions at a scale of no more than 20 ktCO2e per year.

Most of the PICs are categorized as LDCs/SIDS and normally consist of activities that fall under the above categories.

No registration fees

As per the current guidelines (EB54, Annex 29)⁴

- No registration fee must be paid for proposed project activities hosted in least developed countries
- No registration fee must be paid until after the date of the first issuance of certified emissions reductions in countries with fewer than 10 registered CDM project activities. (Note that all the PICs have less than 10 registered CDM project activities)

The CDM Loan scheme⁵

A new loan scheme was launched in April 2012, which is aimed at helping to support Clean Development Mechanism (CDM) projects in least developed countries (LDCs). The CDM Loan Scheme will provide interest-free loans for CDM projects to LDCs as well as countries that have fewer than 10 registered CDM projects.

³ <u>http://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC_guid22.pdf</u>

⁴ <u>http://cdm.unfccc.int/Reference/Guidclarif/reg/reg_guid07.pdf</u>

⁵ <u>http://cdmloanscheme.org/</u>

The scheme is run jointly by the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Environment Programme (UNEP) Risø Centre and the United Nations Office for Project Services (UNOPS). The scheme aims to support the following activities:

- To cover the costs of the development of Project Design Documents (PDDs);
- To cover the costs of validation and the first verification for these project activities.

The recipients must start repaying their loan from the first year of issuance of CERs. The loan scheme is to be funded by the interest accrued on the principal of the Trust Fund of the CDM, as well as any voluntary contribution from donors.

4. CDM IN FIJI

Fiji is classified as a non-Annex I country under the United Nations Framework Convention on Climate Change (UNFCCC). The country has ratified the Kyoto Protocol in 1998. Fiji has appointed a Designated National Authority (DNA) to fulfil its obligations under the Kyoto Protocol, thereby supporting the implementation of investment projects in Fiji under the Clean Development Mechanism (CDM) that will lead to the reduction of greenhouse gases regulated by the Kyoto Protocol. The Designated Operational Authority (DNA) for approval of CDM projects is integrated under the Climate Change unit, Ministry of Foreign Affairs and International Relations. The Permanent Secretary for the ministry administers the role of DNA for the host country.

The Fiji Clean Development Mechanism (CDM) Policy Guideline has been developed and is intended to act as an aid in administering, managing, facilitating and controlling CDM Processes in Fiji. The Climate Change Unit is responsible for coordinating climate change programmes and projects in Fiji. The Unit was established in the Department of Environment in 2009. On 11 November 2011, the Climate Change Unit was moved from the Ministry of Local Government, Urban Development, Housing and Environment to the Division of Political and Treaties in the Ministry of Foreign Affairs and International Cooperation. The designated national focal point for the UNFCCC made the same move, from the Permanent Secretary of the one ministry to the other. The relocation of the Climate Change Unit was a strategic move to strengthen political and Treaties Division has overall responsibility for the unit.

In 1997, the National Climate Change Country Team (NCCCT) was established with representatives from a range of government agencies, non-governmental organisations and academic institutions. The team was established primarily to facilitate the development of the 2005 Fiji Initial National Communication (INC) to the UNFCCC Secretariat. The NCCCT was revived in 2010, and now serves as the main platform for information sharing and climate change project progress reporting. The NCCCT also provides direction and guidance to the Climate Change Unit on climate change-related matters.

In 2008, and in response to growing opportunities in the area of international carbon trading, the Cabinet approved the formation of the Carbon Trading Technical Team to advise and work closely with the Director of the Department of Environment (DoE)

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in establishing carbon trading projects as part of voluntary and compulsory carbon trading markets. The DoE has formulated the Clean Development Mechanism (CDM) policy guideline, which is a framework for the development of CDM projects in Fiji.

Similarly, with the increasing opportunities created through the current development of the Reducing Emissions from Deforestation and Forest Degradation + forest conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+) mechanism, the Department of Forestry has developed a national REDD+ policy. This sets out the framework for the development and implementation of REDD+ activities in Fiji, with the ultimate purpose of getting Fiji to a state of REDD-readiness by the end of 2012.

The National Climate Change Adaptation Strategy (NCCAS) for the land-based sector is in preparation and is expected to be finalised in February 2012. The strategy is focused on the forestry, water, and agriculture and livestock sectors, as well as terrestrial ecosystems. It will lay out an approach to identify and implement efficient and effective activities to manage the existing and anticipated consequences of climate change.

Fiji is in the process of developing a Joint National Action Plan (JNAP) for climate change adaptation (CCA) and disaster risk management (DRM). The JNAP for CCA and DRM and the NCCAS will support the implementation of the National Climate Change Policy

4.1 CDM Relevant Information

Kyoto Protocol and Ratification Status

- Ratification of the Climate Change Convention: 25 February 1993
- Ratification of the Kyoto Protocol: 17 September 1998
- Establishment of the Climate Change Unit under Ministry of Foreign Affairs and International Relations: 2011
- Establishment of DNA: 2002
- Establishment of Carbon Trading Technical Team: 2008

UNFCCC Related Works

- Fiji Initial National Communication to the UNFCCC: 18 May 2006
- Fiji Second National Communication: under preparation

4.2 Potential CDM Projects

In additional CDM capacity building through training workshops and policy advising, the CDM Component of the ACP MEAs Programme also emphasizes learning-bydoing. In Fiji, the project has supported the development of 5 PINs for regular standard alone CDM projects and 4 PINs for PoAs. The work has been carried out by local consultants and international consultants, aimed at building up local expertise in CDM project development and demonstrating the benefits of CDM through project implementation. The consultants are also working on developing 2 PDDs and Design Documents for a PoA from the following 9 PINs.

Fiji's CDM Project Opportunities at PIN stage

- Qaliwana Hyropower Project: This project aims to ensure that the people of Fiji attain affordable, stable and secure source of energy for the future economic growth and prosperity of Fiji; 18MW hydropower scheme; estimated annual emission reductions 19, 717 tCO₂e.
- 2) Methane Capture and Flaring at Naboro Landfill: This project aims to reduce methane emissions to the atmosphere through landfill gas (LFG) recovery and flaring; estimated annual emission reductions of approximately 15,000tCO₂e; project activity meets the criteria of additionality for micro scale project activity.
- **3)** Fiji Tourism Energy Efficiency Investment Project: This project aims to work with the tourism sector to identify solutions to increase energy efficiency in hotels and resorts and reduce impacts on the environment; estimated annual emission reductions of 4,847 tCO₂e; project activity meets the criteria of additionality for micro scale project activity.

PoAs at PIN stage in Fiji

- 1) Biogas Cogeneration PoA in Fiji: The proposed PoA will contribute to reduction of methane emissions from untreated household and agricultural and livestock waste; plan to install 5 to 10 new projects; the estimated annual emission reductions from the first CPA is 500 tCO_{2e}; the project additionality shall be demonstrated by carrying out barrier analysis.
- 2) Sewerage Treatment PoA in Fiji: The proposed PoA will reduce GHG emissions (methane in particular) in an economically sustainable manner. This will also result in other environment co-benefits such as improved

digested sludge quality and reduced odour; estimated annual emission reductions from the first CPA is 16,625tCO_{2e}; project activity meets the criteria of additionality for micro scale project activity.

- **3)** National Grid-connected Hydropower PoA in Fiji: The proposed PoA will contribute to reduction of CO2 emissions avoiding usage of diesel for equivalent electricity generation; the estimated annual emission reductions from the first CPA is 57, 564 tCO_{2e}; the project additionality shall be demonstrated by carrying out investment analysis.
- 4) Tropik Biomass Power Generation Project: The proposed project activity will reduce CO₂ emissions through displacement of more carbon intensive fuel based electricity generation; project installed capacity is 9.3MW; estimated annual emissions reductions of 30,000 tCO_{2e}; the project additionality shall be demonstrated by carrying out barrier analysis.
- **5) Plant Oil Power Generation for maritime communities:** To utilise the oil extracted from plentiful vegetable oil resources (mainly coconut oil and palm oil) in Fiji for electricity generation and transportation lowering the greenhouse gas emissions; estimated annual emissions reductions of 800 tCO_{2e}; project meets the criteria of additionality for micro scale project activity.
- 6) Lighting Energy Efficiency PoA in Fiji: To use energy efficient lamps (Compact Fluorescent Lamps) to replace 100,000 incandescent Lamps used in residential lighting, commercial and street lighting in Fiji; estimated annual emission reductions of 6,000 tCO_{2e}; project activity meets criteria of additionality for micro scale project activity.

4.3 Existing CDM projects

Registered CDM Projects In Fiji

- 1) Vaturu and Wainikasou Hydro Projects (UNFCCC ID 89): The Vaturu and Wainikasou projects are small-scale run-of-river hydro projects in Fiji implemented by Sustainable Energy Limited (SEL), a joint venture between the Fijian Electricity Authority (FEA) and a hydro project developer, Pacific Hydro Limited (PHL). Annual average CERs from the project activity is 57,564 tCO_{2e}/year.
- 2) Kinoya Sewerage Treatment Plant GHG Emission Reduction Project (UNFCCC ID 4552): The Project activity is being developed by Water supply & Sewerage Department (WSD) under the Ministry of Works, Transport and

Public Utilities, Government of Fiji Islands. Project activity involves introduction of methane recovery and combustion system to the existing and proposed anaerobic sludge treatment units (anaerobic digesters). Annual average CERs from the project activity is 22,471 tCO₂e/year.

Fiji CDM Projects under Validation

1) Nadarivatu Hyropower Project: Nadarivatu Hydropower Project (called hereafter "the project activity") is a 41.8MW run-of- river hydropower scheme located on Nadrau plateau in the interior of Viti Levu, the main Island of Fiji. This project will be constructed and operated by the Fiji Electricity Authority (FEA). Annual average CERs from the project activity is 51,459 tCO_{2e}/year.

4.4 Recent CDM Activities in Fiji

- The draft National Climate Change Adaptation Strategy (for land-based resources) is undergoing final consultations.
- The Fiji national climate change portal is currently under development. The development of the portal is supported by SPC/GIZ coping with the Climate Change in the Pacific Island Regional programme.
- The national climate change policy implementation plan is under discussion.
- Fiji Second National Communication report is under development and is being funded by the Global Environment Facility (GEF).
- Under the EU- funded UNEP four-year project on 'Capacity Building related to Multilateral Environmental Agreements (MEA) in African, Caribbean and Pacific (ACP) Countries' two regional CDM capacity building workshops were organised in Fiji. Under the programme 9 PINS (3 regular CDM projects and 6 PoAs) were developed. Currently, the PDD is being developed for 1 CDM project and 2 PoAs.

5. CDM INSTITUTIONAL FRAMEWORK

5.1 Institutional Setup for CDM Project Approval

Designated National Authority (DNA)

The Designated Operational Authority (DNA) for approval of CDM projects is integrated under the Climate Change unit, Ministry of Foreign Affairs and International Relations. The Permanent Secretary for the ministry administers the role of DNA for the host country. The DNA is supported by the Carbon Trading Technical Team, an inter-disciplinary team of experts from across the government, private, academia and civil society sectors.



Figure 10: Organizational Structure of the Ministry of Foreign Affairs and International Relations

The Climate Change Unit is also the DNA Secretariat and has a primary function to perform all administrative tasks surrounding the DNA, from reception of requests for LOA/LON and presentation of the matter to the Carbon Trading Technical Team (CTTT) and posting the final answer to the CDM project proponent. The unit is also responsible for coordinating climate change programmes and projects in Fiji. The Director of the Political and Treaties Division has overall responsibility for the unit.





Carbon Trading Technical Team (CTTT)

Fiji's Carbon Trading Technical Team is comprised of representatives from the Government Departments of Forestry, Fisheries, Tourism, Energy, and the Ministries of Health, Agriculture, Indigenous Affairs, as well as the Fiji Electricity Authority and representation from the University of the South Pacific and Japan International Cooperation Agency (JICA). The role and function of the Carbon Trading Team is to provide feedback on Project Idea Note (PIN) submissions to the Department of Environment. A select number are also engaged in providing feedback on PDD submissions.

5.2 CDM Project Approval Procedure

Letter of No Objection (LoN)

The Letter of No Objection is a statement by the DNA that the proposed CDM project is expected to receive a Letter of Approval once a Project Design Document (PDD) for the proposed CDM project has been developed by the project proponent and the PDD has been validated by a Designated Operational Entity (DOE).

The LoN is a non-binding statement that does not serve any operational purpose in the UNFCC CDM registration procedures. However, the LoN can be a very operational document when it comes to attracting an international buyer of the CERs, which is the main purpose of implementing the project as a CDM project.



Figure 12: Process to obtain the Letter of No-objection

LoN Approval Process

To obtain a LoN for the CDM project activity, the Project Proponent is required to submit a request to the climate change unit along with the completed PIN for the project activity. The submitted PIN is initially scrutinised by the climate change unit and forwarded to the CTTT for evaluation. In case of in complete PIN submission,

the project proponent is requested to complete and re-submit the same. Upon successful evaluation and approval of PIN by the CTTT, the climate change unit requests the DNA to sign the LoN and issues the signed LoN to the Project Proponent.

Letter of Approval (LoA)

The Letter of Approval is the host country approval of a CDM project, which is a requirement for a project that is seeking registration as a CDM project with the CDM Executive Board. The LoA is to be attached together with the PDD when the DOE submits a request for registration of the CDM project to the EB CDM. The LoA shall fulfil the requirements of the Kyoto Protocol and the rules and modalities of the CDM as they are adopted by the Parties to the Protocol.



Figure 13: Host country Letter of Approval process

Host Country Letter of Approval (LoA) Process

In case of LoA, the Project Proponent is required to submit a letter requesting issuance of LoA along with the completed Project Design Document (PDD) for the CDM project activity. Upon successful initial evaluation of the PDD by the climate change unit, the PDD is forwarded to the CTTT for a detailed evaluation as per the host country requirements. A stakeholder consultation on the CDM project activity is also conducted by the climate change unit in association with the Project Proponent. Upon successful evaluation and approval of the PDD by CTTT, the climate change unit requests the DNA to sign the LoA and issues the signed LON to the Project Proponent. In case of any modifications requested on the submitted PDD by CTTT, the climate change unit forwards the request to the Project Proponent for appropriate revisions and re-submission.

5.3 CDM Project Approval Criteria

A Sustainable Development Checklist for proposed CDM project activities in Fiji will be used by the DNA to assess proposed CDM project activities to ensure they meet Fiji's sustainable development objectives. The checklist is aligned with the Government of Fiji's Strategic Development Plan 2007-2011 SDP, and focuses on the economic, social, and environmental aspects of the Project Activity.

No.	Criteria	Assessment		
1			Environment	
	Reduction in air pollution (emissions other than GHG)	+	Reduction in air pollutant levels compared with the baseline scenario identified in the PDD	
1.1	compared with the baseline scenario identified in the	0	No significant change in air pollutant levels compared with the baseline scenario identified in the PDD	
	PDD (e.g. PM10, NOx, SO ₂)	-	Increase in air pollutant levels compared with the baseline scenario identified in the PDD	
1.2 Reduction in water pollu compared with the base scenario identified in the PDD	Reduction in water pollution compared with the baseline scenario identified in the PDD	+	Reduction in water pollutant levels compared with the baseline scenario identified in the PDD	
		0	No significant change in water pollutant levels compared with the baseline scenario identified in the PDD	
		-	Increase in water pollutant levels compared with the baseline scenario identified in the PDD	
1.3	Reduction in soil pollution compared with the baseline scenario identified in the PDD•	+	Reduction in soil pollutant levels compared with the baseline scenario identified in the PDD	
		0	No significant change in soil pollutant levels compared with the baseline scenario identified in the PDD	
		-	Increase in soil pollutant levels compared with the baseline scenario identified in the PDD	

		+	Increase in indigenous biodiversity resources at the
			ecosystem, species and/or genetic levels, for
			example:
			 Extension of habitat for endangered species
			 Multiple indigenous species activities
		0	No significant impact on indigenous biodiversity resources
			at the ecosystem, species and/or genetic levels,
			for example:
	Biodiversity conservation		 Single species activities adequately addressed with
	and protection of		corridors and buffer zones;
1.4	endangered		 Management/implementation plan in place to protect
	species		species and their habitats;
		-	Reduction in indigenous biodiversity resources at the
			ecosystem, species and/or genetic levels, for
			example:
			 Clearing or flooding of ecological habitats
			 Removal and/or impact on endangered species and/or
			their habitat
			 Removal of existing diverse species cover and
			replacement with single or dual species
4 5	Rational Use of mineral	0	Rational use of mineral resources
1.5	sources	-	Inefficient use of mineral resources
		+	Improvement of forest resources
		0	 No significant impact on forest resources
16	Sustainable use of forest		Management/implementation plan in place to mitigate the
1.0	resources		impacts
		-	Unsustainable use or depletion of forest resources
		+	Enhancement of the preservation of archaeological,
			cultural, historical or spiritual sites
	Protection of archaeological,	0	No significant impact on archaeological, cultural, historical
	cultural, historical and		or spiritual sites
1.7	spiritual	-	Adverse impact on archaeological cultural historical or
	heritage and sites		spiritual sites
	-		Adverse impact on people's access to archaeological.
			cultural, historical or spiritual sites
2			Social
		+	Increase of income generation opportunities for local
			people
2.1			 Improvement of livelihood of local people, in particular
	Concrete contribution to		the poor and the disadvantaged groups
	poverty alleviation (in the	0	No significant impact on livelihoods of local people
	project is executed)	-	• Removal of ability of local people to access resources for
	project is executed)		income generation
			Displacement of people without provision of alternatives
			for income generation
2.2		+	Promotion of gender equity, women empowerment and
			social inclusion
	Contribution to gender	0	No significant change in gender equity, women
	equality and social inclusion		empowerment and social inclusion
		-	Reduction in gender equity, discrimination against women
			and reduction in social inclusion

2.3	Stakeholder consultation (people directly affected by proposed project)	+ 0 -	 Stakeholder consultation from the beginning of the project Project designed in collaboration with stakeholders Local stakeholders support the project Participation of stakeholders in the decision making process Stakeholders were consulted and minimal impact identified No consultation of stakeholders Disregard of stakeholders only at the end of the project design with no opportunity to modify the project Local stakeholders do not support the project or are opposed to it
2.4	All groups, both men and women, have equal access to and control over the target community benefits of the project		 Support the most disadvantaged groups of the target communities to access to the community benefits of the project D Equitable access for the target communities to the community benefits of the project Inequitable access for the target communities to the community benefits of the project
	Creation of employment in the country (short term and long	+	Increase in number of jobs at national/regional or local levels
2.5	term) (how is dealt with a decrease in employment – job losses should be adequately compensated or	0	No significant change in employment compared to the baseline; no jobs are created or lost
	provision of equivalent employment and/or income opportunities) Improvement of community infrastructures & services (e.g.	-	 All jobs identified in the baseline are eliminated; Job losses
		+	Provision of community infrastructures (wells, roads, schools, public health etc.)
2.6		0	No significant impact on community infrastructures
	Nuisance and risks for the people in the vicinity the project area (e.g. major accident	-	schools, public health etc.)
		+	Reduction in the risks and nuisance for people in the vicinity of the project area compared with the baseline scenario identified in the PDD
2.7		0	No significant change in the levels of nuisance and risks for the people in the vicinity of the project area compared with the baseline scenario identified in the PDD
	risks, noise, dust)	-	Increases in nuisance and risk levels for the people in the
			baseline scenario identified in the PDD
3		1	Economic
3.1	Share of project budget spent in-country		 + Significant proportion of total budget spent in country on Fiji economy 0 Reasonable proportion of total budget spent in country on Fiji economy - Minimal total budget spent in country on Fiji economy
3.2	Reduced dependence on (imported) fossil fuels (energy	+	 Reduction of dependence on fossil fuels Increased use of renewable and/or clean energy resources

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	projects only)		No significant impact on dependence on fossil fuels	
			Increased dependence on fossil fuels	
3.3	Reduced dependence on (imported) energy (energy projects only)	+	Reduction of dependence on imported energy	
		0	No significant impact on dependence on imported energy	
		-	Increased dependence on imported energy	
4	Transfer of Technology and Knowledge			
4.1	Transfer of appropriate and best available technology (BAT)	+ 0 -	 Best available technology in advanced industrial economies Best available technology and technology well proven Best available technology and technology can easily be maintained locally Best available technology and technology appropriate for local economic and social conditions Standard technology used Inappropriate technology, not adapted to local needs and capacity Equipment and skills for maintenance not available in Fiji Technology not proven, using Fiji as a testing ground Technology would not be allowed in investors' countries 	
4.2	Capacity building of local stakeholders and industries/businesses (training programmes for local stakeholders)	 Transfer of skills for use and maintenance of technology/equipment Use of local companies to install and maintain equipment Training of local technicians in areas of expertise not available in Fiji Training of local technicians in areas of expertise already available in Fiji No transfer of skills for use and maintenance of technology/equipment No transfer of skills for use and maintenance of technology/equipment No use of local companies to install and maintain equipment Reliance on international experts to install/maintain equipment 		

6. CDM RELATED REGULATORY INFORMATION

6.1 Foreign Investment Access

All foreign investments are required to obtain a Foreign Investment Registration Certificate from the Fiji Islands Trade and Investment Bureau (FTIB) prior to establishing a business in Fiji. A foreign investment is defined as an investment with any level of shareholding or ownership held by a foreign citizen. The Foreign Investment Act 1999 and Foreign Investment (Amendment) Act 2004 and the Foreign Investment Regulation 2009, govern the facilitation, registration and regulation of foreign investment in the Fiji Islands.

The foreign investment legislation provides a simple, transparent and nondiscretionary system to facilitate the entry of all foreign investment into the Fiji Islands. The FTIB administers the Foreign Investment Act. Foreign investors apply using a prescribed form to register with the FTIB. The FTIB registers foreign investors in compliance with the legislation i.e. on the basis of the reserved and restricted lists. Decisions are made within five days of lodging a complete application, to enable them to commence the process of business establishment.

6.2 Guarantees

Fiji's foreign investment legislation provides a series of guarantees to foreign investors, including guarantees concerning:

- Protection regarding the compulsory acquisition of property.
- > The right to repatriate or remit funds.
- > The right of recourse to Fiji's justice system to settle investment disputes.
- Application of the principles of Convention on the Settlement of Investment Disputes between States and nationals of other States, to which the Fiji Islands is party.
- > Non-discrimination among foreign investors on the grounds of nationality.

6.3 Competitive Taxation for Investors

Fiji offers a highly competitive taxation package, with attractive taxation rules for private investors.

The following are core elements of Fiji's competitive taxation regime:

- > Corporate and income tax of 29%; and is scheduled for further reduction to 28% under a Government policy initiative;
- > Tax holidays for a period of 13 years for NEW investments in the tax free regions
- > Exemptions of custom duty on equipments
- Export Income Deduction of 50%
- Investment Allowances
- Industry specific incentives (tourism, ICT, mining, audio visual, ship building, fishing, agriculture, bio fuel production, and the bus industry)
- \blacktriangleright Dividend exemption scheme corporate dividends are taxed only once, avoiding the duplication involved with taxing both corporate profits and shareholder incomes
- ➤ Generous loss-carried forward a generous eight-year period is offered for business loss carried forward.
- > Double taxation agreements Fiji has concluded double taxation agreements with major trading partners, including Australia, Japan, Malaysia, New Zealand, Papua New Guinea, the Republic of Korea and the United Kingdom. Double tax agreements with Australia, Japan, New Zealand and the United Kingdom contain specific guarantees that tax incentives and concessions granted by the Fiji Islands will not be subject to the other party's taxation.

All investors are required to lodge an application for a tax identification number to the Chief Executive Officer, Fiji Island Revenue and Customs Authority. This provides the basis for investors to pay taxes on their business earnings, pay as you earn (PAYE) tax on behalf of their employees, and value added tax (VAT) on the products and services it sells in the country.

6.4 Financing Investment

The Fiji government encourages a competitive domestic financial market. Local investors are freely able to seek finance for their investments from domestic financial institutions, ranging from fully commercial banking institutions to concessionary development financiers.

Foreign investors (companies) are allowed to borrow \$3 for every \$1 invested in Fiji and up to a total of F\$10m from local lending institutions without the approval of the Reserve Bank of Fiji. Foreign investors wishing to borrow more than this delegated limit must apply to the Reserve Bank of Fiji through their designated lending institution. Individual foreign investors may also borrow locally up to F\$0.5m without the approval of the Reserve Bank of Fiji.

6.5 Entitlement to Work Permits

The Department of Immigration administers the Immigration Act, and its officers will provide investors with any information they require on its legislative provisions. All applications for work permits should be made to the Department of Immigration, in accordance with the forms and procedures specified therein. In addition, the Department of Immigration has within it a special unit that specifically handles the processing of all investment related work permits.

All investors, local and foreign, may apply to the Department of Immigration for work permits to employ expatriate skilled technical personnel. In accordance with the provisions of the Immigration Act, work permits for up to a maximum of three years may be granted at any one time to expatriates, whose skills are unavailable in the domestic labour market. Investors are expected to develop and implement plans to train locals to understudy expatriate employees.

The government, therefore, welcomes local and foreign private investors equally. The government is also strongly committed to stimulating and facilitating all private investment, whether from local or foreign sources.

6.6 Land Rights

Land ownership and usage is a highly complex and sensitive issue in Fiji society. In late December 2006, the post-coup interim government imposed a temporary ban on all land sales after receiving reports of alleged irregularities in the development and sale of land to foreigners but the ban was lifted in 2007.

Land in Fiji falls into three categories: iTaukei land, Crown land, and Freehold land. iTaukei Land (formerly known as native land) refers to the 87.75% of the land held by indigenous Fijians under communal tenure relationships. This land, which is reserved for the special use of its owners, may not be sold, only leased. The iTaukei Lands Trust Board (TLTB) is the statutory body responsible for managing native land, including leases. In its post-coup anti-corruption drive, the interim government dismissed several TLTB officials and undertook a major investigation of the board's past practices. As part of its plans to reform the TLTB and the regulation of land usage, the government established in 2011 a "land bank" within the Ministry of Lands and Mineral Resources.

Crown Land refers to the 3.95% of the land in Fiji owned by the government. Like TLTB land, Government (Crown) land may not be sold. The availability of crown land for leasing is usually advertised. This does not, however, preclude consideration being given to individual applications in cases where land is required for special purposes.

Freehold, private land accounts for 8.06% of total land area. Investors may lease land, though each lease category has different conditions and terms. Leases may be sold, transferred and amended, but such dealings are subject to the consent of the TLTB and Lands Department. Government leases for industrial purposes can be up to 99 years with rents reassessed every 10 years. TLTB leases for land nearer to urban locations are normally for 50-75 years. Annual rent is reassessed every 5 years. The maximum rent that can be levied in both cases is 6% of unimproved capital value. Leases also usually carry development conditions that require lesses to effect improvements within a specified time. Thirty TLTB officials were dismissed by the coup government in 2007 for mismanagement/corruption.

Apart from the requirements of the TLTB and Lands Department, town planning, conservation and other requirements specified by central and local government authorities affect the use of land. Investors are urged to seek local legal advice in all transactions involving land.

6.7 Electricity Act

This Act establishes the Fiji Electricity Authority as a corporate body responsible for energy⁶ supply in Fiji whose general functions include the promotion and encouragement of energy generation in Fiji with a view to the economic development of Fiji, to secure the supply of energy at reasonable prices and to advise the Energy Minister on all matters relating to the generation, transmission, distribution and use of energy.

NB: Electricity Regulations made under the Act provide for standard systems and voltages for the supply of electricity and for the licensing of electrical contractors.

6.8 Environment Management Act 2005

The Fijian Government in 2005 passed the Environment Management Act. The Department of Environment, within the Ministry of Tourism, Labour and the Environment, is responsible for implementing the Act and the Environmental Approvals process. The Act provides a new framework for national coordination and planning in relation to environmental matters, and grants broad new powers to government agencies to control environmentally harmful activities.

Environmental Approval is required from the Department for any development proposal that meets criteria under Schedule 2, Part 1 of the Act. An Environmental Impact Assessment (EIA) must be prepared by the developer and lodged with the Department for Approval. A Terms of Reference (TOR) that outlines the scope of the

⁶ 'Energy' is defined under the Act to mean 'electrical energy when generated, transmitted, supplied or used for any purpose except the transmission of any communication or signal.

works for the EIA is first prepared and lodged with the Department. Once the TOR is approved, the EIA report must be prepared in accordance with the TOR.

Furthermore, the Act provides a powerful mechanism for promoting and supporting the objectives of key national strategies and policies, including the National Sustainable Development Strategy, National Environment Strategy, Fiji Biodiversity Strategy and Action Plan, National Forest Policy Statement and the Rural Land Use Policy. Effective implementation of the Act requires the involvement of a wide range of stakeholders including government agencies, legal practitioners, environmental consultants, commercial and industrial facilities, non-government organizations, communities and the public at large.

In light of this, the Department of Environment has initiated a training, education and awareness program for government agencies, commercial and industrial facilities and other relevant stakeholders. The Department has promoted the new laws through the media, prepared guidelines, fact sheets, brochures and other information resources, and delivered training to a growing range of stakeholders.

6.9 Public Enterprise Act (1996)

The Public Enterprise Act's focus is on the efficiency and accountability of a Government Commercial Company (GCC). Under s43(1), FEA as a GCC will have the principal objective of operating "as a successful business and to be as profitable and efficient as comparable businesses which are not owned by the State". s43(2) requires that this objective "is to be achieved through the application of the key principles of public enterprise reform", with the key principles, as listed in Schedule 1, including the principle that "the role of Ministers in relation to [FEA] will be clearly defined."

6.10 Commerce Act

The Commerce Act complements the Public Enterprise Act in that it empowers the Commerce Commission to control FEA's prices but does not explicitly authorise it to look at efficiency and planning (though this may be a factor in the choice of pricing model it uses).

The Commission is established under s11 of the Commerce Act which specifically limits the Minister's influence over the Commission to certain prescribed powers. The provision states: "Except as provided by this Act, the Commission is not subject to the control or direction of the Minister or any other referring authority in the performance of its functions."

Sector	Legislation, Policies, Plans and Programmes
	• Disaster Risk Management Strategy for the agriculture Sector, 2010.
Agriculture	• The national climate change adaptation strategy under
Agriculture	development will contain sector specific strategies and
	actions to allow adaptation of the agricultural sector to
	climate change.
	Public Health Act (Cap.111) 2002
	 Fiji Food and Nutrition Policy, 2008
Health	• The ministry of Health is working with the World Health
	Organization to address climate change impacts on public health.
	 Environment Management Act, 2005
	 Endangered and Protected Species Act, 2002
	 Endangered and Protected Species Regulations,2003
	 National Biodiversity Strategy and Action Plan,2007
	National Biodiversity Strategy and Action Plan
Biodiversity	Implementation Framework, 2010-2014
/Environment	• The national climate change adaptation strategy under
	development will contain sector specific strategies and
	action to address climate change impacts on terrestrial
	biodiversity.
	Induoral Environment Strategy, 1993
	Republic of Fiji, 2011
	Fisheries Act,1988
Marine and	 Fisheries Act (Amendment) Decree,1991
Fisheries	The integrated Coastal Management plan currently under
	development may address the impacts of climate change
	on water catchments and coastal environments.
	• Forest Act, 1979
	• Forest Decree, 1992
Forestrv	Fiji Forest Policy Statement, 2007
,, ,	Fiji REDD- Plus Policy, 2011
	• A Mangrove Management Plan for Fiji, Phase1 -1985 and
	Phase2- 1987
	Dratt National Resources and Sanitation Policy, 2011
Water Resources	Rural Water Policy (dratt), 2011 (provision of sustainable
	rural water policies)
	 Dratt Climate Change Adaptation Strategy, 2011

Table 4: Sector	Specific: Key	v acts and	policies in Fii	i
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	٠	Native Lands (Ed.1978)
	•	Native Lands (Amendment) Act, 2002
	•	Native Land Trust (revised edition, 1985)
	٠	Native Land Trust (Amendment) Decree, 1988
	٠	Native Land Trust (Amendment) Decree, 2000
	٠	Native Land Trust (Amendment) Act, 2002
Land	٠	Irrigation (revised edition, 1985)
Management	٠	Land Conservation and Improvement (revised edition
		1985)
	•	Land Development Act (revised edition, 1985)
	٠	National Action Plan under the UNCCD (NAP), 2007
	٠	Rural Land Use Policy (2 nd edition), 2006
	٠	National Integrated Coastal Management(ICM)
		Framework, 2011
Disastar	•	Natural Disaster Management Act, 1998
Management	٠	Disaster Risk Reduction and Disaster Management: A
managomont		framework for action 2005-2015
Energy	٠	Fiji National Energy Policy, 2006

6.11 Fiji Climate Change Policy

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Name	Republic of Fiji National Climate Change Policy			
Objective	 To support the implementation of Fiji's Roadmap for democracy and sustainable socio economic development 2009-2014 under the People's charter for change, peace and progress. To promote integration of climate change issues in national planning, budgeting and implementation process. To provide guidance on government's responses to climate change issues. To guide sectors to develop climate change adaptation and mitigation strategies. To support requests to regional and international agencies to provide resources and assistance in addressing national climate change issues. To contribute to pacific regional actions and to meet international commitments. 			
	Integrate climate change issues in all national and sector policy and planning process			
Scope	 Collect, manage and use accurate and scientifically sound climate change - related data and information 			

- Increase awareness and understanding of climate change related issues across all sectors and at all levels in Fiji.
- Integrate climate change in school curricula, tertiary courses, and vocational, non-formal and educational training programmes.
- Reduce the vulnerability and enhance the resilience of Fiji communities to the impacts of climate change and disaster.
- Reduce Fiji's greenhouse gas emissions and implement initiatives to increase the sequestration and storage of greenhouse gases.
- Ensure sustainable financing for climate change efforts.
- Effectively participate in and contribute to Pacific and International climate change negotiations, discussions, commitments and outcomes.

Appendix 1: Key Contacts

Mrs. Saipora W. Mataikabara

CDM DNA (Designated National Authority) of Fiji

Climate Change Unit, Division of Political and Treaties Ministry of Foreign Affairs and International Cooperation Address: Level1 South Wing, BLV Complex, 87 Queen Elizabeth Drive, Nasese, Suva, Fiji. Website: http://www.foreignaffairs.gov.fj Email: saipora.mataikabara@govnet.gov.fj

Mr. Hasmukh Patel

Chief Executive Officer Fiji Electricity Authority Address: 2 Marlow Street, Suva, Fiji Telephone/Fax: +679 331333/+679 3313064

Mr. Peceli Nakavulevu

Director Department of Energy Telephone/Fax: +679 3389741/+679 3386301 Email Address : PNakavulevu@fdoe.gov.fj

Mr. Jope Davetanivalu

Director Department of Environment Address: PO Box 2109, Government Buildings, SUVA, Fiji. Telephone/Fax: +6793311 699/+679 3312

Mr. Sereicocoko Yanuyanurua

Director Water Authority of Fiji Address: Corner of Wainivula Road, Level 3, Manohan Complex, Suva, Fiji Telephone/Fax: +679 9905992/+679 3343284 Email Address: syanu@fijiwater.gov.fj

Mr. Manasa Katonivua

National Project Coordinator-CDM, Climate Change Unit Division of Political and Treaties Ministry of Foreign Affairs and International Cooperation Address: Level1 South Wing, BLV Complex, 87 Queen Elizabeth Drive, Nasese, Suva, Fiji. Email: manasa.katonivualiku@govnet.gov.fij

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- Fiji Country Report on Waste Management
- Fiji Environment Management Act (2005), Ministry of Local Government, Urban Development, Housing and Environment, Government of Republic of Fiji
- Fiji National Energy Policy (2006), Department of Energy (DOE), Ministry of Public Utilities, Government of the Republic of Fiji
- Fiji National Adaptation Programme of Action (NAPA) (2006), Government of Republic of Fiji
- Roadmap for Democracy and Sustainable Socio-Economic Development 2010-2014 Ministry of National Planning (2009)
- Fiji Government Online Portal- www.fiji.gov.fj
- Department of Civil Aviation www.civilaviation.gov.fj
- Department of Energy & Rural Electrification www.fdoe.gov.fj
- Department of Lands and Survey www.lands.gov.fj

Department of Bureau of Statistics - www.statsfiji.gov.fj

Information, Technology and Computing Services - www.itc.gov.fj

Meteorology Department - www.met.gov.fj

Mineral Resources Department: www.mrd.gov.fj



Photo: Naboro Landfill outside Suva, Fiji. Also site of a potential CDM project for Landfill Gas Capture and Flaring

More information about the CDM Component of the ACP MEA Programme:

http//:acp-cd4cdm.org

