



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project

THE GEF TRUST FUND

Submission Date: June 11, 2010

PART I: PROJECT IDENTIFICATION

GEF PROJECT ID¹: PROJECT DURATION: 60 months

GEF AGENCY PROJECT ID:

COUNTRY(IES): Vanuatu

PROJECT TITLE: Geothermal Power and Electricity Sector Development Project

GEF AGENCY(IES): World Bank

OTHER EXECUTING PARTNER(S): MINISTRY LANDS AND ENERGY, GOVERNMENT OF VANUATU

GEF FOCAL AREA (S)²: Climate Change

GEF-4 STRATEGIC PROGRAM(S): (see preparation guidelines section on exactly what to write) Strategic Objective 7; OP-6

NAME OF PARENT PROGRAM/UMBRELLA PROJECT (if applicable): GPAS REGIONAL PROGRAM

INDICATIVE CALENDAR*	
Milestones	Expected Dates mm/dd/yyyy
Work Program (for FSP)	
CEO Endorsement/Approval	June 2011
Agency Approval Date	July 2011
Implementation Start	Sept 2011
Mid-term Evaluation (if planned)	
Project Closing Date	Sept 2016

* See guidelines for definition of milestones.

A. PROJECT FRAMEWORK

Project Objective:

The overall development objective of the WB-supported Vanuatu Geothermal Power and Electricity Sector Development Program is to support overall planning and initial implementation of an Energy Sector Roadmap for a least-cost program of grid and off-grid access expansion, taking into account energy security risks related to high dependence on imported petroleum for power generation. Specifically the priorities are scaling up electricity access and lowering the costs of electricity supply by increasing the penetration of sustainable electricity supply from renewable energy.

The Global Environmental Objective of the GEF-financed component is to support development of the enabling framework and project preparation activities, essential to advance systematically the Government's initiatives in the two areas of focus above.

Project Components	Indicate whether Investment, TA, or STA ^b	Expected Outcomes	Expected Outputs	Indicative GEF Financing ^a		Indicative Co-Financing ^a		Total (\$) c = a + b
				(\$) ^a	%	(\$) ^b	%	
1.Efate and Santo Island Grid Development - Development of a public-private partnership framework to guide power sector investments, in particular, in renewable energy, such as the Efate Geothermal Project; - Preparation of the Efate geothermal	TA	Guidelines for the "main grid" institutional framework Expert advice & analysis on	report reports, briefs	600,000	48	640,000	52	1,240,000

¹ Project ID number will be assigned by GEFSEC.

² Select only those focal areas from which GEF financing is requested.

power project and island grid network development project through financial close.* - 20-year plan for grid development maximizing increased efficiency and grid-connected RE to the extent economically feasible. - Santo Island Luganville area 20-year grid development plan maximizing increased efficiency and grid-connected RE to the extent economically		technical, financial & other aspects of project design and documentation Least cost investment implementation plan to anchor generation and network expansion on the two main grid systems						
2. Vanuatu electricity access roadmap , bringing together grid and non-grid plans** into an overall electrification access plan for Vanuatu, mainstreaming renewable energy and energy efficiency.	TA	GOV-led implementation strategy & indicative investment plan – main & other grids, and non-grid – to anchor & align & harmonize Donor engagement	Document consolidating relevant inputs from key relevant ongoing initiatives	120,000	44	150,000	56	270,000
3. Supporting investment for preparatory and complimentary activities to maximize the benefits of the Efate geothermal power plant	Investment	Network facilities, and new customer connections	poles, wires, transformers, billing and revenue collection technology and systems installed	0	0	7,000,000	100	7,000,000
4. IPP Geothermal power plant approximately 4MW***	Investment	About 440,000tCO ₂ /yr avoided over 25 year plant life	Signed PPA / concession agreement with the IPP.	109,091	1	20,000,000	99	20,109,091
5. Project management				80,000	16	420,000	84	500,000
Total project costs				909,091	3	28,210,000	97	29,119,091

* Assessment of geothermal for Efate island-wide development will be funded outside this project and will begin shortly. TA to be financed under Component 1 will be defined in this study. The study will also identify activities needed for the GoV to ensure that the benefits to project stakeholders are maximized under Component 3.

** Studies and programs funded outside this project, but to be incorporated into the Vanuatu Electricity Access Roadmap, are described in section A. The cost of these parallel efforts is not included in the overall project cost.

*** Project cost to be firmed up during preparation.

B. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE and by NAME (in parenthesis) if available, (\$)

Sources of Co-financing	Type of Co-financing	Project
Project Government Contribution	In kind	60,000
GEF Agency(ies)	IDA, GPOBA	3,500,000
Bilateral Aid Agency(ies)	AusAID/PRIF grant	4,500,000
Multilateral Agency(ies)		
Private Sector	IPP developer	20,000,000
NGO		
Others	TBD	150,000
Total Co-financing		28,210,000

C. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	Previous Project Preparation Amount (a) ³	Project (b)	Total c = a + b	Agency Fee
GEF financing		909,091	909,091	90,909
Co-financing		28,210,000	28,210,000	
Total		29,119,091	29,119,091	90,909

D. GEF RESOURCES REQUESTED BY AGENCY (IES), FOCAL AREA(S) AND COUNTRY(IES)¹

GEF Agency	Focal Area	Country Name/ Global	(in \$)		
			Project (a)	Agency Fee (b) ²	Total c=a+b
Total GEF Resources					

¹ No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

² Relates to the project and any previous project preparation funding that have been provided and for which no Agency fee has been requested from Trustee.

PART II: PROJECT JUSTIFICATION

A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:

Country context - The Republic of Vanuatu is an archipelago of 82 volcanic islands. It covers a total area of about 12,200 square km - of which about a third is land, the rest ocean - stretching longitudinally about 1,300 km north to south between 13° and 21° South Latitude and 166° and 171° East Longitude in the Pacific Ocean, Western Melanesia. Vanuatu has been a democratic republic since gaining independence from the United Kingdom and France in 1980, having previously been administered jointly by these two countries.

Vanuatu's population - preliminary statistics from the 2009 Census – is approximately 243,000; and distributed about equally between Vanuatu's five administrative provinces. The population, in addition to the indigenous "ni-Vanuatu", also comprises significant numbers of Australian, New Zealand French and Chinese nationals and is growing at 2.9%.

The national household count stands at an estimated 46,000 households, of which about 10,000 are located in urban areas and the remainder 35,000 households (76%) are dispersed in rural areas. While the population is spread over the 65 inhabited islands, nearly 70% of the inhabitants are concentrated on four islands; Efate (just under 30%) Esopiritu du Santo the largest island in area (17%), Tanna (12%), Malekula (10%). The national capital city alone - Port Vila on Efate island - accounts for approximately 14% of the national population.

Economy - In recent years, Vanuatu has become one of the fastest growing economies in the Pacific

³ Include project preparation funds that were previously approved but exclude PPGs that are awaiting for approval.

region. The economy experienced strong and sustained growth driven largely by tourism, construction, and aid inflows. Vanuatu's economy (real GDP) grew by 6.8 per cent in 2007 and 6.6 per cent in 2008, and 4% in 2009; an unprecedented performance of seven consecutive years of growth. The per capita GDP is estimated recently as US\$ 2, 930 at current prices (US\$ 4,800 at PPP).

Government's drive to improve infrastructure access and lower the cost of business in Vanuatu- Among the government's top priorities is to promote inclusive, sustainable growth through the development of its nascent private sector. Although still small, Vanuatu's private sector has the potential to grow strongly if constraints to doing business are removed. In this context, two recent developments in road infrastructure improvement and extension are significant; completion of a circle road around Efate island, and on Santo island in the Luganville area a road along the coast linking Luganville to Port Orly. This increased accessibility to markets made possible by these new roads will help stimulate private business and investors as well as locals to engage in agriculture and tourism over the near thru medium term. The Government is keen to facilitate expansion of main grid electricity service along the newly opened road corridors as well, while aggressively seeking to promote low cost renewable energy base load electricity generation, such as from geothermal and hydro resources where feasible.

Energy sector context - An estimated 27% of the Vanuatu population has access to electricity. Access rates in the main urban centers - Port Vila and Luganville - are about 75%, dropping off considerably in rural areas with much smaller loads per customer and a far lower population settlement pattern density. Not surprisingly, electricity supply provision falls into three broad types of service delivery models and options: (a) independent "main grid systems" in the two largest urban concentration areas of Port Vila and Luganville; (b) isolated "mini-grids" in lesser population concentrations but where a grid supply system is still a technically and economically competitive option; (c) decentralized energy service systems, further differentiated between two distinct delivery models – (i) affordable cash and carry portable solar lighting products delivered by private vendors, that also have a built in feature for charging cell phones and some can power a small radio, (ii) the more elaborate solar home and community sized systems that require more specialized service delivery chains and after sales service model framework and pricing regime.

Grid concessions to private sector - UNELCO, a subsidiary of the Suez Energy Group, has the sole right to generate and distribute electricity within the four mainly urban concession areas, Port Vila, Luganville, and parts of the islands of Malekula and Tanna. In Port Vila, the concession is in force until 2031 and provides for exclusive rights to generate and supply electricity within a 15 km radius of the city boundaries. The power supply concession in Luganville expired on December 31 2010. The Government is in the process of re-tendering the Luganville Concession by means of a transparent, competitive international tender process to select and appoint the Concessionaire for the next term.

The *Ministry of Lands, Geology and Mines*, through its Energy Unit is responsible for establishing policies and plans with primary focus on the non-concession areas. Outside of areas served by UNELCO, the Energy Unit is responsible for rural electrification which is primarily renewable energy based and financed through the Sarakata Special Reserve Fund (SSRF) and through donor grants. In particular there are several community and government-operated micro-grids. However, staffing and capacity building are a key issue for the Energy Unit, particularly for management of rural electrification expansion under the National Power Access Program that focuses on access scale up outside of the four private concession areas.

Efate main grid system- UNELCo's Port Vila concession serves about 9,000 consumers. The system has an installed capacity of about 23.5 MW (20.4MW diesel) and a peak load of about 11 MW. Generation is predominantly diesel (over 14 million liters of diesel fuel consumption annually), and is currently being blended with approximately 10% coconut oil (CNO). UNELCO currently has 3MW installed wind capacity.

Due to grid integration issues, no further wind generation capacity can be considered at the current load.

Luganville main grid system - electricity supply, transmission and generation for the town of Luganville, on the island of Espiritu Santo (Santo), is currently provided by UNELCO, a private company, under a 20 year concession contract that ended December 31, 2010. There are around 2,200 customers for the Concession, of which around 1,400 are residential users. Of the total generation capacity of 3.5MW, 1.2MW is provided by the Sarakata Hydroelectricity Plant on the Sarakata River - which is managed by UNELCO under a concession addendum - the remainder by diesel units located within Luganville.

High electricity tariffs – Electricity retail tariff levels are high in the concession areas, in part on account of high imported costs of diesel fuel. A uniform national tariff policy is in effect across the four concessions of UNELCO, and the average revenue excluding fixed charges and other fees has been in excess of 50 c/kwh. The high cost electricity supply is imposing an unduly high expenditure burden on poorer household budgets and results in real hardship (very limited lighting, refrigeration, water pumping), inadequate health facilities (very limited electrical health equipment and vaccine refrigeration), disadvantaged learning environment (very limited evening classes and computers), poor communications (very limited radio and internet), and fewer economic activities (very limited cool rooms and electrical equipment). These tariff levels contribute as well to unduly increasing the cost of doing business for the private sector.

Utilities Regulatory Agency (URA) - An earlier World Bank sector study – funded by PPIAF – concluded that quality of electricity service was superior to other Pacific Island Countries (PICs) in the concession areas serviced by UNELCO, but also that electricity tariffs were among the highest in the region. In 2006, the Vanuatu Government took the formal decision to establish an independent Utilities Regulatory Agency (URA). In November 2007, the URA legislation providing for the establishment of a regulator for water and electricity services in Vanuatu was passed by Parliament and gazetted in February 2008. The objectives of the URA as defined in its legislation are as follows: (a) ensure the provision of safe, reliable and affordable regulated services; (b) maximize the provision of regulated services throughout Vanuatu. Its mandate is to monitor the four electricity concession contracts; renegotiate tariffs under the rules of the existing contracts, managing consumer complaints, and advising the Government of related issues. The URA provides technical support and expert advice to the government, and in particular its Energy Unit in matters such as: (a) periodic tariffs review to address the issue of high electricity tariffs in the concession area; (b) the re-tender of the Luganville electricity concession and the preparation of a transparent and competitive international bid process in 2010, together with the transaction advisor engaged by the Ministry of Lands, Mines and Geology, to assist with the preparation and execution of the tender; (c) expansion of access to electricity within and outside the concession areas. This component is jointly supported from the URA trust fund and the GfG and includes several steps toward the development of the National Electrification Strategy. Most recently in May 2010, URA published the Final decision of its Vanuatu Electricity Tariff Review, following a 12 month public process of information gathering, analysis, and submissions from all key stakeholders. This represents the first independent full review of electricity tariffs of the local monopoly utility in more than 70 years.

Geothermal energy resource on Efate –Vanuatu does not have indigenous sources of fossil fuels, and the importation of diesel for power generation has a high cost to the economy. However, there are significant indigenous resources which are being increasingly utilized. There are a number of potential geothermal sites which have been identified; the most promising of which is the prospect on Efate Island on the north side. A private sector company is in the initial stages of developing a geothermal-based IPP. MT scans have been completed and indicate a potentially attractive resource. The company is in the process of raising financing for the drilling of the initial holes for resource confirmation and delineation. It is anticipated that the power plant would be largely commercially-financed as an IPP, on the basis of a power off-take agreement with UNELCO.

The GoV is keen for this to move forward as quickly as possible, and has drawn attention to several key issues

in its dialogue with the Bank energy team, and that need to be urgently addressed. The Government wants to ensure that power purchase price that UNELCO pays as the off-taker is reasonable; as savings from the from the considerably lower cost geothermal electricity generation (compared to diesel) should be largely passed on, to UNELCO's customers via the retail tariffs that are subject to URA review.

Further, the Government recognizes that how the project is structured could impact the overall benefits of the project for Vanuatu. Specifically, geothermal resource development for base load power generation coupled with electricity grid development along the circle road potentially offers a “game changer” opportunity for the energy sector on Efate, provided the framework for implementing development and financing the power plant and network is effectively structured. Several barriers need to be addressed in order for the geothermal resource be effectively and efficiently developed and in a timely manner. Key barriers include designing and orchestrating effectively a public-private partnership framework that ensures timely development and at least cost, while ‘crowding in’ private financing for the bulk of the resource development costs and investment requirements for the power generation plant. Related investment needs include transmission, distribution and connection costs to maximize the access expansion aspect of the geothermal development, and could potentially include costs associated with resettlement compensation.

Financing discussions are at an early stage. While it is possible that the project will be financed completely from commercial or semi-commercial sources, prima facie the case for GOV equity contributions is strong; both, in the upstream resource confirmation phase and in the following power station and network implementation phase, the latter especially in regards to the sizeable complementary investment needed on the network development side and final consumer connections. This argues for designing an effective PPP framework. The GOV is very interested in World Bank facilitated TA to assist them to quickly address these critical issues. The GOV is also interested in development partner support, including from World Bank, to assist in finance their contribution to the project development in a manner that is in the best national interest.

Fragmented Donor Delivery – There are many donor funded projects and activities in the energy sector of Vanuatu. While some efforts at donor coordination are starting (more below), there remains substantial potential for more effective harmonisation and alignment of the various programs and their respective activities.

Key sector issues

The Government planning document *Planning Long, Acting Short, The Government Policy Priorities for 2009-12*, defines energy sector priorities. The main *objectives* for the sector are to (a) ensure that power is more widely available at a fair price, and (b) explore/expand and invest in renewable energy sources. The first objective relates to access and affordability. The second relates to the goal of improving energy security through diversifying sources of power generation and in particular developing domestic resources to the extent economically feasible.

In the context of the Government priorities, the key pressing issues for the power sector include: (i) development of on-grid renewable energy supply, particularly for base load (as opposed to intermittent) supply; as a strategy to reduce dependence on imported petroleum and hence reduce the exposure of electricity consumers to future oil price rise as well as lowering the cost of electricity to consumers. A critical hurdle in further progress for geothermal power generation is financing for the drilling operation; (ii) Significantly increasing access to electricity through both grid and off-grid approaches. (iii) Continued support for strengthening the URA. (iv) Identifying service delivery and operation and maintenance models for off-grid rural electrification projects, that are workable and sustainable, and (v) coordination of development partner activities in the power sector.

How the Project Seeks to Address these Issues

The proposed project will directly contribute to addressing issues (i), (ii), (iv) and (v) above through technical assistance and investment to strengthen and expand the main grid networks within and outside existing concession areas on Efate island and Luganville main grid concession areas, with a specific focus on renewable energy and energy efficiency. The project will develop a sector framework conducive to effective and efficient private sector investment in generation. The scope could also include billing and collection approaches and customer connection charge policies that support improved financial viability of the power sector.

The following project components are proposed:

Component 1: Efate and Santo Island Main Grid Development. This component will contribute to developing alternative power supplies and increasing access to electricity. The main activities will include:

- Development of a public-private partnership framework to guide power sector investments, in particular in renewable energy;
- Technical assistance to GoV in fulfilling its role in the preparation of the Efate geothermal power project and island grid network development project. The specific TA requirements will be defined during project preparation. The TA identified will be financed under this component. It will also identify activities needed to ensure that all stakeholders benefit from the project under Component 3 (below).
- Twenty-year plan for grid development on Efate Island including increased efficiency and maximizing grid-connected renewable to the extent economically feasible. This study will consider grid expansion in a least cost sustainable renewable energy generation supply to areas currently serviced by UNELCO main grid concessions.
- Santo Island Grid Development. This component will contribute to developing alternative power supplies and increasing access to electricity. The component will include a 20-year grid development plan for Santo Island-Luganville area, including increased efficiency and maximizing grid-connected RE to the extent economically feasible.

Component 2: Vanuatu Electricity Access Roadmap. This component will address issue (v) above: coordination of development partner activities in the power sector, through advancing a sector-wide programmatic approach. This programmatic approach would be anchored by a “Vanuatu Electricity Access Roadmap” whereby government, with support from and consultation with development partners, develops a core set of strategic priorities (grid and off-grid) and an overall plan (“Roadmap”) to guide the participation of development partners and the overall development of the sector. The Roadmap would build on the sector studies and on-going developments – for both grid and off-grid - supported by a range of development partners, and combine these various initiatives into an overall electricity access sector development strategy. The objectives of the Roadmap would mirror those set out in the government’s medium term plan referred to above: *Planning Long, Acting Short, The Government Policy Priorities for 2009-12*, specifically to (i) ensure that power is more widely available at a fair price, and (ii) explore/expand and invest in renewable energy sources. A key feature of this approach is that it would mainstream energy efficiency and renewable energy development throughout the Vanuatu electricity sector using the GEF resources. In addition to the studies to be financed under this project, other on-going and planned assistance that would be incorporated in the Vanuatu Electricity Access Roadmap is discussed in the Section: “On-going and Planned Major Initiatives in the Energy Sector”, below.

Component 3: Supporting investment for preparatory and complimentary activities to maximize the

benefits of the Efate geothermal power plant and related network development. As noted above, an “Assessment of Geothermal for Efate Island Development” is being funded from other sources. This study will be a key input to the appraisal of this project and will define investments needed to maximize the benefits of the project. This could include investment in transmission, distribution and connections related to the geothermal project development. To the extent that public sector financing is needed to improve the cost-effectiveness of the project through contribution to geothermal resource development, GEF resources will be used to assist the government in preparing and negotiating power purchase agreements, dealing appropriately with resettlement and compensation issues, and otherwise helping Government deal with the challenges posed by the development of the renewable energy resource base.

On-going and Planned Major Initiatives in the Energy Sector

The following complementary set of initiatives of the Government, will contribute substantially to the development of the Vanuatu Electricity Access Roadmap:

World Bank - The current engagement of the World Bank in the energy sector in Vanuatu is a close working collaboration with the AusAID Governance for Growth (GfG) program. Under the project *Establishment of the Utilities Regulatory Authority (URA)*, the Bank has been providing technical expertise, capacity building, and project supervision, leading to establishment and capacity building of the Utility Regulatory Authority (URA). Under a trust fund administered and supervised by the World Bank - US\$1.6m single-purpose trust fund financed by AusAID, through the Governance for Growth (GfG) Program - funding for the water and electricity regulation project in Vanuatu has been made available since 2007. The objective of the URA trust fund is to support the design, establishment and capacity building needs for the new regulator in Vanuatu. The Government has been funding the URA since its creation with own resources where local staff and other operating costs are concerned.

AusAID – Under its Governance for Growth (GfG) program, funding is available to assist the Government of Vanuatu, specifically the Ministry of Lands, Energy, Environment, Geology Mines and Water Resources; to develop and implement an *National Access Power Investment Program* which works towards the goal of expanding access to safe and reliable electricity for men and women across Vanuatu, *with focus on off-grid access outside the main grid concession areas.*

ADB - a technical assistance expected to be underway shortly, following recruitment of a consultant team, with *focus outside of Efate island, and in on-grid areas.* For example, this TA will pilot a grid connected PV project on the island of Tanna, situated about 200 km south of Efate. This TA complements the National Access Power Investment Program being developed under the AusAID program highlighted above; in that it will fund preparation of selected feasibility studies for small scale renewable energy generation projects that are consistent with the strategy and priorities identified under the Access Power Investment Program.

EU – UNELCO is currently exploring financing from the EU for a potential on-grid PV power plant supplying its Port Vila concession (approximately 1 to 1.5MW).

The issues to be addressed by the GEF-financed component and how the GEF MSP Project Seeks to Address these issues

The project cost and financing table at the beginning of the PIF identifies the proposed GEF financing for two of the three components of the proposed project; and the preceding text outlines the specific issues addressed by each component.

Global Environmental Benefits - The global environmental benefits will result from implementation of a low

carbon growth rural electrification strategy, supported by appropriate policies. While it is not possible to quantify the exact impact in terms of avoided carbon emissions, some scenarios can be considered. Specifically, a lower bound scenario can be defined by a 4MW baseload geothermal power plant on Efate island. Once results of a pre-feasibility study of the load potential along the newly built road circling Efate island are available, other scenarios can be readily developed. It should also be noted that this represents a lower bound in that it does not take into account the possibility of other renewable energy projects that may arise from the TA efforts underway. The estimate of GHG emissions to be avoided will be refined during final preparation.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL/REGIONAL PRIORITIES/PLANS:

The overarching policy document for the Vanuatu Government, its *Priorities Action Agenda 2006 - 2015* (which reflects Millennium Development Goal priorities) have the following objectives as it relates to the energy sector: (1) Improving lives of people in rural areas by improving service delivery, and ensuring sustainable use of natural resources; (2) Increasing equity in access to income and economic opportunity by all members of the community, (3) Extending coverage of rural electrification by most cost efficient means; and (4) Promoting use of renewable energy, especially where these can be used effectively in remote locations. The strategic priorities for the energy sector in the Government's planning document *Planning Long, Acting Short, The Government Policy Priorities for 2009-12* include to (1) ensure that power is more widely available at a fair price and (2) explore/expand and invest on renewable energy sources. In 2007, the Council of Ministers endorsed the National Energy Policy Framework (NEFP), to be annually updated by the National Advisory Committee on Climate Change (NACCC). The NEFP is fully aligned with priorities as identified above.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH [GEF STRATEGIES](#) AND STRATEGIC PROGRAMS:

The proposed project is fully consistent with the GEF strategic priorities which include a shift towards a programmatic approach, leveraging resources where possible through public-private partnerships and strengthening the link between environment and development. The Climate Change Focal Area Strategy and Strategic Programming for GEF-4 emphasize support for creating conducive policy environments in preference to individual investments. Specifically, the strategy focuses on creating a market environment in which technologies and practices can diffuse into target markets, i.e. the barrier removal approach.

The proposed project comes under the "mitigation" window with the focus on transforming the market development paths of countries into trajectories with lower GHG emissions in energy. The proposed project addresses the following Strategic Objectives in the Climate Change Focal Area of Strategic Program 3: Promoting Market approaches to Renewable Energy in grid-based systems.

The overarching goal for GEF-4 is to achieve a decrease in GHG emissions through market transformation. It is explicitly recognized that this is a long process, usually with the need for follow on investments beyond the GEF support. Incorporating the GEF funding (which supports integrating grid-based renewable energy into overall sector planning and reducing barriers to market development) into the larger project which includes support for public-private partnerships in implementing the energy sector plans, means that resources will be available to implement renewable energy and energy efficiency investments as the market transformation occurs. A cornerstone of the approach is that, because renewable energy will be part of the normal sector planning process, the full range of resources to support energy sector development will be available for renewable investments. This is in contrast to an approach where renewable energy and energy efficiency are targeted separately and as a result attract funding from a more limited pool of resources specifically earmarked for environmental or climate change mitigations activities.

D. JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES:

The majority of the GEF funding will be directed to critical technical assistance and studies that will enable the development of the proposed geothermal power plant in a way that maximizes the benefits for the country, and which will mainstream further renewable energy in future sector development. The enabling actions by themselves do not generate a return, but have the potential to leverage significant resources if undertaken. Grant support from GEF resources is appropriate as a catalyst to attract and direct larger resources towards implementation of a GEF-supported policy and strategy.

E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES: Component 2 of the project is the preparation of a “Vanuatu Electricity Sector Roadmap. Section A above highlights the highly coordinated nature of major ongoing initiatives, and that will provide the key building blocks for preparation of the roadmap.

F. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING :

The absence of GEF funding would mean that many of the barriers to renewable energy-based grid and off-grid supply would not be fully addressed or attention to these issues would be delayed until an alternative source of funding was identified. In either case, the opportunity of integrating renewable energy and energy efficiency into overall energy sector roadmap and implementation plan could be lost. The value-added of the GEF funding is to facilitate integration of the major initiatives underway for reducing barriers to cost effective and sustainable grid and of-grid renewable energy supply, and increased access, into a coherent sector wide strategy and implementation plan that is results and driven and targeted rather than activity led. This will mean that grid-based renewable energy and off-grid investments will benefit from the full extent of resources available to implement energy sector development – not only limited funds ear-marked for GHG reducing initiatives.

G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED, AND IF POSSIBLE INCLUDING RISK MITIGATION MEASURES THAT WILL BE TAKEN:

A risk assessment will be explicitly included in the Assessment of the Efate Geothermal project and the grid development planning studies

H. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:

As noted in the guidance provided in the paper “Cost Effectiveness Analysis in GEF Projects” from the June 2005 GEF Council meeting, interventions under the Climate Change Focal Area which focus on barrier removal cannot generally be meaningfully measured using quantitative estimates. Instead, the cost effectiveness is demonstrated by comparing alternative approaches to achieve the agreed barrier removal goal and identifying the approaches which will most efficiently achieve the objective. GEF-supported activities will be an integral part of development of a renewable energy-based access expansion approach for GOV. In addition to assessment of the technologies and investments, the opportunities, risks and risk mitigation measures associated with different models of financing and implementing mini-grid-based renewable energy will also be considered. The resulting strategy will by definition be the most cost-effective approach to integrating renewable energy into efforts to expand access to electricity in GOV.

I. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY:

The World Bank is ideally suited to be the implementing agency for the proposed project. The Bank has a track record of facilitating development partner coordination in the energy sector in the Pacific, as part of the development of the Tonga Energy Roadmap process. Its experience in policy reform in the energy sector and specifically in the climate change focal area second to none. The Bank has been engaged in the sector in

Vanuatu since around 2005 and the GOV are keen to have Bank take the lead in the activities proposed under this project.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the [country endorsement letter\(s\)](#) or [regional endorsement letter\(s\)](#) with this template).

NAME	POSITION	MINISTRY	DATE (<i>Month, day, year</i>)
Mr. Albert Williams	GEF National Focal Point	Dept. of Environment and Conservation	June 10, 2010

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.
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Agency Coordinator, Agency name	Signature	Date (<i>Month, day, year</i>)	Project Contact Person	Telephone	Email Address
Steve Gorman, Executive GEF Coordinator, World Bank		June 11, 2010	Jiang Ru	202-473- 8677	jru@worldbank.org