



# Pacific SIDS Energy, Ecosystems and Sustainable Livelihoods Initiative: Managing the Ecosystem Implications of Energy Policies in the Pacific Island States

Phase I update: 2008 - 2011



Austrian  
Development Cooperation

## FOREWORD



The ministerial conference on achieving sustainable energy for all in small island developing states entitled “Challenges, Opportunities, Commitments” held in Bridgetown, Barbados from 7-8 May 2012 declared that *“The increasing costs of imported fossil fuels represent a major impediment to the achievement of sustainable development and poverty eradication in SIDS as scarce financial resources are diverted from efforts to promote social and economic development and ensure environmental protection. Furthermore, many remote and rural SIDS communities have little or no access to modern and affordable energy services. [They] Remain committed to work towards the continued development and implementation of policies and plans to ensure the transformation of the current fossil fuel based energy sector to a modern, affordable and efficient renewable energy sector, and urge our development partners to provide the required support to enable us to achieve this objective.”*

In the Oceania region, including New Zealand and Australia, many small islands also aspire to be self-sufficient in their energy needs. The EESLI has been a vehicle where their aspirations can become and is indeed becoming a reality. The happiness on the face of the elderly lady in Tonga or that nurse in that rural health centre in Vanuatu on the night the solar powered electricity was turned on cannot be described properly in words. Yet these are things taken for granted by most people where electricity is readily available. It is a special privilege to see how the EESLI project has “lit up” communities and impacted lives!

On behalf of IUCN Oceania Region may I take this opportunity to thank everyone who has been instrumental in bringing smiles to our Pacific people who have benefited from the project. We also acknowledge the Pacific Island Government teams and regional partners (SPC, SPREP, USP, UNDP and PPA) for their support for the project. We also acknowledge the Governments of Italy and Austria for their financial support towards the EESLI and look forward to keeping the momentum going into 2013.

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end.

**Taholo Kami**  
Regional Director  
IUCN Oceania

## EXECUTIVE SUMMARY

The Pacific SIDS Energy, Ecosystems and Sustainable Livelihoods Initiative (EESLI) was designed with the vision to accelerate the transition to energy systems that are ecologically sustainable, socially equitable and economically efficient. Thus IUCN Oceania Regional Office has been supporting the initiative “Managing the Ecosystem and Livelihood Implication of Energy Policies in the Pacific Island States” to achieve the mission through:

- (i) Feasibility studies, design and implementation of renewable energy and energy efficiency projects;
- (ii) Support for the projects including through the provision of management tools and institutional strengthening;
- (iii) Networking with Pacific SIDS and small island states globally to share lessons learned, skills and technology

This update outlines the achievements in all these areas from 2008 to 2011:

- (i) Feasibility studies, design and implementation of renewable energy and energy efficiency projects were carried out in the six core countries of the Marshall Islands, Palau, Samoa, Tonga, Tuvalu and Vanuatu, and in addition *Special Initiatives* in Fiji, Solomon Islands and Tonga;
- (ii) Management tools were provided to support projects in Vanuatu and Samoa via the development of an Environmental Management Plan for Talise Micro-Hydro Initiative in Vanuatu and a study on the potential of *Jatropha* as an Alien Invasive Species which is proposed as a feedstock for biodiesel production in Samoa. Close collaboration with the Pacific Islands Greenhouse Gas Abatement through Renewable Energy Projects (PIGGAREP) based out of Secretariat for the Pacific Regional Environmental Program (SPREP) in Samoa ensured the provision of training and institutional strengthening for Tonga and Tuvalu. Fact sheets on renewable energy systems were produced for public dissemination.
- (iii) IUCN-ORO had participated in regional and global SIDS meetings and lessons learnt from the Pacific were shared with other SIDS and gained from other SIDS experiences shared within the Pacific.

In addition to the above, we have delivered results on the ground that have included solar power systems for villages in Tonga and a large school in Tuvalu, loans for energy efficient housing in Palau, efficient street lighting in the Marshall Islands. These activities combine to inform the plans for the next phase.

IUCN ORO is grateful to the Governments of Italy and Austria for the trust that they have placed on IUCN to implement this project.

## TABLE OF CONTENTS

FOREWORD .....	1
EXECUTIVE SUMMARY .....	2
INTRODUCTION.....	4
Summary of Country Budgets to Date .....	4
WORKING IN PARTNERSHIP – From Europe to the Pacific .....	5
PALAU.....	6
SAMOA.....	8
THE Republic of the MARSHALL ISLANDS .....	10
TONGA .....	12
TUVALU .....	14
VANUATU .....	16
SPECIAL INITIATIVES.....	18
EESLI BUDGET SUMMARY .....	20
LESSONS LEARNT.....	21
CONCLUSION.....	22
BIBLIOGRAPHY .....	23
ATTACHMENT A: FULL LIST OF SPECIAL INITIATIVES .....	24

## INTRODUCTION

The Energy, Ecosystems and Sustainable Livelihoods Initiative (EESLI) and is funded by the Governments of Italy and Austria is implemented by IUCN Oceania Regional Office together with partner governments. The IUCN Oceania Regional Office (IUCN ORO) Energy Programme, located in Suva, Fiji, entitled “Managing the Ecosystem and Livelihood Implications of Energy Policies in the Pacific Island States”. Project activities are being implemented in six Pacific Island countries: the Marshall Islands, Palau, Samoa, Tonga, Tuvalu and Vanuatu.

### Vision

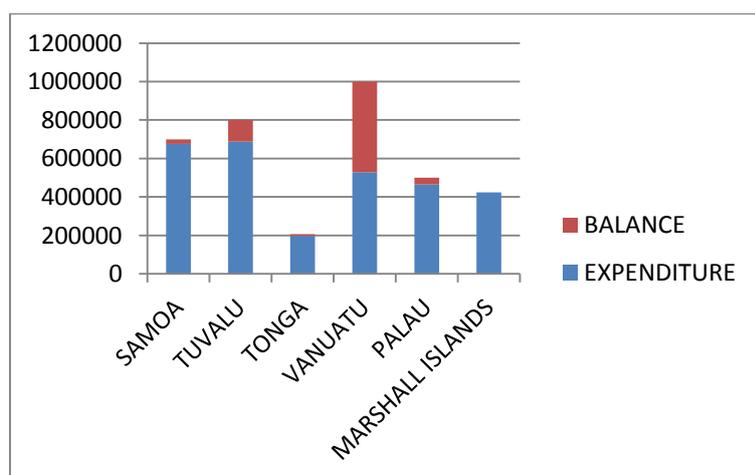
The EESLI will accelerate the transition to energy systems that are ecologically sustainable, socially equitable and economically efficient.

### Mission

Ensure that the vision is achieved through:

- (i) Feasibility studies, design and implementation of renewable energy and energy efficient projects;
- (ii) Support for the projects including through the provision of management tools and institutional strengthening;
- (iii) Networking with Pacific SIDS and small island states globally to share lessons learned, skills and technology

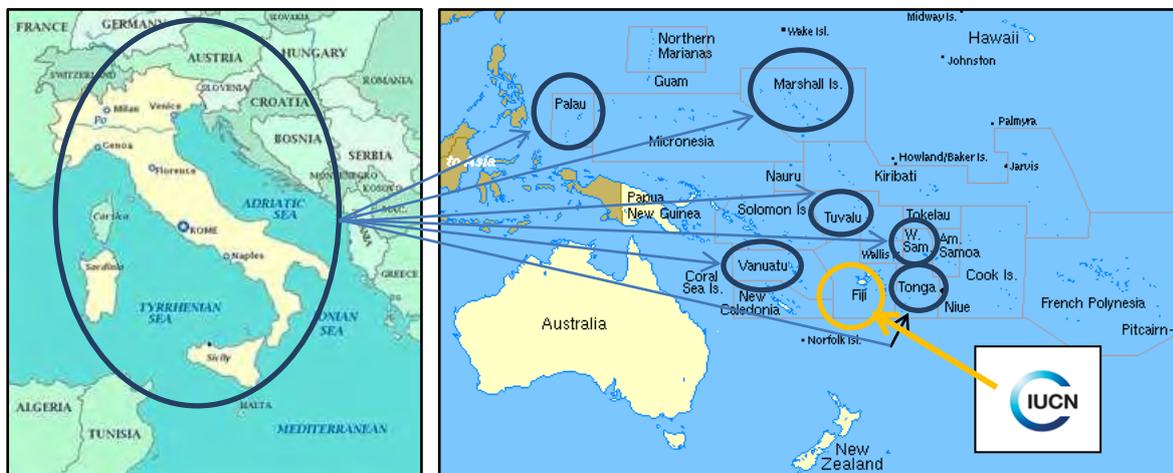
### Summary of Country Budgets to Date



### EESLI History

- February 2008: IUCN and Government of Italy sign MOU.
- 6 March 2008: the Joint Committee (JC) of Pacific Heads of Missions in New York, as recommended by the Italian Ministry of Environment, approve country projects for Samoa, Tonga and Vanuatu to be supported through IUCN.
- April 2008: IUCN ORO recruits a Coordinator for the EESLI.
- 6 – 8 May 2008: pre-inception meeting in Fiji with Samoa, Tonga, Vanuatu and IUCN.
- 13 May 2008: the JC adds Palau, the Marshall Islands (RMI) and Tuvalu to the Initiative, with funding approved for Palau and Tuvalu.
- July 2008: IUCN finalises the Project Document, with five country projects (Palau, Samoa, Tonga, Tuvalu and Vanuatu), multi-country and regional support activities, as well as a country project proposal for the RMI.
- August 2008: the first of the six-country contracts is signed between IUCN and Tonga.
- November 2008: inception meeting with Palau, Samoa, Tonga, Vanuatu and IUCN.
- 16 January 2009: the JC approves a budget of €360,000 for the RMI project.
- May 2010: the JC extended Phase 1 from May 2011 to completion in 2013 through a decision made by the JC in New York in May 2010.

## WORKING IN PARTNERSHIP – From Europe to the Pacific



DEVELOPMENT PARTNERS	PROJECT MANAGEMENT	IMPLEMENTING AGENCY	NATIONAL COORDINATORS
	<p style="text-align: center;"><b>JC</b></p> <p>Joint Committee of Pacific Islands Permanent Representatives to the United Nations, the Governments of Italy and Austria and IUCN</p>  <p style="text-align: center;"><b>OCEANIA REGIONAL OFFICE</b></p>	Palau - National Development Bank of Palau	Ms. Karla West
		The Republic of the Marshall Islands - Ministry of Resources and Development, with Ministry of Works and Public Transport and Marshall Islands Energy Company	Mr. Walter Myazoe
Samoa - Renewable Energy Division of the Ministry of Natural Resources and the Environment		Ms. Lilian Penaia	
Tonga - Energy Planning Unit of the Ministry of Lands, Natural Resources and Environment		Mr. Ofa Sefana	
Tuvalu - Tuvalu Electricity Corporation		Mr. Mafalu Lotolua	
Vanuatu - Vanuatu Energy Unit in the Ministry of Lands, Mines and Energy		Mr. Kennedy Kaltavara	
<p style="text-align: center;">IUCN PROJECT PERSONNEL</p>	Anare Matakiviti	Energy Programme Coordinator	
	Larissa Brisbane	Senior Programme Officer	
	Ifereimi Dau	Energy Program Officer	

## PALAU

### Energy Efficiency Subsidy Programme

The aim of this project is to promote energy efficiency in the residential sector through a loan subsidy scheme. The National Development Bank of Palau (NDBP) manages the project with support from Palau Energy Division. The project envisages that new energy efficient homes will consume 15% less energy than typical houses. The project will also help expand the demand for energy efficient appliances and services.

#### Achievements to Date

1. 4 energy model homes : 3 completed; 1 under construction
2. 26 energy efficient homes built, 18 under NDBP; 8 under the Palau Housing Authority (PHA)
3. 21 energy efficient homes under construction – 11 under NDBP; 10 under the PHA
4. Awareness raising activities has generated interest regarding the project in Palau and across the Pacific. Other development banks are now considering similar portfolios.
5. NDBP has managed to record some of the impacts of the EESP programme on the local economy. Notable amongst these is that:
  - i. the programme has generated employment in the building industry, import and retail sector;
  - ii. the programme contributes to lower electricity bills (up to 15%) for the home owners who now enjoy a more comfortable living space and are less reliant on the energy-consuming air conditioners.

#### Future work

1. Completion of the last energy model home
2. Continuation of the housing loan subsidy scheme and promotional work for energy efficient homes



Figure 1 : Workshop participants -Palau 2011

#### POLICY SETTING

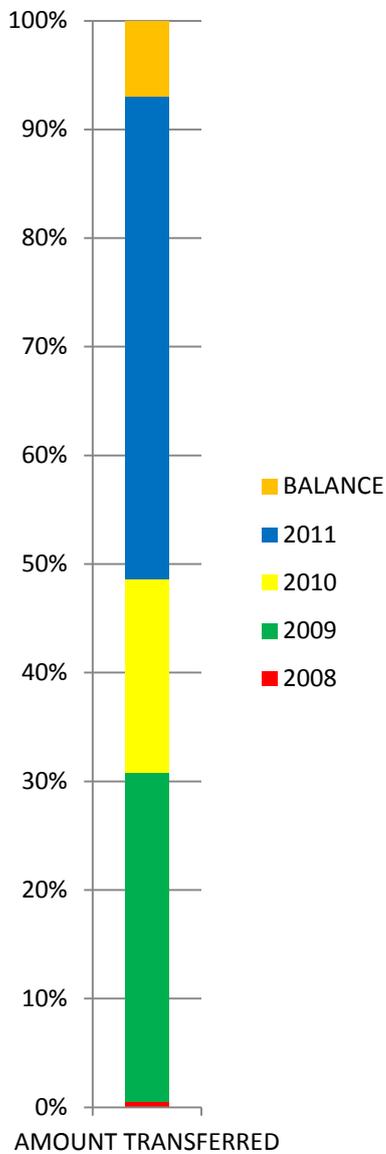
Palau's National Energy Policy states "Recognizing that improving the efficiency of energy use has greater short term value on reducing consumption of fossil energy than any other action, taxes and policies will be revised to encourage the import and sale of appliances, vehicles and boats having the highest energy efficiency; develop energy efficiency standards for new buildings and renovations including homes, businesses and government premises. The policy target is set at a 30% reduction in overall national energy consumption by 2020."

#### IUCN adds value through:

- Technical advice on energy efficiency measures;
- Project management;
- Highlighting the environmental benefits of energy efficiency;
- Raising the profile of Palau's project to the broader IUCN network – national and global for scaling up;
- Working cooperatively in alignment with Palau's National Energy Policy;
- Co-hosting with Palau stakeholders a workshop for the members of the Association of Development Financing Institutions in the Pacific, share the lessons learned from NDBP's experience. This was the Home Loan for Energy Efficiency and Renewable Energy Workshop held in Koror, Palau from October 3 to 6, 2011.

**Potential to Replicate the Project to other SIDS is HIGH**

## COUNTRY ALLOCATION DRAWDOWN



Allocation  
\$US500,000

Disbursed  
\$US465,394

Balance  
\$US34,606



Figure 2 : A model home



Figure 3 : Home with energy efficient roof



Figure 4 : Maximising natural ventilation for energy efficiency

## SAMOA

### Greenhouse gas abatement through energy efficiency and biofuel applications in the land transport sector

This project has two components; both targeting land transport. Component 1 focuses on enhancing energy efficiency through awareness campaigns and promoting non-motorized transport such as walking and cycling. Component 2 focuses on developing biofuels to substitute for fossil fuels derived from coconut and Jatropha oils to replace at least a part of the fossil fuels used by the transport sector in Samoa.

The Renewable Energy Division of the Ministry of Natural Resources and the Environment manages the project and the Scientific Research Organisation of Samoa (SROS) and the Land Transport Authority implement the project. They are joined by the Electric Power Corporation, the Ministry of Finance and the Ministry of Foreign Affairs and Trade to form the steering committee which provides advice and oversight.

#### Achievements to Date

1. The coconut biodiesel research component has been completed with the pilot plant set up and B50 blend (50% biodiesel + 50% diesel) being used to run two of the SROS vehicles
2. Laying stable groundwork for energy efficiency in the transport sector through:
  - i. Upgrading of the Road Transport Administration System
  - ii. Developing a Vehicle Emissions standard
  - iii. Developing a regulation for operating Emission Tester Portables
  - iv. Public education and awareness on road rules, regular maintenance of vehicles and observing road rules from a pedestrian perspective.

#### Future work

1. Planting Jatropha under coconut trees as an alternative to coconut oil thus reducing threat to food security
2. Public education and awareness on road rules, regular maintenance of vehicles and observing road rules from a pedestrian perspective

#### POLICY SETTING

Samoa has chosen projects that fit well into the "Transport" section of the Samoa National Energy Policy 2007. The Policy states that Samoa will:

1. Regulate the importation and use of environmentally friendly and energy efficient vessels and motor vehicles and aircrafts;
2. Promote fuel efficiency in land and sea transport and ensure systems are reliable, efficient and affordable;
3. Promote the use of biofuel as a substitute for imported fossil fuels to reduce greenhouse gas emissions and social impact from fossil fuels;
4. Promote through public awareness programs efficient use of transport and encourage the use of public transport.

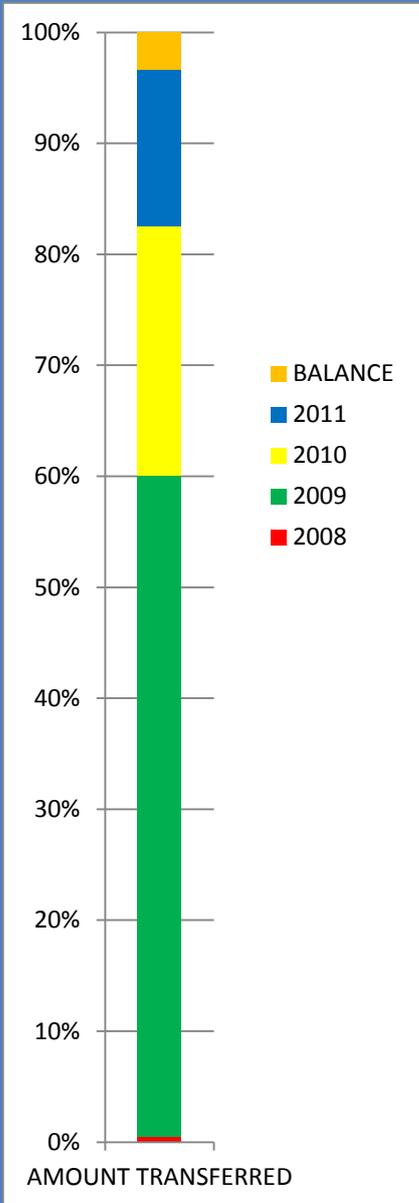
#### IUCN adds value through :

- Technical advice on biofuel and energy efficiency measures;
- Project management;
- Highlighting the environmental benefits of energy efficiency;
- Raising the profile of Samoa's project to the broader IUCN network – national and global for scaling up;
- Working cooperatively in alignment with Samoa's National Energy Policy objectives;

**Potential to Replicate the Project to other SIDS is**

**HIGH**

## COUNTRY ALLOCATION DRAWDOWN



Allocation  
\$US700,000

Disbursed  
\$US676,501

Balance  
\$US23,499



Figure 5 : Biofuel Test Vehicles



Figure 6 : Opening the Biofuel Research Facility



Figure 7 : Guests at the Opening Ceremony

## THE Republic of the MARSHALL ISLANDS

### GHG abatement through Energy Efficiency

This project has two components and is implemented as collaboration between the Ministry of Resources and Development and the Marshalls Energy Company (MEC). Component 1 is to retrofit existing mercury and sodium vapour streetlights with LED lamps. Component 2 is to install solar street lights in designated areas around the two urban centres of Majuro and Ebeye.

#### Achievements to Date

1. Completed retrofitting of existing streetlights - replaced 800 inefficient Mercury Vapour or Sodium Vapour lamps (175 Watts ) with 689 more efficient LED lamps (500 X 50 watts and 189 X 30 watts)
2. Reduced annual energy usage by 78% from 511 MWh to 112 MWh.
3. Reduced greenhouse gas emissions by 319 tCO<sub>2</sub>

#### Future work

1. Complete installation of solar streetlights



Figure 8 : Replacing Streetlights in the Marshall Islands

#### POLICY SETTING

The Marshall Islands energy policy aims to :

- i. Promote the use of proven renewable energy technologies, especially solar photovoltaic as a power source in rural areas.
- ii. Promote the more efficient end-use consumption of electricity.
- iii. Ensure that any power development project (including system expansion to existing ones) in the Marshall Islands is based on least cost development that incorporates demand side management to reduce peak loads and conserve fuel and supply side management to reduce generation and distribution losses.
- iv. Minimise dependence on petroleum products by encouraging fuel conservation and efficient end-use.
- v. Initiate and develop energy efficiency programs in both public and the private sectors.

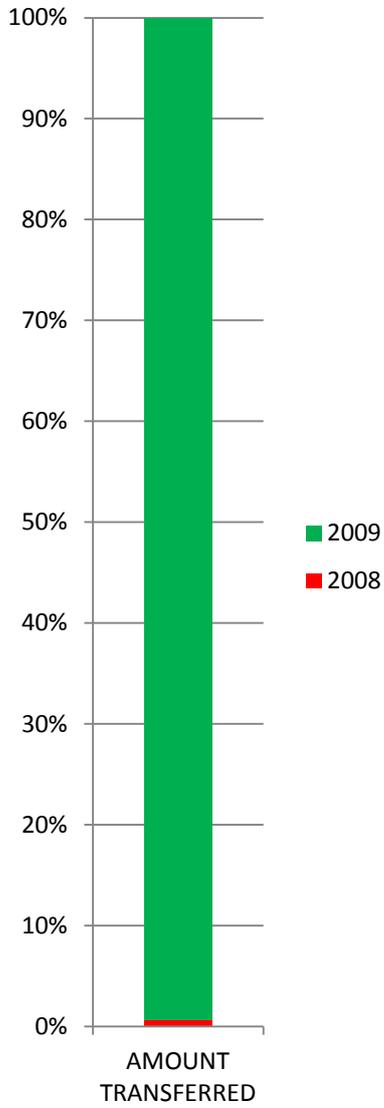
#### IUCN adds value through :

- Technical advice on energy efficiency measures;
- Project management;
- Highlighting the environmental benefits of energy efficiency;
- Raising the profile of RMI's project to the broader IUCN network – national and global for scaling up;
- Working cooperatively in alignment with RMI's National Energy Policy objectives;

Potential to Replicate the Project to other SIDS is

**HIGH**

## COUNTRY ALLOCATION DRAWDOWN



Allocation  
\$US424,375

Disbursed  
\$US424,375

Balance  
Nil



Figure 9 : Installing the LED lights



Figure 10 : Temporary work bench for LED lights

## TONGA

### Solar Rehabilitation and Solar Home Systems

This solar electrification project has two components. Component 1 replaces old non-functioning PV systems installed in the 1980s-90s on the islands of Mango and Mo'unga'one in the Ha'apai group.

Component 2 is installing solar home systems in Lofanga Island, the only island in the Ha'apai group without any source of electricity.

### Achievements to Date

1. The 64 new solar home systems replaced all the old PV systems from the 1980s-90s enabling :
  - a. School children to study at night in better lighting conditions
  - b. Mothers and grandmothers to do mat weaving and other important traditional crafts at night
2. Use of kerosene for lighting has been eliminated thus avoiding greenhouse gas emissions

### Future work

1. Install solar home systems for homes on Lofanga Island.



Figure 11 : Grandmother weaving mat at night in bright lights at a house in Mo'unga'one

### POLICY SETTING

"The overall objective of the Tonga Off-Grid Initiative is to provide Off-Grid communities with access to electricity options from renewable sources that are sustainable and also provide for their varied power needs. It is the potential for the enhancement of the quality of life and potential to increase economic activity of the outer islands communities that the Tonga Off-Grid Initiative aims to ultimately cultivate. In-order to achieve this, lessons learned must be acted upon and the strengths of previous projects built on while their weaknesses are avoided." - *Tonga Energy Road Map page 42*

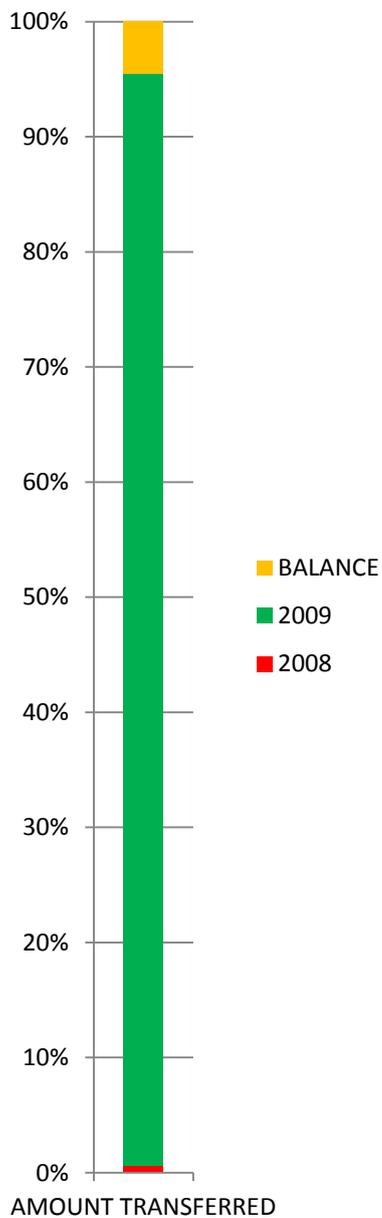
### IUCN adds value through :

- Technical advice on solar home systems;
- Project management;
- Highlighting the environmental benefits of using clean energy;
- Raising the profile of Tonga's project to the broader IUCN network – national and global for scaling up;
- Working cooperatively in alignment with Tonga's Energy Road Map (TERM) objectives;
- Carrying out the Strategic Environmental Assessment of the TERM.

Potential to Replicate the Project to other SIDS is

**HIGH**

## COUNTRY ALLOCATION DRAWDOWN



Allocation  
\$US206,550

Disbursed  
\$US197,205

Balance  
\$US9,345



**Figure 12 : Installing the Solar Home Systems in Tonga**



**Figure 13 : Preparing the posts for the Solar Panels**



**Figure 14 : A completed Solar Home system**

## TUVALU

### Photovoltaic Electricity Network Integration Project

The project involves the installation of a 46 kW grid-parallel PV system and ten stand-alone LED solar PV streetlights at Motufoua Secondary School in Vaitupu, the largest outer island in Tuvalu. The project aims to fulfil the school's energy demand while reducing Tuvalu Electricity Corporation's dependence on imported fossil fuel.

#### Achievements to Date

1. 46 kW grid-parallel PV systems installed and commissioned.
2. 10 solar street lights installed
3. The following benefits have been realised:
  - a. On the job training and skills transfer to senior students at the school who assisted the TEC's technical staff working on the project.
  - b. The school now has access to continuous power supply thus providing a conducive learning environment.
    - i. The school is able to use modern teaching tools such as audiovisual equipment to enhance learning.
    - ii. Studies can now be conducted at night due to good quality lights.
  - c. Teachers and students safety and security at night improved through the provision of outdoor lights.
  - d. The solar PV system reduces the use of the diesel generator thus savings on diesel fuels. In its first year of operation the solar PV system saved about 120 tonnes of carbon dioxide.
  - e. New skills gained. The solar PV system is quite complex particularly with the huge battery bank and the myriad control systems. This project had provided an opportunity to the technicians and engineers of the Tuvalu Electricity Corporation (TEC) to acquire new sets of technical skills.



**Figure 15 : Students helping with solar street lights installation**

#### POLICY SETTING

The Tuvalu National Energy Policy promotes the development of renewable energy resources such as solar, wind and biofuel to broaden the energy supply sources in Tuvalu. In addition, the policy calls for energy efficiency measures in all sectors of the economy.

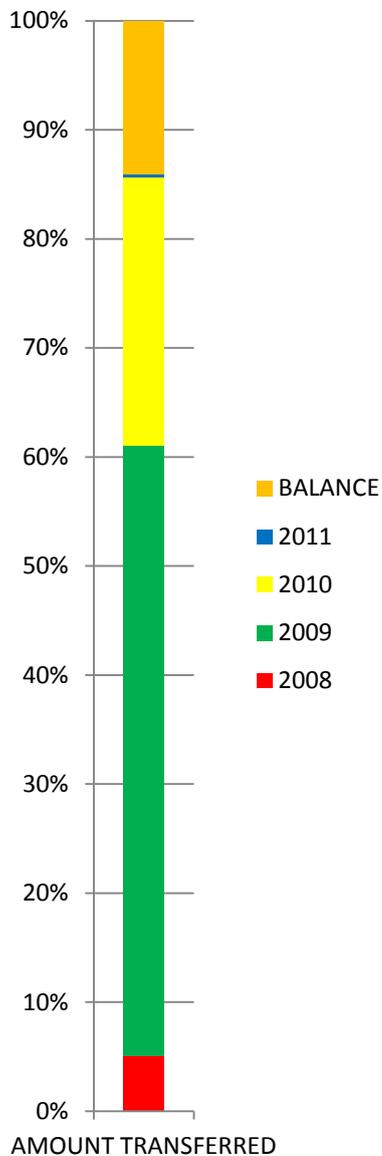
#### IUCN adds value through :

- Provision of technical advice;
- Project management;
- Highlighting the environmental benefits of using clean energy;
- Raising the profile of Tuvalu's project to the broader IUCN network – national and global for scaling up;
- Working cooperatively in alignment with Tuvalu Energy Policy objectives - IUCN has set aside Euro 4,500, through the Special Initiatives fund to assist Tuvalu develop a much clearer and focused national energy policy;
- IUCN and SPREP cooperated to ensure sustainability for this project. SPREP provided the software in the form of training for technicians while IUCN with assistance from the Governments of Austria and Italy provided the hardware for the project to succeed.

**Potential to Replicate the Project to other SIDS is**

**HIGH**

## COUNTRY ALLOCATION DRAWDOWN



Allocation  
\$US800,000

Disbursed  
\$US687,594

Balance  
\$US112,406



**Figure 16 : Commissioning of the Tuvalu PV system**



**Figure 17 : Installed Solar Panels**



**Figure 18 : Installing the Solar Panels**

## VANUATU

### Renewable Energy Project

This project comprises the following three components.

Component 1 : Rehabilitation of solar systems at schools and health centres in Santo, Malo and Malekula.

Component 2 : Install community micro-hydro unit at Talise Stream.

Component 3 : Wind monitoring to assess its potential as a source of energy.

### Achievements to Date

1. Component 1 completed. Rehabilitating all the solar systems in schools and health centres in Santo, Malo and Malekula allows improved service delivery to these institutions benefitting people in the community.
  - a. Schools use audio visual equipment to improve learning.
  - b. Health clinics can provide some critical emergency services at night.
  - c. Mobile phone charging and movie nights are two economic activities arising out of these solar systems rehabilitation
2. Peace and quiet at night - the solar systems avoid the need for diesel generators saving on expensive imported fuels for lighting and also reducing noise which is especially significant in health centres.

### Future work

1. Completion of installation for the wind resource monitoring equipment and data analysis. This will provide the government of Vanuatu with wind resource information that will be enable them to make the right decision in investing in wind energy.
2. Continue construction on the Talise Stream micro-hydro scheme. Power from the hydro project will facilitate the development of micro and medium enterprises in the three communities on Maewo improving their livelihoods.

*The Sicyopus pentecost is a fish species that was found only in Pentecost, Vanuatu and in New Caledonia. IUCN consultants, preparing the Environment Management and Monitoring Plan for Talise Hydro also found this endemic species in Talise River on Maewo Island, Vanuatu – S.pentecost's second home in Vanuatu*

### POLICY SETTING

From the draft Vanuatu Energy Policy: "Ensure that environmental issues are taken into consideration in all aspects of energy planning; that the provision of appropriate, reliable and affordable energy services to rural and remote areas; that active participation and capacity building as integral components of community based energy projects; that community based energy projects underscore sustainability consumer ownership and responsibilities; that government promotion and commitment in rural electrification programmes; Encourage the use of renewable energy sources for rural electrification; Promote partnerships in rural electrification programmes; that the provision of electricity to rural areas is transparent; the use and investments in renewable energy; that renewable energy projects adhere to environmental regulations; and implement energy efficiency and conservation programmes."

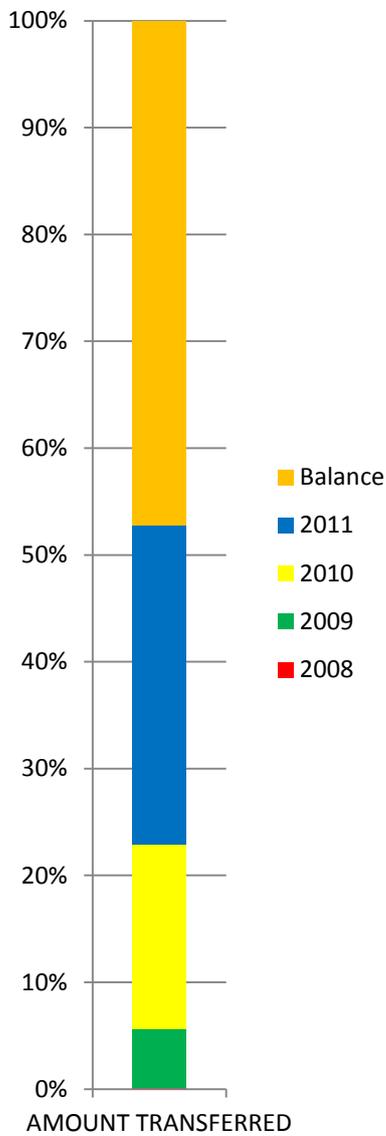
### IUCN adds value through:

- Provision of technical advice;
- Project management;
- Highlighting the environmental benefits of using clean renewable energy;
- Raising the profile of Vanuatu's projects to the broader IUCN network – national and global for scaling up;
- Working cooperatively in alignment with Vanuatu's draft Energy Policy objectives

**Potential to Replicate the Project to other SIDS is**

**HIGH**

## COUNTRY ALLOCATION DRAWDOWN



Allocation  
\$US1,000,000

Disbursed  
\$US528,263

Balance  
\$US471,737



Figure 19 : Solar PV system for Tasmulum Health Clinic



Figure 20 : Talise River and Weir



Figure 21 : Digging trench for the penstock with hand held tools

## SPECIAL INITIATIVES

Brown: complete; Green: In progress; Blue: approved for future

Demonstration Projects	
Solar streetlights, Tavua township	Fiji
Solar PV, administration block for Tetepare conservation area	Solomon Islands
Household solar lighting, with Nahu women's group	Solomon Islands
Tetepare conservation area (supplement), solar light bulbs	Solomon Islands
Life Cycle Tonga Initiative – cycling promotion	Tonga
Life Cycle Fiji Initiative – cycling promotion	Fiji
Solar PV, visitors centre, Sigatoka Sand Dunes (National Trust)	Fiji
Information projects	
Pacific Energy & Gender Training	Regional
EESLI Mid-Term Review	Regional
Workshop on Sustainable Energy Resources, (jointly with University of South Pacific and other partners)	Regional
International Conference on Renewable Energy and Climate Change (ICRECC), focus on the Pacific (jointly with University of South Pacific and other partners)	International
Video case study of rural Vanuatu solar projects, for DVD and online streaming	International
Innovative approaches to sustainable energy and environment policy	
Palau Energy Policy – environmental review support	Palau
Strategic Environmental Assessment of Tonga Energy Road Map	Tonga
Guideline on how to undertake environmental screening of energy implementation plans (e.g. roadmap)	Regional
Cycling partnership with the Secretariat of the Pacific Community (health section)	Regional
Vanuatu Energy Policy – environmental review support	Vanuatu
Tuvalu Energy Policy – environmental review support	Tuvalu
Evaluation and impact assessment	
Environmental and Social Impact Assessment (ESIA) training for coordinators and government officers, 2011	Regional
Assessment of weed risk for <i>Jatropha curcas</i> biofuel proposal	Samoa
Palau Energy Loan Program – workshop on replication, with the Association of Development Financing Institutions in the Pacific	Regional
Environmental Management & Monitoring Plan (EMMP) for Talise Micro-hydro Project	Vanuatu
Fact sheets on environmental and social implications of renewable energy in the Pacific: bioenergy, wind power, solar PV, hydro power	Regional

## SPECIAL INITIATIVES

### Demonstration Projects

This category includes the comprehensive initiatives focused on the practical implementation of various renewable energy technologies, approaches and methods that demonstrate improvement in livelihoods and the preservation of biodiversity.

### Information Projects

The initiatives should focus on raising awareness of the general public to the environmental problems and impacts of unsustainable energy systems within the Pacific region.

### Innovative approaches to sustainable energy and environment policy

This category focuses on the development of a roadmap for a clear pathway for a national energy sector development plan. This will include national dialogue forums where all key stakeholders, from implementers to users, policy makers, politicians and donors discuss and develop a national energy strategy for the country.

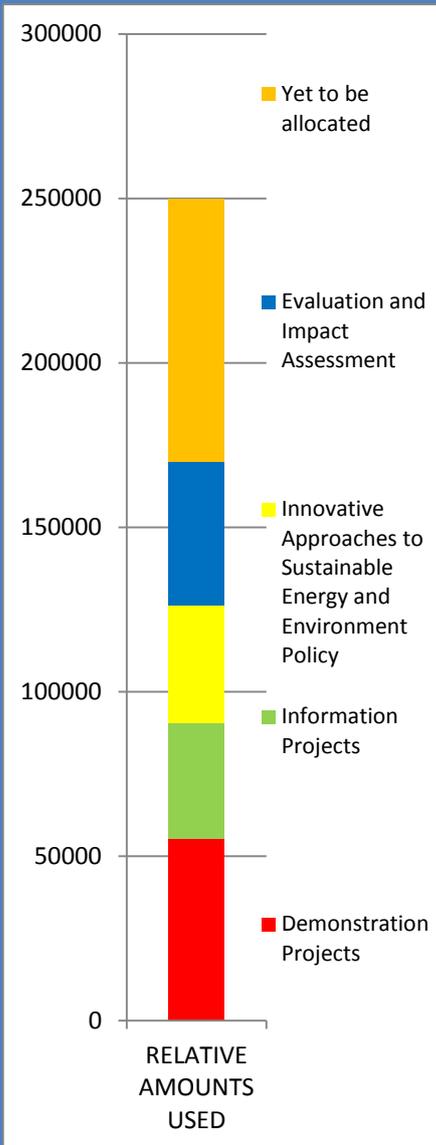
### Evaluation and Impact Assessment

This category will include the proposals to evaluate existing projects/programs and collect the lessons learned and the best practices. It will also include projects that focus on assessments of the environmental impacts of energy systems.

### SPECIAL INITIATIVES PROJECTS COMPLETED

13

## SPECIAL INITIATIVES



## BUDGET DRAWDOWN

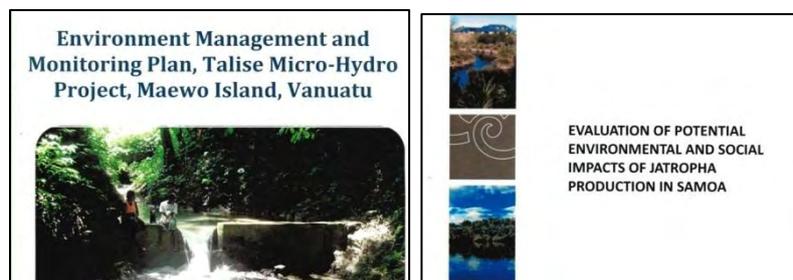
Allocation  
€ 250,000

Disbursed  
€ 170,071

Yet to be allocated  
€ 79,929



**Figure 22 : Nahu Women's Group, Solomon Islands – undertook through the Special Initiatives a community solar PV project**



**Figure 23 : Special Initiatives funded the EMMP for Talise Hydro, Vanuatu and the ESIA for Samoa**

### SPECIAL INITIATIVES POSITIVE IMPACTS

- 39 homes in Nahu, Solomon Islands are electrified by solar systems, replacing kerosene lamps at night and savings on GHG emissions and eliminating the need to harvest and burn sap from trees for lighting;
- Visitors to Tetepare Conservation island can witness for themselves solar energy at work in the administration block where they are met;
- The solar streetlights in Tavua, Fiji continued to operate while nearby towns and streetlights were blacked out due to electricity rationing from the grid due to widespread flooding in the western division
- Solar rechargeable lights and light bulbs now well known in most villages due to promotion by this and similar projects.
- Cycling has been promoted in both Tonga and Fiji as an alternative form of transport

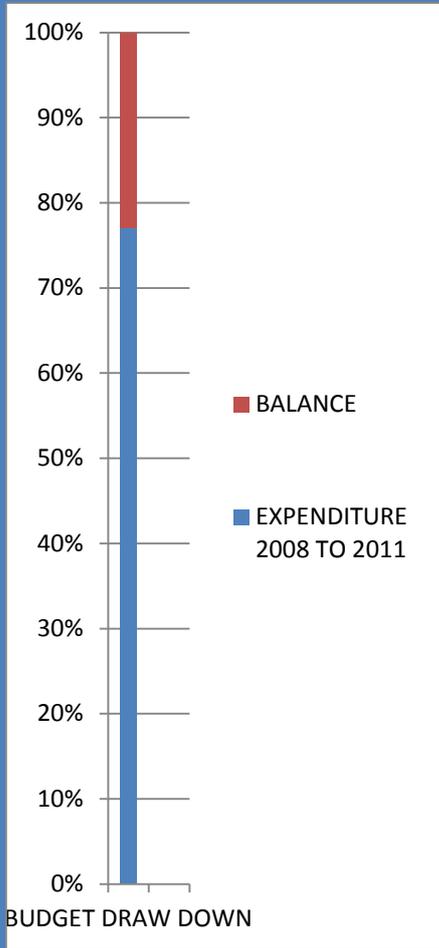


Picture carried by The Fiji Times on the launching of the Lifecycle Fiji Initiative by the President of Fiji – a project under Special Initiatives

- A number of knowledge products produced under the Special Initiative are available as training tools for further development of environmental planning and management in the region

# EESLI BUDGET SUMMARY

## OVERALL BUDGET

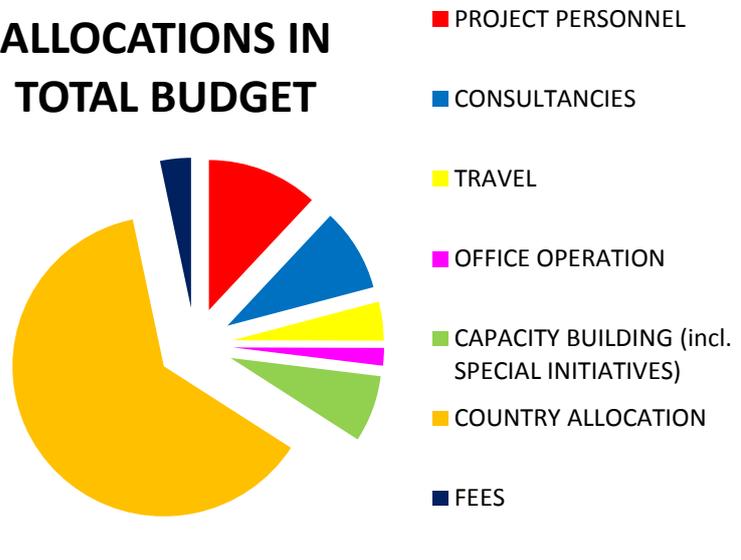


EESLI Budget in USD  
\$ 5,643,341

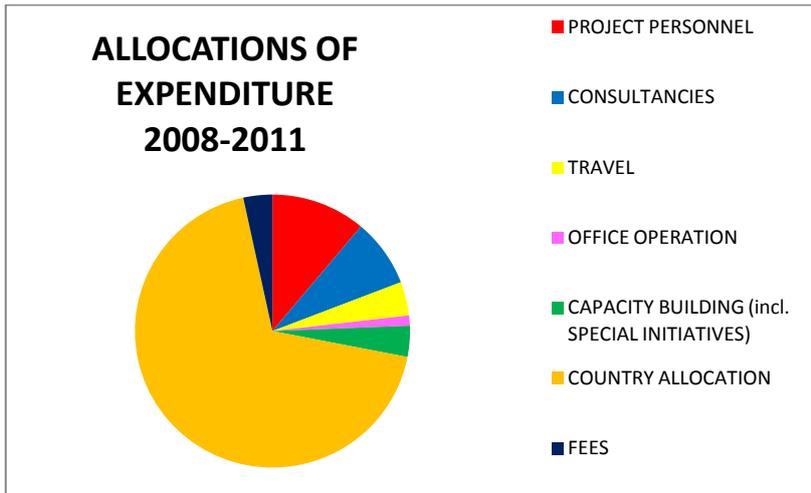
Expenditure to 2011  
\$US 4,346,948

Available Balance  
US\$1,296,393

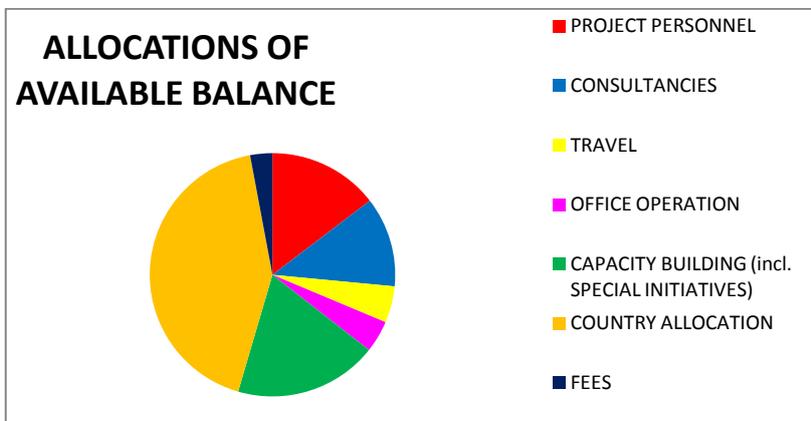
## ALLOCATIONS IN TOTAL BUDGET



## ALLOCATIONS OF EXPENDITURE 2008-2011



## ALLOCATIONS OF AVAILABLE BALANCE



## LESSONS LEARNT



**Figure 24 : One of the many challenges of implementing EESLI in the Pacific**

## CONCLUSION

It is obvious from the lessons learnt that the EESLI Project has been successful in delivering its mission. Despite the many challenges that have to be faced as a result of the realities of working in the small Pacific islands in the midst of the big Pacific Ocean the project has delivered:

- Energy efficient homes to Palau
- Energy efficient streetlights to the Marshall Islands
- Clean and affordable solar electricity to homes in Tonga
- Clean and affordable solar power to a school community in Tuvalu
- Clean and affordable solar power to health centres and schools in Vanuatu
- Testing facilities for biofuels in Samoa

The project is still to be completed for some islands. The Tuvalu component is virtually complete but the other countries' projects should be completed in 2012. The challenge for IUCN ORO will be to guide these countries towards completing all their projects in 2012 to enable them to realising their project outcomes.

Phase II for the Project has been approved by the development partners for implementation from 2013 to 2014. It is planned that this allocation would be used to enable Pacific Island Countries to tailor the implementation of their energy policies to ensure that the ecosystem and livelihood implications of these energy policies are sustainable to the ecosystems they exist in and do not become a threat to critical biodiversity's. The adoption and use of various knowledge products developed in Phase I and those that exist within the libraries of the IUCN will be critical to achieving the vision of the project.

## **BIBLIOGRAPHY**

1. Anon. (2002) Marshall Islands National Energy Policy
2. Anon. (2009) Tuvalu National Energy Policy
3. Anon. (undated) Vanuatu National Energy Policy Framework (Draft)
4. His Majesty's Government of the Kingdom of Tonga (2010) Tonga Energy Road Map,2010-2020; Prime Minister's Office, His Majesty's Government of the Kingdom of Tonga.
5. Ministry of Finance (2007) Samoa National Energy Policy; Ministry of Finance Economic Policy and Planning Division, Apia, Samoa.
6. Palau Energy Policy Development Working Group (2009) Republic of Palau Draft National Energy Policy; Government of the Republic of Palau.

## ATTACHMENT A: FULL LIST OF SPECIAL INITIATIVES

Description of Special Initiative	Country	Budget	Expenditure	Balance
<b>Demonstration projects</b>				
Solar streetlights, Tavua township	Fiji	€ 10,525	€ 10,525	€ 0
Solar PV, administration block for Tetepare conservation area	Solomon Is	€ 9,113	€ 9,113	€ 0
Household solar lighting, with Nahu women's group	Solomon Is	€ 6,842	€ 6,842	€ 0
Tetepare conservation area (supplement), solar light bulbs	Solomon Is	€ 784	€ 784	€ 0
Life Cycle Tonga Initiative – cycling promotion	Tonga	€ 10,000	€ 9,076	€ 924
Life Cycle Fiji Initiative – cycling promotion	Fiji	€ 10,000	€ 5,324	€ 4,676
Solar PV, visitors centre, Sigatoka Sand Dunes (National Trust)	Fiji	€ 8,000	€ 0	€ 8,000
<b>Information projects</b>				
Pacific Energy & Gender Training	Regional	€ 10,710	€ 10,710	€ 0
EESLI Mid-Term Review	Regional	€ 6,506	€ 6,506	€ 0
Workshop on Sustainable Energy Resources, (jointly with University of South Pacific and other partners)	Regional	€ 571	€ 571	€ 0
International Conference on Renewable Energy and Climate Change (ICRECC), focus on the Pacific (jointly with University of South Pacific and other partners)	International	€ 14,816	€ 14,816	€ 0
Video case study of rural Vanuatu solar projects, for DVD and online streaming	International	€ 2,471	€ 2,471	€ 0
<b>Innovative approaches to sustainable energy and environment policy</b>				
Palau Energy Policy – environmental review support	Palau	€ 0	€ 0	€ 0
Strategic Environmental Assessment of Tonga Energy Road Map	Tonga	€ 12,000	€ 0	€ 12,000
Guideline on how to undertake environmental screening of energy implementation plans (e.g. roadmap)	Regional	€ 10,000	€ 0	€ 10,000
Cycling partnership with the Secretariat of the Pacific Community (health section)	Regional	€ 5,000	€ 0	€ 5,000
Vanuatu Energy Policy – environmental review support	Vanuatu	€ 4,500	€ 0	€ 4,500
Tuvalu Energy Policy – environmental review support	Tuvalu	€ 4,500	€ 0	€ 4,500
<b>Evaluation and impact assessment</b>				
Environmental and Social Impact Assessment (ESIA) training for coordinators and government officers, 2011	Regional	€ 6,262	€ 6,262	€ 0
Assessment of weed risk for <i>Jatropha curcas</i> biofuel proposal	Samoa	€ 7,139	€ 7,139	€ 0
Palau Energy Loan Program – workshop on replication, with the Association of Development Financing Institutions in the Pacific	Regional	€ 23,391	€ 23,391	€ 0
Environmental Management & Monitoring Plan (EMMP) for Talise Micro-hydro Project	Vanuatu	€ 5,243	€ 3,504	€ 1,739
Fact sheets on environmental and social implications of renewable energy in the Pacific: bioenergy, wind power, solar PV, hydro power	Regional	€ 1,698	€ 498	€ 1,200
Available for further initiatives	-	€ 79,929	€ 0	€ 79,929
<b>TOTAL</b>		<b>€ 250,000</b>	<b>€ 117,532</b>	<b>€ 132,468</b>

**Legend : Brown: complete; Green: In progress; Blue: approved for future**



INTERNATIONAL UNION FOR  
CONSERVATION OF NATURE

OCEANIA REGIONAL OFFICE  
Private Mail Bag  
5 Ma'afu Street  
Suva, Fiji Islands  
oceania@iucn.org  
Tel: +679 3319084  
Fax: +679 3100128  
[www.iucn.org/oceania](http://www.iucn.org/oceania)