



IUCN and energy

IUCN is working to accelerate the transition to energy systems that are ecologically sustainable, socially equitable, and economically efficient through its Energy, Ecosystems and Livelihoods Initiative. This initiative is cross-cutting and multi-sector, coordinating work between relevant regions, thematic programmes, Commissions and Members.

The Energy Initiative also works on building internal awareness of the energy agenda, the important implications of energy decisions and systems for the conservation agenda, and opportunities for leveraging IUCN's knowledge, expertise, and convening power.

Welcome to the 2nd issue of Energy, Ecosystems & Livelihoods, the newsletter for IUCN Oceania's energy programme. The first issue of this newsletter focused on our growing energy programme and its major energy efficiency/renewable project, *Managing the Ecosystem and Livelihood Implications of Energy Policies in the Pacific Island States* (in short the Pacific SIDS EESLI).

In this issue we bring you highlights of activities in 2009, progress updates on the Pacific SIDS EESLI projects and other energy initiatives that IUCN Oceania has been actively involved with in 2009.

We hope you enjoy this issue!

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See inside for more >>>





Highlights of activities in 2009

JC meeting for Pacific SIDS EESLI

The 4th Joint Committee meeting for the Italy/Austria- Pacific SIDS Cooperation was convened in New York on the 15th of January 2009. The Joint Committee comprises of Pacific Small Islands Developing States UN Missions and the representatives of the Italian and Austrian Governments. IUCN sits in the JC meetings by virtue of its role as the executing agency for the EESLI country projects. This meeting provided the opportunity for IUCN to highlight the progress of each country projects and raise relevant issues related to each project. Funding issues were amongst the highlights of discussions. The next Joint Committee meeting will be held in May 2010.

Strengthening the Fragile Pacific Islands Energy Sector – Addressing energy, economy and environment in a period of rapid change - Pacific Energy Ministers' Meeting and Regional Energy Officials' Meeting

The second Regional Energy Officials meeting and the Pacific Energy Ministers meeting was held in Nukualofa, Tonga from the 20th – 24th of April (2009). These biennial meetings, focussed on the theme, “Strengthening the Fragile Pacific Islands Energy Sector – Addressing energy, economy and environment in a period of rapid change”. It was a critical discussion for Pacific Island countries currently undergoing considerable pressure to sustain their fragile economies with the current global recession and uncertainties in oil prices. This has raised alternative energy options to the top of the agenda including renewable energies. IUCN Oceania, with its programme of work links in well with the Regional Energy Policy and the implementation of a diversity of projects in 6 Pacific Countries. As a relative new comer to the energy arena in the region, the week-long meetings provided a platform for the office to raise its profile and the opportunity to discuss with the 16 island countries and development partners on potential engagement, especially on how IUCN can add value to the energy programmes in the Pacific with its ecosystems approach. IUCN applauded the Pacific Energy Ministers participating in the meetings for integrating environmental considerations in their discussions and expressed its interest in assisting Pacific Island countries in advancing equitable access to ecologically sustainable, socially equitable and economically efficient energy systems.

Adaptation to Climate Change in the Pacific: A Model for International Cooperation for Sustainable Development

IUCN was part of the 17th Session of the Commission on Sustainable Development side event on ‘Adaptation to Climate Change in the Pacific: A Model for International Cooperation for Sustainable Development’ at the invitation of the Italian Ministry of Foreign Affairs. The event, held in New York on the 14th of May 2009, was convened for the purpose of discussing the cooperation model between the Pacific Small Islands Developing States (SIDS) and the Governments of Italy and Austria. The meeting was opened by the Italian Minister for Environment, Land and Sea, Hon Stefania Prestigiacomo at which he highlighted that the corporation was initiated through dialogue and consultation between the SIDS Permanent Representatives to the United Nations in New York and Governments of Italy and Austria. The minister was hopeful that the cooperation would bring about learning experiences that could be useful for documentation purposes and from which other international cooperation can draw upon. Participating



(L-R) Anare Matakiviti (IUCN Energy Prog. Coordinator), Andrea Athanas (IUCN Senior Programme Officer, Business & Biodiversity Prog) and Lucas Wolfgang Strohmayer (Minister Counsellor, Government of Austria) at the REM/PEMM in Tonga



island countries, including IUCN Oceania, were given the opportunity to highlight progress on their projects and share their thoughts on the collaboration mechanisms. According to the Environment Affairs officer at the Italian Ministry of Foreign Affairs, Mr. Giorgio Grussu, the current model of corporation is working well especially now that it has enabled a new mechanism of coordination between two of its agencies (the Ministry of Environment, Land and Sea and the Ministry of Foreign Affairs). The Italian government is keen on extending this corporation model onto other regions.

[Strengthening Sustainability and Energy Security in Small Island Developing States - Vienna International Renewable Energy Conference](#)

Island nations face some pressing challenges in the 21st century which heighten the importance of moving to more sustainable and secure energy futures. IUCN, with the Austria Development Cooperation, organized a parallel session, at the Vienna Energy Conference on 22 – 24 June 2009. IUCN Oceania's Energy Programme Coordinator was part of this parallel session alongside representatives from six Pacific Islands Countries (PICs) namely: Kiribati, Niue, Palau, Solomon Islands, Tuvalu and Fiji. In addition representatives of the CROP (SPREP, SOPAC, PPA and USP) were also invited. The session focused on four themes and was organized to encourage interaction amongst the panelists and the audience on the following themes: achieving a low carbon energy future and influencing the climate change discussions; stimulating the financial investments needed to get to a more sustainable energy mix; creating the regulatory and legal frameworks to move beyond a dependence on fossil fuels; and safeguarding ecosystems and livelihoods in the context of any energy future pursued.

[Click here to read more on the session.](#)

Introducing...



Ms Arieta Gonelevu is now the Senior Project Officer for IUCN's energy programme, having joined the office in October 2009. Arieta's area of expertise is in renewable energy and she has worked for both the Fiji Government-Department of Energy and SOPAC focusing on the development of renewable energy in Pacific Island countries especially in the area of bio-fuels, solar, wind and hydro technologies. She is also familiar with gender mainstreaming into energy development activities. Arieta has a B-Tech (Electrical Engineering) from USP, Fiji an MSc (Renewable Energy) from Murdoch University, Australia.



Dom Samson, pictured here during one of the morning bike rides along Suva's sea wall.

Cycling interest picks up

Cycling can be deemed to be the most cost effective, energy efficient and sustainable form of transport. Reverting to cycle power can thus produce multiple benefits. However, the challenge is how to reverse the recent trend in greater reliance on fossil fuel-powered cars and buses as the main form of transport, particularly given the multifaceted nature of the problem and solution. IUCN's Life Cycle Pacific Initiative is aimed to build awareness on non-motorised transport systems, particularly cycling, in the region. On Friday 6th November 2009 a few representatives from government ministries and organizations in Fiji met at IUCN's regional office to discuss their interests in cycling and possible approaches that could be undertaken to revive the cycling culture in Fiji. Dom Samson, president of Velocity Cycling Club in Fiji, and an ardent cyclist was also present at the meeting

and highlighted the many benefits of cycling and why it should be revived. After cycling for a long time, Dom perceives Fiji drivers to be safe and pose no immediate threats to cyclists. Discussions to establish a taskforce for this initiative is underway with the Department of Energy in Fiji. Similar initiatives such as this is hoped to be implemented in other countries in the region.



Regional Workshop on Proposal Writing for Small Scale Coconut Oil Processing Projects

The Senior Energy Project Officer was invited by SOPAC to co-facilitate the Regional Workshop on Proposal Writing for Small Scale Coconut Oil Processing Projects that was held at CATD, Nadave on 9th – 13th November 2009. The main objective of the workshop was to build the capacity of regional energy officers on writing concept notes and proposals for small scale coconut oil processing projects and other energy related activities in the region. The workshop was attended by participants from Nauru, Niue, Vanuatu, PNG, Solomon Islands, Tonga, Republic of the Marshall Islands, Samoa and Fiji. At the end of the workshop, participants were able to develop national and regional based concept notes and proposals that were forwarded to various aid agencies to secure funding for energy projects. SOPAC, IUCN Oceania and IT Power also assisted some of the countries in developing their concept notes for the EU Facility II.

Linking energy and the environment - Regional Training Workshop on ESIA

As islands transform their energy systems towards lower carbon renewable mixes, energy practitioners and policy makers are sensitive to the need to manage the environmental and social implications of new projects and programmes. IUCN convened a training course on environmental management tools for energy practitioners, energy planners and environmental policy makers in the Pacific Islands. The two day course, held from the 23 – 24 of November 2009 in Nadi, Fiji, introduced participants to environmental and social impact assessment (ESIA) tools and approaches through an interactive hands-on process. For many participants this was their first



Participants at the Regional Training Workshop on ESIA and the Joint Mid-Term Review.

exposure to environmental management tools and approaches and many reflected on how the process, case study, and discussions brought home the importance of addressing biodiversity issues and consulting stakeholders.

[Click here to read the overview presentation on ESIA tools and case studies.](#)

Assessing progress and mapping the way forward - Energy Project Review

The mid-term review for IUCN's energy project – *Managing the Ecosystem and Livelihood Implications of Energy Policies in the Pacific Island States* (funded by the governments of Italy and Austria) was undertaken from October to November in 2009. The project which involves renewable energy and energy efficiency models in six participating Pacific Island Countries was assessed in terms of its progress, achievements and sustainability.



Preliminary findings of the assessment were presented at a joint review meeting with PIGGAREP (Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project) held in Nadi on the 25th of November 2009. The final report of the review will be produced in 2010.

REP-5 Programme Final Steering Committee Meeting

IUCN Oceania was invited as an observer of the REP-5 Programme ("Support to the Energy Sector in 5 ACP Pacific Islands" Final Steering Committee Meeting that was held at the Southern Cross Hotel, Suva on the 2nd – 3rd November 2009. The main objective of the meeting was to gauge the status of the energy projects that are being funded by EU and implemented in FSM, Palau, Niue, Nauru and RMI. The programme focused on renewable energy and demand-side energy efficiency activities such as the electrification of schools and health centres by PV systems, energy efficiency activities, installment of prepayment meters, solar lanterns supply and distribution, development of energy policy, training on PV maintenance, solar hot water supply & installation, LPG stoves and installation, recycling scheme for LPG supply, solar streetlights. One of the main challenges highlighted in the meeting is in relation to the tariff structure that are associated with the PV systems that have been implemented in the five countries. The REP-5 Programme was scheduled to be completed by 31st December 2009.

In-depth look at energy implications and technology - Sustainable Energy Resource Workshop

The Sustainable Energy Resources Workshop held on the 4th of December at the University of the South Pacific (USP) drew a lot of interest from energy practitioners around the country and the region. The interdisciplinary workshop covered all aspects of biomass and biofuel energy resources, including techniques of assessment, data collation, utilisation, economics, policy issues, environmental issues and cross-cutting issues. Key objectives of the workshop include techniques of biomass and biofuel resource assessment, land and site suitability studies for the production of biofuel feedstock, energy and environmental economics of vegetable oils and ethanol, the social and policy issues of the production and utilisation of energy resources, climate change mitigation and carbon-trading. IUCN also took the opportunity to discuss links and implications of energy systems on biodiversity highlighting the need to conserve ecosystems to provide for viable energy futures.

The workshop was hosted by USP, the Fiji Department of Energy (FDoE) and IUCN Oceania Regional Office, with strong support from other organizations and government departments.

UNDERSTANDING LINKAGES....

Every energy option - except for energy conservation and efficiencies - has an impact on ecosystems, even those that are portrayed as environmentally-friendly.

Ecosystems, through the goods and services they provide, support human well-being.

Energy is an ecosystem service that is central to people's level of well-being:

providing the basic materials for a good life in the form of heating (for cooking and warmth), cooling and lighting;

alternative energy sources for cooking reduce air particulates and associated respiratory problems;

social relations are enhanced through the provision of lighting and access to alternative forms of communication;

lighting for personal safety improves personal security;

energy can also improve overall financial security through its application in income generating activities such as producing goods or providing services, e.g. charging batteries, hairdressing etc.;

Freedom of choice and action is facilitated through lighting for evening studying, meeting and socializing and fuel for transportation;

energy is also crucial for development, supporting industry, transportation, agriculture and meeting the demands of modern life.



Progress updates on projects of the PACIFIC SIDS EESLI

Briefly




Managing the Ecosystem & Livelihood Implications of Energy Policies in the Pacific Island States (or the Pacific SIDS EESLI) is supporting beneficiary countries in the development and implementation of environmentally sound and sustainable energy policies and also facilitates the implementation of 6 renewable and energy efficiency pilot projects (in the Republic of Marshall Islands, Palau, Tonga, Samoa, Tuvalu and Vanuatu) focussing on ecosystem conservation and livelihood enhancement.

Below is a brief update on project progress as of the last quarter of 2009.

Introducing...



Mr. Kennedy Kaltavara is now the project manager for the Vanuatu Renewable Energy Projects. He is a civil/structural engineer and has extensive experience in working with rural communities having previously worked throughout the islands of Vanuatu as a civil engineer for projects of the Ministry of Education, Vanuatu. Kennedy holds a Bachelor of Civil Engineering Degree from the University of Technology in PNG and is a member of the Institution of Professional Engineers in New Zealand. Kennedy hails from the island of Efate in Vanuatu.

COUNTRY	PROJECT	LOCATION/SITE	UPDATE
 Tonga	Photovoltaic Solar Home Systems Rehabilitation Project	Islands - Mango and Mo'unga'one, Ha'apai Group.	Tonga's project has been successfully completed with a total of 64 solar home systems replaced on both the islands, located in the Ha'apai group. 37 systems were installed on Mo'unga'one and 15 installed on Mango. Each system comprises two Kyocera 85 TS brand, 80Wp solar panels (connected in parallel), one Steca PR 1515 charge controller and one Hoppecke 12V OpzS deep cycle battery with a C10 capacity of 100 AH. The system is coupled to four 13 watt each Compact Fluorescent lamps (CFLs) and one 0.5 watt LED night-light via a 10 A circuit breaker. The total load is about 418 Wh per day. The system has a 5-day autonomy. The solar systems caters for lighting and charging of phone batteries. The recipient households paid 200T\$ installation fee and pay a monthly 13 T\$ fee for maintenance expenses. There are two local technicians in each island to troubleshoot systems and collect monthly payments. The project was made possible with the support of the South Pacific Regional Environment Programmes's PIGGAREP, which added value through its undertakings of the financial, economic, environmental impact and institutional assessment of both the islands. Monitoring and evaluation of the project will continue until 2011.
 RMI	Efficient and Renewable Public Lighting for Urban Centres	Majuro (capital city) and Ebeye	The project has now completed sample testing of all light fixtures, successfully undertaken by the Energy Division's technical team (within the Ministry of Resources & Development) and a team from the Marshall Electric Company. The tender was thoroughly assessed and has been awarded to Dateline Export, a US based company. A training manual is currently being developed to help technicians with the installation of the new lights. The first batch of 189 units of streetlight fixtures have been transported to Majuro. Light fixtures will then be transported to Ebeye after another round of random testing.
 Tuvalu	Photovoltaic Electricity Network Integration Project	Vaitupu Island	The company, Eco-Kinetics Engineers and technicians from the Tuvalu Electricity Corporation (TEC) have carried out installation of the PV systems on site. The involvement of the TEC technicians is part of their training to have a better understanding of the system as they would be responsible for its maintenance. Arrangements have also been made to rehabilitate the old Motufoua Power House on Vaitupu. The powerhouse will accommodate the project equipments (batteries, inverters, controls etc.)



Continued.....

COUNTRY	PROJECT	LOCATION/SITE	UPDATE
 Samoa	GHG Abatement through Energy Efficiency in the Land Transport Sector	Islands - Upolu and Savaii.	<p>In the Renewable Energy part of this project, the Scientific Research Organization of Samoa (SROS) has been looking at the production of bio-diesel from locally produced coconut oil. Under this initiative, 1000 L of oil was sent to Asia Bio-Fuel Tech company in Malaysia to be converted into coco- biodiesel using a SIP200 M biodiesel reactor. A company truck was used to test the biodiesel produced. There were no technical problems in the 3 days the test was done.</p> <p>SROS has now acquired the equipment (SIP200M reactor and accessories) and is now producing 200L a day batches of cocodiesel. This fuel is being tested in some of the government vehicles. The bio-diesel plant was showcased during the environment day celebrations on 25th November 2009.</p>
 Vanuatu	Renewable Energy Projects	Wind - all 6 provinces Hydro- Talise River, Maewo Island Solar -Santo and Malekula Islands	<p>Wind Monitoring Project: Six wind monitoring towers are expected to be erected in the next quarter. Initial preparations for procurement of new equipment have been completed and equipment for the towers is expected to arrive in Santo soon. The installation of the towers will be conducted with the help of PIGGAREP's engineer, Mr. William Thorp.</p> <p>Talise Mini Hydro Project: The final draft report of the feasibility study of the hydro project is currently under peer review. A 'V-notched weir' is currently under construction and expected to be completed in the first quarter of 2010. The weir is expected to provide additional stream flow to improve modifications of the main weir.</p> <p>Solar Rehabilitation Project: All solar scoping works for schools and health centres on Santo, Malo and Malekula have been completed. All materials have been identified and the tender request has been made through the local and regional media network.</p>
 Palau	Energy Efficiency Home Loans	Koror and Airai States	<p>The project envisages a savings of 15% in electricity usage by implementing a number of efficiency measures. These include highly reflecting white roofs, radiant shields & insulation, efficient lights and appliances together with architectural improvements. Two model homes have been constructed (2 underway) to demonstrate the idea and create awareness. The National Development Bank of Palau has continued with its awareness raising campaign for this innovative project.</p>

Projects in action...



Solar home installations on Mo'unga'one Island, Tonga.



Solar home installations on Mango Island, Tonga.



Site excavation for Talise Hydro Project, Talise River, Maewo, Vanuatu



View inside a completed energy efficient home in Palau.



Unloading of light fixtures in the Marshall Islands.



Energy efficient home model under construction in Palau.



Street light retrofitting project on Majuro, Marshall Islands.



Installation of bio-diesel plant at the Scientific Research Organisation of Samoa (SROS).



Energy efficient home model under construction in Palau.



A teacher and his students using the newly installed solar light during night class in Mango, Tonga.



IUCN (International Union for Conservation of Nature)

IUCN is a leading environmental authority with a global network of governments, NGOs and scientific experts. It has a unique ability to bring together a wide range of stakeholders to form solutions to environmental challenges - such as energy futures. IUCN's UN General Assembly Observer Status and role as environmental advisor to the G8 means it is ideally placed to influence international decision making, by linking field, local and regional experiences to international policy dialogues.

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Produced with the support :

