Welcome...

Bula and welcome to the first edition of the Pacific Energiser – from the new home of the Energy Programme, the Economic Development Division (EDD) of the Secretariat of the Pacific Community (SPC), at Nabua, Fiji.

The first three quarters of 2010 have been an exciting period worth recapturing. SPC took over the lead role in the regional energy sector in January. Officials and agencies met in Nadi in March to review the guiding document for the regional energy sector – the Pacific Islands Energy Policy (PIEP). As a result, they came up with the concept of a Regional Framework for Action on Energy Security in the Pacific (FAESP). The regional energy programme physically moved from the Pacific Islands Applied Geoscience Commission (SOPAC) in April. Then officials met in Noumea in May to map out the FAESP. The Forum Energy Ministers met in June and recommended the framework to be endorsed by the Forum Leaders. The leaders then endorsed the framework in August.

This is a major achievement and we acknowledge the effort of Dr Jimmie Rodgers and his two generals, Patricia Sachs-Cornish and Rupeni Mario, for laying the solid foundation for a new chapter in regional cooperation and development in the regional energy scene. This achievement is a testament that we are many individuals and partners but when we work together as a team towards a common goal, then nothing is impossible. This is the anchor for FAESP – Many Partners, One Team, One Plan.

To take the FAESP forward and the spirit of cooperation it embodies, the Pacific Energy Oversight Group (PEOG) of regional agencies met on 18 August to coincide with the presence of a SPREP representative in Suva.

On 1 September, SPC’s Director General signed a Memorandum of Understanding (MOU) with the Pacific Power Association (PPA) and the Pacific Infrastructure Advisory Center (PIAC) on behalf of the Pacific Regional Infrastructure Facility (PRIF). The MoU is to establish a sustainable benchmarking system for the power utilities in the Pacific Island countries and territories (PICTs).

Members of the PEOG including IUCN, PPA, SPC and SPREP met on 2 September to brainstorm on the regional energy proposal under the EU EDF 10. USP has provided written inputs. USP had its Energy Summit on 14-15 September, where senior energy and power utilities officials from its member countries discussed their capacity building and training needs on renewable energy.

At the beginning of the new journey on the FAESP, we are presently establishing the baselines of where the region and PICTs are in terms of energy security. It is through establishing these baselines that we can always look back to determine whether the millions put into the sector have made any difference. Have the people of the Pacific at all times have access to sufficient sustainable sources of clean and affordable energy and services to enhance their social and economic well-being?

In this issue, we present to you the team at SPC and the services we are presently offering. In so doing, we are also presenting to you those who will soon join the team through the North Pacific ACP Renewable Energy and Energy Efficiency Project (North REP).

The presence of agency logos below signifies that this newsletter is jointly produced and owned and further demonstrates the ‘One Team’ effort required in realising the vision of an ‘an energy secure Pacific’.

This newsletter is structured according to the seven themes of the Framework for Action on Energy Security in the Pacific.
The SPC Suva-based Energy team:

SPC Suva-based Energy staff (left-right): Rupeni Mario - Energy Adviser; Ivan Krishna - Energy Programme Support Assistant, Koin Etuati - Energy Programme Assistant; Shakil Kumar - Energy Officer Petroleum; Solomone Fifita - Deputy Director (Energy); and Frank Vukikomoala - Energy Programme Assistant

The North REP Energy team:

**Arieta Gonelevu – Energy Specialist, RMI**

A Fijian and the only female member of the Team, Ms Gonelevu has worked at the Fiji Department of Energy as an Energy Analyst/Renewable Energy Development Programme Coordinator for the Fiji Government, specifically on standalone solar home systems, micro hydro developments and other solar application technologies; SOPAC specifically working on biofuels, solar, and hydro developments in the region; and IUCN as a Senior Project Officer specifically on renewable energy and energy efficiency developments in Nauru, Niue and Tuvalu under the GEF PAS Project. She has a Bachelor of Technology (Electrical Engineering) from the University of the South Pacific, and a Master of Science (Renewable Energy) from the Murdoch University, Australia. She has also done a three-month attachment at Hangzhou Regional Centre, China to specifically study all aspect of micro hydro developments and the Osaka City University through a JICA programme for solar home systems and application technologies.
Uzumma Erume has recently joined the Economic Development Division as an Energy/Transport Economist and ODI Fellow. She previously worked at the Pacific Islands Forum Secretariat as an ODI Fellow working on economic growth and infrastructure issues. Uzumma will be providing an advisory role on energy and shipping projects such as the Pacific Petroleum Project, petroleum pricing, small island state (SIS) shipping services and improving trade opportunities for SIS through better transport links.

An Australian citizen, Mr. Polack holds a Bachelor of Commerce degree with an economics major and a Postgraduate Certificate and Diploma in Energy. He is finalising his thesis for a Master of Science in Renewable Energy from the Murdoch University on the topic Drivers and Barriers of Renewable Energy in the Electrification of Vanuatu. Mr Polack was employed as a Senior Energy Programme Officer with the South Australian Department for Transport, Energy and Infrastructure where he assisted in the management of energy supplies to remote, indigenous and rural areas. He also manages the South Australian aspects of the Australian Government’s Renewable Remote Power Generation Programme and a remote end-use energy efficiency programme – this work has involved both off-grid and grid-connected renewable energy. He has also worked as an Energy Specialist with the Energy Unit of the Government of Vanuatu as part of an international development volunteer programme funded by the Australian Government. Prior to the Vanuatu work he was employed as a Programme Officer working on the Clean Development Mechanism (CDM) at the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat in Bonn, Germany where his role involved the assessment of large and small scale, clean development and renewable energy projects with regards to their financial and environmental integrity and provided recommendations to the CDM Executive Board. He has previously worked as an Assistant Manager of National Energy Market Policy in the Australian Government Department of Industry, Tourism and Resources and as an Energy Economist at the Australian Competition and Consumer Commission (ACCC) and the Office of Gas and Electricity Markets (Ofgem) in the United Kingdom.

Mr Taibi leaves UNIDO to join the North-REP Team. His primary duties at UNIDO were: as the leader of the UNIDO contributions to the Global Energy Assessment: “Renewables in Industry”; evaluation of the economical and financial feasibility of solar thermal and biomass application to selected SMEs projects; UNIDO representative for Technical Working Groups of the Global Bioenergy Partnership; managing collaboration with UNIDO’s International Center for Science and High-Technology (ICS), specifically in the field of geothermal energy; and supporting UNIDO’s Energy and Climate Change branch Director on non-project activities in the field of renewable energy.
What it is and what difference will it make?

Energy, being a cross sectoral subject and being of interest to everyone, will always involve many individuals and organisations, hence, the need to have a common vision and goals to guide everyone and the need for quality leadership to effectively coordinate everyone’s effort.

The primary energy issues facing the Pacific Islands are to do with Accessibility. It is estimated that about 70% of the people in the Pacific Island countries (PICs) still do not have access to electricity. For some remote communities, fossil fuel supplies for their lights, small generators, outboard motors and land transport are always out of stock due to the absence of bulk storage facilities and the irregularity of the shipping services.

Prices of petroleum products and the electricity tariffs in the Pacific Islands are regarded as one of the highest worldwide and so Affordability is a major issue.

The heavy reliance of the Pacific Islands on imported fossil fuel, as well as the use of solar photovoltaic batteries, hydro power construction and wind power all have economic as well as environmental implications. The quality and therefore Cleanliness of the energy supply, storage, distribution and consumption is a priority issue.

Finally, energy is not a luxury but a factor of production. All energy sources must therefore be produced and consumed in the most efficient manner. The Productivity of an economy through its use of energy resources is therefore a priority issue too.

Accessibility, Affordability, Cleanliness and Productivity in the energy sector are all captured by Energy Security. Hence, the vision in the FAESP is for ‘An Energy Secure Pacific’ - A Pacific where all people at all times have access to sufficient sustainable sources of clean, affordable energy and services to enhance their social and economic well-being. Energy Security in this context does not automatically marginalise petroleum nor elevate renewable energy over others. Energy Security means looking at all the choices on a leveled playing field. For one may be clean but is not affordable and another maybe affordable but has limited applications and does not support productivity. So Energy Security calls for a whole-of-sector approach. It means that people must come out of their individual cells and look at the energy issues on a collective and from a holistic approach. For a power utility may be enjoying cheaper fuels from it supply contract but the rest of the country may be getting higher fuel prices as a result. And so much grant aid money is spend on small scale stand alone solar photovoltaic systems whereas it could make bigger impacts by improving the diesel power generation efficiency.

The FAESP therefore marks a new chapter in leadership and in energy sector collaboration and development. It calls on all parties to come together as many partners but working together as one team under one common plan.

At the regional level, the FAESP provides the guiding framework for collaboration among regional agencies. It is encouraging to note that many of the international agencies too are rallying behind the FAESP. At the national level, it would be pleasing to have a parallel framework that is complementary and coherent. Tonga’s Energy Road Map springs to mind. National priorities will always take the centre stage and regional supports are to add value.

But the FAESP is necessary but not sufficient. It must be backed by an Implementation Plan that is do-able and realistic. Regional agencies are in the process of putting together their individual work plans into the FAESP Implementation Plan.

The Forum Leaders have blessed the FAESP and it will now be presented through the SPC annual council meeting (CRGA) and its meeting of Ministers (Conference) to capture the endorsement of non-Forum members. Meanwhile, the Implementation Plan is being developed to be endorsed at a planned Energy Officials and Ministers meeting on the first half of 2011.
In September 2009 a Cooperation Agreement was signed between ETC Foundation, IUCN Oceania Regional Office (ORO) and SOPAC (now SPC) to implement a project which would ensure that gender sensitive considerations were factored into the IUCN ORO, Energy, Ecosystem and Sustainable Livelihoods Initiative (EESLI). The initiative is aimed at accelerating the transition to ecologically efficient and socially equitable national energy sectors by:

• supporting beneficiary countries in the development and implementation of environmentally sound, sustainable energy policies; and

• implementing a number of renewable energy pilot projects focusing on ecosystem conservation and livelihood enhancement.

The expected output of the EESLI is the implementation of pilot projects in Palau, Samoa, Tonga, Tuvalu and Vanuatu that demonstrate sustainable energy technologies and management systems suitable for wider dissemination in other Pacific SIDS.

Under the guidance of the Pacific Energy and Gender Network (PEG) a review was conducted of all the five projects to determine how effectively gender considerations has been mainstreamed into the project and to also assess the capacity of the institutions hosting the projects to implement gender sensitive interventions.

The project review was followed by three training workshops for the project staff and coordinators and steering committee which were held in Tonga, Vanuatu and Samoa. Field surveys were conducted as part of the training which focused on reviewing the different roles of men and women in the targeted communities; the different impact energy intervention had on women and men; the different energy uses for women and men; and identifying gender mainstreaming entry point in the energy projects.

On the village of Moungâone in the Hapai’i group of islands in Tonga, the community was assisted through the rehabilitation of solar photovoltaic (PV) systems for lighting. On Maewo Island in Penama Province, Vanuatu, the villagers have been waiting for 12 years for a hydro project for electrification which will serve the villages of Talise, Narvororo and Nasawa. The Samoa project is creating an enabling environment to energy efficiency in the land transport sector through institutional arrangement; promotion of biomass gasification and biofuel application in the transport sector.

The workshop participants for Tonga and Vanuatu were given household questionnaire survey forms which were designed to determine the different roles of women and men in the household, the different forms of energy used, different uses of the intervention and also to find out who were the decision makers within the household and if there was equal consultation in determining the usage of the intervention.

All the energy officers who took part in the activity were introduced to hands-on-approach to determining gender roles and to paying attention to the views of the women in the community through the field work and also in the analysis of the findings.

The field work in Moungâone identified shared responsibilities between the men and women with the men carrying out the labour intensive work in the community and the women looking after the household, the children and the preparation of food. Men were also involved in food preparation.

It was also identified that the population of the island is made up of young children, 0-10 years, and middle aged to older generation 30 – 70. It was obvious from the visit that there were no youths in the village as most have been sent to the main island for education purposes. It was also observed that women did not often speak out during community meetings but were consulted in smaller groups to gather their opinion. The field survey also highlighted receptiveness to more involvement by women in the technical aspects of the project such as the possibility of women providing back up support to the male technician and the possibility of women being trained in this role.

In relation to energy use on the island, most of the families
still used biomass (firewood) for cooking purposes and even homes that had liquifed petroleum gas (LPG) used biomass regularly due to the costs of gas. The solar PV system had contributed to an improvement in standards of living as women were now able to weave at night and generate a bit more income and it also helped the girls and boys doing homework in the evenings.

One of the groups highlighted that the lighting in the evening also meant that the men could drink kava in the evenings and have more time to discuss village issues, but this could also have negative impacts on family and time. The system had helped families on the island communicate with their loved ones overseas through the use of the telephone.

The survey highlighted a number of other energy needs that could be met including the need for refrigeration and stoves, but it was also obvious that not many of the families would be able to cope with the increase in costs. Most households indicated the need for spare bulbs, better quality light bulbs or light emitting diode (LED) lights as the current bulbs do not last long.

The field work on the island of Maewo involved conducting similar household surveys in a handful of households on Narovorovo village, Talise village and Nasawa village as well as Focus Group sessions with women from the three villages. Through the field work, the key role of women in the community was identified in particular the way they are organized into church groups, community groups with some members of the Cooperative Agricol (an income generating group through sales of cash crops and daily household’s need such as firewood).

The survey also identified the women’s role in village level decision making through their representation on the village council through their various groups. The household surveys identified shared responsibility in the managing of family affairs with most couples responding to the surveys together.

Through separate consultation with the women’s group, a lot of key information was gathered from the women in relation to the support they provided to each other in the village. It was obvious that the community had very organized support systems for the women, which included income generating ventures and this support system could be used to benefit the Talise Hydro Project.

Information was also gathered through observing the way the women and the men related to each other in the village setting and the way the families lived.

The field work in Samoa included community consultations to create awareness on the energy project and to allow energy project officers to observe how the Ministry of Women, Community and Social Development carried out community consultations. There were two separate community consultations carried out, one was for the Matai/ Chiefs from Asau District and the second consultation was with the women group in Asau Village. The first consultation included 25 men and three women while the second consultation included 25 women. The team was able to gather different views from two consultations, with women group providing new information related to the project. These included information on banning the use of bicycle by young girls and women and horses in the village due to cultural and health issues respectively. The project team learnt that even though traditional systems are priorities in terms of community consultations, existing mechanisms are already available that could promote gender equity approach which were identified during the training.

For most of the project staff, the field questionnaire and the community consultation allowed them to gather information which was not usually considered relevant for an energy project but through the capacity building activity is identified as a key aspect to ensure the projects are sustainable and justifies the need for effective gender mainstreaming.
The substitution of petroleum products with local renewable energy resources and reduction of greenhouse gas (GHG) emissions seems possible to a certain extent in most Pacific Island countries and territories (PICTs). Among others there is a potential for unprofitable copra industries to be converted into biofuel production, but the extent and viability of coconut use for biofuels needs to be assessed on a case by case. Among others the bioenergy potential need to be assessed in relation to other renewable energy sources, food security and environmental implications including on bio-diversity.

Vanuatu has significant experience with biofuels including having used coconut oil as fuel for land transport and electricity generation. Concerning electricity production, coconut oil is currently used in the main power grid on Efate as well in a de-centralized mini-grid in Port Olry, which is situated in the northern part of Santo Island. The technologies for making and using 100% coconut oil to substitute for diesel in Vanuatu are well advanced vis-à-vis other PICTs including being proven. However, the long-term success of such initiatives depends, in part, on regeneration of coconut industries, inter-cropping coconut with food crops and livestock, and replacing ageing coconuts.

The Port Olry Biofuel Project has been designed, as depicted in Figure 1, with the intention of having its copra and coconut oil supplied and processed locally to fuel the 40kW Duez generator.

Preliminary findings of the assessment noted that, like other similar initiatives in the Pacific, there are challenges such as administrative, technical and social aspects to be addressed to enhance the performance of the project and its viability. The Team in July completed a household survey and collation of information including consultations with key stakeholders on Santo and Efate.

These lessons learnt will also contribute to the planning and implementation of nine other coconut oil based electricity generation mini-grid systems for Malekula, Ambae and Vanualava.
A week long training on small scale coconut oil processing was conducted at the Centre for Appropriate Technology and Development (CATD) in Nadave, Fiji from 30 August to 3 September, 2010.

The training is a result of the action research project on “Generating and Disseminating knowledge on community based Processing of Coconut Oil in the Pacific”. The action research project in principal aims to enhance understanding and knowledge on small scale coconut oil processing. This could contribute to improving the economic resilience of a village community by diversifying their income base, which in this case looks at changing from the traditional production of low valued dried copra to the production of biofuel (for use in an adapted diesel engine) and other value added products such as body oil, body lotion and coconut soap. The project, funded by the Technical Centre for Agriculture and Rural Cooperation (CTA), installed and commissioned a small scale coconut oil transformation mill at the CATD in July 2009.

Being a recipient of the project, CATD has gathered all the relevant knowledge and experience on small-scale coconut oil processing, and have further taken the initiative to develop a small scale coconut oil processing training programme to target the rural coconut communities in Fiji. Through the remaining funds from the action research project, SPC further assisted CATD with the development of their small scale coconut processing programme and the funding of a national training to trial and showcase the newly developed training programme.

The training was facilitated and conducted by staff members from CATD. Invited speakers from the National Centre for Small & Micro Enterprise Development (NCSMED) and the FACT team from the SPC Land Resource Division also presented and contributed to the training. A total of 46 participants from Rotuma, Cicia, Ono, Vanua Balavu, Gau, Bua, Macuata and Bau participated in the training.

The following training were undertaken simultaneously during the week:

1. **Coconut oil mill operation, biofuel processing and equipment maintenance and servicing training** – which was mostly hands on and covered biofuel production and general equipment operations, and maintenance targeting the rural operators and technicians. The equipment used for this training included filtration units, the biofuel blending setup and the generator.

2. **Small scale coconut oil processing and marketing training** – which covered training on the production of coconut oil products (soap, lotion, virgin coconut oil and body oils), product packaging, marketing and business training, sanitary and standard issues (HACCP) and microfinance scheme opportunities. The targeted participants are those interested in establishing small business on coconut oil processed products.

The training was also an opportunity for CATD to establish links and work in consensus with other government departments and institutions in putting together their resources to better serve, develop and strengthen the coconut industry in Fiji. The training was therefore undertaken in collaboration with the Fiji Department of Energy and the Ministry of Agriculture in the selection of participants (operators and community members) from their identified project site.

In summary, the workshop was a success and achieved all its objectives as per results below:

1. The observers and participants provided positive feedback on the training, which CATD will take into consideration in the development of the final training programme and training manuals;

2. CATD has managed to work successfully in collaboration with the Fiji Department of Energy and the Ministry of Agriculture during the workshop with indication of future collaborative work; and

3. The National Centre for Small & Micro Enterprise Development (NCSMED) through their scheme for small microfinance loans have unofficially agreed as part of their loan criteria to recognise and accept CATD small scale coconut training certificate of participation as contributing points to providing microfinance loans.
**Energy to Modernise Public Services – Schools and Health Centres**

**Project Duration: June 2008 to November 2010**

**Overview and Progress**

In June 2008, SPC (formerly SOPAC) signed an Agreement with the Pacific Islands Forum Secretariat (PIFS), to implement a project titled "Energy to Modernise Public Services – Schools and Health Centres".

The project in principal was to demonstrate the critical role that energy plays in the delivery of quality services to rural communities and remote islands by providing a reliable, affordable and environmentally sound electricity supply systems for rural schools and health centres in two Pacific island countries.

Considering a phased approach, the project as planned is to be undertaken in 3 main components, which firstly covers an assessment of energy requirement of the selected sites with the identification and installation of a suitable renewable energy technology (RET). The second component looks at the operators training on the operational procedures and maintenance of the RET installed with the final component looking at awareness activities in addressing the gender roles of the community.

Vanuatu and the Fiji Islands were selected as the participating countries in the implementation of the project.

**Fiji: Solar Water Pump Project**

The Fiji component looked at solar power for water pumping to provide access to clean drinking water in two communities which is at Wairiki Village in Bua, Vanualevu and at Nasama in Navosa, Vitilevu.

Wairiki Village used to have a water supply that is fed from a nearby river which usually dries up during the dry season causing water shortages for the village. Through the project, the Fiji Department of Energy and SPC in November 2009 installed a solar water pump and a 25,000 litre water tank with connecting reticulation pipes at a nearby borehole to feed back up water to the existing water supply and reticulation system. Since the installation, the community has been fed with consistent water supply.

For the Nasama community, a water borehole was fitted with a diesel operated water pump with complete reticulation unit in the early 80s to supply the community with water for irrigation and domestic consumption. However since 2002, the community has struggled with operating the water pump due to high fuel costs resulting in the pump being operated only to a certain amount of time sufficient for allowing households to fill 200 litre drums only to meet their domestic consumption needs. During periods of no fuel availability to operate the water pump, the communities usually resort to collecting rain water for consumption and the nearby river for washing and bathing. In November 2009, the Fiji Department of Energy and SPC conducted the mission to replace the diesel operated water pump with a solar water pump (including a 10,000 litre water tank and connecting water reticulation pipes). However this was not made possible due to some technical difficulties in changing the borehole fittings of the water pump which caused a delay which resulted in the installation finally being carried out in September 2010. The community now enjoys consistent water supply for domestic consumption.

A follow up mission to Togariki on 28 September 2010 involved community awareness and training and an evaluation of the project and its impact on the community.

**Vanuatu: Coconak Solar PV Project**

The Vanuatu component looked at improving access to electricity by installing solar photovoltaic (PV) systems at Coconak community in Togariki Island. Through the Project, the Vanuatu Energy Office and SPC installed solar PV systems at the Coconak Primary School classrooms, the staff quarters and the Health Centre. The school was also supplied with two computers and a printer, which have improved their access to information via the internet. Likewise, the solar installation at the Health Centre has greatly improved lighting in the centre. Before February 2010, the Health Centre used lanterns and hurricane torches to provide adequate lighting during deliveries of babies - this is a problem of the past now.

A follow up mission to Togariki on 28 September 2010 involved community awareness and training and an evaluation of the project and its impact on the community.
Cook Islands Fuel Settlement – SPC Technical Assistance

The Government of Cook Islands through its Ministry of Foreign Affairs and Immigration requested the Secretariat of Pacific Community (SPC) to provide technical and financial assistance to undertake specific work on behalf of Government relating to the fuel settlement agreement with TOA petroleum. SPC appointed Mr. Alan Bartmanovich of Ouro Preto International as the consultant for settlement on behalf of the government. Mr. Shakil Kumar, SPC’s Energy Officer Petroleum and Ms. Helen Maunga, Director of Ministry of Internal Affairs accompanied the consultant for capacity development in the petroleum sector.

On 4 December 2008, the Government entered into a heads of agreement with TOA, a local fuel company, to purchase the TOA fuel terminal and related assets. On 11 December 2009, the Government subsequently entered into a settlement agreement that nullified the heads of agreement of 4 December 2008. The settlement provided for the Government to pay TOA $1.75 million and guarantee TOA annual earnings before interest, taxation, depreciation and amortization (EBITDA) of $1.2 million for the next eight years. TOA EBITDA exceeding $1.2 million per annum would be paid to the Government. Hence SPC through the consultant negotiated a draft agreement that outlined the basis on which the Government and TOA will achieve the $1.2 million per annum EBITDA guarantee from their business which is the storage, sale and distribution of petroleum fuels, lubricants and other related products in the Cook Islands.

The fuel settlement agreement was split into six milestones with the first three milestones covering the independent TOA facility audit and operating cost verification which was reflected in the draft agreement that puts into operation how the settlement agreement with TOA will work. The following two milestones cover the review of the fuel pricing template of Cook Islands and the final milestone being submission of reports on the consultancy and current status of petroleum import, storage and handling.

The following are the key milestones for technical assistance to the Government of Cook Islands:
1. Undertake an independent audit of TOAs operations and assets through on-site visit of the fuel farm and review of relevant corporate documents;
2. Recommend to the Ministry of Internal Affairs of Cook Islands what are reasonable costs that should be factored into calculating the TOA profit guarantee;
3. Develop a draft agreement that puts into operation how the settlement agreement with TOA will work;
4. Review the current fuel price template to ensure that the TOA profit guarantee is addressed in a way that does not stop the market operating efficiently;
5. Recommend to the Ministry of Internal Affairs improvements to current fuel price template to ensure that it is fair, robust and meets generally accepted principles; and
6. Provide a final report to SPC and Ministry of Internal Affairs outlining the work undertaken and its conclusions at the end of the consultancy period.

This work was carried out over 10 days from 11 to 20 August 2010. SPC and Ouro Petro International would like to thank Ministry of Internal Affairs (Ms. Bredina Drollet, Ms. Helen Maunga and Joseph Tommy), Ministry of Finance (Mr. Kevin Carr & Ms. Tina) and staff of TOA (Mr. Brett Porter, Scott Leith & Okirua Apera) for providing the necessary information to complete the work. The secretariat would also like to thank Pacific Islands Forum Secretariat for funding this project.

Moving forward, in order to assist Cook Islands and other Pacific Island countries and territories (PICTs) to receive reliable supply, safe transportation, affordable and accessible fuels SPC is developing its capacity to become a centralised resource to support:
1. The competitive petroleum procurement process – to achieve the goals set in Pacific Petroleum Project.
2. Develop guidelines for safe storage and transportation of fuels – review the Pacific Island Petroleum Storage and Handling Standard P11.
3. Petroleum pricing support to ensure affordable fuels is available – this is being done through monthly fuel price verification and annual reviews.
The Pacific Petroleum Project aims to improve the cost and security of supply of petroleum fuels to Pacific Island countries by running a bulk procurement process for petroleum supply to a number of countries. This article summarises progress on the Pacific Petroleum Project with the release of the first three milestone reports.

The Project plan is split into six milestones with the first three covering the prevailing market and supply situation in each Signatory and what needs to be in place for a bulk fuels tender, how might it be done and how the risks involved may be managed. The following two milestones (four and five) cover the design and drafting of the commercial supply contract with the final milestone six being the development of the associated tender documentation along with running the initial tender process.

The following are the key milestones for Phase 1 of the project.

1. An assessment of national standards and requirements. This assessment should provide recommendations and advice for Forum members on options for standardising and harmonising petroleum products and management standards as well as a common statement of requirement articulating the needs of current and prospective signatories of the MOU;

2. A procurement strategy detailing the tendering model to be used to procure collective services, project specifications and key milestones inclusive of actions to be undertaken by current and prospective signatories in preparation for the tendering of a collective commercial contract;

3. A risk assessment presenting options and recommendations for consideration by current and prospective signatories with a view to developing common positions prior to contract preparation on issues including, but not limited to, market volatility, currency fluctuations, commercial and sovereign risks, environmental risks and broader management and supply chain considerations;

4. A draft commercial contract for goods and services for consideration by current and prospective signatories;

5. A final commercial contract for goods and services for consideration by current and prospective signatories, which incorporates comments and suggestions made by current and prospective signatories where such comments and suggestions are mutually and generally agreeable among current and prospective signatories; and

6. All associated tendering documentation and services necessary for the successful tendering of a commercial contract for goods and services required.

Currently, there are only five countries that have signed the Memorandum of Understanding between the island states on the Project. These are Cook Islands, Nauru, Niue, Republic of Marshall Islands and Tuvalu. Combined these countries only have 140-145 million litres petroleum demand which is small volume by petroleum supply standards, less than many of the other island states on their own. To obtain economies of scale that will be attractive to suppliers more volume will be required which means more Pacific Island countries should be encouraged to become signatories to the Project.

The key relevant constraints for each signatory are:

**Cook Islands:** Effectively over 70% of the volume demand in Rarotonga has been contracted out until October 2012 with Te Aponga Uria (power utility) volume formally contracted with the same supplier who controls all the aviation volume. Without this significant volume there is little value for the Cook Islands in participating in a bulk tender process. In the short term it is probably better to bring other demand into the deal of the current supplier who is providing the bulk of the demand. This defers the Cook Island’s entry in any bulk procurement outcome for two years although they could participate in the process at a later date.

**Nauru:** Nauru tenders supply on a spot (cargo by cargo) basis so is able to participate in a bulk procurement process although if Nauru’s demand is not able to be aggregated with that of other proximate countries, any procurement process would be similar to its current procurement process, except moving from a spot to a term supply arrangement (and possibly aggregating Nauru’s black oil demand with its fuel demand). There are opportunities for efficiency gains with Nauru but they are modest compared with those that might be available with greater demand aggregation.

**Niue:** Niue could also participate in a tender but, unless and until its marine port terminal is re-established, Niue only has one supply option which is supply via isolatiner on the cargo vessel that visits Niue every three to four weeks. As a result there is little ability to apply competitive pressure through a tender process.

**Tuvalu:** Tuvalu is in a similar position to Niue in that it is currently also supplied by isolatiner. We have been advised that the intention is to move back to LCT supply using an upgraded terminal. However, the marine terminal will be owned by a company with an interest in supplying, so any bulk procurement process will need to work with that supplier to ensure that the objectives of the bulk procurement process can be achieved.

The Republic of Marshall Islands signed the MOU for Pacific Petroleum Project on 12 August 2010 hence their National Assessment is currently under process.
Moving the process forward

Create a tendering “tool kit”

While all the signatories are not able to commit to immediate participation in a bulk tender process there is definitely value in progressing the Project. The value of having a competitive tender process has already been observed in a number of Pacific Island countries (both signatories and non-signatories). The advantage of a bulk procurement process is achieving the best outcome for the whole of a country’s demand rather than only part of it, along with the opportunity to obtain synergies between countries.

In addition not all the Pacific Islands have sufficient expertise or knowledge of the oil industry to successfully run a tender process. The output of the Project (contracts and tender documentation) will be just as useful for individual countries running tenders for petroleum supply. With the involvement of SPC in the Project, the Project outputs should lead to a centralized resource being created in SPC that can support competitive procurement processes in all Pacific Island countries. This will avoid each country needing to develop the necessary expertise and will have the benefit of ensuring the region creates and maintains an appropriate level of expertise.

To achieve this outcome, the consultant Hale and Twomey recommended that the project continues through the contract and tender drafting stage (effectively creating a “tool kit”). The key change from the initial scope will be in the second part of milestone six where the implementation of the bulk tender process will need to become a rolling process of implementation taking into account the different timings when signatories will be able to join the project.

The alternative strategy is to call the project to a halt. Effectively this would be a decision that there won’t be enough benefits from bulk procurement at this stage to justify the cost and difficulties in trying to progress it. The problem with this approach is that Pacific Island countries will still need procurement support for petroleum fuel purchases and the tool kit won’t have been developed. In addition, there will be value from coordination between states (e.g. alignment of fuel specifications and operating standards) and this won’t be able to be captured.

Pan Pacific preparation and alignment

In order to maximise the potential benefits of a bulk procurement initiative:

More Pacific Island countries need to participate – the more demand volume that can be secured for the tender, the greater the likely benefits due to economies of scale and greater competitive tension from enhanced supplier interest. The aggregate demand of the current signatories to the Project is very low.

Harmonisation of fuel quality and vessel and terminal facility standards is needed across the region. Harmonisation promotes efficiency and also has ancillary cost benefits in enhancing security of supply and minimising the risk of environmental damage. This benefit is Pacific wide and cannot be implemented by the signatories alone.

The figure below shows the supply routes of the current signatories including the additional supply legs where appropriate.
Throughout 2008, crude oil price globally were extremely volatile. There was a record price increase between February and July (US$100/bbl to $156/bbl) and a record price decrease between July and December (US$156/bbl to US$39/bbl). Over this period, both international and the Pacific Island countries local retail fuel prices were put under stress.

In 2009 Tapis crude oil prices increased and stabilized in 2010 around US$80/bbl. The Optimism about global economic recovery and higher demand expectations supported the oil market price increase in 2009. However, uncertainties kept Tapis crude oil price within a US$70-80/bbl range in 2010 with exception to April and May when prices rose US$6/bbl in May to average US$87.400/bbl, the highest since the onset of the financial crisis in September 2008.

**2010 - 3rd quarter oil price movement**

Benchmark crude oil prices began to climb in the 3rd quarter of 2010, supported by stronger financial markets and either scheduled or unplanned supply disruptions in the Asia Pacific Region. Oil prices in July traded in a relatively narrow range of around US$73-80/bbl compared with an unusually volatile May. The negative market sentiment that emerged in May continued to temper price moves to the upside in June. By early July both Asia Pacific benchmarks touched four week lows before rebounding to US$78.00 ~80.30/ bbl from 14 – 30 of the month. By early August, oil prices shot up to a three month high of over US$84/bbl. A strong recovery in equity markets on the back of positive second quarter earnings and a sharp downturn in the US dollar were reportedly behind the rebound.

**Key factors influencing international prices**

Fuel prices in the Pacific Islands for different products (e.g. petrol, diesel and kerosene) can be volatile due to the impact of factors and events unique to one market or all markets globally. As a result, focusing on the long-term price trends in the relevant regional market for specific products is important to understanding what is driving movements in the prices of specific fuels here in the Pacific Islands. Outlined below are some of the fundamental market drivers and other influences impacting on regional and global market prices, and thereby individual Pacific Island countries prices, over time.

**Key factors influencing international crude oil prices:**

- Changes in regional and global supply balances in both the short & longer term
- Major supply disruptions from natural disasters, war civil unrest & strikes
- Seasonal demand and demand spikes
- Inventory management
All of the factors above can have influence in determining the final price to fuel consumers in PICs. In addition, the role that each of these factors play can change over time or indeed can offset each other. An illustration of these factors, the chart below, highlights specific international events which impacted on the price of crude oil in recent years.
Regarded as one of the early fruits of collaboration under the FAESP, the SPC, the Pacific Power Association (PPA) and the Pacific Infrastructure Advisory Center (PIAC) on behalf of the Pacific Regional Infrastructure Facility (PRIF) have agreed through a Memorandum of Understanding (MOU) to establish a sustainable benchmarking system for the power utilities in the Pacific Island countries and territories (PICTs). This MOU was signed in September 2010.

Benchmarking is a practical management and decision-making tool to measure and improve the performance of utilities through the establishment and adoption of a set of performance indicators. The indicators would then be the basis for future performance monitoring. The project will help power utilities to identify performance gaps and effect improvements through sharing of information and best practices, ultimately resulting in better energy services in the Pacific.

This MOU recognises the supremacy of the FAESP vision for An Energy Secure Pacific and its goal of a secured supply, efficient production and use of energy for the sustainable development of the PICT. It also recognises the 'Many Partners One Team' anchor for the FAESP. As such, SPC will play a coordination role while PPA will be the implementing agency given its lead role in the power sector.

The project will involve the engagement of a benchmarking consultant who will be assisted by six power utilities representatives to select the common indicators to be benchmarked. The benchmarking exercise will be conducted together with some capacity building activities to embed the practice of performance monitoring and benchmarking in the utilities.

The project will be monitored by a Project Steering Committee comprising representatives from the key agencies involved and from the Pacific power utilities.

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**Benchmarking performance of power utilities**

Limited availability of reliable information on the performance of power utilities in the Pacific region presents a significant challenge to systems improvement and institutional reform.
Standards and appliance labelling study
(10 - 29 August 2010)

The ongoing REEEP – SPC co-funded project on Energy Efficiency, Auditing and Appliance Labelling (PICS EEAAL) for the month of August 2010 carried out in-country visits to Samoa, Vanuatu and Tonga.

The trips were to progress some of the planned activities in the participating countries and also to contribute to the standards and appliance labelling (S&L) study. The team consisted of Frank Vukikomoala from SPC as part of project management, Deveraux Talagi from SOPAC as the Resource Economist (who is writing an economic report on energy efficiency and conservation) and Mr Sommai Phon-Amnuaisuk, consultant hired to undertake the standards and appliance labelling study.

The in-country trip mainly involved stakeholder interviews and collation of data and information to contribute to the S&L study and economic paper report. Other follow up activities, such as the development of awareness materials and setting of public awareness campaign dates, were undertaken.

For the standard and appliance labelling component, a draft report will be prepared in October. A preliminary finding from the trip indicates a need for increased focus on the introduction of standard regimes for Vanuatu and Tonga and the introduction of labelling and standards for Samoa. The option of adopting other countries’ standards and testing are perceived to be more viable. The consultant as part of his assessment will also look at some of the testing facilities for recommendation to the three countries.

The PICS EEAAL Project is implemented in five countries (Samoa, Vanuatu, Tonga, Republic of Marshall Islands and Palau) and will end in May 2011. The project aims to progress, in the selected countries, the implementation of national energy action plans including energy efficiency and energy conservation strategies taking into account previous and on-going regional activities on energy efficiency.
Importance of baselines and indicators

Energy sector planning and development within PICTs and the region generally lack the benefit of access to current and reliable energy data and information.

Although there have been concerted efforts on a decadal basis (in 1980, 1990 and 2000) to prepare regional energy assessments, by the time the data and information are collated and published they are outdated and contain inconsistencies and inaccuracies.

Because of too few human and financial resources including the setting up of a systematic mechanism to collate energy data, there has been no continuity of data collection at both regional and national levels, which makes it difficult to assess energy supply and demand and, renewable energy resource potentials. Data quality control is also a challenge.

The importance of data and information has been a topic of discussion in ministerial and leaders forums and, has been accorded special attention in the Framework for Action on Energy Security in the Pacific.

To address the energy data and information challenge, the SPC Energy Programme together with the Statistics and Demography Programme and, the Strategic Engagement, Policy and Planning Facility has embarked on developing a set of indicators that would basically depict the health status of the energy sector.

The draft set of indicators are:

<table>
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<th>INDICATOR</th>
<th>PURPOSE</th>
<th>IMPORTANCE OF COLLECTING</th>
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| Proportion of population that has access to modern energy services | • Describes the population having access to basic electricity supply (breakdown rural /urban), gas cooking stoves, improved wood-stoves and other modern energy services /technologies.  
• Need for disaggregation of different population group | • Measures access to energy (including electricity) that will impact on health, education and social indicators.  
• Impact on vital service delivery |
| Growth rate of volume of fuel imports | Reflects the reliance of the national economy on imported fuel, i.e. this determines the oil dependency levels of a country | • Measures the effectiveness of renewable energy initiatives and energy efficiency measures  
• Measures the % of RE in the national energy mix  
• Measures impact on macroeconomic stability |
| Total fuel imports as a percentage of total national imports (US$) | Determines a country's vulnerability level to oil price. | • Countries which depend 100% on imported oil are the most vulnerable to oil price rise.  
• Measures impact on balance of payments (trade deficits) as well as impact on foreign reserves |
| Tonnes of oil equivalent (toe) per US dollar | This indicator reflects the trends in overall energy use relative to GDP, indicating the general relationship of energy use to economic development. | Reflects energy use and their productive applications |
| Kilowatt-hours (kWh) per US dollar | This indicator reflects the trends in overall electricity use relative to GDP, indicating the general relationship of electricity use to economic development. | Reflects electricity use and their productive applications |

It is from this set of macro-type indicators that additional sets of indicators will be developed. The SPC Energy Programme through its energy country profile initiative will be progressing this to set the basis upon which the present (2010 baseline) status of energy security in the region will be revealed. This, and other data and information activities are priority of the Pacific Energy Oversight Group and other development partners such as the Asian Development Bank.
The objectives of the meeting were:

1. Enable Pacific Island countries (PICs) and members of the Pacific Energy Oversight Group (PEOG - PIFS, PPA, SPC, SPREP, USP and IUCN) to gain a better understanding of the PEC, its objectives, priorities, how it will work, etc;
2. Assist PICs with the consideration of their proposals by looking at other parallel renewable energy initiatives in the region;
3. Gauge the need for assistance from the PEOG on the development of concept notes and proposals; and
4. Get some guidance from PICs on the development of national and / or regional proposals.

At the Fifth Pacific Islands Leaders Meeting between Japan and the members of the Pacific Islands Forum at Hokkaido in May 2009, the PALM5 Islanders' Hokkaido Declaration Annex 1 “The Pacific Environment Community” (PEC Declaration), was launched. As a significant part of this Declaration, Leaders of the Pacific Island Forum welcomed Japan’s plan to provide 6.8 billion yen worth of contribution to the PIF as part of the Cool Earth Partnership to be utilized to address environmental issues including climate change, in support of national and regional priorities and frameworks and the programmes of Pacific regional organisations, including through appropriate Japanese environmental technologies. Japan has now provided US$66 million to the Pacific Islands Forum as part of the Partnership.

A Joint Committee (JC) with representatives of PIFS and the Government of Japan and chaired by the PIFS has the overall management and oversight responsibility to make the necessary decisions with respect to the implementation of the PEC Fund.

To facilitate the implementation by PIFS of its responsibilities, two mechanisms are currently being established to provide the necessary project management and technical advisory for the successful implementation of projects to be supported under the PEC Fund.

A PEC Fund Management Unit consisting of a Senior Technical Advisor, Project Officer and Project Administrator will be responsible to the Secretary General of the PIFS, through its Strategic Partnerships and Coordination Programme, for the day to day management of the funds.

A Technical Advisory Group is being established and will consist of nominated experts in the fields of climate change, renewable energy, water supply and sanitation, and other fields as may be determined by the JC to undertake, inter alia, the following activities;

- Appraise project concept notes and detailed project proposals;
- Verify and provide advice to the JC on technical components and merits of detailed project proposals;
- Make recommendations to the JC on technical merit and viability of detailed project proposals; and
- Assess project budgets based on proposed technical aspects of equipment and maintenance.
- Where necessary, provide technical backstopping to the work of the PEC Fund Management Unit.

Assessing the funds will involve the submission of a six-page Concept Note and then a detailed Full Project Proposal. The PEC Fund will be used for environmental issues including climate change projects with a focus on the provision of solar power generation systems and sea water desalination plants.

The meeting was attended by ten regional participants from the Pacific Energy Oversight Group and USP member countries. The meeting emphasised the importance of packaging the PEC together with other parallel national, regional and multilateral effort on renewable energy and the need to ensure sustainability beyond the life of the PEC.

Participants will be consulting capitals on their priorities and will be consulting PEOG members for assistance, if needed. Cook Is has already raised its hands for assistance in developing its concept(s) and final proposals.
This Summit was convened as part of the project, titled "A Renewable Energy Generation, Resource Assessment, and Capacity Building Programme for Sustainable Economic Development of the Pacific Island Countries", funded by the Government of the Republic of Korea. The thirty-month, SUS2 million project has, as its main aims, to:

a) carry out renewable energy resource assessments in all the USP member countries, and to establish a databank to store the data;

b) train graduates from the region to carry out renewable energy resource assessments;

c) design and install a 54 kW grid-connected PV system at USP’s Laucala Bay Lower Campus for the purpose of training power engineers and renewable energy professionals; and

d) design and implement short and medium-term renewable energy capacity-building programmes to train decision-makers, end-users and technicians/operators of renewable energy technology in the region.

The main objective of the Energy Summit was to gain first-hand insight of the renewable energy training and capacity-building needs of USP member countries.

The Summit included representatives from: (i) governments and power utilities in USP member countries – Cook Islands, Fiji, Kiribati, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, and Vanuatu; and (ii) agencies – International Union for Conservation of Nature (IUCN), Pacific Power Association (PPA), Pacific Islands Forum Secretariat (PIFS); Secretariat of the Pacific Community (SPC); Secretariat of the Pacific Regional Environment Programme (SPREP), United Nations Development Programme – Suva Multi-country Office (UNDP-Suva MCO) and USP.

The Summit:

acknowledged the collaboration and partnership of KOICA and USP in providing the opportunity to discuss renewable energy training and capacity-building needs of USP member countries; provide human capacity building through medium-term training of graduates for resource assessment and short-term courses designed for decision-makers and end-users as well as operators/technicians

emphasised the vulnerability of the Pacific Island countries (PICs) to climate change, their high dependency on imported fossil fuels, their geographical isolation which posed special challenges to their energy requirements, and the wide range of training/capacity building needs in renewable energy

noted, with appreciation, that other regional agencies were already providing training/capacity building in renewable energy

highlighted the lack of human resource and technical knowledge as:

- limited technical expertise, particularly in assessing resources, analysing data, developing reports, and maintaining renewable energy systems installed under various aid programmes;
- the need to upgrade existing skills to technical and professional levels; and
- the requirement for more professional engineers in the region

agreed to the importance of renewable energy data and information collation, sharing, analysis, storage, dissemination and the need to establish a databank to store renewable energy resource data, including wind and solar data collected as part of the project

noted that the objectives of the Energy Summit and other components of the KOICA-USP funded project were in broad alignment with the Framework for Action on Energy Security in the Pacific (FAESP)

extended its appreciation to delegates from the regional countries for availing themselves for this important Energy Summit, and resolved to vigorously pursue the issues it had highlighted.

The Summit was chaired and facilitated by USP’s Faculty of Science, Technology and Environment.

(Article supplied by USP)
Cycling forward: Tonga launches cycling initiative

LifeCycle Tonga was officially launched on Saturday 4 September in Nuku’alofa in the presence of more than a hundred keen cyclists, including Honorable Frederica Lupe’uluiva Fatafehi Tuita

As part of the launch, cyclists participated in a nine kilometre ride within the capital city.

LifeCycle Tonga is part of a regional initiative managed by the International Union for Conservation of Nature (IUCN) and is currently being piloted in Fiji and Tonga. LifeCycle Tonga is coordinated by a National Taskforce comprising of five government ministries and three non government organisations. IUCN member, Tonga Community Development Trust, is the current Chair of the Taskforce.

Speaking at the launch, Mr. Sione Faka’osì, the current Chair of the Taskforce, highlighted that a “strategy has been developed to guide the implementation of the initiative in Tonga.” He mentioned that planned activities for the next year include “installation of bicycle racks at supermarkets” as well as “community awareness programmes” which should help to improve behavioural changes towards cycling. One of the barriers identified by most people towards cycling is the fear of being hit by motor vehicles on the road.

IUCN supports efforts to revive the cycling culture within the region through their regional initiative – Pacific LifeCycle Initiative. As Pacific Island countries are heavily dependent on imported petroleum products, cycling promises to reduce this dependence should it be accepted as a mode of transport by the island nations.

(Article supplied by IUCN)