



*Solomone Fifita
Deputy Director (Energy), EDD, SPC*

Bula everyone!

It is that time of the year when the energy planning offices slow down over the festive season, as most civil servants do, while on the other hand, the power utilities and the oil and gas suppliers gear up their effort to meet the increasing demand for energy during this special period. At the same time the fire services around the region are on high alert to meet the safety challenges that may arise. The *Pacific Energiser* salutes these men and women who are working tirelessly round the clock and behind the scene to achieve our common vision of an 'Energy Secure Pacific' where everyone at all times have access to sufficient sustainable sources of clean and affordable energy and services to enhance their social and economic well-being.

So much has taken place in the last three months that it is worth briefly capturing them in here. On **Leadership**, SPC continued to play its coordinating role by participating in regular meetings of the World Bank-led Energising the Pacific working group, the Renewable Energy and Energy Efficiency Partnership (REEEP) Regional Advisory Committee meeting, the Multipartite Review meeting of the PIGGAREP (Pacific Islands Greenhouse Gas Abatement through Renewal Energy Project) and the planning meetings for the University of the South Pacific's (USP) conference on Climate Change and Renewable Energy. A consultation meeting

Welcome...

on an Implementation Plan for the Energy Security Framework will be held from 9 - 10 December in Suva, thanks to the financial support from the GEF (Global Environment Facility), UNDP (United Nations Development Programme) and SPREP (Secretariat of the Pacific Regional Environment Programme) via PIGGAREP.

Partners in the region came together in October to support a parliamentary hearing on climate change and energy access for all in the Pacific. The hearing brought together 15 Pacific parliamentarians and was supported by the European Commission and the Swedish International Development Agency (SIDA).

It is pleasing to note that the United Nations Industrial Development Organization (UNIDO) has established partnerships with Pacific Island countries and has confirmed funding of a Solar Energy Powered Community Center in the Solomon Islands, a Biofuel Quality Control Project in Samoa and support to the Pacific Power Association's capacity development effort.

On the **Capacity development, planning, policy and regulatory frameworks**, the effort of the REEEP and the partnership between the Global Sustainable Energy Solutions Pty Ltd and SPREP's PIGGAREP in establishing a Sustainable Energy Industry Association of the Pacific Islands (SEIAPI) is noted with appreciation. The first executive committee meeting of the SEIAPI was held at Guam on 24 - 25 November, putting into action the emphasis on the private sector as the driver of sustainable energy development.

A project on gender mainstreaming was completed in November. This is part of a partnership between the International Union for Conservation of Nature's

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(IUCN's) Pacific Energy Ecosystems and Sustainable Livelihoods Initiatives, ENERGIA and SPC. The final report of this project is currently being compiled and will be made available on the SPC website. With the completion of this project, it is pleasing to report that SPC has secured additional resources to support its Gender and Energy Networks via activities on Gender Equity in Climate Change Adaptation and Mitigation targeting the small islands states (Cook Islands, Republic of Marshall Islands, Kiribati, Nauru, Niue, Palau, Tokelau and Tuvalu).

On the regional capacity to deal with energy issues in the region, I am glad to welcome back Brian Dawson to the fold and to SPC this time. Similarly, we welcome Jonathan Mitchell and Leonaitasi Taukafa to the Project Management Unit of the Pacific Environment Community Fund at the Pacific Islands Forum Secretariat.



For the **Petroleum and Alternative Liquid Fuels Component** of the **Energy production and supply**, we are happy to note the joint mission by the World Bank and the Forum Secretariat to the Marshall Is, being the most recent signatory to the Petroleum Bulk Procurement initiative.

During the quarter, SPC provided technical assistance to the Solomon Islands to review its petroleum pricing template. Of significance in this effort is the co-financing arrangements in which the Solomon Islands participants were able to fund their travel and accommodation in Suva. Arrangements are now being finalised to extend similar assistance to Tonga under the same cost sharing arrangements. Such innovative ways are always welcome.

On the **Alternative Liquid Fuels**, it is pleasing to note that the Asian Development Bank and Marshall Islands have signed agreements for a combination of loans and grants totaling US\$16.2 million to improve energy self-reliance by using coconut oil / biofuel for power generation.

The **Renewable Energy** area has always been busy. SPC has been working hard with its counterparts in Federated States of Micronesia, Palau and Marshall Islands to get the North Pacific ACP Renewable Energy and Energy Efficiency Project (North REP) project up and running. With the project staff at their work bases, the first meeting of the Project Steering Committee was convened at Pohnpei on 7 December.

We are pleased to acknowledge the update from the EU-funded TEP VERTES or "ton oil equivalent – a EDF 9 (European Development Fund) and overseas countries and territories (OCTs) funded project to increase the

use of renewable energy to improve living conditions and development in isolated areas of the three French OCTs, i.e. New Caledonia, French Polynesia and Wallis and Futuna. *Pacific Energiser* is an all-inclusive newsletter for members of the SPC family and we look forward to receiving similar updates from others such as CNMI, Guam, and Tokelau.

On the **Energy conversion**, the Terms of Reference for the consultants to undertake the Power Utility Benchmarking study has been launched. PPA (Pacific Power Association) continued to address the lack of technical and managerial capacity in the power utilities and has completed two training workshop on grid-connected renewable energy systems for its North Pacific Power Utility members as well as their South Pacific counterparts.

We also note that a US\$26 million contract was signed for the construction and commissioning of an environmentally friendly power station at Fiaga, Samoa. This reinforces the fact the Energy Security is also about environmentally friendly power stations.

On **End-use energy consumption**, the final report for the Standards and Appliance Labeling Study for Samoa, Tonga and Vanuatu under the SPC-REEEP-PICs EEAAL (energy efficiency and appliance labeling) Project has now been finalised and will be made available on the SPC website.

The experience from American Samoa is worth mentioning in here. BlueSky Communications has launched its "Go Green" Solar Panel system in response to a twenty percent increase in the company's expenses on electricity. The project has achieved a six percent energy saving and it will

take about seven years to recover the investment based on the projected savings that have been tested. The project not only demonstrates the productive use of renewable energy in the telecommunication sector, it re-emphasises the key role that the private sector plays in sustainable energy developments.

SPC continues to work on the energy security indicators for each PICT, as part of its **Energy data and information**. A country profile for each PICT will contain the respective energy security indicators.

On the **Financing, monitoring and evaluation** side of the Energy Security Framework, the consultation meeting on the Implementation Plan for the Energy Security Framework on the 9 and 10 December will be looking at indicators by which to measure the activities undertaken at the regional level to address the Energy Security Framework.

But so much has been done and achieved in 2010 that we all deserve a break and be recharged for 2011. But before heading off let us be reminded to use energy at all time and all places in the safest and most efficient way possible.

May all the joys of Christmas and the blessings of 2011 be with you all and your loved ones.

'Ofa atu
Solomone Fifita



LEADERSHIP, GOVERNANCE, COORDINATION AND PARTNERSHIPS

Keeping leaders informed

*By Solomon Fifita, Deputy Director (Energy),
EDD, SPC, Suva, Fiji*

I cannot emphasise enough the key role that leadership plays in pursuing an energy secure Pacific. As the saying goes, where there is a will there is a way. As in any other sectors, things will flow where the political will flows.

In recent months, we have seen the emergence of new governments in the Solomon Islands, the Cook Islands and Tonga. The three countries have adopted national energy policies / roadmaps, have made good progress on them and the new teams are eager to take on the challenges.

I was fortunate to be in a team from SPC's Economic Development Division (EDD) that visited the Solomon Islands on 29 November to 3 December to consult the National Coalition for Reform and Advancement (NCRA) Government on areas where EDD can add value to the government's national efforts.

One obvious outcome of the consultations was the need for leaders to be well-informed so that the political will is well guided and directed.

'Baselines' was a popular word in this context. Where are we in terms of our energy security situation and how can we get there more strategically, faster and more efficiently? For how can we effectively manage a key sector such as energy without fully understanding its dynamics and specific characteristics. Hence, the very reason that the energy



Leaders from the Pacific Islands Forum Energy Ministers Meeting, 30 June 2010, Brisbane, Australia. (Photo: AusAID Team)

ministers meeting of 2009 expressed the need to review and as appropriate strengthen national capacity in energy data and information gathering and collation, management, dissemination and, analysis of economics, social and environment to better inform national and regional energy planning and policy choices where this should be incorporated into the one energy agency.

With limited available resources at SPC, we gratefully acknowledge a partnership with SPREP, through funding from the GEF and UNDP, to conduct an energy planning, policy, coordination and management workshop in December for emerging energy planners in the PIGGAREP (Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project) countries with a special emphasis on data management and its linkages to policy formulation and

reviews.

Leaders and policy makers need to be informed and made aware these issues. In this respect, it is pleasing to note that in a partnership between SOPAC/SPC and the EU and Swedish Government-funded e-Parliament project on 'Energy Access for the Poor: improving energy governance by informing and engaging ACP legislators', some 15 legislators from the region convened at Lautoka, Fiji in October for in-depth discussions on how the growing demand for energy in PICs can most effectively be met in an age of rising fuel prices and climate change. Unfortunately, this initiative is coming to an end and SPC would welcome any support to continue this very important forum.

It is of course this time of the year where policy makers and leaders convene for the Conference of the Parties to the UNFCCC (United Nations Framework Convention on Climate Change) – a meeting calling for global leadership on an issue which is central to human survival and the energy sector in particular. Whatever the outcome would be, the Pacific Islands must not just sit around and talk about sinking and its insignificant greenhouse gas emission. It must take leadership and reinforce their commitment to a renewable energy and energy efficient future based on achievable and practical and voluntary targets.

LEADERSHIP, GOVERNANCE, COORDINATION AND PARTNERSHIPS



Productive use of renewable energy (PURE) in the Solomon Islands

*By Koin Etuati Energy Programme Assistant,
Energy Programme, EDD, SPC, Suva, Fiji*

A new and first of its kind project on productive uses of solar energy is currently being implemented between the Energy Programme of SPC and Willies Electrical Company based in the Solomon Islands. Willies Electrical Company has received initial funding from United Nations Industrial and Development Organization (UNIDO) to implement the project.

An inception report has been completed and includes information on site selection, construction of the community training centre, and public awareness on activities relevant to the stakeholders. The inception mission was carried out from 10-13 November 2010 by Koin Etuati of SPC who is providing advice and support to the project by assisting in the development of contracts, terms of references, reporting and ensuring that gender issues are integrated into the project.

The system to be installed is a standalone solar PV system with a capacity of 1400 Wp that will provide electricity for lighting, use of freezer, refrigeration, electric sewing machines and two computers. Energy efficiency is also considered and the electrical appliances selected have more than 3 star energy efficiency ratings. The productive activities includes sewing and selling of school uniforms and children's clothes, food processing

such as taro and fish packaging and freezing for storage to sell in Honiara and juice making for the local people. Juice making will allow women to use natural and local fruits such as mango, cucumber, water melon, pineapple, but at the same time will promote healthy living, replanting of fruit trees and business opportunities.



Solomon Islands market (Photo: Koin Etuati, SPC)

The project was developed for members of the UMI Solar Development in the Northern part of Malaita Island to basically improve their productive and income generating activities as well as strategic interest. The total number of households registered in the Maluu area is 219 households from 19 communities. This development considers the women and development approach and integrates gender issues such as marginalised women headed households in the communities will be given permanent places to work

at the centre to earn more income. Women headed households have limited support in the agricultural sector due to the absence of men in the households, which is one of the reasons that they are not very active in the cash crop bartering project¹. The main objective of this project is to contribute to poverty alleviation through the use of renewable energy technologies.

Partnerships has been initiated between the SPC's Community Education Training Centre (CETC) based in Narere, for a local woman earmarked to provide the overall management and coordinating of the Maluu Community Training Centre and to be trained at CETC. The FACT (Facilitating Agricultural Commodity Trade) project, under the SPC's Land Resources Division has been identified as a potential stakeholder once production is increased to a sustainable volume that could be exploited for international market. Installations of solar panels, controller and inverters and electrical appliances for the training centre are to be installed before the end of this year with local, national and regional trainings of women mobilised.

¹ Cash crop bartering under the UMI solar development involves women access to the solar PV LED lighting system through sales of cash crops.

CAPACITY DEVELOPMENT, PLANNING, POLICY AND REGULATORY FRAMEWORKS

Launch of the sustainable energy industries association of the Pacific Islands

Following six months of planning, and intensive workshops and meetings with renewable energy companies, agencies and institutions in the Pacific Islands region, the Sustainable Energy Industries Association of the Pacific Islands (SEIAPI) was launched with the first meeting of the executive committee being held in Guam on the 24 and 25 November. The association aims to foster sustainable energy (renewable energy and energy efficiency) use in the Pacific region.

The development of the association has been greatly assisted with funding support from the Renewable Energy and Energy Efficiency Program (REEEP) where Global Sustainable Energy Solutions (GSES) of Australia has been engaged as secretariat for 2 years. GSES has 20 years experience with similar industry associations. The development of the association is also supported by SPREP through PIGGAREP who are supporting GSES in the secretariat role.

The association has initially focused on participation from Cook Islands, Fiji, Solomon Islands, Vanuatu, Tonga, Samoa, Niue, Nauru, Kiribati, Tuvalu, Palau, Federated States of Micronesia (FSM) and Republic of the Marshall Islands (RMI), however membership of the association will be open to all countries and territories within the Pacific Islands.

Consultation with the renewable energy industry and related agencies was undertaken in June and July culminating in two workshops in September conducted in Pohnpei (FSM) and Fiji. Following these workshops the first executive committee was finalised as follows:

President: Peter Konings (Pohnpei-FSM)

Vice-President North Pacific: Faustino Yangmog- (Yap-FSM)

Vice President South Pacific: David Iro Fulaga (Solomon Islands)

Treasurer: Bruce Clay (Fiji)

Secretary: Fred N. Skilling (Kosrae- FSM)

Ordinary Members:

Nick Ritsinias (Vanuatu)

Vaughn Columbus (Fiji)

Eric Kerres (Vanuatu)

Executive committee members in attendance at the first meeting were Peter Konings, Faustino Yangmog, Bruce Clay, Fred N. Skilling and Nick Ritsinias. (Pictured below) Apologies were received from Vaughn Columbus, Eric Kerres and David Iro Fulaga due to travel difficulties while the meeting was co-ordinated by Geoff Stapleton and Yafeth Konings from the

Secretariat.

SEIAPI will have three categories of membership:

- “Industry members” Business entities and utilities providing sustainable energy goods and services and which are registered in a Pacific Island country or territory.
- “Associate members” Business entities involved with providing sustainable energy goods and services but registered outside of the region (e.g. equipment suppliers, consultancy firms) and individual persons interested in sustainable energy.
- “Honorary members” Pacific Island energy related government departments; Pacific regional agencies, multi-lateral and bi-lateral donors and NGO's.

During the meeting the committee developed a 6 month plan which included:

- Raising awareness of the association and the benefits of sustainable energy to the region;
- Initially developing design and installation guidelines for PV grid connect systems and off-grid PV systems then progressing to other technologies which are high priority for the region;
- Developing a certification program for the members of the industry;
- Supporting the development of ongoing local based training for the region;
- Producing newsletters, technical forums and planning seminars for the members;
- Planning a sustainable energy industry conference to be held in the region in later half of 2011.

For further information contact the President (Peter Konings) via the Secretariat - seiapi@gses.com.au

Article submitted by Mr Geoff Stapleton, Managing Director, Global Sustainable Energy Solutions Pty Ltd, Australia.



Left to Right: Bruce Clay (Fiji), Fred N Skilling (Kosrae), Nick Ritsinias (Vanuatu). Peter Konings (Pohnpei) and Faustino Yangmog(Yap)

CAPACITY DEVELOPMENT, PLANNING, POLICY AND REGULATORY FRAMEWORKS



*By Dr Anirudh Singh, Associate Professor in Physics,
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International conference on renewable energy and climate change - focus on the Pacific, 6-8 December 2010

The University of the South Pacific (USP) convened its International Conference on Renewable Energy and Climate Change - focus on the Pacific on 6 - 8 December.

Delegates were among the USP member countries - Cook Islands, Fiji, Kiribati, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu; and regional and international organisations; and institutions.

The conference covered topics ranging from renewable energy assessment, to technologies and their relevance to the development of the region and cross-cutting socio-economic and policy issues. It will also included a comprehensive discussion on the impacts of climate change as experienced by the people of the Pacific.



International Conference on Renewable Energy and Climate Change participants (Photo: courtesy of Development, Marketing and Communications Office at the University of the South Pacific)

Post-graduate scholarships funded by the Government of Korea in the area of renewable energy from Semester I, 2011

The Faculty of Science, Technology and Environment, located at USP's Laucala Campus is pleased to announce the availability of Postgraduate scholarships at Master's level funded by the Government of Korea in the important area of renewable energy. Eight Graduate Assistant (GA) positions are available for a duration of 3 semesters.

Most of the projects are in the field of "Assessment of Renewable Energy Resources in the Pacific Island Countries". Application closes on 15 January 2011. For further information, please visit USP website www.usp.ac.fj/students.

ENERGY PRODUCTION AND SUPPLY



Improving public energy services through use of renewable energy sources

By Ivan Krishna, Energy Programme Support Assistant,
Energy Programme, EDD, SPC, Suva, Fiji

Theme # 3 of the *Framework for Action on Energy Security in the Pacific* (FAESP) refers to improving energy security when the availability, accessibility, affordability, stability and security of local resources are sustained. It further defines “energy security” as a means of having sufficient and sustainable sources of clean and affordable energy at all times.

Improving energy security at the Coconak Primary School and the Health Centre in Tongoariki Island in Vanuatu was one of the outputs of the project ‘Energy to Modernise Public Services – Schools and Health Centres’. The total project costs including office equipments, solar panels, batteries, inverters and lightings for classrooms, two staff quarters and the health centre was USD42,025. Funding support was provided from the Japan-Pacific Islands Forum Development Cooperation Fund implemented by the Energy Programme with co-financing provided by the Government of Vanuatu. The project was for the installation of a 910W solar PV system for lighting and use of office equipment, computers, printers, TV and screen.

In September 2010, an evaluation team visited the Tongoariki Islands. The team comprised of two staff from the Energy Programme of SPC, Koin Etuati and Ivan Krishna; Moli Janjea, a Senior Energy Officer of the Vanuatu Energy Unit, a solar technician with Vanglobal Industries and one officer from the Vanrepa. As part of the evaluation, a technical hands-on training on the use of the solar system was also carried out. Participants were teachers, including the school management committee members and two locals who owned solar home systems.

Since the installation of the solar PV systems in February 2010, the school was privileged to have electricity from solar energy. The positive impact and benefits of this installation included:

- Better delivery of education by teachers through use of computers as and provision of teachers for school and administration and to draw up lesson plans after sunset
- Access to materials and information through photocopying and printing of materials on paper and easy for dissemination to students,
- Use of video to promote good behaviors in the school,
- Increased time for study at night, senior classes have two hours of study at night while lower classes 1 hour;
- Improved study habits and students performances - two students interviewed have mentioned that they improved their school grades due to the use of light for studying at night,
- Helped students study at night and away from home where parents distracted them more often due to the household tasks,
- Communities use school facilities for meetings at nights which is more convenient than in the day time,
- Reducing spending on the cost of diesel and generator set previously used in the school for studying.

To ensure project sustainability, a Project Fund has been established to ensure that school will be able to fund the maintenance costs for the replacement of the batteries when they are due, maybe in five years time. The two teachers residing at the staff quarters are charged monthly fees of VUV 2500 for the electricity used, while another stream of funds is through a “mobile phone charging” service, where mobile phone batteries are charged for VUV50 per battery.

It is estimated that in five years time, through these revenues, the school will be able to and afford the maintenance and replacement costs.



Coconak Primary School students in their classroom
(Photo: Ivan Krishna, SPC)



North REP takes shape

By Rupeni Mario, Energy Adviser/Interim Team Leader - North REP Project, Energy Programme, EDD, SPC, Suva, Fiji



The North Pacific ACP Renewable Energy and Energy Efficiency Project (North REP) commenced activities in mid October 2010 with the three Energy Specialists taking their duty stations in Palau, Republic of the Marshall Islands (RMI) and Federated States of Micronesia (FSM). The 4-year €14.44m (approximately US\$18.62m) North REP is funded under the EDF-10 A Envelop with the Secretariat of the Pacific Community (SPC) as the implementing agency. North REP has a unique implementing modality in that Palau, RMI and FSM have pooled their EDF-10 funds into a single project with a common objective and purpose and, centrally managed.

The overall objective of North REP is to improve the quality of life on the outer islands (RMI, FSM) and to reduce dependency on fossil fuels (RMI, FSM, Palau). The achievement of this objective responds directly to Millenium Development Goals (MDG) targets 2, 4, 5 and 7. The purpose is to improve the overall efficiency of the

energy sector through energy efficiency and grid-connected renewable energy (in RMI, FSM, Palau) and to increase access of remote populations to reliable renewable electricity services (in RMI, FSM).

In practical terms, the North REP envisages at least to reduce average monthly electricity consumption in urban households by 10%; providing a total of 12,739 people for the first time to access electricity in FSM and RMI; and will assist 21 health centres and 32 schools access basic electricity. North REP will further enhance opportunities in providing the basis where the many energy initiatives in the three countries could work together to achieve the respective country renewable energy and energy efficiency targets.

The first North REP Project Steering Committee meets in December in Pohnpei, FSM to discuss work programme and budgets for the first two years.



Updates from Palau - North REP

By Tony Polack, Energy Specialist, Palau - North REP, Energy Programme, EDD, SPC.

The first North Pacific Renewable Energy and Energy Efficiency Project (North REP) National Project Steering Committee meeting took place on Wednesday 17 November 2010 at the Palau Public Lands Authority conference room in Koror. The meeting was well attended including representatives from the Office of the President, Senate, House of Delegates, Palau Energy Office and Palau Public Utilities Corporation, and the Secretariat of the Pacific Community (SPC).

An overview of the project was presented to the committee members before they discussed the individual activities

that would occur under North REP in Palau. The activities discussed, amongst other things: included renewable energy resource assessments; energy efficiency and renewable energy awareness raising; training and capacity building; net metering legislation, and developing consistent guidelines for energy projects in Palau.

The activities will be assessed by the committee in terms of priority, costs, and timelines before being incorporated into an agreed work plan for the project. The committee expressed its thanks to the European Union for providing funding for the project.

ENERGY PRODUCTION AND SUPPLY

In other energy sector developments in Palau:

- A solar PV grid connect training course organised by e8 and the Pacific Power Association for North Pacific utility personnel was held at the Palasia Hotel in Koror 1 to 5 November.
- On 11 November, the Palau Energy Office, through funding from the European Union, donated a total of 432 compact fluorescent light bulbs to the Palau High School so as to reduce the school's energy consumption by using more efficient lighting.
- A Sustainable Energy Fair was organised by the Palau Energy Office, the National Development Bank of Palau, and the Palau Public Utilities Corporation and held on 10-11 December at the National Development Bank's facilities in Airai. The fair provided an opportunity for the general

public to find out more information about energy efficiency and renewable energy, the National Development Bank's sustainable energy loan programs, and energy efficient appliances that are available in Palau.



The National Development Bank of Palau where the Sustainable Energy Fair was held on 10-11 December. (Photo: Tony Polack, SPC)



Updates from Republic of Marshall Islands - North REP

By Arieta Gonelevu, Energy Specialist, RMI - North REP, Energy Programme, EDD, SPC.

The Republic of the Marshall Islands (RMI)-North REP National Project Steering Committee (NPSC) met on Wednesday, 24 October 2010 to finalise and endorse its work plan and budget for the first two years. The NPSC which is currently being chaired by the Ministry of Resource & Development constitutes of the Ministry of Foreign Affairs, Ministry of Works, Ministry of Health, Marshalls Energy Company, Ministry of Finance, Ministry of Education, OEPPC, College of Marshall Islands and the Marshalls Islands Mayors Association.

In the meeting, NPSC endorsed that the North REP focus on the Outer Islands Electrification Programme, and will be installing, maintaining and upgrading photovoltaic (PV) systems in 1000 plus homes in the outer islands, rural schools and health centres. In addition, capacity building, awareness and management and operational procedures will be put in place to ensure the sustainability of the project.

Detailed consultations have been undertaken with OEPPC to explore opportunities where the GEF/UNDP-ADMIRE (Action for the Development of Marshall Islands Renewable Energies) Project can collaborate with North REP on educational awareness and capacity building activities

relating to renewable energy developments in the outer islands. Possible collaborations were also explored with the College of the Marshall Islands on the use of their advanced "green facilities" for short term and possible long term formal and non formal trainings programmes for solar technicians with the Marshalls Islands Energy Company (MEC) and those that will be based in the outer islands.

Ongoing consultations are currently being undertaken with relevant environmental and women NGOs such as the Marshall Islands Conservation Society and Women United Together in the Marshall Islands on their active participation in the North REP and identifying the various roles they can undertake in the outer islands that will add value to the project.



North REP - National Project Steering Committee (RMI) Meeting (Photo: Arieta Gonelevu, SPC)

TEP VERTES: A regional renewable energy project

TEP VERTES or “ton oil equivalent – promoting renewable sources of energy and sharing skills and experience” is a program of regional scope that involves the three French overseas countries and territories (OCTs), i.e. New Caledonia, French Polynesia and Wallis and Futuna.

With half of its funding provided by the 9th European Development Fund (EDF), the project’s goal is to increase the use of renewable energy to improve living conditions and development in isolated areas.

The TEP VERTES project took more than a decade to get off the ground. In 2006, it was finally launched when an agreement was signed by the European Commission and the three French Pacific OCTs. The goal is to allow rural or isolated zones in New Caledonia, French Polynesia and Wallis and Futuna to benefit from autonomous power generating systems through the use of renewable sources of energy.

The project is built around three distinct phases. The first, which was completed in 2008, consisted of developing exchanges of experience between the three French OCTs. These areas worked on defining their needs, which then led to a consolidated action program. This took longer than had been expected, highlighting how difficult it is for widely separated areas to formulate a joint program. The project is currently in its second phase, which involves implementing its action program. International calls for tender were put out and work on installing the infrastructures is now coming to an end. The third phase is scheduled to begin in 2011. As set out in the funding agreement, it will involve sharing the results of this experience with the countries in the Pacific zone.

Formulating the action plan

The European Commission saw the TEP VERTES project as a way to bring together the three French OCTs on so fundamental an issue as energy. The goal was to promote exchanges of skills and expertise between the official offices in charge of energy-related matters in each territory. By laying out in detail each territory’s infrastructures, it became apparent that they had high electrification rates, e.g. about 96% for New Caledonia. In addition, New Caledonia and French Polynesia both have well-tested large-scale electrification programs, i.e. the “rural electrification fund” (FER) for the former and the “overseas territory photovoltaic” (PHOTOM) program for the latter. However, the high levels of dependence on fossil energies in the French territories, reaching 77% in New Caledonia, 85% in French Polynesia and nearly 100% in Wallis and Futuna, are real incentives for work on this type of pilot project. The high cost of the electricity generated, a desire to improve supply security and to reduce, over the long



Hybrid power plants at Ahe, Tuamotu Island Group

term, the impact power generation has on the environment are all widely shared issues or objectives. So, the teams of the three French OCTs have a shared interest in developing their expertise in designing renewable energy projects at sites where power generation is a real challenge.

Project funding

Funding for the regional TEP VERTES project is shared by the 9th EDF and the OCTs involved. Overall, the project costs some 10.3 million euros. Slightly more than half (50.7%) is provided by the regional EDF, i.e. 5.2 million euros. New Caledonia and French Polynesia are each providing funding of 2.3 (million) euros. As for Wallis and Futuna, its contribution amounts to some 400,000 euros.

Project sites

TEP VERTES’ action plan made it possible to identify sites with a range of difficulties. The fact that the program has been divided up by territory has led to different types of projects, which will provide feedback on a variety of experiences. However, it is clear that priority has been given to the use of solar energy, whether by installing stand-alone photovoltaic structures connected to existing grids or coupled with storage facilities and fossil-fuel-fired generators (hybrid infrastructures). Nine projects have been designed: five in New Caledonia, four in Wallis and Futuna and three in French Polynesia.

ENERGY PRODUCTION AND SUPPLY

In New Caledonia, the most ambitious project, in terms of the difficulty in implementing it, is undoubtedly the project involving two small islands, Yandé and Yenghebane, located in the township of Poum. It will allow the local communities to have reliable power supplies, which are needed to develop certain economic activities such



as fishing by making it possible to freeze catches. It was decided to use hybrid power plants (photovoltaic panels combined with generators) for both islands. This should provide power for 17 households on Yandé (installed power of 20 peak-kilowatts) and a dozen on Yenghebane (installed power of 17 peak-kilowatts). In the Loyalty Islands, Lifou and Maré will have larger-scale projects. Lifou will have a 275 kW wind turbine and a photovoltaic array with a power of 110 peak-kilowatts; the island of Maré will have its power production strengthened by solar infrastructures with a power of 200 peak-kilowatts.

In French Polynesia, the project is being carried out on three atolls in the Tuamotu Island group: Ahe, Fakahina, and Napuka. It involves setting up large-scale hybrid power plants so as to ensure continuous power production for the communities, something which is currently not the case. Between 60 and 80 households on each island should be supplied by units with respective installed powers of 130 peak-kilowatts for Ahe, 90 peak-kilowatts for Fakahina and 120 peak-kilowatts for Napuka, combined with 100 kVA generators.

For the territory of Wallis and Futuna, where the use of renewable energy is the lowest of all three OCTs, this project provides an opportunity to test various applications. So,

the projects set up are varied in terms of both their designs and ultimate goals. Two 40 and 10 peak-kilowatt power generating units will be built. The first will be used for Wallis' waste landfill site, which should allow it to operate almost independently. The second will be directly injected into the existing power grid on Futuna.

Certain villages will then be equipped with small photovoltaic units connected to the grid to provide power to the "fale fono" (community centres), important traditional gathering places where custom-related activities are held. Finally, a number of small projects will support the development of artisanal or agricultural activities.

Progress

To date, two facilities have been delivered, i.e. one on the atoll of Ahe and the other on the island of Maré. All of the other projects are scheduled to begin operations in early 2011. In all, annual foreseeable production is estimated at 1.4 million kWh, i.e. a savings of 450,000 litres of diesel fuel and 1300 tonnes of CO². The results, in terms of both production and management, will be carefully monitored as the objective is to determine the conditions needed to reproduce the projects.



Wind turbines at Lifou

Article submitted by Olivier Auguin, Planning Adviser, Secretariat of the Pacific Community.

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Solomon Islands fuel pricing template

*By Shakil Kumar, Energy Officer Petroleum,
Energy Programme, EDD, SPC, Suva, Fiji*

The supply and pricing of fuel is a highly specialised industry with inherent risks related to the nature of products supplied, the relatively high quality of product that is necessary to run modern vehicles and machinery, and the volatility of world prices for this widely used commodity. There is some indigenous source of petroleum in Solomon Islands however it is yet to be commercially explored for consumption, it is therefore necessary to source fuel by importing it from Singapore.

The Government of Solomon Islands requested SPC to provide assistance in designing a uniform pricing template that can be used by oil companies in Solomon Islands. Solomon Islands fuel is supplied by two companies Markwarth Oil Limited (MOL) and South Pacific Oil Limited (SPOL). SPOL purchased the assets of Shell when they sold out of the Solomon Islands (and other Pacific Islands) in 2006. MOL purchased the assets of Exxon Mobil when they sold out of Solomon Islands about ten years ago. Markwarth has the dominant position supplying just over 60% of the market.

This assistance took place from 15-19 November 2010 at SPC's Regional Office in Suva, Fiji. The financial reports and several documents were reviewed in the context of a series of meeting held to negotiate the price template for South Pacific Oil Limited. Markwarth Oil Limited already has an existing pricing template and makes monthly submissions to the Government therefore a separate meeting will be held with them to provide an update to the changes of the pricing template.

The outcome of the meeting and negotiation was a pricing template that will be used by SPOL to make monthly submission to PAC. An Annual Review meeting has been proposed for April 2011 to review the petroleum prices for Solomon Islands.

New Storage Tank

SPOL built a new 3.2 million litre tank to store diesel, complete with bunding and drainage system at a cost of \$15 million. On completion, a tankage re-allocation was carried out, that resulted in the decommissioning of smaller tanks.



Price Template meeting (LR) Mr. William Watepuru (SPOL Marketing Manager), Mr. Carson Korowa (SPOL GM), Mr. Shakil Kumar (SPC Petroleum Officer), Standing is Mr. Elijah Gui (Secretary Solomon Islands Price Advisory Committee).



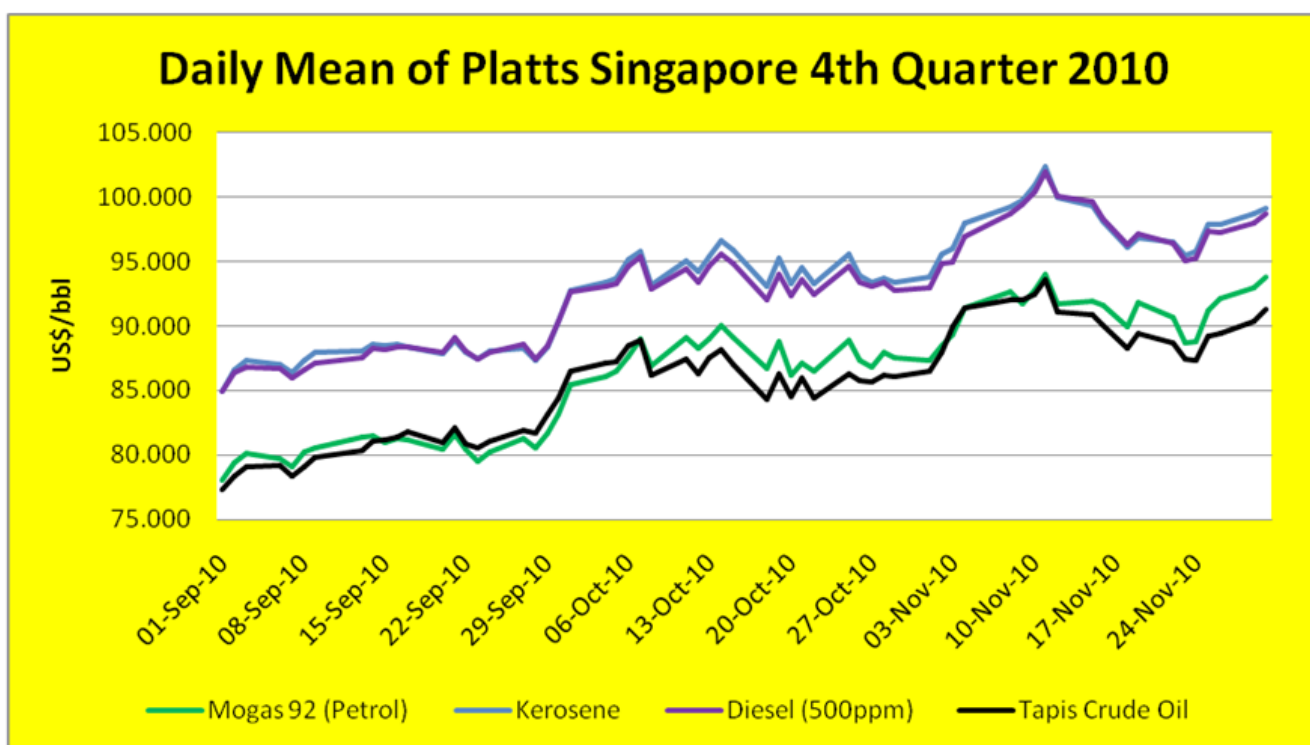
3.2 million litre diesel tank of SPOL (Photo supplied by SPOL)

ENERGY PRODUCTION AND SUPPLY

Fourth quarter 2010 Oil Market Report (September - November 2010)

The Asia Pacific benchmark tapis crude oil prices stayed between the US\$75 - US\$95/bbl bracket during the months of September through to November. Petroleum product prices followed suit with the exception of kerosene and diesel both crossing the US\$100/bbl mark in early November. The oil market was supported by strong demand in the region due to winter stockpiling in North Asia and an increase in

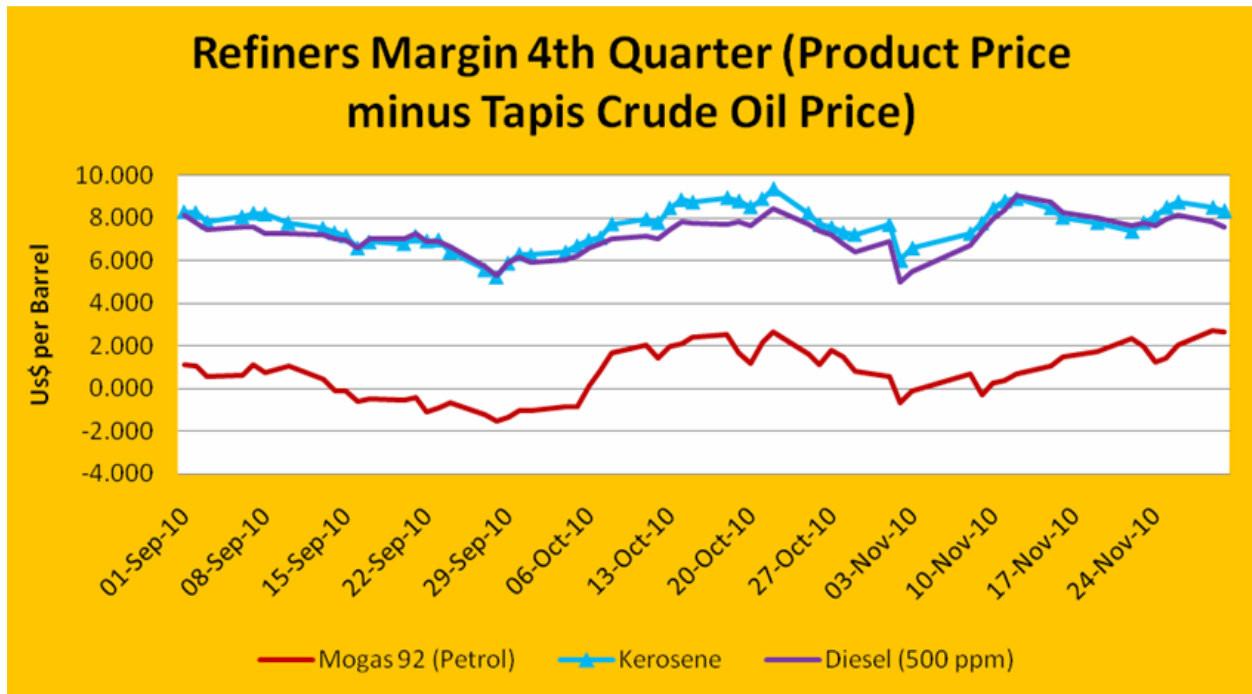
air travel as a result of the holiday season as well as demand from Europe with strikes plaguing the majority of French refineries in October, enabling the outflow of barrels from Asia. The weakening US dollar as a result of the continued increase in US money supply has also aided the positive oil market sentiment.



As presented in the last newsletter, we highlighted a number of factors that affect the price of crude oil such as demand, inventory and supply disruptions. In this newsletter we highlight another aspect of fuel price which is the refiner's margin. The difference in the price between the tapis crude oil and Singapore refined product is known as refiner's margin. During the 4th quarter, refiner's margin were robust, particularly for kerosene and diesel which touched above US\$8/bbl and stayed above US\$4

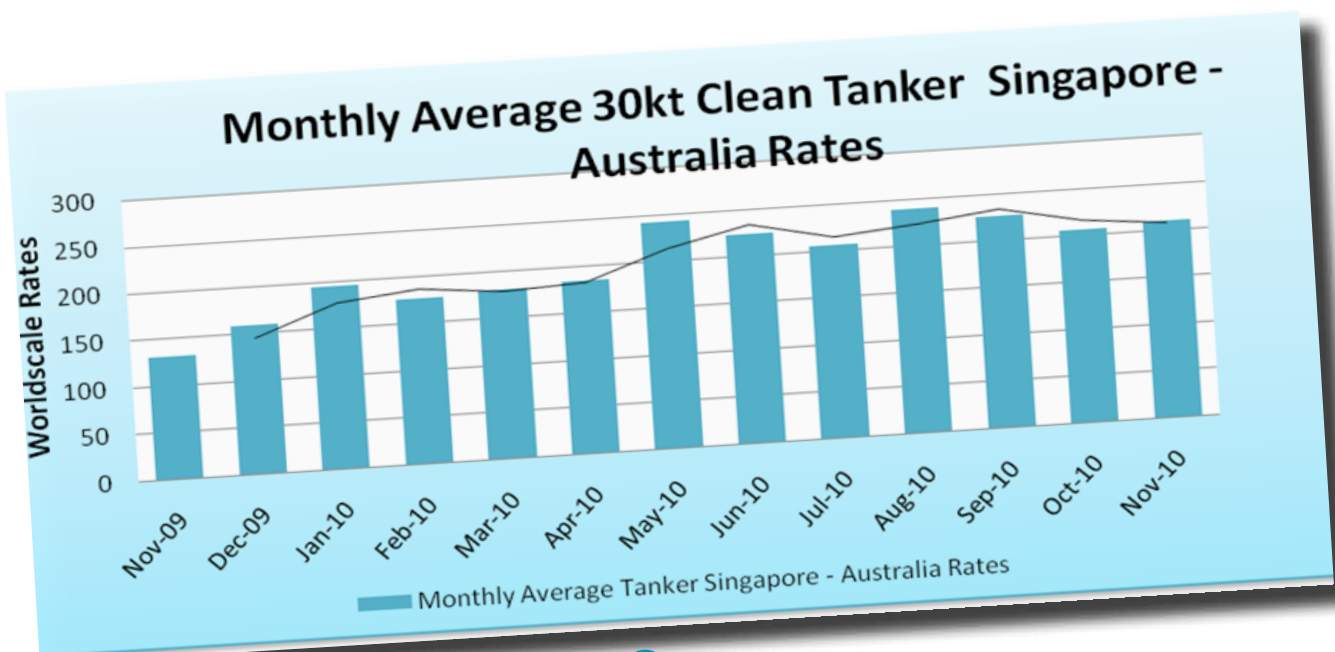
mark throughout the period. The refiner's margin for mogas (gasoline commonly known as unleaded Petrol) followed similar trend throughout the period. Due to a substantial build up of Organisation for Economic Cooperation for Development (OECD) inventories and a reduced demand, gasoline prices dropped in September and early November leading to negative refiners margin.

ENERGY PRODUCTION AND SUPPLY



Freight Rate

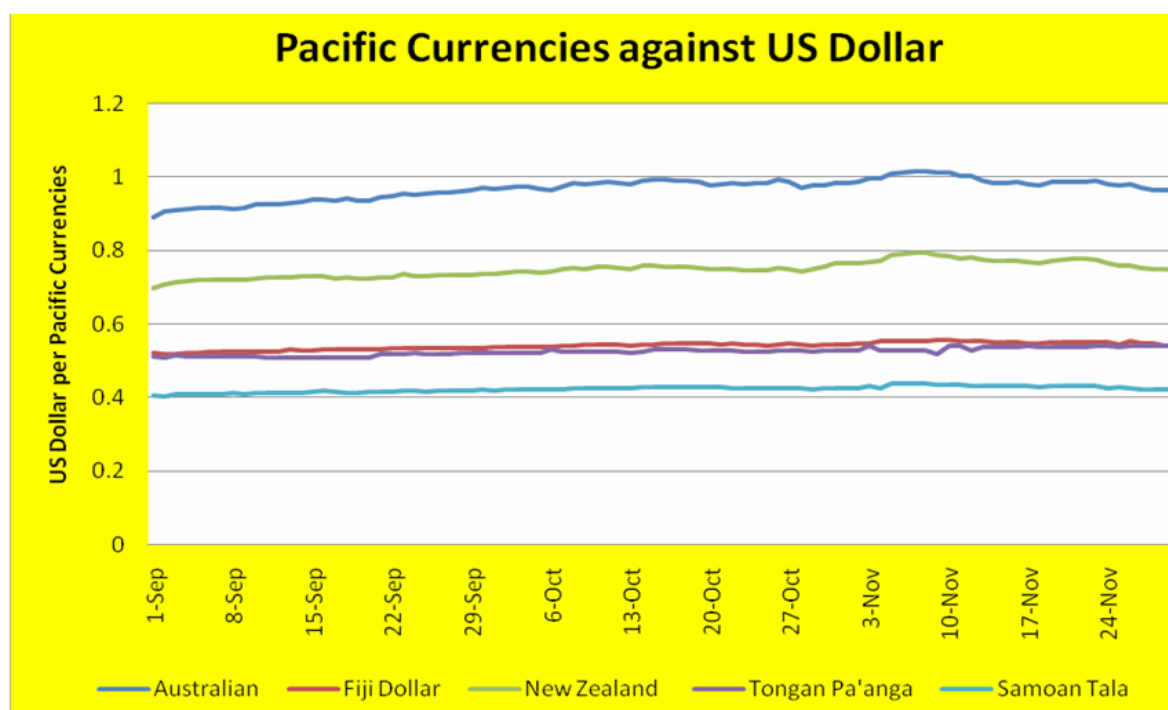
Another important aspect of fuel price in the Pacific is the freight from Singapore to the destination port. For some time a move to using the Platts Singapore-Australia market quote rather than the Singapore-Japan quote has been considered. The Singapore-Australia quote is more representative of voyages coming into the Australian/Pacific region where there are limited or no backload options which are more commonly available for a ship owner going to Japan. The Australia, New Zealand and Fiji markets have moved to this quote. For the 4th quarter freight rate shows a declining trend however compared to last year freight rate has increased hence an increase in the landed cost of fuel.



ENERGY PRODUCTION AND SUPPLY

Exchange rate

The major currencies used in the Pacific show a slight appreciation against the US dollar. The effect of the weakening US dollar, which increases the purchasing power of non-US users such as Fiji, should put some downward pressure on local fuel prices, however, the large gains made by product prices will see local fuel prices increasing.



Source: <http://www.oanda.com/currency/historical-rates>

End-user product prices in 4th quarter

Most Pacific Islands have reported an increase in fuel prices for the 4th quarter which is a direct response to an increase in crude oil and refined product prices. End-user Singapore product prices in US dollars, excluding taxes climbed by a notable 7.1% in October and a further 7% increase in November.

Fiji, Tonga and Solomon Islands have all reported an increase in retail price of fuel, however, Samoa has reported a slight decrease in retail prices.

Future Prices

Crude oil prices and refined products have both shown an increasing trend from September unlike fluctuations in 2009. Some analysts believe that the crude oil price will remain above US\$75/bbl in 2011.

Bon voyage.....Tony Neil, Executive Director of the Pacific Power Association

*By Solomone Fifita, Deputy Director (Energy),
EDD, SPC, Suva, Fiji*

In my former life at SPREP, I was given the title of Farewell Orator since I liked to make a send off speech for my colleagues there. My routine and style was well known and predictable until an Executive reminded me that it sounded like an eulogy in a funeral since I was only talking about the positives of the departing staff. I have since saved that secret for Mr. Tony Neil's moment of truth.

September 1999 was a historical month for me in many ways. It was my first trip to Europe in what was to be some discussions relating to the establishment of a Secretariat for Sustainable Renewable Energy Islands. It was my first meeting with Mr Thomas Lynge Jensen who was based in Denmark at the time but has since followed me back to the islands and is now based with UNDP. It was also the first time for me to meet Mr Jean Michel Durand who at that time was confirmed to be my partner in crime at the PREFACE at SPC in Noumea. But more importantly it was my first meeting with the Executive Director of the Pacific Power Association (PPA), Mr Tony Neil. It was my second year at the regional scene, having moved to SOPAC with the regional energy programme that was housed at the Forum Secretariat. I had barely known the former Executive Director of the PPA, Mr Patrick Amini, and here I am facing this big serious looking Aussie.

As a 'Friendly Islander', it did not take long for me and Tony to appreciate our respective views on things at the regional scene and also to appreciate that we need each other for strategic partnerships within and outside of the region. PPA was then on the Steering Committee of the PREFACE. He stood out on the PREFACE because he came there to nurture and strengthen the PREFACE rather than to demolish and terminate. On the hand, the PREFACE was regularly invited to attend PPA's Annual Conference and Trade Fair. This provided an opportunity for me to get to know the PPA family and their commercial and private sector focused approach to sustainable energy development. But as a Power Utility Executive, discipline was always on top of Tony's list. There are commercial sensitivities when it comes to the PPA's annual conference and one does not just come there and stick up one's logo and brochures at will.

Tony Neil came and saw the disarray at the regional energy scene and where PPA was placed. He was very vocal about treating members of the Energy Working Group as equal. He was firm in his stand that the power utilities are the key drivers of sustainable energy developments in PICs. He made no secret about his disappointments that some donors can't

provide funding to PPA because it was not a member of the Council of Regional Organisations in the Pacific (CROP).

In 2010, Tony was pleased with the development of the Many Partners One Team, so much so, that he has retreated to his Executive position and allowed his two generals; Gordon Chang and Andrew Daka to carry the PPA banner to the meetings of the Pacific Energy Oversight Group (PEOG). I certainly don't know how he did it, but it is pleasing to see the growing from strength to strength of PPA's partnerships with the US Department of the Interior, the eight largest power utilities in the world (e8) and the South-South collaboration with its sister association in the Caribbean.

To me, Tony's major achievement would be PPA's acceptance to be a member of the CROP family. That in itself speaks volumes about the man's diplomacy, negotiation skills and personal charm. Being a member of the CROP has then opened up the door for PPA to access resources from the European Union. The enabling environment has therefore been established for the new Executive Director to take PPA and the vision of an Energy Secure Pacific into new heights.

From SPREP, I have always been welcomed to Goodenough Street whenever I was in Suva. According to Tony's own words, you are welcome to PPA provided you don't walk barefooted into our office. By the way, PPA is among the few that enforces its dressing code and that is professionalism in its best.

On behalf of the PEOG and on behalf of the Director General of SPC, we thank you Tony for your contribution to the region and wish you all the best wherever life will take you.

Vinaka vaka levu

Down the memory lane...



left to right: Graham Shorten, Solomone Fifita and Tony Neil

END-USE ENERGY CONVERSION



Standards and appliance labeling study - July to November 2010

By Frank Vukikomoala, Energy Programme Assistant,
Energy Programme, EDD, SPC, Suva, Fiji

The feasibility study covering a situational analysis on the impact of introducing a standard and appliance labeling programme for Samoa, Vanuatu and Tonga has been completed.

The study, which was undertaken by Mr Sommai Phon-Amnuaisuk from the International Institute for Energy Conservation (IIEC) based in Thailand, is part of the REEEP-SPC ongoing energy efficiency project - PICs EEAAAL that covers Palau, RMI, Samoa, Tonga and Vanuatu.

Findings from the study revealed that virtually all the electrical appliances sold in Samoa, Tonga and Vanuatu are imported with majority of electrical appliances coming from Australia and New Zealand.

In Samoa and Vanuatu, values of appliance imports from Australia and New Zealand account for around 70% - 80% of the total appliance import value. In Tonga, import from Australia and New Zealand accounted for about half of the total import value.

Market visits also reveals that most brand name refrigerators-freezers and chest freezers that are imported from Australia and New Zealand already carry AUS/NZ energy labels. Other energy labels were also found in these three markets, which included the Singaporean energy labels on refrigerators-freezers and Chinese energy labels on chest freezers.

Based on estimated market sizes, technical potential for energy savings and international experience on energy efficiency standards and labeling (EE S&L) programmes, the household size refrigerators, freezers and room air-conditioners were being recommended as priority products for the proposed EE S&L programmes for the three countries.



The economic benefit analysis has also shown that the implementation of energy labeling and/or minimum energy performance standards (MEPS) for selected appliances appears to be feasible and cost effective, which offers a great opportunity for the introduction of energy labeling and/or MEPS at a reasonably low cost as extra budget and effort for testing and certification can be avoided.

In addition to the findings, the report has also pointed out the approaches that the three countries could adopt to proceed with the implementation of the EE S&L programme.

As part of following up on the study, the project will further assist Samoa in setting up an EE S&L Steering Committee, undertake appliance labeling training and possibly map out an implementation approach.

Development of awareness materials on appliance labeling will also be undertaken for the three countries. In addition to this SPC may also assist the three countries in the development of funding proposals to cover the next phase in the implementation of S&L programmes in upcoming development projects in the region.

To download the report, please click on the following link:

<http://www.spc.int/edd/en/download/finish/6/26/0>





Samoa energy review - 2009

By Silia Kilepoa - Ualesi, Energy Coordinator,
Ministry of Finance, Apia, Samoa

As part to ongoing assistance to member countries in improving their energy data collation, SPC assisted the Samoa Economic, Policy and Planning Department (EPPD) earlier in the year to update their energy balance and also to compile their Energy Review for the year 2009.

The Energy Review report has been published and can be accessed from the SPC website - <http://www.spc.int/edd/en/download/finish/6/27/0>.

For 2009, it was estimated that Samoa consumed around 118.09 kilo tonnes of Oil Equivalent of which 31% was met by biomass, 66% by petroleum products while the remaining 3% was met by hydropower, coconut oil biofuel and solar.


Earlier energy review reports on Samoa can also be accessed from the Ministry of Finance website.

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ENERGY REVIEW

The "Energy Review" is published by the Economic Policy and Planning Division of the Ministry of Finance. The analysis provides an overview of Samoa's Energy Sector and is intended to provide the Government of Samoa, business community and the general public with a better understanding of the energy sector.

This is the third review and covers the period from January to December 2009. The next review for the period January to December 2010 is envisaged to be released in July 2011.



MINISTRY OF FINANCE

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REVIEW TOPICS

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- 2 RENEWABLE ENERGY
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- 4 TRANSPORT
- 5 ELECTRICITY
- 6 OVERVIEW OF ENERGY BALANCE

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1. Executive Summary

Key Features for 2009 Performance

Renewable Energy

- Total renewable energy consumption in 2009 is estimated at 40700 tonnes of oil equivalent (TOE).
- Biomass consumption recorded a decrease in consumption from the commercial and manufacturing sector. The residential sector recorded an increase in consumption.
- Solar Energy technology contributes to a minute portion of the national consumption accounting for 0.13% of total renewable energy produced in 2009.
- Energy consumption from hydro power in 2009 remained the same and stood at 3800 TOE.

Petroleum

- Prices of unleaded petrol and diesel fluctuated throughout 2009 and peaked in December with recorded increases since January of 23% and 0.3% respectively.
- Average Petrol and diesel prices for 2009 recorded \$2.22 and \$2.25 respectively; and in comparison to 2008, average prices decreased by 25% and 31% for the two products.
- Price of dual purpose kerosene (DPK domestic) fluctuated between \$1.93 and \$2.30 per litre and also peaked in December.
- Total petroleum consumption increased by 6.19% from 2008.
- Fuels consumption by different types of products were roughly the same for 2008 and 2009, recording 45% for diesel, 31% for unleaded petrol and the rest to dual purpose kerosene.
- By sector consumption, the transport sector accounted for 70%, Power sector 20%, and the rest to the commercial, agriculture, forestry and fishery, and residential sectors.

Transport

- Petroleum consumption in the transport sector increased by 14% in 2009 over 2008.
- Land and marine transport demand for petroleum increased by 10% and 57% respectively between 2008 and 2009.
- Composition of petroleum usage in the transport sector for 2009 was similar to 2008 giving a breakdown of 62.0% to land transport, 27.0% to air transport and 11% to Marine transport.

Electricity

- Generation decreased by 2% between 2008 and 2009 with diesel generation supplying about 58%, hydro 41% and coconut oil Biofuel 1%.
- Contribution from Solar was negligible contributing to 0.01% in 2009.
- Consumption drop at an annual average growth rate 3.4% per annum between 2008 and 2009.
- Commercial and Manufacturing sector demand decreased by 15.4% between 2008 and 2009.

Conversion Factors - Annex 1

Consultation meeting on the implementation plan for the energy security framework

By Solomon Fifita, Deputy Director (Energy), EDD, SPC, Suva, Fiji



Participants from the Consultation Meeting on the Implementation Plan for the energy security Framework

Through the courtesy of the Secretariat of the Pacific Regional Environment Programme (SPREP) and the funding support of its GEF-funded and UNDP-managed PIGGAREP, 10 out of the 11 Pacific Island countries of PIGGAREP members, participated in an International Conference on Renewable Energy and Climate Change convened by the University of the South Pacific on 6 – 8 December 2010.

SPREP generously agreed for SPC to make use of the remaining two days of the week (9-10 December) to conduct a consultation meeting with countries and development partners on the draft implementation

plan for the Energy Security Framework.

The meeting was attended by 25 participants from the Cook Islands, Fiji, Kiribati, Nauru, Niue, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. From the development partners were representatives from Australia, the EU, REEEP and UNDP.

The meeting is part of the consultation process leading up to the submission of the Implementation Plan for endorsement at the energy ministers meeting that is planned for April 2011.

Other news...

SPC welcomes Brian Dawson



Brian joined SPC in September 2010 to take up the post of Senior Adviser Climate Change. He has worked for more than 20 years in the international climate change and energy sector development sphere. He has a Masters in economics from the University of Western Australia and a Masters in Environmental Economics and Management from

the University of London.

Prior to joining SPC, Brian was the Climate Change Adviser for the Australian International Development Assistance Agency. He also held the position of Climate Change Adviser for UNDP at New York Headquarters dealing with climate change and development issues. He has previously worked in the Pacific region and spent six years at the Pacific Islands Forum Secretariat managing the Regional Energy Development Programme. He has produced a wide range of papers and publications on energy and climate change issues and most recently co-authored the book "The Complete Guide to Climate Change".

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Pacific Environment Community (PEC) Fund Project Management Unit Established

A project management unit (PMU) has been established at the Pacific Islands Forum Secretariat in Suva, Fiji to manage and monitor the multi-million dollar PALM 5 Pacific Environment Community (PEC) Fund negotiated by Pacific Islands Forum Leaders with the Government of Japan in 2009.

The PEC Fund is a US\$67 million contribution by Japan to support Forum Island countries' (FICs) projects in solar power generation and sea water desalination.

The Pacific Islands Forum Secretariat recently appointed the PMU team which comprises Mr Jonathan Mitchell as the Project Manager and Mr Leonaitasi Taukafa as the Technical Officer.



left to right: Mr Jonathan Mitchell and Leonaitasi Taukafa



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*Merry Christmas
and a
Happy New Year*

