Greetings for 2001 from the Energy Unit at SOPAC and from our colleagues at the SPC Energy Office in Noumea.

We hope that you all enjoyed receiving your copies of the PEN last year and propose to continue to bring the PEN to you on a regular basis throughout 2001. If you would prefer to receive an electronic copy instead of a paper/posted copy please just e-mail us here at the Energy Unit at SOPAC and let us know (paul@sopac.org / anare@sopac.org / rupeni@sopac.org).

Last year you will no doubt remember our plea for contributions to the PEN and as from the middle of the year turned the PEN into a joint contribution energy newsletter with the Secretariat of the Pacific Community (SPC) Energy Office. Obviously you would have noticed the change in the content of the PEN with the extra inputs that SPC Energy Office were able to make. We continue to seek your support and opportunities to contribute to the PEN. All articles, project information, technical issues, comments and your own thoughts on how we can improve the publication of PEN are welcomed.

I would now like to focus this brief editorial statement on highlighting the ongoing initiatives within the energy sector as all eyes turn away from the non-decisions of the climate change negotiations in 2000 to the lead up activities to the 9th Session of the Commission on Sustainable Development (CSD9). The sectoral focus of CSD9 being “Atmosphere/Energy” and the economic theme is “Energy/Transport”.

As you are aware during 2000 the Committee of Regional Organisations of the Pacific (CROP) - Energy Working Group coordinated the preparation of a regional energy sector position paper. The CROP comprises of the Pacific Islands Forum, South Pacific Applied Geoscience Commission (SOPAC), Secretariat of the Pacific Communities (SPC), South Pacific Regional Environmental Programme (SPREP) and the University of the South Pacific (USP). Contributions were also received from United Nations Development Programme (Suva) and the Pacific Power Association (PPA).

The paper was completed at the September 2000, Regional Energy Meeting (REM2000) in Kiribati and subsequently endorsed by ForSec, SOPAC, SPREP and SPC at their respective annual meetings. The paper focuses on the Pacific region and acknowledges the vital role of energy in achieving sustained economic growth, especially for the least developed countries, and recognises the complexities and interdependencies inherent in addressing energy issues within the context of sustainable development.

This paper has been forwarded to the Secretariat of the Commission on Sustainable Development for inclusion in CSD9. In addition, the Pacific regional submission to CSD9 has also been tabled at:

- the Expert Group Meeting on Strategic Planning toward a Sustainable Energy Future held from 18-20 September at ESCAP headquarters in Bangkok;
- the High Level Regional Meeting on Energy for Sustainable Development held from 21-24 November 2000 in Bali, Indonesia; and
- the 3rd Alliance of Small Islands States (AOSIS) Workshop on climate change, energy and CSD9 held from 15-18 January 2001, in Nicosia, Cyprus.

It was pleasing to note that the various organising agencies were able to provide and attract funding to enable the participation of a number of Pacific island nationals at these meetings, whom along with technical support from the CROP- EWG Organisations made significant contributions to the meetings and workshops.

Now as a lead up to the CSD9, SOPAC Energy Unit will provide support to the South Pacific (SoPac) Group / Missions in New York at the Second Meeting of the Ad Hoc Open-ended Inter-governmental Group of Experts on Energy from 26 February – 2 March 2001. The 9th Session of the Commission on Sustainable Development is to be held from 16-27 April 2001. Currently the Pacific Islands Forum Secretariat is coordinating the logistics for participation at this event. As the CSD9 will involve parallel meetings of working groups...
and drafting groups, it is desirable to have at least two CROP agency representatives and at least two Pacific resident mission representatives available throughout the entire CSD. The CROP organisations are working together with the resident UN missions to plan logistics and on-site briefings. A side event is being planned at CSD for the region to present its position in detail, based on the briefing paper, to interested development partners and agency officials.

As representation at the CSD is on behalf of the individual Pacific island countries that are members of the Pacific Islands Forum it provides an opportune time to seek support for assistance and funding to address the many issues that are referenced in the Pacific Regional Energy Position Paper as presented to the CSD.

We will provide you with an update on progress with the CSD9 in the next issues of the PEN.

In the mean time we look forward to receiving your contributions so that we can enjoy sharing your experiences.

REGIONAL NEWS

High-Level Meeting of Ministers from Governments in the Asia Pacific Region

A high level meeting of Ministers from governments in the Asia Pacific region was held recently in Bali, Indonesia focusing on energy and sustainable development. This meeting was held as part of regional focus groups leading up to the Nineth Commission for Sustainable Development (CSD 9), which will be held in New York from 16-27 April 2001.

The meeting was convened to look at the role of energy in sustainable development in the region, and specifically, securing adequate energy services with sound environmental performance. Ministers endorsed a Regional Perspectives document and Regional Action Plan, entitled the Bali Declaration, which was signed by representatives of 42 nations in the Asia Pacific region. The declaration contains 8 priority areas; accessibility of energy, renewable energy, energy efficiency, mobilization of financial resources, technology transfer, market reform and energy pricing, and international and regional cooperation and assistance. This document will serve as the regional input to CSD 9.

Australia was represented at the High Level Meeting by the Hon Warren Entsch, Parliamentary Secretary to the Minister for Industry, Science and Resources. Mr Entsch also made Australia’s key note speech to open the Regional Business Forum, in conjunction with the Indonesian Minister for Energy and Mineral Resources, Dr Purnomo Yusgiantoro.

Business Forum

The High Level meeting also included a Business Forum, sponsored by Australia and Indonesia, entitled ‘The Opportunities and Challenges in the Energy Sector in the Asia-Pacific Region: Toward Energy Sustainability in the Future’. The Business Forum was composed of some 60 prominent, senior, business executives, from organisations with a long standing commitment to the region. These business leaders are instrumental in decision making in their companies, to promote, develop and invest in energy infrastructure, technologies and services. The Forum provided an opportunity for business to have input into the CSD process, and specifically, to identify practical recommendations for Ministers to consider and implement.

The business representatives participated in four working groups: Energy and the Environment, Energy End Use Efficiency, Energy Infrastructure and Access to Energy Services in Remote Locations. A number of recommendations were identified by the participants, and presented to Ministers by the Chairman of the forum, Dr David Natusch (Managing Director, Resource Development Limited, New Zealand), for consideration by the governments of the region.

Business Forum Recommendations

Energy Policy Reform - Implement energy sector policy reforms that increase competition in the relevant markets, noting that effective competition, in an appropriately regulated energy market, can deliver cost reductions for industry and consumers. Experiences from established competitive markets should be drawn upon, including the example of inter regional competition.

Business Risk - Governments should provide the policy and regulatory frameworks that will attract private sector investment in sustainable energy development on terms that are compatible with the other requirements for energy sector reform, including environmental protection, as well as:

- Equitable sharing of risk between host country and investor, such that risk rests with the parties best able to manage that risk;
- Encourage private sector investment through increased market competition; and
- Promote good corporate practices

 Websites for the PEN.
http://www.sopac.org/eng/
OR
http://www.spc.org.nc/redrat/preface%20news.htm

Next Issue
The next issue of the PEN will be due for printing by the end of May 2001.
between government and business to manage risk.

Subsidies - Transparent cost reflective pricing is essential for efficient markets.

Governments need to make the distinction between commercial and social objectives and functions. The private sector should perform a commercial role and compete fairly so market forces can optimise the efficiency of energy use.

The government/public sector should be responsible for social welfare. Subsidies are appropriate but should be targeted, transparent and reach those for whom they are intended. Hidden subsidies should be removed because they cost more and seriously distort the market. This will open up market opportunities for the private sector.

Government Assistance - We propose that governments provide assistance towards the initial capital outlays for remote area renewable energy projects, and then allow market mechanisms to cover ongoing operation and maintenance costs. The nature and quantum of such assistance can be determined for each project through a transparent and open bidding system.

We encourage governments to collect and generate solar, rainfall and wind reliable resource data, to make resource assessments publicly available, in order to assist private investors in making decisions on renewable energy projects.

International Cooperation - We propose, where appropriate, that enhanced international cooperation be undertaken and promoted to share experiences on how best to facilitate the development and market entry of energy efficient end use technologies, particularly through already established forums such as the APEC Energy Working Group (EWG).

This includes the active dissemination of information between the business, education and government sectors, which will strengthen institutional arrangements.

Training and education at all levels is critical to maximise technology transfer and the development of management and operational staff.

End Use Efficiency - We acknowledge the considerable scope for economic governance and responsible business increases in energy efficiency in both developed and developing countries and the contribution that this could make to achieving sustainable development objectives.

Background on CSD9
CSD meetings are held annually by the United Nations Commission for Sustainable Development (UNCSD). Each yearly CSD meeting focuses on one of the major topic areas identified in Agenda 21 (the Rio Agreement 1992).

CSD9 will focus on energy and sustainable development. The key issues identified for consideration at CSD9 are:
1. Improving access to energy services globally;
2. Promoting sustainable development in the energy context through:
   a. Improved efficiency of existing energy infrastructure; and
   b. Increased application of renewable energy.

CSD9 represents a significant opportunity for Australia to showcase sound environmental and energy policy credentials internationally, and to work cooperatively with both developed and developing countries to promote sustainable development.

Preparations to hold an Energy Technical Exhibit at the same time as CSD 9 are underway. This exhibit presents an opportunity for significant exposure for Australian industry, as it will be attended by senior officials and business executives from Europe, United States and the Asia Pacific.

The Tenth Session of the Commission for Sustainable Development (CSD10), to be held in 2002, will focus on reviewing the progress made in implementing the outcomes of the UN Conference on Environment and Development (Agenda 21) in the 10 years since its adoption at Rio de Janeiro in 1992. It is therefore important that outcomes from CSD9 are action orientated.

Australian Energy News

FRANCE HELPS PACIFIC POWER PRODUCERS MINIMIZE WASTE
SUVA, Fiji Islands (January 31, 2001 - Oceania Flash/SPC)— Electric production and distribution processes in the Pacific Islands are expected to be improved significantly following the conclusion of a planned survey by the regional Pacific Power Association (PPA), which includes most power professionals in the region.

The study, with the goal of determining the causes of current energy losses and waste in the electricity production and distribution processes, is projected to continue until August, the French Embassy in Suva said in a release.

It will be carried out by a specialist, final year student from the French national electrical engineers school in Grenoble (southeast France).

The agreement was signed last week between PPA and French Ambassador Jean-Pierre Vidon.

The study goal is to improve the production and distribution quality, as well as reduce energy loss.

This matter was also highlighted recently in a United Nations report, which labeled energy efficiency matters a “key development issue.”

According to recent studies, the energy loss incurred worldwide by production and distribution is around 15 percent. But it is sometimes twice as much in the Pacific region.

Most of PPA members are public or private Pacific islands power producers, including professionals in American Samoa, Samoa, the Federated States of Micronesia, the Northern Mariana Islands, Fiji, Guam, the Marshall Islands, Niue, Palau, Papua New Guinea, Tokelau, Kiribati, Vanuatu, the Cook Islands, Tonga, Tuvalu, New Caledonia, French Polynesia and Wallis and Futuna.
American Samoa

American Samoa Gas Stations Fail Environmental Inspection – by Fili Sagapolutele (Feb 22, 2001 PIDP/CPIS).

The local gas stations have until May 25 to comply with federal underground fuel tank regulations or face stiff penalties. According to the U.S. Environmental Protection Agency (EPA), majority of the facilities failed to meet the December 22, 1998 deadline requirements for spill, overfill and corrosion protection. If the owners and operators of the gas stations do not comply with the EPA-set deadline than they are subjected to penalties of up to $11000.00 per violation per tank per day, in addition to the cleanup costs for leaking tanks. Eventually they face being shut down. EPA frequently conducts unannounced tank inspections.

Source: Pacific Islands Report

Kiribati

Training Attachment at SOPAC

Mr Kireua Kaiea, Assistant Energy Planner at the Ministry of Works and Energy in Tarawa, who just return from the 3rd AIOSIS Workshop on Climate Change, Energy and Preparations for CSD-9 in Cyprus, spent 2½ weeks on a training attachment with SOPAC.

Mr Kaiea took the opportunity to update and complete the Energy Supply/Demand Database, formulate a Statistics Yearbook for Kiribati, get trained in the management and data entry into the Energy Information Database, attach to the Petroleum section at the Pacific Islands Forum Secretariat and spent 3 days with the Fiji Department of Energy.

Mr Kaiea’s short term with the Fiji DOE enabled him to be part of an energy audit evaluation team carrying out inspection at the Lautoka Hospital. One of Mr Kaiea’s interests were the renewable energy projects carried out by the Fiji DOE, particularly of biogas and wind.

The sharing of experiences by personnel from the Fiji DOE, SOPAC Energy Unit, SOPAC Information & Technology Unit and the Pacific Islands Forum Secretariat Petroleum section were much appreciated as Mr Kaiea will use this knowledge to further enhance the goals of the Energy Planning Unit back home.

Marshall Islands

FRANCE, AUSTRALIA FUND OUTER ISLAND SOLAR DEVELOPMENT IN THE MARSHALL ISLANDS

MAJURO, Marshall Islands (Dec. 8, 2000 - Marshall Islands Journal) — 2001 is going to be a year for “solarizing” many of the outer islands, according to Resources and Development Secretary Fredrick Muller.

Through a Secretariat of the Pacific Community (SPC) grant, all of Mejit Island’s 60 households will be outfitted with solar equipment, while Namdrik’s previously installed but now not working household solar equipment will be rehabilitated.

An SPC grant involving French and Australian funding that is valued at close to $300,000 will go for these two projects. A key component of both projects will be an emphasis on maintenance and management training for upkeep of the systems, said Muller, adding that the Ministry is considering involving “capable business people” on the outer islands in the management and maintenance of these solar systems.

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) will be paying for installation of solar equipment in 11 outer island dispensaries, Muller said. The Italian government is providing about $180,000 for the health project that ESCAP is supervising. Muller credited RMI’s U.N. Ambassador Jake Rilang with pursuing this project to bring the funding to the RMI.

Ten of the dispensaries, which the Ministry of Health is to select for Cabinet review, will receive indoor lights, a refrigerator and a street light, all powered by the sun. Likiep Atoll’s health center will get a larger, centralized unit because of its bigger size than most outer island dispensaries. This could allow for expansion for dental and other health services, as well as to the rest of the community at a later point, Muller indicated.

The dispensary project will start in January and it is expected to take up to four months to complete installation.

“The biggest hurdle is management and maintenance after the units are installed,” Muller said. “These projects include training for technicians and will involve local governments in management.”

The Marshall Islands Journal, Box 14, Majuro, Marshall Islands 96960 E-mail: journal@ntamar.com Subscriptions (weekly): 1 year US $87.00; international $213.00 (air mail).

Niue

South

Pacific-

Danish

Wind

Demonstration

Turbine on

Niue


Niue has no known indigenous fossil energy resources and relies completely on imported diesel fuel for electricity generation. The absence of energy diversification means minimal security of supply regarding electricity generation thus making Niue extremely vulnerable to international oil market developments.

Electricity production by fossil fuels is very expensive on Niue. The
remoteness and the very small size of the power sector increases the unit cost of production. This means that a relatively big amount of the total value of imports and the state budget is utilised on electricity generation. This share has increased over the last years due to the very substantial increase in the world market price on oil. Fuel imports are thus a great drain and a significant constraint on development because they crowd out vital capital.

At the same time Niue has a substantial, but non-utilised indigenous wind resource. Some of the best wind resources in the South Pacific are present on Niue and wind energy is a technical and an economical feasible option on Niue.

The South Pacific has an under utilised potential for small-scale grid-connected and stand-alone wind turbines. The few existing wind turbines, lack of capacity, and lack of knowledge and awareness in the South Pacific all poses as major barrier and hinder regional replication.

Project Objectives

a) Mitigate global climate change by reduction of the emission of the atmospheric green house gas CO₂ on Niue

b) Reduce risk of oil spillage on Niue and thereby reduce the risk of pollution in the local and regional environment

c) Increase energy diversification and security of supply on Niue by utilisation of an indigenous energy resource

d) Demonstrate the technical, organisational, and economical viability of small-scale wind power utilisation for Small Island Developing States in the South Pacific and thereby facilitate regional replication

e) Establish capacity on Niue in regard to operation & maintenance of modern wind energy technology

f) Disseminate the project concept and outcomes to relevant Small Island Developing States and regional energy, environment and development organisations in the South Pacific and other island regions

g) Introduce the concept of a 100% Renewable Energy Island to Niue and other islands in the South Pacific.

Expected Outcomes

a) A 150 kW refurbished wind turbine installed on Niue,

b) CO₂ emissions reduced on Niue,

c) Reduced risk of oil spillage on Niue,

d) Increased energy diversification and security of supply on Niue,

e) Established capacity on Niue in regard to operation & maintenance of modern wind energy technology,

f) Information about the project disseminated to relevant organisations and islands in the South Pacific, Caribbean Sea and other relevant areas

g) The concept of a 100% Renewable Energy Island introduced to Niue and other islands in the South Pacific.

For further information please contact Mr Thomas Lynge Jensen Forum for Energy and Development (FED) at Tel: +45 (35) 2477 13; Fax: +45 (35) 2477 17; email: tlj@inforse.org

Tuvalu

Mr Nielu Meisake, Acting Energy Planner gives an update on energy issues in Tuvalu.

The Tuvalu Energy Office has been physically relocated to the Ministry of Natural Resources, Energy and Environment. Prior to this, the Energy Office was with the Ministry of Works and Communication.

The staffing of the Tuvalu energy office is currently insufficient for the planning and management of the Tuvalu energy sector as this is currently carried out by Mr Meisake alone.

The Tuvalu government is presently finalising the process to merge the Tuvalu Solar Electric Cooperative Society (TSECS) with the energy office. The TSECS at present has only one employee looking after its operations.

The TSECS was formed in 1984 to promote and manage solar photovoltaic systems for household lighting on the outer islands.

The Tuvalu Electricity Corporation (TEC) has increased its services with the commissioning of 6 new power stations on the outer islands in 2000. The electricity supply on Funafuti, however, has been recently experiencing power cuts as TEC cannot meet the power demand of about 700kW. The power sharing phases on the capital will be eased once the generators are repaired and also with the arrival of a new 1MW genset in April.

Vanuatu

The Government of the Republic of Vanuatu through its Comprehensive Reform Program is placing high priority to the provision of electricity into the rural areas. This Comprehensive Reform Program has prompted the need to review the current Rural Electrification Policy.

Coordination and assistance was provided by the SOPAC Energy Unit in the form of an in-country workshop held from the 11 - 15 December, 2000.

In the opening address of the workshop, Mr. Stanley Temakon, Director General of the Ministry of Natural Resources, highlighted the importance of having a rural electrification policy framework in place. Electricity, Mr Temakon stressed, was no longer a luxury and making it accessible to rural people was just as important as the provision of education or health services. The rural people cannot always be kept in the dark and government must ensure that electricity is provided to the people in the most equitable and cost effective way possible. This can be achieved if government has in place a policy framework that is not only clear and transparent, but also manageable and affordable.

Participants to the review process were drawn from government and non-government organizations.
Fuel Prices Down; Cleaner Diesel Welcome

Fuel Prices are Down
Late in November, 2000 we suggested that new year 2001 would see lower fuel prices. This has happened, as can be seen from the graph below, where kerosene price in Singapore fell from a peak of US$48 per bbl in November to US$28 per bbl in January 2001. The rises (and falls) for gasoline and diesel have not been quite so dramatic but have followed the same trends.

Generally, Pacific Island Countries need to wait a month or two before the new prices flow through the long supply chain but be assured that GOOD price news is in the pipeline.

Pricing direction from here is anyone’s guess. We have reports that OPEC countries are still debating production levels, no doubt trying to maximise there returns. Singapore refiners have announced production cut backs in reaction to recently falling refiner margins, thus tightening supply. Many such factors, including the non-tangible of market sentiment, traditionally combine to move prices in unpredictable directions.

Looking at the graphs in page 7, however, we see that the pricing pattern in recent months resembles that of late 1996 and early 1997. We observe that the peak and decline were followed by a long slump in fuel prices until they eventually bottomed out at record low levels during 1998. Of course, there is no guarantee that history will repeat itself, but the current pricing direction is good news for fuel importing nations which includes most Pacific Island Countries.

It is interesting to note that world experts have previously suggested that the current price range of US$25-30 per bbl was potentially sustainable because it could possibly satisfy both producers and customers. It will be very interesting to observe whether, for the first time in many years, fuel prices just might stabilise within such a narrow range.

BP Cleaner Diesel Very Welcome
Fiji tends to be the focal point for introducing new and cleaner fuels to Forum Island Countries. This was true in 1997 when Shell brought in the first unleaded gasoline and it is true again when the official launch of BP Cleaner Diesel on 26 January 2001 at the Centra Hotel in Suva.

The move to cleaner fuels is a worldwide trend, driven by tighter emissions standards and new stringent air quality regulations. Australia is simply following trends originating in and progressing in Europe, America and Canada. Similar to other parts of the world, Australian refiners will be challenged to invest heavily and upgrade their existing facilities to meet the new quality requirements.

In early 1999, BP Australia, led by its Australian President Greg Bourne, Publicly took up this challenge. He committed his company to significant capital investment in support of a number of key initiatives aimed at producing cleaner fuels within a short time frame; thus significantly reducing their environmental impact. This included the production of ultra-low sulphur diesel fuel at the Bulwer Island refinery near Brisbane from mid 2000.

At the time Mr Bourne’s statement was seen as a very enterprising and somewhat radical position and certainly distanced BP Australia from positions adopted by other members of the Australian Refining Industry.

Previously, although there had been agreement in principle between government and industry over the need to move toward cleaner fuels, time frames were still being discussed in terms of decades. The difference with the BP Australia commitment and its subsequent achievements was the relatively short timing to achieve identified and tangible new fuel quality standards.

We applaud BP Australia for its success in producing Cleaner Diesel.
PRICING PATTERNS FOR KEROSENE AND MOGAS

Singapore Kerosene & Mogas (92ulp) NOFS 1996-2001

Source: Platt's Oilgram Price Report

Singapore Kerosene & Mogas (92ulp) MOPS 1996-2001

Source: Platt's Oilgram Price Report
A Way Forward to Better Compatibility and Integrated Systems

As the Pacific Islands become more and more reliant on computers or having access to computers for day to day activities we considered that it was appropriate to include in this issue of PEN some of the recommendations from the ITPacNet 2000 – Seventh Regional Information Technology Strategies Meeting held in Funafuti, Tuvalu from 2nd to 5th May 2000.

The following text has been taken from APPENDIX P of the report prepared for the meeting.

In line with these recommendations the IT Unit at SOPAC through this article and as an active partner in IT PacNet continues to offer to provide assistance to member countries with their selection of software applications and hardware, either new purchases or upgrades. This has been found to be particularly important when decisions are being made on issues like “compatibility”, “future requirements” especially where there just does not seem to be a clear answer to these questions.

The extracts from APPENDIX P provide the basic guidelines for hardware purchases and recommendations for software, for which support services are available through the CROP Organisations as members of the ITPacNet.

Please feel free to contact the following should you require assistance in making those often-expensive decisions that may have long-term implications.

Mr Les Allinson
IT Manager
SOPAC

Mr Franck Martin
Database Guru
SOPAC

Extracts from Appendix P:

Recommendations of ITPacNet 2000

1.1 Hardware Recommendations

1.1.1 Disposal of Hardware

It is recommended that all hardware that has reached the end of its lifetime can no longer be repaired be disposed of in a responsible manner. In the case of Small Island developing states it may be necessary to ship such equipment to other countries where disposal methods are established.

1.1.2 New Hardware Purchases

It is recommended that current proven technologies appropriate for business functions as identified in the IT Plan be purchased and should provide a minimum functional lifetime of 3 years.

In any purchase of hardware, the prime consideration should be quality service and support and preference should be given to local suppliers where appropriate.

The following hardware is recommended.

1.1.3 COMPUTERS

1.1.3.1 Desktops - Personal Systems

Name brand desktop computers such as Compaq, Dell and HP are recommended. Low cost clones should be avoided due to their limited lifetime and reliability.

The minimum configuration for desktop systems is:

- Processor: Intel Pentium III 500 MHz minimum.
- RAM: 128MB minimum SDRAM.
- Hard Disk: 4Gb uncompressed
- Monitor: 15" minimum. 72 Hz min, less than .28 mm pitch, 1024x768 resolution, Energy saving.
- Video card: AGP, PCI or integrated 4MB minimum
- 48X CD-ROM is a minimum (with soundcard and speakers)
- LCD screens should be considered in environments with high humidity and limited power availability.

1.1.3.2 Portable Computers

Due to the disproportionately high cost and specificity of docking stations, careful consideration should be given to their purchase.

Due to the high or equivalent cost of portable computers and their limitations as compared to desktop systems, the minimum specifications for portable computers is lower than what is required for desktop systems. The minimum configuration for portable computers is:

- Processor: Pentium II 400Mhz minimum
- Two type II PC-Card slots. Combo cards (modem/Ethernet) should be avoided. Two separate PC Cards for modem and Ethernet are recommended to allow flexibility.
- RAM: 64MB minimum
- Hard Disk: 4Gb uncompressed
- 32X CD-ROM is a minimum
- 14" TFT 1024x768 screens are recommended for users who spend considerable time using their laptop.
- Consideration should be given to battery type and care where users require extended use without mains power. If extended use without mains power needed, extra battery should be purchased with unit.

The group expressed a general positive experience with Toshiba and Compaq laptops, although selection of a particular brand should be based more on local support rather than brand name only.

1.1.3.3 Server

The highest possible reliability is desirable for a network server, so name brands which are marketed specifically as servers, and that are well supported in the region are recommended (Compaq, HP).

Consideration should be given to
micro server solutions for small workgroups

The minimum configuration for mainstream servers is:

· Pentium III 500Mhz minimum.

· 256 MB RAM minimum with parity checking.

· SCSI high performance drives and controller.

· 9Gb of usable disk space as a minimum.

· External DDS-3 tape backup drive. A spare unit should be considered for redundancy.

· RAID 0 (disk mirroring) as a minimum. Hardware RAID 5 as a preferred solution.

· 16X CD-ROM is a minimum.

· CROP agencies will monitor and evaluate micro servers as alternative cost effective solutions to Microsoft NT Server solutions in appropriate situations and make recommendations for deployment and support when necessary.

1.1.4 PHYSICAL NETWORK

For new buildings it is strongly recommended that a flexible cabling infrastructure be adopted that allows implementation of new technology such as the convergence between data, voice, and video networks. The cabling should meet approved standards.

Ethernet is recommended for all networks. Fibre optical cabling is recommended as a backbone especially for inter-building and new building connections. All network cards should be PCI 10/100 BaseTX and a respected brand such as 3Com.

1.1.5 PERIPHERALS

1.1.5.1 Backup systems

Backup solutions are essential for all systems. An adequate backup strategy is essential and should include an off-site storage policy. Backup solutions should encompass all critical data resources including messaging systems such as Microsoft Exchange. Backup policies should be disseminated to users.

1.1.5.2 Power Conditioning and UPS

Uninterruptable power supplies (UPS) of adequate capacity are necessary to prevent the loss of data and are especially relevant in countries with unreliable power. All UPS systems should be periodically tested to verify their operation and UPS units connected to servers should be appropriate for automatic shut down. Hubs should also be connected to UPS. The group recommends that double conversion technology UPS should be used while power boards with spike protection are essential. Use of modem line protection is also recommended. Laser printers should not be connected to UPS.

1.1.5.3 Printers and Plotters

Hewlett Packard (HP) printers and plotters remain the preferred choice with the model dependent on price and performance requirements.

1.1.5.4 Modems

The recommended manufacturer is 3Com (US Robotics). Specific models are recommended as follows: Courier for high end or leased line and a Sportster for lower speed lines. External modems for desktop computers are preferred. The group cautioned against the difficulties encountered with low price modems.

1.1.5.5 Scanners

Hewlett Packard scanners are the preferred types.

1.1.5.6 Recordable CD Writers

HP internal IDE RW drives are recommended and recordable CDs (CD-R) media be used in all organisations to distribute data sets greater than 5Mb. External CD writers that connect via parallel port are not recommended.

DVD is emerging as a reliable cost-effective distribution medium for large data sets.

Zip and Jazz drives are recommended as secondary methods of dissemination.

1.1.5.7 Video conferencing

Videum Conference Pro PCI has been successfully used with Microsoft NetMeeting under both Microsoft NT and Windows 9x. Many other brands have been found to be unreliable and incompatible with NT.

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World Earth Day - 22 April 2001

The components of the the clean energy campaign are:

1. Government commitments to a Clean Energy Future;
2. Human Rights and the Environment;
3. Power Save - Habits for Energy Efficiency;
4. Green Energy Funding; and
5. Safe Power - Leaving Nuclear Behind

For more information visit www.earthday.net
A Regional Energy Information Database

SOPAC has developed an Energy Information Database which will provide information on the whereabouts of reports on various energy projects, technologies, programs and reference material relevant to the Pacific region. The dissemination and getting access to energy information will assist each Pacific island country to successfully implement energy projects and introduce appropriate new energy technologies.

The Energy Information Database also includes an energy contacts list that will provide country energy officers to either contact their counterparts from other countries or colleagues in the regional organisations for advice and assistance.

The Energy Information Database is designed in Microsoft Access. The Energy Information Database is in two categories: country specific and regional based. The regional template will be updated and maintained by SOPAC with the country energy offices given the task to collate and input data into their respective templates.

Baseline Database

The “BASELINE” is a database of recent but mostly informal literature on baseline methodologies that experts world-wide developed following the endorsement of the Activities Implemented Jointly (AIJ) pilot phase at the Berlin Climate Conference in 1994. Following the endorsement of the project-based greenhouse gas reduction activities through the Kyoto Protocol in 1997, further development of methodologies took place.

But access to this literature is very limited. A number of the publications are very recent thus has not yet published in journals or books. The purpose of this database is to make this literature more accessible to anyone interested. The database is open-ended, and if you feel that other articles or papers should be added, please send us your suggestions. Any other feedback on the database is also welcome.

The BASELINE database is part of a UCCEE (UNEP Collaborating Centre on Energy and Environment) programme, which focuses on developing and strengthening analytical and methodological capacity on baselines in developing countries. The programme, initiated in 1999, offers technical advice, Internet access to documentation and data to developing country experts in order to enable an independent formulation of views on baselines from a Southern perspective.

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fanny.missfeldt@risoe.dk
website: http://www.uccee.org

Two Publications on Renewable Energy on Small Islands

The following two publications on renewable energy on small islands are available, in PDF-format for free, on the homepage of the Forum for Energy and Development (FED):

Renewable Energy on Small Islands – Second Edition:

In the second global overview of renewable energy on small FED is presenting information on 53 islands with experiences with renewable energy and/or plans for future renewable energy developments.

Proceedings from the Global Conference on Renewable Energy Islands:

In the proceedings are detailed information about 24 islands worldwide and 18 national, regional and international organisations working with renewable energy.

The two publications can be downloaded for free in PDF-format on FED’s homepage:


The publications are also available in print by request to FED on the following e-mail: tlj@inforse.org

share your events / news & opinions!!

If you have an event you wish to publicize or think that “PEN” readers would like to know about, please send them to either:
SOPAC Energy Unit; Fax (679) 370040, email: eng@sopac.org; Postal mail: SOPAC Secretariat, Private Mail, GPO, Nabua, Suva, Fiji Islands.

or

PREFACE, Fax (687) 26 38 18, email: spc@spc.int; Postal mail: Secretariat of the Pacific Community, BPD5, 98848, Noumea Cedex, New Caledonia.
SOUPAC APPLIED GEOSCIENCE COMMISSION

SOUTH PACIFIC APPLIED GEO SCIENCE COMMISSION

**EXPRESSIONS OF INTEREST**

SOPAC, a regional organisation based in Suva, Fiji Islands is the implementing agency for a Regional Biomass Assessment Project scheduled to commence in June 2001. As implementing agency SOPAC is calling for Expressions of Interest from reputable organisations and individuals to provide consultancy service for the above project.

The consultancy service involves the following:

(a) Preparing training materials in biomass resource assessment;
(b) Training country participants in biomass resource assessment and policy formulation regarding biomass resource management;
(c) Conduct assessment of the biomass resources in participating Pacific Island Countries (PIC);
(d) Compile a report on the biomass resource assessment for each country;
(e) Compile an inventory of biomass technologies appropriate to the participating countries;
(f) Formulate a Sustainable Management Plan for the biomass resources for each participating country;

The consultancy period is 13 months.

Expressions of Interest shall include details of projects or work of similar nature undertaken and a detailed Curriculum Vitae of the person(s) that will be assigned to undertake the work.

Expressions of Interest must be forwarded to the Energy Manager, SOPAC by no later than 1600 hours on Friday 23 March 2001 and addressed to:

The Energy Manager  
SOPAC Secretariat  
Private Mail Bag  
GPO Suva  
Fiji

Further information can be obtained from Anare Matakiviti, Energy Adviser, Energy Unit, SOPAC on telephone (679) 381 377 Ext. 226 or Fax: (679) 370 040 or Email: anare@sopac.org.

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**SUSTAIN 2001 - The World Sustainable Energy Exhibition & Conference**  
(May 8-10, 2001 - Amsterdam RAI, The Netherlands)

The overall theme for the Energy exhibition and the conference is generating, selling and buying clean and reliable energy sources in a competitive market.

Contact details:  
Marc V. Sterel, Exhibition Manager,  
Fax: +31-20-5491843; Tel: +31-20-5491212; P O Box 77777, NL-1070 MS Amsterdam, The Netherlands.

**Waterpower XII**  
9-11 July 2001 - Salt Lake City, Utah, USA

To review a complete current list please visit the Waterpower web site at www.hcipub.com

Waterpower XII will provide individuals and organisations participating in hydro a refreshing opportunity for refocusing energygies and reinforcing our commitment to move hydropower forward as the world’s leading source of renewable energy.

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**Fifth International Workshop “Russian Technologies for Industrial Applications” “Renewable Energy”**  
**ST Petersburg 28-30 May, 2001**

The Russian Foundation for Basic Research (RFBR) and the St Petersburg United Research Center hold a series of International Workshops “Results of Fundamental Research for Investments”, which are aimed on introducing the scientific fundamental results (Hi-Tech developments) to industry.

The following are the contacts should you need further information.

Prof. S.G. Konnikov,  
Polytechnicheskaya 26, St Petersburg, 194021, Russia Tel: +7(812)247-9968  
Fax: +7(812)247-5894  
email: IWRFRI@pop.ioffe.rssi.ru  
website: www.ioffe.rssi.ru/WRFRI

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**The 10th Pacific Science Inter-Congress**  
(June 1-6, 2001 - Guam)

The overall theme for the Energy exhibition and the conference is generating, selling and buying clean and reliable energy sources in a competitive market.

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