Winrock International

Renewable Energy
State of the Industry Report
#4

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Introduction

The following **Renewable Energy State of the Industry Report** was prepared by Winrock International with funding from the US Agency for International Development (USAID) under the Leaders with Associates (LWA) Agreement. This is the fourth in a series of reports which will be prepared and distributed on a quarterly basis to provide information to RE industry and other stakeholders on what is going on in key countries in terms of market opportunities, policy, finance and projects for solar PV, wind, small hydropower, biomass and geothermal energy.

Winrock International's Clean Energy Group (CEG) was established in 1989 to increase sustainable energy supplies in developing countries through the use of renewable energy (RE) technologies, when and where they make economic and environmental sense. CEG pursues this goal by providing technical, political, and market-oriented assistance to public and private sector organizations as they focus their attention and resources on deploying commercially viable renewable energy technologies while building long-term local capacity.

A focal point for Winrock's efforts to expand the awareness and use of energy technologies has been the establishment of an international network of in-country project offices. Each locally managed office, which represents a country or region in the network, is known as a Renewable Energy Project Support Office, or REPSO. Once established, the REPSO becomes a member of the CEG's international technical and financial support network. REPSO programs are designed to stimulate understanding of the ways in which sustainable energy sources can be better integrated into national and multinational development efforts. Winrock currently operates REPSO offices in seven countries. Brazil, Guatemala, India, Indonesia, Nepal, the Philippines and South Africa. In addition, CEG has NGO partners / representatives in the Dominican Republic, Mexico and Peru.

International market information has been consistently identified by US renewable energy companies operating internationally as one of their most urgent needs. The concept of preparing and sending out quarterly reports directly to US industry was an idea that resulted from a meeting Winrock held with its US Renewable Energy Industry Advisory Council in conjunction with the Village Power meeting in December 2000. At that meeting, industry representatives expressed a desire for timely, relevant RE market information. Considering both the lack of a dedicated institution to play the market facilitation role and Winrock's network of well-established REPSOs, CEG is in an excellent position to fill this gap by preparing and disseminating current renewable energy market information from the key REPSO countries.

The quarterly reports will provide information to a host of organizations interested in keeping up-to-date on international RE market information including the US industry, the US government and agencies, multilateral and commercial financing agencies, NGOs, universities, research institutions and foundations. It is our hope that by better communicating what is going on in the countries where we work, we can better position US industry to be successful in those markets. In addition, by informing US government agencies, NGOs, financing and funding institutions of worldwide RE happenings, we hope to catalyze the interest, cooperation, discussion and activity of those organizations in this area. In each report, information is provided country-by-country on various topics.

- Information on the macro political and economic situation and the effect on RE;
- General RE market information;
- RE Policy developments;
- RE Finance developments;
- RE Equipment/services procurement notices;
- Partnering opportunities;
- Climate change/CDM developments and/or project opportunities;
- Project leads and RE news; and
- Calendar of Events

The information in the report was collected primarily in the field by local REPSO offices, drawing on primary and secondary sources. The REPSO offices and in-country NGO counterparts who contributed to this report were. REPSO Brazil; Fundacion Solar, Guatemala; AHPPER Honduras; REPSO India; REPSO Nepal; PEI, the Philippines; and Solar Engineering Services, South Africa.

We hope that with positive feedback we can better tailor the information to suit industry needs and expand the scope of the report to cover additional countries. We welcome both general and specific feedback regarding the information contained in the report, especially feedback on any successes that come from leads provided. Questions or comments can be directed to Winrock's Clean Energy Group Industry Liaison, Mary Grady at mgrady@winrock.org.

Brazil – REPSO Brazil

Section 1. Macro Political and Economic Situation

President Sanctions Energy Efficiency Law. President Fernando Henrique Cardoso recently sanctioned the Energy Efficiency Law. According to the new law, a label must indicate the quantity of energy that each device needs for working. Several brands of refrigerators, freezers, air conditioners, lamps and other products have already been tested and were given the first labels. A full version of the Energy Efficiency Law and additional information can be found at the CGE (Management Committee for the EnergyCrisis), www.energiabrasil.gov.br under the option *'Legislação'*.

Important Acronyms:

ANEEL	National Electricity Regulatory Agency
BNDES	Brazilian Bank for Social and Economic Development
CENBIO	National Center for Biomass Research
MAE	Wholesale Energy Market
MBE	Brazilian Energy Market
MCT	Ministry of Science and Technology
MME	Ministry of Mines and Energy
Petrobras	Brazilian energy company (partially state owned)
PRODEEM	Energetic Development Program for States and Municipalities
SHP	Small Hydropower Systems
VN	Normative Value

GCE proposes structural changes for the Brazilian electric sector. President Fernando Henrique Cardoso was presented with a new model for the Brazilian electric sector. The main measures announced by the GCE are the end of Wholesale Energy Market (MAE) self-regulation; the Energy Sector Revitalization Program and the Ministry of Mines and Energy (MME) restructuring process.

I) The MAE, which, in practice, never was operational and was under the intervention of the National Electricity Agency (ANEEL) since 2001, will be replaced by Brazilian Energy Market (MBE), of which procedures will be regulated and supervised by ANEEL.

II) The Energy Sector Revitalization Program comprises 18 measures, out of which, 11 will be submitted for public comment. The measures are aimed to adjust the electric sector model to the privatization schedule that should be concluded in 2003. One of the measures proposes the inclusion of new variables in the calculation of the electricity spot price. The water level in the hydroelectric plants' reservoirs, for instance, will be consistently taken into consideration in the energy price formation. Another measure tells about a Safety Curve, which will indicate the aversion of the players and consumers to the hydrologic risk. This Curve will determine the level of dispatching for the thermoelectric power plants connected to the grid, in order to assure operational safety to the electric system. Consequently, the energy price may increase in a scenario of drought. It was also pointed out that the price formation methodology formerly used was not sensitive to the water level in the reservoirs. This was proved when between November/2000 and January/2001 the prices calculated by MAE decreased, while the reservoirs were already seriously depleted, showing that the prices did not reflect the hydrologic risk. Another important measure will be updating the Energy Deficit Cost, currently in R$ 648.00/MWh, which represents the price that society is willing to pay in case of energy crisis. The set of measures also foresees a specific regulation for the commercialization of the so-called "Old Energy," after 2003, when the Initial Contracts gradually begin to expire. The "Old Energy" is generated by the state owned companies, at a very low price, and it is, actually, the commodity traded with the Initial Contracts, which are transition contracts between generators and distributors, signed in 1998 and with a term of 5 years. With that specific regulation, the government hopes to avoid damage to competition, after 2003, as well exposure of the end-user to excessive high energy prices. The end of cross subsidies in energy tariffs is also on the agenda of the Revitalization Program, seeking to avoid households paying higher prices so that the

Industry Sector can pay lower prices. A subsidy will be created for the transportation, through Brazil-Bolivia pipeline, of the natural gas to be used by the gas fired power plants included in the Priority Program for Thermoelectricity (PPT). Another subsidy has been minded for the renewable energies, which should come under the umbrella of a national fund. This way, the Normative Value (VN), which sets the values of the newly acquired energy that can be passed through to the tariffs by the distributors, would now vary according to factors, such as country region or time of usage, rather than according to energy source.

III) The restructuring of MME is being done under the rationale that this Federal Administrative body should primarily establish sector policies and manage planning, while the agencies should take care of sector regulation. The two existing departments (Mining and Metallurgy Department and Energy Department) will be replaced with five new departments, namely. Energetic Policy and Planning; Electric Energy; Oil and Natural Gas; Energy Efficiency and Environment; and Mining.

Within six months all the 18 measures should be implemented and may be checked, in full version, at the GCE web site, www.energiabrasil.gov.br.

According to Analysts Measures Reassure Regulatory Risk. According to Maurício Tolmasquim, of Ilumina Institute for Strategic Development of the Electric Sector, the government is delaying the opening of the energy market. One of the 18 announced measures points out that the compulsory index of bilateral contracting of energy between generators and distributors should increase from 85% to 95%. That means that there will be less energy available to be negotiated in the spot market. Experts believe that the sudden change in the current rules confirms the regulatory risk. For more information, please refer to the web site of Ilumina. **www.ilumina.org.br**

There is Still a Lack of an Energy Policy. Experts say that Brazilian energy sector still lacks medium and long term vision. The restructuring measures announced by the GCE do not address the direction the country wants to take regarding energy policies. The announced measures do not consider issues such as. What will be the participation of the hydraulic power, natural gas and biomass in electricity supply? How to conciliate the expansion of energy supply and the preservation of the environment, social development and the definition of an industrial and technological policy? How to integrate the natural gas and electricity sectors? What will be the priority given to the renewable energy? How to establish priorities to the multiple use of water, such as human consumption, irrigation, and power generation, which, among the former ones, is just one of these uses. In fact, the GCE measures try to bring commercialization activities back to normal, in an impaired market due to uncertainty in its legislation and regulation.

Universalization of Electricity Services is Still Controversial. According to the Concession Contracts, the concessionaires should provide electricity services to the whole concession area. However, the same contract states that ANEEL should protect the concession economic and financial equilibrium and, consequently, the concessionaires have stated that they cannot subsidize the service universalization, especially through implementation of more expensive energetic alternatives (renewable, solar and wind). While the Amended Bill 2905 of Deputy Aleluia, which states the universalization as a Concessionaires' duty, is under legislative procedures within the Congress, the GCE sends signs that will deal with the issue with a resolution. For further information on the Amended Bill 2905 please visit **www.camara.gov.br/Internet/sileg/Prop_Detalhe.asp?id=29782**.

Rationing Ends and Tariffs Increase. The energy rationing has ended, but consumers will still pay for the emergency energy purchased from the diesel fired power plants on barges. ANEEL released that the cost of emergency energy, which can reach R$ 4.4 billion per year, will be shared among the 500 thousand industrial consumers, 3.9 million commercial consumers and 5.1 million households that have an energy consumption higher than 350 kWh per month. The 13 million low-income consumers were exempted from paying this sort of "insurance" against the blackout. The 24 million consumers that are positioned above the low-income line and below the level of consumption of 350 kWh per month, will pay the so-called "Capacity Charge" of R$ 0.049 per kWh. This charge relates to the cost of implementation of 57 emergency plants (barges) hired by the Brazilian Trader of Emergency Energy (CBEE). The two other charges that the consumers will have to pay due to the risks of rationing are. the "Emergency Energy Charge," which is directly proportional to actual power generation provided by the power barges, and the "Spare Energy from the Spot Market Charge." The latter relates to the cost borne by the generators (Chesf, Furnas, etc.) if they need to buy this year complementary power in the spot market. The new charges will appear on the electricity bills from March 1 and should be in force until June 30, 2006, when CBEE will cease to operate. The ANEEL Resolution 71/2002 provides the details and can be checked on web site of ANEEL, **www.aneel.gov.br**.

Section 2. Policy Environment

Opposing Scenarios for Solar Energy. The market for solar photovoltaic panels has declined while the market for solar collectors has spurred investments in production expansion. The energy crisis in Brazil did not increase the demand for photovoltaic panels. In addition, the photovoltaic industry has seen a change in the profile of a potential customer, which until the energy crisis, had 90% of it output directed to the countryside. A significant urban market is appearing, with municipal authorities and residential condominiums worried about lighting and street signals.

Normative Values (VN) Assessed Within the Current Energy Scenario

Wind Power. The Brazilian state of Ceará invests more in solar and wind energy, but the Energy Coordination of the Infrastructure State Secretary points out that wind power projects still require direct investment of the State to reach feasibility status. The Regional Utility COELCE will purchase the energy to be produced in two 30 MW wind power plants, at prices similar to those of the hydroelectric power acquired from Chesf, a generator. The remainder of the costs will be borne by the State of Ceará, proprietor of the Parks. The Energy Coordination considers the current Normative Value (VN) for wind energy at R$ 112.00/MWh, a value which is out of date and insufficient to attract investments, and may also jeopardise PROEÓLICA, a Federal Government program for wind energy. The marketplace considers that a reasonable value would be around R$ 155.00/MWh, while PROEÓLICA wants to buy wind power at 85% of the current VN.

SHP (Small Hydropower Plants). If the Normative Value for SHPs, currently at R$ 79.29/MWh, is not revised and the issuing of environmental licenses is not expedited, the PCHs capacity of 847 MW, due to be operational up to 2003, may not be developed The PCH-Com, a program launched by Eletrobrás to stimulate the construction of PCHs, offers an even lower energy price of R$ 67.00/MWh. Accordingly, the PCHs industry considers it difficult to make feasible any project. Investors cannot get to the breakeven point with the VN at R$ 79.29/MWh, let alone with the PCH-Com purchasing price of R$ 67.00/MWH. The investors consider a value such as R$ 110.00/MWh enough to make projects feasible. There are complaints about the guarantees required by the banks. Solutions are sought with insurance companies that would take the pre-operational risks of the projects, but, again, it implies in increasing the costs of the energy produced by PCHs.

Biomass. The energy crisis encouraged investments of the sugar and alcohol sector in the production of excess power for electric. Sector. However regulatory uncertainties, like the MAE's nonfulfillment, the VN for biomass power as an inadequate economic indicator, and uncertainty on when and how the market will open with the gradual clearing of initial contracts have acted as a brake in the enthusiasm of the investors. Moreover, the value paid by concessionaires and traders, below VN of R$ 94.33/MWh, does not allow enough returns to invest in the modernization of the industrial plants, in a way that would produce more energy with the same amount of biomass. The marketplace also expects a clearer position from the government in making bagasse and, in general, biomass parts of the Brazilian energy matrix.

GCE. The Management Committee for the Energy Crisis has anticipated that subsidy mechanisms should replace those currently in force of the VN regulation to incentivize alternative energy. The idea is to establish just one VN for all energy sources and the incentives for each energetic source would come through specific subsidies.

Changes Proposed by GCE for the Electric Sector Brings in Renewable Energies to the Players' Business Plans. The prospect of a mandatory requirement to have part of their energy supply from renewable sources has made some concessionaires include in their business plans the purchase of energy from renewable sources. This is the case of one of Sao Paulo State Utilities CPFL (Companhia Paulista de Força e Luz) that established, as goal for 2003, to attain 7% of their energy for distribution from renewable sources, mainly, biomass. The Gerasul, a generator from the south, included in their business plan the cogeneration and the use of renewable fuel, such as the sugar cane bagasse and wood residue. The promise of revisions to the regulation on VN, announced by GCE in the beginning of 2002, motivated the Wobben Windpower to open its second Brazilian unit, in Pecém - Ceará. The greatest expectation is about the detailing of the measure that envisages the creation of a subsidy supported by contributions of all consumers and aimed to stimulate the implementation of renewable energy projects.

Energy Potential from the Bagasse of Sugar cane Reaches 3.8 thousand MW. A study carried out by National Center for Biomass Research (CENBIO) and the Biomass Users Network by request of ANEEL, states that there is a power generation potential, within the Brazilian sugar and alcohol sector, of 3852 MW. Analysts say that such potential will only be realized, if incentive policies are created, such as the assured purchase of the energy generated at prices that allow the generation of excess power on larger scales. CENBIO sent GCE a proposal to create the Biomass Energy Emergency Program in Brazil (Bio.Com), which envisages the purchase of excess power generated with biomass, at VN price for biomass (R$ 94.33/MWh), through 15 years contracts. The complete program can be requested to CENBIO without any cost. For further information, please refer to the CENBIO web site at **www.cenbio.org.br**.

Section 3. RE Financing

Tighter Criteria To Define Feasibility of Hydroelectric Projects. Return rates between 15% and 25% a year is one of the criteria that may result in a lesser number of projects being put forward. Projects with a return rate of 19% a year above the national inflation rate, would remunerate, in the U.S., investments paying an interest of 3.5%. Specialists have noted that the larger the regulatory risk, the larger the return rate required from the project and the shorter the pay back time.

More Incentives from BNDES (the Brazilian Bank for Social and Economic Development). The BNDES participation in financing energy efficiency projects has increased from 80% to 100% of the total investment, with amortization periods of up to 12 years. The package that offers differentiated conditions for biomass residue cogeneration projects was announced in September of 2001. BNDES is still studying an initiative for the formation of a fund intended for ESCOs that have experienced difficulties in offering guarantees to creditors.

Regarding the PCHs, the BNDES will finance up to 80% of the project, this amount will be updated by the Long Term Interests Rate (TJLP) of 9.25%, plus the basic spread of 2.5% (or 1% in the less developed areas). Currently, there is a capacity of 821 MW in projects under evaluation at BNDES, totalling R$ 1.2 billion in investments. The risk spread will be between 0.5% and 2.5%. The conditions of financial support to the investments in energy can be obtained by means of consultation in the Energy Department of BNDES. For further information please visit the BNDES web site at **www.bndes.gov.br**

Sectoral Fund of Energy (CTEnerg) for the North Region. Projects are being prepared for the first Request for Proposals of the CTEnerg of the Ministry of Science and Technology (MCT). It is expected that projects related to the efficient usage of energy, distribution of energy and power generation from renewable sources, and those taking advantage of the natural resources of the region, will be funded. CTEnerg seeks to fund projects and programs in the area of energy, with emphasis on the area of energy efficiency. Financing sources for CTEnerg include all concessionaires of power generation, transmission and distribution, who contribute with a variable quota from .75% to 1% of their net operational revenues. For further information please refer to Ministry of Science and Technology web site at **www.mct.gov.br**

Section 4. RE Equipment/Services Procurement Notices

Electricity Services' Universalization Proceeds with upcoming PRODEEM Bid for Solar Panels. The universalization of electricity service is being pursued by PRODEEM (Energetic Development Program for States and Municipalities) of MME, with the objective to take electricity to 100,000 communities where 20 million people live without access to this service. The PRODEEM has been implemented, mainly, through photovoltaic solar systems. In order to keep the program going, the government has budgeted R$ 118 million for this year, in addition to international financing, representing a budgetary increase of 219% compared to last year. In 2001, 5,000 PV solar systems were procured and, in 2002, there are expectations of doubling the number of PV solar systems being procured through a bid process, due to take place in March 2002. For further information, please visit the MME web site, **www.mme.gov.br/prodeem**.

Bahia State Awarded PV Solar Power for the Sisal Fiber Region. This pilot project, in its final phases of discussion, encompasses the implementation of 14000 PV Solar Systems in 25 Municipalities of the Sisal fibre region. The investment is R$ 30 millions over a period of three years. According to the study, there is potential for 50,000 PV solar systems in the region.

Petrobras Invests in Renewable Energy and Structure First Projects. US$ 29 million will be applied in renewable energy research and development. Some of the projects that begin to be implemented are Petrol Stations with pumping systems supplied with PV solar panel of 4 kW, plus a 3 MW Wind Power Plant that will supply a fraction of the 40 MW Petrobras power demand in the State of Rio Grande do Norte.

Wind Power Potential. Wobben Windpower has increased its contract with CELESC (the Santa Catarina State Utility) to develop three wind power plants in the Municipalities of Laguna, Bom Jardim da Serra and Água Doce, with a installed capacity of 12.6 MW distributed over 21 machines. Wobben already has wind power plants in the States of Ceará and Paraná.

Wobben Opens Wind Power Equipment Factory in Ceará State. The Factory is Wobben's second unit in Brazil. It received an investment of US$ 5 million and will be initially manufacturing wind turbine blades. Beginning in 2004 the factory will also manufacture complete machines. The investment needed is US$ 20 millions and output capacity will be of 300 machines of 0.6 MW a year.

Biogas in Santa Catarina State. One of the greatest environmental problems of Santa Catarina State can be turned into one of its greatest energy resources. There are over 15 million animals in the three States of South Region. The Santa Catarina State will implement its biogas project with funding from the Ministries of the Environment and Science and Technology.

Renewable Energy International Enterprises Make Business Round in Amazonas State. A workshop sponsored by the Duty Free Zone of Manaus Administration (SUFRAMA) and by MME discussed opportunities for investments by international companies in power production. Companies taking part in the talks included Rotec (Austria) – biodiesel, biomass gasification; Wurst (Germany) – PV solar panels; Energetec (Australia) – wave power; Stuart Energy (Canada) – Hydrogen for fuel cells; Firco (Mexico) – Solar Energy; Xcellsis (Germany) – Hydrogen for fuel cells; Wobben Windpower (Brazil and Germany) – Wind Power; DCHT (USA) – Fuel cells; Lacted (Brazil) Fuel cells and Water Power (Brazil) Hydropower.

Section 5. CDM Developments

Petrobras and Vale do Rio Doce Present Projects in Marrakech. Two of the largest Brazilian companies presented environmental projects to researchers and investors in Marrakech at the Sixth Conference of the Parties to the UN Framework Convention on Climate Change. Within the framework of the Kyoto Protocol's Clean Development Mechanism, the two companies may take part in reforestation projects aiming at carbon sequestration. Vale do Rio Doce already owns, in the Amazon Region, an area of 387 hectares, where a US$12 million investment will assure a credit of 3.5 thousand tons of carbon. Boasting an area of 73 thousand km2, available for reforestation and a capacity of carbon fixation of 518 thousand tons, Vale do Rio Doce Company has demonstrated its interest in partnerships for a new carbon sequestration project. Petrobras is interested in renewable energy and the rational use of energy projects. The oil company plans to invest US$1.3 billion in 3 thousand new environmental projects. Petrobras will invest US$25 million/annum until 2005 in projects ranging from biodiesel and biomass to solar power. Between 1997 and 2000 Petrobras reduced its carbon emissions by 400 thousand tons.

Ecologica Institute Assess Carbon Emissions. Starting in April 2002, the Ecologica Institute will co-ordinate actions under the project named "Baseline for Amazon Region," which will gather data on the quantity of carbon being sent to the atmosphere by power generation activities in the Amazon Region. The creators of the project intend to propose the replacement of fossil fuels by renewable sources such as wind power, PV and hydrogen fuel cells. The project is funded by the Government of The Netherlands. The Ecologica Institute is already developing a carbon sequestration project in the Bananal Island in the State of Tocantins. The world's largest trader of CO_2 certificates, CO2.com, is also negotiating 2 other projects in the State of Tocantins, which should be consolidated by the end of 2002. CO2.com trades more than 25 million tons of carbon worldwide.

First Carbon Sequestration Contract in Brazil. Ecosecurities, a British Company, is finalizing the financial project for the first carbon sequestration contract in Brazil, by means of renewable energy initiatives.

The City of Salvador and the Canadian Government will Generate Power from Waste. A co-operative agreement between the Municipality of Salvador and the Canadian Government, through the "Sustainable Cities Program," will create the conditions for the implementation of a landfill gas fired power plant in the Cana Brava Controlled Landfill. The project will also pursue its classification as a Clean Development Mechanism project on the grounds that methane is also a greenhouse gas.

Section 6. Project Leads, Partnering Opportunities and General News

Telecommunication Utility – TELEMAR meets Objectives with the Help of PV Power. According to the objectives set by ANATEL (National Telecommunications Agency) to TELEMAR, 13 thousand localities were to be provided telecommunication services. Among those, 3,000 did not have telephone service at all and from those 800 did not have even electricity mains. TELEMAR had to use PV solar panels in order to provide the locality with telephony services.

Indians Test Solar Stoves. Families in the Indian Communities of Bororo and Jaguapiru will test solar stoves over 60 days. That energy alternative may help to overcome the problem of wood shortage in the region. If the Indians approve the technology, the municipal authority will launch a program for the purchase of a greater number of solar stoves, which have a price of approximately R$ 160,00 each.

Biodiesel National Program is Created. The Brazilian enterprise of Soya Beans Complex has decided to create a national program for developing a new market niche: biodiesel and alternative energy. While soya beans exports increased, in contrast, soya oil and soya flour exports decreased over the last several months, causing an idleness rate of 40% in the factories. The use of factory installations to produce biodiesel from soya beans is an effort to reverse this idleness rate. The soya biodiesel has been successfully tested in buses in Curitiba, the Capital City of Paraná State.

Barraalcool Invests in Power Production. The Barraalcool Alcohol Plant has been located in Barra do Bugre, Mato Grosso State and it is one of the four plants granted by ANEEL with an Independent Power Producer Authorization. The company has already begun its expansion with the aim of upgrading the cogeneration capacity from 13 MW to 23 MW

Winds in the Northeast Region Attracts Investors from Spain. Gamesa (Iberdrola Group) intends to install a wind power equipment factory in the Northeast region of Brazil, where the wind resource is substantial.

Mucuripe Wind Power Plant Reactivated. Wobben Windpower has officially begun the upgrading of the Mucuripe Wind Power Plant in Fortaleza, Ceará. Four new turbine/generators with a capacity of 0.6 MW each are doubling the existing installed capacity.

EDF Invests in Wind Power. The SIIF, a subsidiary company of EDF, a French energy company, will invest US$ 80 million in a wind power plant, located in Arraial do Cabo, Rio de Janeiro State. The Plant will have a capacity of 80 MW. SIIF also plans to develop another wind power plant in Ceará with an investment of US$ 40 million.

Wind Turbines for Water and Sewage Pumping Stations. The Water Utility for Ceará State (CAGECE) is inviting proposals for the implementation of wind turbines to supply its pumping stations, in the seaside area of Ceará State. The use of conventional power to supply the pumping stations has proved to be very expensive, making wind power an economic option. CAGECE is holding discussions with both Wobben Wind Power and Bergey Wind, an American Company, in order to get the wind turbines ranging from 50 kW to 100 kW implemented. CAGECE believes that the business can be done in a Leasing framework, with the investment being paid through the savings arising from the reduction in the electricity bills.

Marubeni Plans to Implement up to 500 MW in Wind Power Projects in 2003. Marubeni, a Japanese company, will participate in the Ceará State Government Bid for a 60 MW wind power equivalent block of energy. Marubeni has also made contracts for concession of land usage in the States of Rio de Janeiro, Espírito Santo, Rio Grande do Norte and Piauí with the aim of developing wind power projects.

ANEEL Grants Authorization to the Second Batch of Wind Power Plants. The National Electricity Agency granted construction authorizations to 43 wind power projects, which make up a total installed capacity of 3,600 MW. Most of the plants are located in the Northeast Region of Brazil.

Espírito Santo State has an Unprecedented Investment in Power Generation. The Espírito Santo State will receive unprecedented investment in power generation with the construction of 2 gas fired power plants and 13 SHPs.

Rural Cooperatives Develop Small Hydropower Plants (SHPs) in the South Region. 17 SHPs, making up a total installed capacity of 34.5 MW, will be developed by rural cooperatives. The rural cooperatives consider the generation of power through SHPs as the better solution for the problem of power supply to their members. The sector plans to develop 14 new projects, with total installed capacity of 300 MW and with an associated investment of R$ 500 millions.

Section 7. Calendar of Events

Course on Feasibility Assessment of Cogeneration and Generation Projects.
Rio de Janeiro – Rio de Janeiro, April 11 and 12
Rio de Janeiro – Rio de Janeiro, July 25
Belo Horizonte – Minas Gerais, December 12 and 13
The course is organized by Cognitor. For further information please refer to **www.cognitor.com.br** or e-mail to **cognitor@terra.com.br**

III SINCONEE – National Seminar on Knowledge and Information Management in the Electric Sector.

Brasília – Distrito Federal, from April 16 to 17

Venue. Hotel Nacional
This is an event sponsored by ANEEL. For further information, please refer to **www.sinconee.com** or e-mail to **mgbrasileventos@uol.com.br**

BIOBRASIL 2002 – Trends and Business in Biotechonology Seminar.
Belo Horizonte – Minas Gerais, from May 6 to 8
The event is sponsored by FIEMG – Minas Gerais State Industry Federation. For further information, please contact FIEMG through the telephone numbers below.
Tel.(55) (31) 3213-4356 or (55) (31) 3213-6518
Fax. (55) (31) 3213-1533
Also visit the FIEMG web site at **www.fiemg.com.br** or e-mail to **rkling@terra.com.br**

IX BRAZILIAN CONGRESS OF ENERGY.
Rio de Janeiro – Rio de Janeiro, from May 20 to 22nd
Venue. Hotel Gloria
The event is organised by The Coordination of Post-Graduation (COPPE) of the Federal University of Rio de Janeiro. For further information please contact through the numbers.
Tel. (55) (21) 2560-8995
Fax. (55) (21) 2290-6626
Also visit the COPPE/UFRJ web site at **www.ppe.ufrj.br/ixcbe**

AGRENER 2002 – 4 Meeting on Energy in Rural Area.
Campinas – São Paulo, from October 29 to 31st
Venue. Convention Centre – University of Campinas (UNICAMP) Campus
The event is sponsored by the UNICAMP. For further information please contact through the numbers.
Tel. (55) (19) 3788-5040
Fax. (55) (19) 3788-4951

Also visit the web page of the event at **www.unicamp.br/nipe/agrener2002** or e-mail to **marciar@ct.unicamp.br**

Honduras – Small Renewable Energy Producers Association (AHPPER)

Section 1. Macro Political and Economic Situation

Important Acronyms:

AHPPER	Honduran Association of Small Scale Renewable Energy Producers
COHCIT	Honduran Council for Science and Technology
ENEE	National Electric Energy Company
OICH	Clean Development Mechanism Office of Honduras
SERNA	Ministry of Natural Resources and the Environment

Political Scenario. A new administration started its 4-year term in Honduras on Sunday, January 27. Ricardo Maduro Joest, a local banker, entrepreneur, and ex-president of the Central Bank (1990-1994), from El Partido Nacional, won the elections held November 25 2001, beating Rafael Pineda Ponce from El Partido Liberal. El Partido Nacional returns to power after two consecutive periods of El Partido Liberal rule. Ricardo Maduro won the elections by nearly a10% margin. There are a lot of expectations of this new government, not only from the local perspective but from the international community as well. The fact that Ricardo Maduro is known as a successful businessman has created an uncommon optimism that the new government will promote and facilitate national and international investment in the country and fight unemployment. Another expectation is the announced battle against organized crime in the country. Ricardo Maduro was a victim of organized crime when his only son was kidnapped and murdered a few years ago. One of Maduro's most emphasized promises during his campaign was that his government would make fighting crime a priority. One of the first actions taken by the new government has been to move the army to the streets of the country's main cities, in order to work with national police. Also, a new penal processing code is being implemented by the Judicial Power. This new judicial system allows oral trials in the country, in an attempt to accelerate the actual process.

Economic Situation. The local currency, El Lempira, stayed competitive, with the exchange rate at Lps.16.30 per US$. Thus, the devaluation over the last three months rounded at 5%. The local financial community is waiting for the new government to define its economical, financial, tax and currency exchange policy for the next four years. However, during his campaign, President Ricardo Maduro promised to provide incentive for national and foreign investment in the industry sector in order to create new jobs and fight unemployment. One of the main objectives of this government is to accelerate and facilitate the process required to set up a business in Honduras, and create a favorable environment for the investment in the country. Another important objective is to trigger the agricultural sector, which was devastated by hurricane Mitch in 1998 and has not yet recovered.

In this context, Central American countries are preparing to negotiate a potential "Free Trade Agreement " with the USA. The presidents from six Central American countries have met on several occasions over the last few months to agree on the basis for the negotiation of this agreement with the USA. In late March, President George Bush will meet with this group to discuss important issues including the trade agreement. Some of the benefits expected from such an agreement include an increase in trade activities between the U.S. and Central America and an increase of competitiveness in the regional market.

Unfortunately, not all is good news for the national economy. Some of the main sectors of the national economy, such as coffee, maquila and tourism still face a tough situation. The coffee producers have had to deal with a fall in the price in the international market and the inability of this sector to diversify production. Maquila and tourism seem a little more stable and the new government has promised to support these two sectors in a short term.

Section 2. Policy Environment

New administration's initiatives. There are a lot of expectations in the local RE community that the new government will address the problems of the energy sector. New authorities in energy related key institutions, such as the National Electric Energy Company (ENEE) and the Ministry of Natural Resources and the Environment (SERNA), have expressed interest in setting up the basis of a national energy policy during the next four years that will not only promote the development of RE projects, but also will ensure the sustainability of the energy sector in the long term. There is optimism in the RE community because some of the energy related agencies are now being directed by pro-RE professionals. For instance, the Minister of SERNA and the Vice-Minister of Energy, are two well-known professionals among the local RE community, since both used to work for private RE related organizations. It is expected that in the next few months the process to elaborate a national energy policy will begin with SERNA and other public and private energy related institutions working together. Other international institutions, such as IDB and the UNDP, are very interested in supporting initiatives that contribute to a better regulatory framework in the country. In general, a lot of progress is expected on the subject over the next few months, and it seems this year could be an important one for the energy sector.

IDB Consultancy put on hold. An IDB consultancy that would audit the ENEE and propose some restructuring within this institution is on hold due to the lack of support from the government. The new government has not made a decision yet whether to approve the funds necessary for this consultancy. However, it is well known that ENEE needs to restructure in order to be ready for expected changes in the energy sector, such as the increasing involvement of the private sector in energy generation, and in the long term, privatization of the distribution systems and creation of a generation spot market.

Section 3. RE Financing

CABEI/UNPD/GEF Program. The Central American Bank for Economic Integration, CABEI (BCIE), has delayed for three months the second phase of the announced program "Accelerating the Investment on RE in Central America." This program, developed jointly with GEF and UNPD, will expedite the financing of renewable energy projects, reducing the emissions of CO_2 and contributing to the rural economic development of Central America. In the second phase, RE projects with finished feasibility studies will be reviewed and analyzed and a financing mechanism will be proposed for the development of those projects. It is expected that by the end of 2002 the program will start the implementation phase, in which regional RE projects will be financed with the new mechanism. For more information on this program visit www.bcie.org, or contact Jorge Morales at jmorales@bcie.org .

Project GAUREE2. The project "Autonomous Generation and Rational Use of Energy Power in Honduras" (GAUREE) was developed during 1997 and 1998 with technical and financial support from the European Commission. The objectives of this project were to promote the development of privately managed RE projects and the execution of campaigns on rational use of energy. The second phase of the project is about to start with the main objective of promoting concrete actions based on the results of the first phase. Implementation is structured as follows.

a) Rural electrification with RE. Implementation of two off-grid projects. One hydroelectric and one biomass or wind. Both projects will have the participation of the community, private sector and ENEE.
b) Multiple use hydroelectric projects. Implementation of one hydroelectric project with multiple use of water. Also in collaboration with the community, private sector and ENEE.
c) Reducing the losses in the distribution system. analyze the technical loses and non-technical loses of the distribution system, and accelerate actions to upgrade the performance of the system.
d) Upgrade the daily load curve. Upgrade the daily load curve and promote energy efficiency. This is a

four year long project, started November 2001. Right now, the project is preparing its first Annual Operation Plan on which the implementation of the project will be based. The European Commission will put 5 million Euros in the project, as a donation, and the ENEE will put 1.7 million Euros. For more information on this project, contact Jose Luis Rebollo, at jlrebollo@hotmail.com, or directly at ENEE, gauree@enee.hn .

Financing opportunities with German and other European institutions. New financing opportunities for RE projects are expected through the German - Honduran Center for Business, CNHA. The CNHA is interested in offering new opportunities to local RE projects developers to finance its projects, through German organizations, such as the GTZ International Service, Bank of Germany for Reconstruction, KFW, and many others. This is to compensate for the lack of convenient and appropriate conditions within the local financial community to support the development of RE projects. For more information about the subject, contact Antonio Portillo at centrodenegocios@honduras.com.

Section 4. RE Equipment/Services Procurement Notices

COHCIT/IDB rural electrification activities. IDB approved $8 M for the implementation of 150 new solar villages in Honduras through the Honduran Council for Science and Technology (COHCIT). Honduras already has three solar villages, San Ramón, San Francisco and the last one to be developed, La Hicaca. They were implemented by COHCIT in collaboration with different international organizations, such as UNESCO and OAS. Now the IDB will support the implementation of 150 new solar villages in the country. However, the project is on hold because the new government hasn't approved the disbursement of the rest of the investment needed to execute the project. In addition, it is not clear whether COHCIT will be the agency in charge of the project development or if this responsibility will fall on the Ministry of the Presidency. For more information and advances on COHCIT/IDB projects of rural electrification, contact Ivette Castillo at ivette@cohcit.gob.hn, or visit www.cohcit.gob.hn.

FAO implementing pico-hydro and solar projects. As part of a FAO/SERNA joint project on the "Development of Small-Scale Hydropower Technology in Honduras" both institutions are currently involved in the development of two pico-hydro projects (smaller than 5 kW). Both projects are at various stages in site assessment, system design, or completed design/budget and one has secured funding already. Additionally, two more pico-hydro projects for battery charging, that are integrated in irrigation systems, are being validated in the department of Lempira, where one of FAO's field projects on rural development is operating. FAO, in close cooperation with the Honduran Fund of Agricultural Research (FHIA), will also organize a workshop about the potential of pico-hydro in Honduras which will take place February 27 in La Masica, Atlantida. FAO recently signed an agreement with the Honduran Program of Communitary Education (PROHECO) for the electrification of 6 schools with solar systems in remote areas of Lempira. Both of these projects are an input for a rural energy strategy to be designed in the near future in close cooperation with SERNA and other relevant stakeholders. More information can be obtained from Bert van der Plas, FAO Energy Systems at bvdplas@sdnhon.org.hn or by visiting FAO's website at http://www.fao.org/sd/EN2_en.htm.

Section 5. CDM Developments

Clean Development Mechanism Office of Honduras (OICH) to turn into a Foundation. As a result of a process of analysis and different legal advice to consolidate the institutionalization, sustainability and national and international credibility of the CDM process in Honduras, it was concluded that the OICH should become a Foundation. This was done to provide the OICH with a larger leadership and participation of the local private sector. The name for the new office will be *Foundation of Climate*

Change Initiatives in Honduras. The legal process to obtain the category of foundation is in its last step. A proposal will be presented to the Honduran - Canadian Environment Management Fund, to establish the functionality and the financing of the Foundation office during the first 3 years.

The OICH continues to consult with the local community. Last December, the OICH in collaboration with the Prototype Carbon Fund, and the Center for Economy and Environment (CAEMA), held the workshop "Maximizing the Benefits of the CDM ". All the parties involved in the sector had representatives at the event. Also, the OICH finally obtained financial support from the government of Switzerland for a National Strategic Study for the implementation of the CDM in Honduras. At the same time, bilateral agreements with The Netherlands and Canada are being negotiated. These agreements will allow local entrepreneurs to present their projects on different international bids for Certificate of Emission Reductions organized by the governments of these two countries. Please contact the CDM office of Honduras for further information on its activities. Suyapa Zelaya, Executive Director, oich@sdnhon.org.hn , or visit the website www.oich.hn .

Section 6. Project Leads, Partnering Opportunities and General News

AHPPER addressing energy policy initiatives. The Honduran Association of Small-scale Renewable Energy Producers (AHPPER), is addressing different initiatives on the RE policy sector. Several meetings are being held with key public agencies to propose alternatives that will contribute to solving the obstacles presented in the development of RE projects in the country, due to an inadequate and obsolete regulatory framework. These key institutions include ENEE, SERNA, National Energy Directorate, and the Congress Energy Commission. The main proposals of AHPPER are.

- The development of a national energy policy with detailed guidelines for all the parties involved in the energy sector.
- Appropriate incentives for the development of RE projects, especially those that accelerate the long and circuitous process to obtain government permits.
- Include in these incentives other RE technologies with a potential for a extensive rural electrification, such as solar energy, mini-wind, and other alternative technologies

For further information on these initiatives or any other kind of information regarding AHPPER activities, contact Jorge Rivera Jr, AHPPER Director at ahpper@multivisionhn.net, or visit www.ahpper.hn

PRODER. The Program for the Development of Renewable Energy (PRODER), an UNDP-GEF sponsored program, continues executing it's consultancy activities on the energy sector of the country. The results from these activities are expected in the next three months. Some of the activities performed during the last six months of the first phase of the program include.

- Strengthening of RE related public and private institutions.
- Elaboration of a portfolio of projects.
- Consultancy on availability of funds for the investment in RE projects in the country.
- Development of indicators and methodology for the evaluation and monitoring of a RE information system.

The results from these consultancy activities will be presented during a workshop mid-2002. In addition, the program is looking for a consultant to elaborate a renewable energy market study in the second phase of the portfolio of projects activities. For more information about PRODER, contact Oscar Aguilar at proder@123.hn

PPAs for RE projects still not approved. Out a total of 20 RE projects that signed PPAs with ENEE last year, only four of them have been approved by Congress. The other 16 projects are still waiting for the Congress to review and approve their supply contract with ENEE. It is expected that this will happen in the next couple of months, as the new government is working on the energy policy for the next four years. At the same time, Congress approved the supply contracts for 175 MW to four different private companies operating small size diesel engines. These contracts were approved to ensure no blackouts during the next 18 months.

AES project obtains environmental license. AES Honduras obtained an environmental license to proceed with the construction of the 780 MW liquefied natural gas (LNG) generation project planned to start operations in 2004. The Ministry of Environment approved last January the environmental license for the project, a legal requirement for any energy project in the country. However, AES Honduras still faces a long process to finally be able to install the natural gas plant in Puerto Cortes, at the Atlantic North of Honduras. The project still needs to sign an Operation Contract with SERNA that needs to be approved later by Congress. The project is moving ahead and AES Honduras representatives have reported no delays on schedule. However, a lot of negative opinions have aroused against the project in the local media, especially from environmentalists that argue the project is a threat to the population of Puerto Cortés. For more updates on this project, visit www.aesc.com.

Section 7. Calendar of Events

1. Workshop on environmental issues. The National Center for Cleaner Production, CNP+L, in collaboration with the Ministry of Environment, SERNA, is inviting participants for the workshop "Environmental Impact Assessment and its Implications in the Industry Sector." The workshop will address all the different aspects involved in obtaining an environmental license in the country, including legal and technical aspects, and some general guidelines for the process.
Tegucigalpa, March 19
San Pedro Sula, March 21
Contact Person. Mily Cortes, CNP+L, milyany@tutopia.com

2. AHPPER 1st Annual Conference 2002. The first Annual Conference of AHPPER will be held in July 2002, exactly one year since its inception. The Conference will a the energy sector, specifically the RE sector, as well as provide perspectives on the future of the sector. Topics included in the conference are national energy policy, RE project financing, CDM, energy efficiency and RE technologies. It is expected to be a regional event, with representatives from all the parties involved in the sector.
Tegucigalpa, July 2002
Contact person. Jorge Rivera M., AHPPER Director, ahpper@multivisionhn.net

3. *PRODER Presentation.* PRODER will invite the local RE community to present the results of their consultancy activities over the last year. This presentation would include the financial and policy obstacles found in the study as well as a proposal to solve this obstacles. The structure-organization for a national RE information system will also be included in this presentation. There's a possibility that this event will coincide with AHPPER's conference. Arrangements are being made by both offices to organize one event instead of two separate events addressing similar issues.
Tegucigalpa, June-July 2002
Contact Person. Oscar Aguilar, PRODER, proder@123.hn

India - REPSO India

Section 1. Macro Political and Economic Situation

Important Acronyms:	
BEE	Bureau of Energy Efficiency
CEA	Central Electricity Authority
SFCBI	Solar Finance Capacity Building Initiative

Slow down in the Indian economy. The Indian economy is going through one of its worst slowdowns in recent years. The manufacturing sector is limping, its growth rate failing to cross the one percent mark. Industrial growth has hit an all-time low over the past nine years - only 2 percent in the first nine months (April-December 2001) of the current fiscal year. This is again sliding after a recovery in November. The growth in gross domestic product has been very low – a little over 4 percent against the projected 6 percent. The growth in money supply has been on the decline and it is likely that 2002 will end with a money supply growth of only around 14.5 percent. Credit off-take from scheduled commercial banks continues to remain slow. Non-food credit growth as of January 2002 was 11.4 percent as against 18 percent a year ago. However, the growth in deposits has also slowed down.

The government had hoped to make Rs. 44,200 crore[1] from corporate taxes for the current fiscal year; however, the data for April-December released by the Central Statistics Organization (CSO) shows that taxes yielded only Rs. 22,776 crore. The government has also suffered in terms of total tax revenues. The government could net only Rs. 84,996 crore in the first three-quarters of the current fiscal year against the target of Rs. 226,649 crore.

The government has progressed with the divestment reforms and, by doing so, has raised Rs. 5,500 crore so far against a target of Rs. 12,000 crore. This includes the divestment of IBP and VSNL. The interest is soaring because of the government's commitment towards privatizing public sector undertakings.

On a positive note, inflation is at an all-time low of 2 percent; foreign exchange is swelling with $48 billion as reserves and there is sufficient food grain to feed the population. In the agriculture sector, food grain production is expected to rise by 6.8 percent and non-food grain production by 7.3 percent. Coal production in the country has exhibited a strong growth since September 2001. Crude oil production fell by 1.9 percent during April-December 2001 after showing a poor growth of 0.7 percent in the same period as of 2000.

Two disturbing developments were identified in the Economic Survey 2001-02. For the first time, the government conceded that ten years of economic reforms have not led to adequate employment generation. In addition, the limited employment opportunities created in the private sector, do not compensate for the loss of jobs or man-hours in the government and agriculture sector. The survey pointed out the new policy initiatives will have to be employment-intensive and rural in orientation. Infrastructure in rural areas, especially roads, availability of drinking water, primary healthcare facilities and elementary education are the four areas the reforms program will have to target.

Section 2. Policy Environment

Auto Fuel Policy. The cabinet approved the recommendations made by the expert committee an auto fuel policy, which entails implementation of Bharat Stage II (Euro II) vehicle emission norms in the country by April 1, 2005. This move would involve an investment of Rs. 17,000 crore by the oil industry. The cabinet also decided to authorize the concerned ministries to take steps for implementation of recommendations made by the committee. The choice of vehicular technology and fuel would be left to the owners and operators of vehicles with government prescribing only the vehicular standards. The committee had recommended that Bharat Stage II norms, presently in force in four metros, be introduced in Bangalore, Hyderabad and Ahmedabad by the end of 2003 and the entire country from April 1, 2005. Euro III equivalent emission norms for all categories of vehicles (excluding two and three wheelers) would be introduced in Delhi, Mumbai, Chennai, Kolkota, Bangalore, Hyderabad and Ahmedabad starting April 1, 2004, and extended to other parts of the country starting in 2010. The report also said that the government should provide fiscal incentives to domestic oil and auto industry. Investments of up to Rs. 35,000 crore and Rs. 25,000 crore would be required by these sectors respectively to upgrade the facilities and technology to meet the Euro III emission norms. Outlining a roadmap for the implementation of future vehicular emission norms and auto fuel quality, the report said the government should encourage usage of alternative fuels like CNG, LPG, ethanol and electricity and added that R&D support should be provided to increase the use of such fuels.

Fuel ethanol policy. The government has announced the use of ethanol-blended petrol in the automotive sector. Sale of petrol blended with 5 percent ethanol will be implemented in two phases, said the Petroleum and Natural Gas Minister in a suo motu statement. In the first phase, Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Punjab, Tamilnadu, and Uttar Pradesh will be covered and the rest of the country in the second phase. The Minister also said that the existing three pilot projects would increase the ethanol percentage to 10 percent after sorting the issues such as modifications of the Bureau of Indian Standards. The government has also allocated Rs. 40 million for conducting R&D trials on ethanol-diesel. The government had also decided to amend the Sugar Development Act of 1982, so that production of ethanol and cogeneration of power from bagasse would receive financial assistance from the Sugar Development Fund.

Energy Conservation. The Central government, in consultation with the Bureau of Energy Efficiency (BEE), will lay down energy conservation standards for any equipment or appliance consuming, generating, transmitting or supplying energy. The Central government will enforce a scheme for compulsory affixing of labels on notified equipment and appliances to indicate in a clear and readable manner the rate of energy consumption of such equipment and appliances, at the stages of manufacture, import, supply, distribution, sale or dealership.

The Central government in consultation with BEE will notify industries, establishments and any user or class of users of energy, building complex as designated consumers having regard to intensity or quantity of use of energy. Designated consumers will comply with energy consumption standards and norms.

As and when notified by the designating agency by the Central government, an energy audit by an accelerated auditor will be mandatory for all designated consumers in the industries and establishments. Energy managers with prescribed qualifications may be required to be appointed by designated consumers. BEE will prepare guidelines for building codes relating to energy conservation and the state government shall notify the same. The codes could be notified to suit local climate conditions or other compelling factors.

A state government shall designate any agency to coordinate, enforce and regulate matters relating to implementation of the legislation within the states. The state government shall designate the State Electricity Regulatory Commission (SERC) to perform the adjudicating function.

Electricity Bill 2001. Mr Suresh Prabhu, Minister of Power, tabled the Electricity Bill in the Lok Sabha with the objective of achieving a "paradigm shift" in the country's power sector by lowering power tariffs. The bill does away with the need for power producers to obtain licenses for power generation. This means that new generation projects will no longer need "techno-economic clearances" from the Central Electricity Authority (CEA). The bill allows for trading in power by private parties. This has been a long-standing demand of private power producers and has the potential of achieving significant reductions in tariffs for consumers. The bill also qualifies the concept of "open access;" for instance, it allows direct access to generators – but only on the payment of a surcharge, plus wheeling charges. The bill also allows open access to distribution – that is, allowing distributors to buy and sell to whomever they please. The bill recommends surcharges and wheeling charges as a means of cross-subsidy. The electricity regulatory commission has been vested with wide ranging powers like determining all tariffs, allowing open access and fixing trade margins. It also can act as judiciary with policing powers like search and seizure. This bill is going to be discussed in the coming parliamentary session for its approval.

Power sector. The overall requirement of funds for capacity augmentation, upgrade of transmission and distribution systems and other schemes in the power sector has been estimated at over Rs. 5,66,000 crore for the Tenth Plan period (2002-07). Of this, around Rs. 3,51,000 crore is the estimated requirement for generation schemes over the next five years, while Rs. 2,14,000 crore has been estimated for overhauling the T&D systems, renovation schemes, rural electrification and other associated schemes, accordingly to the report of the working group on power for the Tenth Plan. Under the generation schemes, a requirement of Rs. 3,23,533 crore has been estimated for thermal, hydroelectric and other modes, while Rs. 28,127 crore would be required for new nuclear projects. In the light of a capacity addition of 20,891 MW during the Ninth Plan, need-based capacity addition of 55,158 MW would be required during the Tenth Plan period. Based on the submission of the report of the subgroup on generation and transmission planning, the Ministry of Power, in consultation with the Central Electricity Authority (CEA) and power utilities, has reassessed the feasibility capacity addition at 46,939 MW during the Ninth Plan period. The requirement of funds for augmenting the transmission and distribution has been pegged at nearly Rs. 1,51,000 crore over the next five years. Under the renovation and modernization schemes, funds to the tune of Rs. 12,226 crore would be required. Under the R&M program for the thermal power projects, 68 units with a capacity of 17,310 MW are expected to to accrue the benefit of 4.250 million units per year. Additionally, 107 units with a capacity of 11,022 MW would be included under the life extension program. During the plan period, 45 hydro projects (with a capacity of 2,309 MW) would be taken up under the R&M program, while 48 units with a capacity of 2,146 MW would be considered under the life extension program to accrue benefits of 2,485 MW, as per the report of the working group. For the rural electrification program, around Rs. 43,000 crore is the estimated requirement, according to the report.

Foreign direct investments. FDI witnessed a record jump of 61 percent to $2.37 billion during April-November 2001 compared to $1.47 billion in the same period of 2000. The economic survey stated that companies registered in Mauritius and the US were the principal sources of FDI into India during 2000-01 followed by Japan and Germany. The bulk of FDI was channeled into computer hardware and software, engineering industries, services, electronics and electrical equipment, chemical and allied products as well as food and dairy products. The FDI has been constantly reviewed to make India a favorable destination for FDI. In terms of foreign exchange reserves, the survey stated that at the end of January 2002 foreign currency assets of the Reserve Bank of India reached an all time high of $46.56 billion, showing an increase of $7.01 billion during the first ten months of the current fiscal year. The survey said that the increase in foreign exchange reserve was primarily on account of India Millenium Deposit (IMD) being floated by the State Bank of India. According to the economic survey, funds raised through American Depository Receipts and Global Depository Receipts during the fiscal year (to November 2001) amounted to $477 million.

PSU divestment. In the current fiscal year, the government received Rs. 5,573 crore as divestment proceeds against the budget target of Rs.12,000 crore. Sell off in nine public sector units including Maruti, HZL, and IPCL will be initiated before March 31, 2001. Divestment of 18 more PSUs, including NALCO, NFL, MFL, SCI, STC, MMTC, and HCL is in the pipeline. Six PSUs, including Bharat Brakes, Scooters India and Praga Tools were returned to the Department of Heavy Industry as there were no bidders.

Section 3. RE Financing

Fund for energy conservation. The union government is contemplating setting up a central energy conservation fund to provide technical and financial assistance to upcoming power projects. The fund has been set up with an initial amount of Rs. 50 crore contributed by the Ministry of Power. The Ministry is also considering setting up a promotional board that will try to attract private investment in the sector. The fund will also help to provide guarantees to the different financial investors in the projects.

SFCBI Project and SPEED Fund. Winrock International, in partnership with Winrock International India, is implementing the Solar Finance Capacity Building Initiative (SFCBI) in India with support from the USAID. SFCBI is providing technical assistance services and business planning grants to entrepreneurs in developing new commercially viable solar projects/enterprises in India. It is offering business-planning grants to organizations that are presently not active in solar, but desire to enter the solar business in the near-term. The business planning grants are administered by Winrock International India under the SPEED (Solar Projects and Enterprises Development) Fund. The Fund is currently inviting entrepreneurs interested in developing new commercially viable solar energy projects. The SPEED Fund is particularly interested in supporting entrepreneurs that present concepts for new commercially viable solar energy projects/enterprises that offer an innovative approach, rely on local commercial sources of capital growth, illustrate ease of scale-up, present an income generation scope/productive use opportunity, and that are commercially viable.

Section 4. RE Equipment/Services Procurement Notices

1. Kerela State Electricity Board Supply, erection, testing and commissioning of 11/66 kV sub-station for 3x3.5 MW Malankara small hydroelectric project.
Issuing agency. Kerala State Electricity Board
Scope. supply, erection, testing and commissioning of 11/66 kV sub-station for 3x3.5 MW Malankara small hydroelectric project.
Estimated cost. Rs 19.5 million
Tender cost. Rs 3,000
Submission deadline. April 2, 2002
Contact details. Office of the Chief Engineer (O&M) Hydro, KSE Board, Moolamattom P.O., Idukki-685589 (phone. 0486-252273, 252249, Fax. 0486-252480)

2. Karnataka Power Transmission Corporation Limited Issuing agency. Karnataka Power Transmission Corporation Limited
Scope. (1) Establishing 2x8 MVA, 66/11 kV sub-station at Honnahally (2) Establishing 1x6.3 MVA, 66/11 kV sub-station at Megalapura (3) construction of 66 kV line from Chamrajnagar to Honnahally (4) construction of 66 kV line from Kadakola to Megalapura
Estimated cost. (1) Rs 24.25 million (2) Rs 14.35 million (3) Rs 12.61 million (4) Rs 14.12 million
Tender cost. Rs 3,000
Submission deadline. March 21, 2002

Contact details. Office of the chief engineer Electricity, Major Works Bangalore Zone, KPTCL, Kaveri Bhavan, Bangalore-560009 (Phone. 080-2380025, 2282601, Fax. 080-2282846)

Section 5. CDM Developments

CERUPT 2001. Certified Emission Reduction Units Procurement Tender (CERUPT) is a public procurement set up according to the EU directive for supplies 93/36/EEC. This is a recent development under which many projects were submitted for consideration. These projects were discussed at the Ministry of Non-conventional Energy Sources (MNES) for their preliminary qualification to get approvals from the Government of India. Through CERUPT 2001, the Netherlands intends to purchase at least 3 million CERs. The minimum amount to be purchased from any one contractor is 100,000 Certified Emission Reduction Units (CERs). There is no maximum amount per contractor. Senter International has been appointed by the Government of The Netherlands to carry out the transactions. Senter is willing to pay the following maximum prices for CERs produced by different CDM project types. Renewable energy (excluding biomass) – EUR 5.50; Energy production by using clean, sustainably grown biomass (excluding waste) – EUR 4.40; Energy efficiency improvement – EUR 4.40; Others, among which fossil fuel switch and methane recovery – EUR 3.30.

BC Hydro Initiatives. BC Hydro is seeking 5.5 million tons of green house gas (GHG) offsets in order to fulfill its commitment to offset 50% of the increase in GHGs through 2010 at two new natural gas-fired power generation plants. BC Hydro first issued this request in early 2000. Several projects are progressing through negotiations and with this request, BC Hydro is looking for more quality GHG offset projects. The main difference between this request and the one issued in February 2001 is that BC Hydro is now looking for GHG offsets located anywhere in the world, instead of only in Canada. BC Hydro website is. http.//www.bchil.com.

Climate Change Policy Dialogue. Further to the conclusion of COP-7 at Marrakech, Tata Energy Research Institute (TERI) organized a climate change policy dialogue. The dialogue included discussions of the implementation stage of Kyoto following COP-7. The Ministry of Environment and Forests seems to be satisfied with the establishment of three funds at COP-7 that aim to help developing countries build their capacities to deal with vulnerability and participate in the Kyoto mechanisms. The three funds are. Least Developed Countries (LDC) Fund, a Special Climate Change Action Fund, and an Adaptation Fund.

COP-8. COP-8 will be held in India in October 2002; most likely October 23 -November 1, 2002. This is an interesting development since India has a key position among the developing countries to adopt CDM.

Section 6. Project Leads, Partnering Opportunities and General News

Project Leads, Partnering Opportunities

Production of Anhydrous Ethanol for its Use in Transport Sector. Praj Industries and Alfa Laval recently organized workshops to introduce their new technologies to produce anhydrous ethanol. The Molecular Sieve Technology, which the two suppliers are promoting to create better quality and long term cost-effectiveness. Currently, the Indian distillery industry is using the azeotropic distillation method to produce anhydrous ethanol. Praj has collaborated with Delta-T, USA whereas Alfa Laval has collaborated with Katzen International USA to market their respective technologies.

General News

Green Power 2002. *Green Power 2002* was held in Chennai February 15-16, 2002. Opportunities under "micro and green power" were discussed in the proceedings. In addition, the discussions focused on technology and policy issues as well as project opportunities under the CDM.

Sustainable Development Summit 2002. A Multi-Stakeholders Roundtable on Energy for Sustainable Development was held in New Delhi from January 21-23, 2002. Representatives of governments, the private sector, civil society groups, international and United Nations organizations and agencies from around the world attended. During the deliberations, a number of observations were made and several suggestions and options were proposed as concrete actions and partnerships to promote energy for sustainable development. These options and strategies are also intended to contribute to the realization of the United Nations Millennium Declaration that calls for halving by 2015 the proportion of people whose income is less than one dollar a day.

The participants strongly emphasized the crucial role of energy in achieving the goals and objectives of sustainable development. It was acknowledged that the main challenge lies in providing access to energy services to the 2 billion people who currently do not have such access. The participants recognized that any effort at global, regional and national levels towards using energy for sustainable development has to focus on two aspects – long-term human well being and ecological balance. The participants recognized that different countries faced different challenges with regard to energy and therefore require different options and strategies to suit local needs. Some participants highlighted the special circumstances of Small Island developing states and their vulnerability to climate change.

While renewing their commitments to the Rio Declaration on Environment and Development, and the provisions of Agenda 21, the participants built upon the key issues identified during CSD-9, taking into account the findings of the World Energy Assessment.

Section 7. Calendar of Events

1. DisGen 2002 (Distributed Power Generation). Distributed generation has aroused lot of interest in the power sector due to India's power reform strategies. The reforms on the distribution side will also encourage small generating facilities to contribute to the grid. This conference is aimed at discussing some of the distributed generation opportunities.
Dates. Mar 07, 2002 - Mar 09, 2002
Event Type. Exhibition and Conference
Venue. Bangalore, India
For more information on this event, please contact. Marut Sengupta Confederation of Indian Industry, email. ciiblore@bgl.vsnl.net.in

2. Training Program on Financing of Bagasse Cogeneration Projects in India
Bagasse cogeneration projects in India have shown reasonable progress; however, most of the sugar mills, especially those that belong to cooperatives, are unable to access financing. To address some of these issues, Winrock International India is organizing the above-mentioned training program in Bangalore on March 22, 2002. For more details, please contact. Ms Pritika Kalra, e-mail. pritika@winrock.ernet .in or check details at http.//www.winrockindia.org

3. Ethanol 2002. An International Conference on Policy, Financing and Market Development Issues
This conference's objective is the discussion of various issues related to policy, financing and market development since the government's declaration on the use of five percent ethanol-gasoline blends in the

automotive sector in select states. This will be organized with the support of W Alton Jones Foundation and Indian Renewable Energy Development Agency. For more details, please contact.
Ms Pritika Kalra, e-mail. pritika@winrock.ernet .in or check details at http.//www.winrockindia.org

4. Training Programs. Winrock International India is conducting a series of capacity building programs for commercial bankers to educate them on solar photovoltaic systems and financing. The tentative dates are given below.
Manipal, Institute of Bank Training March 2-3 2002
Bangalore March 2002
Delhi April 8-9, 2002
For more details please contact. Ayeasha Grewal e-mail. ayesha@winrock.ernet.in

5. Workshop on South-Asia Canada Regional Initiatives on Climate Change
This workshop is aimed at exploring climate change opportunities in the region. Presentations will be made by various South-Asian representatives.
Venue. Casuarina, India Habitat Center, New Delhi
Date. March 13-15, 2002
For more details please contact. Abhijeet, email. tara@sdalt.ernet.in, Tel. 0091-11-6967938

6. International Conference On Power from Renewables. Challenges & Way Forward
Dates. April 1 - 2 ,2002
Venue. The Gulmohar, India Habitat Centre (IHC), New Delhi
Coordinator. Ms Tanushree De tanushree@teri.res.in

7. Workshop on "Developing Power Markets in India. needs, problems, and prospects"
Dates. April 5 ,2002
Venue. Gulmohar Hall, IHC, New Delhi
Sponsored by Power Trading Corporation (PTC)
Coordinator. Ms Tanushree De tanushree@teri.res.in

8. Workshop on "Strategies and instruments for sustainable growth, energy management and environmental protection by SSIs in India
Unfortunately, there is a negative aspect to the sound performance of SSIs, as they are significant contributors to environmental pollution, and have low energy efficiencies, relative to international best practice. Energy efficiency and related issues are very much back onto the international agenda linked to concerns about global warming and fossil fuel combustion. In 1995, India consumed 9106 PJ of fossil fuels, which produced 212 million tons (MT) of carbon emissions. The major users of these fuels are the industrial and transport sectors. The gross energy consumption per unit of product is high (in 1987, 26 MJ/US$ of GDP, compared with, for example, the Netherlands at 17 MJ/US$ of GDP), which could be reduced with more efficient use. If the present trends in economic development and energy use continue, the emissions in India will more than double in the next two decades, and almost double again in the following two decades.

Tackling energy management in the SSI sector brings with it interesting challenges. The sheer numbers of units, often with management with a low level of awareness of the need for energy efficiency and approaches for improvement, as well as an institutional structure that is ill-equipped to deliver appropriate support. This workshop is trying to cover all these issues.

Date. March 27, 2002
Venue. Casuarina Hall, India Habitat Centre, New Delhi
For more details please contact. Sudhir Sharma, e-mail. sudhir@winrock.ernet.in

9. Science & Technology India. International exhibition and conference

As we advance into the third millennium, the industry needs have become a priority. Recent developments in the field of science and technology in India offer a vast market opportunity for products and businesses. "Science & Technology India 2001" will facilitate the establishment of clean indigenous manufacturing capacity in the country. It will provide a platform for the market to explore, understand and review the needs of a diversified industrial base and mature financial sector and will explore the ongoing technological revolution in sectors like ENVIRONMENT, WATER, INSTRUMENTATION and INDUSTRIAL AUTOMATION. The event is being co-organized with the Ministry of Science & Technology, Government of India and the Indo-American Chamber of Commerce and supported by the concerned ministries of the Government of India and a host of national and international organizations including the USAEP, UNAPCTT, WQA USA, Green City Denmark, AWMA, USA; RIET, Singapore, etc. The event has also received certification from the US Department of Commerce. More than 10,000 trade visitors and 300 delegates are expected to be at this technology transfer event. Rewable energy will be discussed in a special session: “Renewable Sources of Energy. The Power to Choose.”

Dates. 10-12, April 2002
Venue. Pragati Maidan, New Delhi
For more details, please contact. Pratik Ghosh, e-mail. ghoshpratik@hotmail.com

Indonesia – REPSO Indonesia

Section 1. Macro Political and Economic Situation

Important Acronyms:

DGEED	Directorate General of Electricity and Energy Development
DPR –	Indonesian House of Representatives
JICA	Japan International Cooperation Agency Indonesia
METI	Indonesian Renewable Energy Society
PLN	The state utility company

Political Situation. The September 11 attacks have placed considerable and premature pressure on the fragile relationship between President Megawati Soekarnoputri and the Islamic parties in the House of Representatives (DPR). It has exacerbated already strong nationalist sentiment among both the political elite and the public, and threatens the nascent rapprochement between Indonesia and the international financial community.

Nearly four years have elapsed since Indonesia ushered in the reform era, in which the eradication of corruption was one of the main goals of reform, yet corruption still persists. It is ironic to note that KKN[2], the very reason for Indonesia's crisis four years ago, has now become the main obstacle to the nation's recovery.

The lack of a credible legal system is another cause for concern. Megawati's chosen Attorney General, Muhammad Abdurrachman, has been criticized as neither capable nor strong enough to implement reform. Separatist activists in Aceh and Irian Jaya continue to call for the perpetrators of past human rights abuses under Soeharto to be brought to account. However, to date only one Soeharto associate, Bob Hasan, has been sent to jail for corruption since the end of the Soeharto regime. On another front, foot-dragging in the trial of the former dictator's youngest son, Tommy, whose re-arrest was managed in November 2001 after a year on the run, has ignited strong public indignation.

On a more positive note, after the turbulence and uncertainty of the Abdurrahman Wahid presidency, both the public and the politicians are keen to preserve stability. Stability has therefore been cited as a priority. The hope is that this can be achieved without deviating from the political reform agenda.

Economic Situation. Indonesia's GDP in 2001 grew by a mere 3.32% compared to the GDP in 2000. This achievement is below the 3.5% targeted in the 2001 State Budget. Total GDP in 2001 was Rp 1.491 trillion, equal to GDP per capita of Rp 7.2 million, or US$ 699[3].

Even after four years of multi-dimensional crisis, Indonesia still needs the support of the Consultative Group on Indonesia (CGI). The CGI, an umbrella group of 30 international donors chaired by the IMF, met in November 2001 and pledged US$3.14 billion to support the 2002 State Budget. However, the loans and grants came with a serious warning from the CGI about the need to improve policy performance, or the funds would not be disbursed.

The government is now hoping to convince the Paris Club to discuss rescheduling US$ 6 billion of loans falling due in April 2002 to March 2004 when they meet in Jakarta in early 2002.

Fiscal Policy. The 2002 State Budget approved by the Indonesian House of Representatives (DPR) on 25 October 2001 targets total state revenue of Rp 301.9 trillion (about US$ 30 billion) and foresees state expenditures of Rp 344 trillion. For 2002, the Government expects a budget deficit of Rp 42.1 trillion, equal to 2.8% of the country's GDP.

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[2] KKN is the Indonesian acronym for corruption, collusion and nepotism

[3] US$ 1 = Rp 10,300

The budget assumes a rupiah exchange rate of Rp 9,000/US$ 1, and an oil price of US$ 22/barrel. These figures are somewhat optimistic considering that the exchange rate in mid-February 2002 was slightly above Rp 10,000/US$ 1, and the North Sea "Brent" oil price April 2002 delivery was US$ 20.74/barrel, after a slight drop to US$ 19.10 on 23 January 2002 for March 2002 delivery.

Economic Forecast for 2002 - 2003[4]. Despite the falling international interest rates, Bank Indonesia (the central bank) is not expected to sanction a loosening of monetary policy in the near term. Inflation remains in double digits, triggered by oil and energy prices adjusted to reduce the government subsidy. Meanwhile, the current level of base money supply will exceed the IMF's target. The potential threat for rupiah depreciation is another factor placing upward pressure on interest rates, which are forecast to fall modestly in the second half of 2002, but remain relatively high to enable the government to issue securities to finance the budget deficit.

Forecast summary
(% unless otherwise indicated)

	2000[a]	**2001[b]**	**2002[c]**	**2003[c]**
Real GDP growth	5.2	3.32 [a]	3.3	5.9
Industrial production growth	4.4 [b]	3.5	4.9	6.0
Gross agricultural production growth	1.7	2.0	2.2	2.3
Unemployment rate (avg)	13.0	14.1	15.2	9.3
Consumer price inflation				
Average	3.7	11.1	10.9	7.0
Year-end	9.4	10.3	9.7	6.5
Short term interbank rate	18.5	20.5	18.0	15.0
Government balance (% of GDP)	-3.2	-4.3	-2.8	-2.7
Export of goods fob (US$ billion)	65.4	62.2	59.8	64.1
Import of goods fob (US$ billion)	-40.4	-40.2	-40.4	-45.5
Current account balance (US$ billion)	65.4	62,2	59,8	64.1
(%) of GDP	5,2	2,8	1.5	0.8
External debt (year end; US$ billion)	152.9	147.3	143.1	144.6
Exchange rates Rp.US$ (av)	8,421.8	10,286.1	10,328.3	9,933.8

[a]Actual. [b]EIU estimates [c]EIU forecast
Source. EIU Country Report – Indonesia, November 2001

Economic Growth in 2002. The economic growth outlook for Indonesia has deteriorated as a result of the 11 September 2001 attacks on the US and the likely repercussions. Indonesia's external sector will suffer from a further decline in global demand for merchandize exports, falling international oil prices and sharply lower tourist arrivals. Domestic demand will be subdued as a result of tight monetary and fiscal conditions and the impact of the weak external sector on business and consumer confidence. Foreign direct investment, which had already slowed in the first nine months of 2001, is expected to remain weak. Towards the end of 2002 some recovery of export demand will boost growth prospect and lead to modestly stronger growth in 2003. Government consumption and investment will provide minimal stimulus to growth throughout the forecast period in light of budgetary constraints. The inventory cycle is expected to turn towards the end of 2002 following two years of sharp falls in the level of stocks.

[4]Source: *Country Report Indonesia*, November 2001, The Economist Intelligent Unit

On the supply side of the economy, growth in manufacturing is forecast to slow owing to weaker export demand. The construction sector is expected to contract in line with low levels of government investment and infrastructure development, with the exception of the rehabilitation of roads and bridges infrastructure damaged by heavy floods in Jabotabek, Central Java and East Java in the month of February 2002.

The heavy flood that hit thousands of hectares of paddy fields and lowland farms in Java will also reduce the production of rice and other agriculture products. This has led to lower incomes among respective farmers, and an increase in prices of vegetable and rice in local markets.

Inflation. The consumer price index rose 12.5% on year in October 2001, down from 13% in September. Despite tight fiscal and monetary conditions, inflation is forecast to remain in double digits in 2002 as a result of a fuel price increases on January 17, 2002 anchored to the international price, and a gradual increase in electricity tariffs since January 1, 2002.

Exchange Rate. Following the peaceful transition of power and early signs of promise in the new government from former president Abdurrahman Wahid to Megawati, the rupiah staged a spectacular recovery. On August 14, 2001 the rupiah hit an 11-month high of Rp 8,470/US$ 1. However, the September 11terrorist attacks combined with the fragile situation in Indonesia have driven the rupiah back down through Rp 10,000/US$ 1. In mid-November 2001, the rupiah was trading at Rp 10,650/US$ 1. By first week of March 2002, it had recovered to around Rp 9,800/US$ 1.

Business Outlook Through 2002. In September 2001 trade surplus fell to US$2.2 billion, with the value of exports falling by nearly 15% from August, and the value of imports falling by 11.5%.

The tight money policy through interest rate instruments and higher inflation rates may harm local businesses, making their products less competitive in both local and export markets. The weakening of international markets in 2002 will also put pressure on the local markets from Asia's industrial and economics giants through dumping as well as smuggling of excess product and export capacity. Consequently, the local enterprises that mainly depend on exports and tend to underestimate local markets will encounter tougher competition in both local and international markets.

Current Energy Situation

Oil and Gas Sector. In late October 2001 the DPR passed a new oil and gas bill. The bill, which replaces Law No. 44/1960 on the oil and gas industry and Law No. 8/1971 on the State Oil and Gas Company, Pertamina, liberalizes the sector and ends the monopoly enjoyed by Pertamina since 1971. An implementation agency under Government control will now deal with contractual issues for investors in the sector after a one-year transition. A regulatory agency will also be established within a year to deal with all downstream activities, including imports, supply and distribution. The agency will take full responsibility for domestic fuel supply management after a four-year transition period.

As an OPEC member country, since December 29, 2001[5] Indonesia has had to limit its oil production quota of 1.125 million bpd (from a normal capacity of 1.5 million bpd).

Growth of Energy Consumption. The following statistics show the growth of Indonesia's energy consumption through 2000.

[5]) Resource. http.//www.kompas.com, 29 December 2001.

PRIMARY ENERGY CONSUMPTION BY ENERGY RESOURCES
(in Thousands of Barrels of Oil Equivalent)

Type of Energy	1995	1996	1997	1998	1999	2000
Oil	290,013.0	304,006.2	342,845.9	333,534.5	352,357.2	378,516.3
Natural Gas	134,318.5	145,407.2	150,810.0	144,026.0	160,222.8	166,093.7
Coal	40,727.6	56,199.6	52,704.2	57,846.8	45,359.7	87,451.0
Hydro	26,404.6	27,117.4	20,637.4	26,912.8	27,979.9	25,111.4
Geothermal	4,200.0	4,545.3	5,424.1	7,435.2	7,522.0	9,179.1
Total (kBOE)	**495,663.8**	**537,275.7**	**572,471.6**	**568,719.3**	**593,441.6**	**666,351.5**

Source. ACE.//www.aseanenergy.org/, February 21, 2002

The statistics also show that the daily consumption of oil had reached 965,362 bpd (barrel per day) by 1999, or 85.8% of the production quota. This level of consumption is alarming, since with a mere annual increase of 5.6%, Indonesia will become a net importer of oil by 2003.

Fuel Price Adjustment. Triggered by the IMF's letter of intent and the above alarming facts, and in spite of heavy criticism from NGOs and the public, the Government finally reduced fuel oil subsidies. From 17 January 2002, Indonesian fuel oil prices have been adjusted with reference to international fuel prices as follows.

Current Fuel Price (In Rp/liter)

Type of fuel oil	**Before**	**After Price Adjustment**			*Price Reference*
		Lowest	Highest	Present	
Premium gasoline	Rp 1,450	Rp 1,450	Rp 1,750	Rp 1,550	100% of international price
Household kerosene	Rp 400	Rp 600	n.a.	Rp 600	No reference
Industrial kerosene	Rp 400	Rp 900	Rp 1,650	Rp 1,230	75% of international price
High-speed diesel oil	Rp 900	Rp 900	Rp 1,550	Rp 1,150	75% of international price
Low-speed diesel oil	Rp 900	Rp 900	Rp 1,520	Rp 1,110	75% of international price

With the above price reference, it is possible that in the second quarter of 2002, the premium gasoline price may increase to Rp 1,750 per liter. The above fuel price adjustment would be able to reduce the Government fuel subsidy in 2002 by as much as Rp 2,850 billion. This fund would be re-allocated to finance poverty alleviation and community welfare programs as follows.

(1) Food supply for "very poor" people. Rp 500 billion
(2) Health and social needs Rp 570 billion
(3) Education Rp 1.28 billion
(4) Transportation Rp 190 billion
(5) Water supply Rp 130 billion
(6) Revolving funds for micro-enterprise development Rp 90 billion
(7) Coastal community empowerment Rp 90 billion

PLN. The state utility company, PT PLN, had a total installed capacity of its own power generation of 20,762 MW in 2000, serving 28.6 million customers including industrial and commercial customers. In the same year, PLN purchased a total of 9,135 GWh from IPP, or about 12% of the total energy sold, but still had operating losses of Rp 4,659 billion.

After increasing its tariffs by an average of 30% in 2001 (with the exception of 450W subscribers), in accordance with Presidential Decree No. 133/2002 PLN has introduced four stages of tariff increases of

6% per kWh at every stage, starting on 1 January, 1 April, 1 July and 1 October 2002. The tariff, known as TDL 2002, will increase PLN's income by Rp 5.4 trillion to reach Rp 43.7 trillion in 2002, thereby reducing the company's losses to only Rp 200 billion. With the new tariff in 2002, PLN will receive an average price of Rp 425/kWh, which is still lower than the average production cost of Rp 466/kWh (calculated before PLN's asset re-evaluation).

By implementing the new tariffs, in 2002 PLN will be able to prepare 1.2 million new power connections for 4.5 million customers currently on the waiting list. This has demonstrated the Government's commitment to cut fuel and energy subsidy to get closer to international energy price levels. Consequently, this move has opened up better opportunities for renewable energy development.

Impact on Renewable Energy. With the above fuel and electricity price adjustments, the economic gap between conventional energy prices and renewable energy prices in Indonesia is gradually decreasing. Concerns about the need to utilize renewable energy on a commercialized basis, are beginning to be felt, especially at the Department of Energy and Mineral Resources, with the recognition that the country's oil reserves are being rapidly depleted (there are proven reserves for the next 10 years) on one hand, and the imbedded potential benefits of renewable energy resources on the other.

At the same time, PLN, the utility company and the Government do not have the capacity to fund new generation plants, although PLN is experiencing a shortage of power in many regions. However, the price adjustment alone is not sufficient to promote renewable energy development. Appropriate laws, regulations, PPAs, on the use of RE resource, funding availability and marketing of the energy to be produced are among the most important issues to be addressed as parallel programs.

Avenues for promoting the use of renewable energy resources, such as the Clean Development Mechanism, in cooperation with industrial countries in one form or the other; village power demonstration projects utilizing small hydro turbines; the newly developed local PSK TERSEBAR scheme (in which renewable energy below 1 MW capacity is promoted to be utilized connected to PLN's grid at an agreed selling price) are being seriously pursued.

Section 2. Policy Environment

Current Policy on Renewable Energy (RE). The fact that fuel oil and electricity subsidies have been reduced will indirectly provide more room for renewable energy development. PLN and the Directorate General of Electricity and Energy Development (DGEED), supported by METI (the Indonesian Renewable Energy Society) and MKI (the Electricity Society of Indonesia) as well as other stakeholders, are currently reviewing the articles of Distributed Power Generation Power Purchase Agreement (PPA PSK Tersebar). Their objective is to accommodate the participation of more scattered small power stations. The price of electricity resulting from the PPA of PSK tersebar will be based on PLN's basic selling price, and will be a different price in every region.

Lifting Barriers towards RE Development. In accordance with the 2002 State Budget, the Government will cut petroleum subsidies to Rp 32.3 trillion (1.9% of GDP), down from Rp 53.8 trillion (3.7% of GDP). However, this figure still represents 5.8% of central government expenditure. As the price of fuel oil increases, it will give Renewable Energy development in Indonesia a more competitive edge.
Electricity tariffs have also been adjusted by PLN in order to cut subsidies that had been enjoyed by the more affluent people in the grid-connected areas.

Serious negotiations are currently under way relating to the revision of the policy on Private Sector Participation in Renewable Energy Generation (PSKSK) and the formulation of KUBE (Kebijakan

Umum Bidang Energy) and RIKEN (Rencana Induk Ketenaga Listrikan dan Energi Nasional). The aim of both organizations is to increase the portion of RE capacity development in Indonesia as well as to ease the legal requirement for the investment of RE projects.

Section 3. RE Financing

Current RE Programs and Sources of Financing. Several donors and one venture capital company have participated in supporting a number of new renewable energy programs integrated with community development. These include:

Japan International Cooperation Agency (JICA)-Indonesia. JICA has conducted a study guideline for rural electrification using renewable resources for Indonesia. The study started in the middle of last year and will finish the end of 2002. The study will also be accompanied by a pilot project in South Sulawesi.

Dutch Government Supported CDM Project. As part of the South-South-North initiative, the Dutch Government is supporting CDM project preparation through a local NGO, Pelangi. Through this program, Pelangi will prepare 8 projects in Indonesia to be promoted as a CDM project.

Solar Development Group (SDG). SDG has been created to accelerate the growth of the off-grid solar photovoltaic (PV) industry, with a focus on the broad social and environmental advantages of PV technologies. SDG seeks PV companies in developing countries with high growth and profit potential to be considered for business development support and investment. SDG will seek to work with private sector companies that demonstrate solid growth potential, including.

- ✓ Retailers/distributors
- ✓ Renewable energy services companies
- ✓ Banks/leasing companies with consumer credit programs
- ✓ System integrators
- ✓ Equipment assemblers/manufacturers

SDG consists of two entities.

1) Solar Development Foundation. a not-for-profit organization offering business development services and financing, in the range of US$10,000 to US$100,000, to help companies prepare for private investment.
2) Solar Development Capital. a for profit private equity fund providing growth capital, in the range of US$100,000 to over US$1,000,000, for private PV businesses in developing countries.

Joint ASEAN Mini Hydropower Program (JAMP). In 2001, JAMP was still fully supported by the German Technical Cooperation Agency (GTZ) and the Swiss Secretariat for Economic Affairs (SECO). However, until further extension, support provided by the two donors will only last until March 2002. This funding issue for JAMP has also become the issue for DGEED and ASEAN Center of Energy, who might lose their partner in renewable energy development.

In 2001, JAMP's activities in Indonesia yielded four pre-feasibility studies on micro-hydro projects. Three projects in West Java's plantation estates and one project in West Sumatera's plantation estate. These prefeasibility studies have contributed to encouraging the development of micro hydro projects as an energy supply alternative to expensive diesel generators.

The fact that PLN is gradually increasing its tariffs during 2002 will give JAMP a better opportunity to promote the development of hydropower technology in Indonesia. With further price adjustments by

PLN, it would need just a few years for micro hydro power stations to be owned by private companies, and become a grid-connected energy suppliers for PLN. Present activities among the DGEED's staff and METI in revising the regulation for the Small Power Purchase Tariffs could become an entry point for more hydropower project development in the near future.

Solar Home Systems. In 2001, about 6,000 PV-SHS[6] units had been installed in Indonesia, including 1,450 units promoted by the World Bank PV-SHS program. The World Bank PV-SHS program has been operating in Indonesia since 1997. This program would provide a GEF grant of US$ 2.5 per Wp installed to promote PV-SHS installation in three provinces West Java, Lampung and South Sulawesi. However, owing to the economic crisis and the subsequent crash, the program began PV-SHS installation in early 2000. Until the end of 2001, about 2500 units of PV-SHS (of 40 Wp and 50 Wp) had been installed under this scheme, which is too small to absorb the GEF grant that was budgeted at US$ 20 million.

Despite the World Bank's two-step loan portion that has been allocated in the program, most PV-SHS traders are not qualified yet to receive the loan facility owing to their difficulty in meeting the implementing bank requirements.

It seems that there is a missing link to bridge poor end users with the local "lending agency" that will provide the credit facilities on top of the PV-traders' credit. Yet, for most lending agencies, PV-SHS financing is a new business. By nature, PV-SHS lending activity is also considered consumer lending, which makes most local lending agencies not very comfortable.

On the PV dealer's side, with the existing price (before the GEF grant) of 40 Wp PV-SHS of Rp 2.95 million and 50 Wp PV-SHS of Rp 3.3 million, a PV dealer could only extend an average credit of Rp 2 million or about US$ 200 per unit PV-SHS. Thus, with just US$ 150,000 working capital, only 1000 new end users could receive loans with 12 months credit per year.

Section 4. CDM Developments

The work conducted by the Indonesian National Strategy Study Team (NSS CDM Team) has been completed and used by the national negotiators from the Ministry of Environment at the 6 COP Meeting in Den Haag on November 2000 and in Hamburg on July 2001. The final report was published on September 2001. A CDM Committee and Secretariat have not been established.

Although the meeting did not ratify the Kyoto Protocol, the Indonesian stakeholders support Indonesia's ratification. On a national level, the State Ministry of Environment is continuing to prepare the nation for the implementation of CDM project activities, despite the strong US position against ratifying the Kyoto Protocol.

Section 5. Project Leads, Partnering Opportunities & General News

Outer Island Renewable Energy Projects. Supported by the Asian Development Bank with US$100 million, PLN is currently tendering for the construction of 15 medium geothermal, mini hydro and biomass power plants in the outer islands.

PV Solar Home Systems. The original 1 million Roofs PV Project conducted by BPPT (Agency for Technology Assessment and Application) which was scaled down to 70,000 units, has so far installed.

[6]) of 40 Wp and 50 Wp systems, including second hand system being re-allocated.

- 36,400 units from AUSAID (1997-1999)
- 2,500 units from World Bank PV-SHS (2000-2001)
- 1,000 units from the Government of Bavaria (2000-2001)
- 1,500 units from E-7 Project in East Nusa Tenggara (1998-2001)
- Approximately 3,500 units from other government and private initiatives, from all over Indonesia.

In 2001, three PV-SHS dealers participated in this World Bank program implementation. The individual prospect for each dealer has been carefully protected by the World Bank through the following distributions.

- PT Altari Energy Surya (mainly South Sulawesi, with possible diversification to West Java and Lampung)
- PT Mambruk Interbuana (mainly Lampung and West Java)
- PT Guna Elektro (Jambi, South Sumatra and Bengkulu)

By determining the above market allocation, the World Bank has tried to avoid tough competition with its negative effects such as price wars and limited demand, which may cause operating levels below the break-even point at the sub-branch level. However, the absence of local lending institutions capable of providing end users with credit for 12 months or more has become the main reason for the unsatisfactory performance of the World Bank's suppliers.

Small Hydro Power. Increasing fuel prices and the gradual increase in electricity prices, have paved the way for the development of small hydro projects by the private sector, both for captive use and for grid connection. However, grid connected projects still need to wait for the revision of the PPA, which is currently in progress.

The existing diesel oil price of Rp 1,150/liter has led to soaring diesel electricity costs of between Rp 600 and Rp 800 per kWh (6 to 8 US cents per kWh). At this price, a run-off river micro-hydro plant could easily compete with diesel generating sets for 24-hour electricity supply. At present, local micro-hydro plants with capacities of up to 240 kW could be built using Swiss technology and installed for about US$ 1000 per kW.

Wind Turbines. Negotiations are under way between PT Sundaya Indonesia and a Dutch company to produce a wind turbine system locally. Planned capacity is up to 5 kW for the local and export markets at very competitive production costs. The Indonesian partner is very enthusiastic to follow up the project

Nepal – REPSO Nepal

Section 1. Macro Political and Economic Situation

Macro Political Situation

Important Acronyms:	
NEA	Nepal Electricity Authority
SAARC	South Asian Association for Regional Cooperation

His Majesty the King declared his son, His Royal Highness Praras Bir Bikram Shah Dev, the Crown Prince of the Kingdom of Nepal on December 26, the day of the Vijaya Dashami of 2001.

State of emergency declared. A state of emergency was declared in Nepal under Article 115 of the Constitution on November 26 to combat terrorism. The state of emergency was endorsed and extended for three months by the Parliament on February 21 with over two-thirds majority (194-7 vote). In a debate on the motion, Premier Deuba assured MPs that he would issue directives immediately to properly manage the state of emergency. He also pledged that he would honor and implement the suggestions on amending the Constitution made especially by NC party president Koirala and opposition leader Nepal.

Nepal takes over Chair of South Asian Association for Regional Cooperation (SAARC). Nepal took over the Chair SAARC at its 11th Summit meeting held in Kathmandu on January 5 and 6 from Sri Lanka. The Heads of State from of seven countries including Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka agreed to provide assistance and joint action to combat terrorism.

The 56-point Kathmandu Declaration of the 11th SAARC Summit pledges, among other things, eradication of poverty, regional economic integration and elimination of terrorism from South Asia. The main thrusts of the Summit have been the full resumption of the SAARC process, consolidation of past achievements through strong commitment to the effective implementation of all decisions; and, charting the course of the association with a long term vision. On terrorism, the Declaration said. the heads of state or government were convinced that terrorism in all its forms and manifestations is a challenge to all states and to all of humanity and cannot be justified on ideological, political, religious or on any ground. Regarding poverty, alleviation they expressed their firm resolve to combat the problem of poverty with a new sense of urgency by actively promoting the synergetic partnership among national governments, international agencies, the private sector and the civil society.

US Secretary of State Colin Powell visits Nepal. US Secretary of State Colin Powell's visit to Nepal has been appreciated by all in Nepal as a great gesture of American friendship Nepal. His statements in Kathmandu have encouraged Nepalese to further consolidate the base of democracy and intensify the campaign against terrorism.

United States Ambassador makes statement on terrorism in Nepal. United States Ambassador to Nepal, Michael E. Malinowski**,** recently equated outlawed Maoists of Nepal with other radical terrorist groups of the world such as the Shining Path of Peru, Abu Soya gang of the Philippines, the Khmer Rouge of Cambodia and Al Qaida of Afghanistan. The envoy's observation came immediately after his visit to some sites that had been badly hit by Maoist attack in recent days and in his address during a five-day South Asia Peace Operations Seminar Game organized in Kathmandu under the auspices of the Royal Nepali Army (RNA) and the United Nations Department of Peacekeeping Operations (UNDPO). Among those who participated in the seminar were representatives of 20 countries including Nepal, Pakistan, Bangladesh, Maldives, Sri Lanka, China, United Kingdom, United States of America and Canada.

British Parliamentary Under Secretary of State for Foreign and Commonwealth Affairs responsible for South Asia, Ben Bradshaw, in a Feb.19-20 visit to Nepal, said his country will assist Nepal in improving the current security situation. His talks with leaders here are said to have been very helpful in consolidating further Britain-Nepal cooperation. The issue of British Gurkha soldiers was also discussed during the visit.

CPN UML and CPN ML reunite. The country's top two leftist parties, the opposition party CPN UML and CPN ML, re-united mid-February, resolving their 1998 split. The 1996 Nepal India Mahakali Treaty was the main point that caused ML to break away from UML before the last general election. This time UML said it would open the Treaty for scrutiny and made the reunion possible. Moreover, the ML's condition for the merger – restructuring the entire party system- was also respected by UML. As they announced their blending, ML Secretary General Bam Dev Gautam stated it was a mistake to divide the party and UML Secretary General Madhav Kumar Nepal pointed out that the party would emerge stronger in the future because of the combined force.

Leaders belonging to different ethnic groups have set up a preliminary preparation committee in order to set up a separate political party. The Committee headed by former minister Parashu Narayan Chaudhari is due to hold discussions on the matter with other politicians.

Deuba government recommends Judicial Commission to probe graft. Prime Minister Deuba's Government decided on March 3 to form a judicial commission that will probe the property holdings of all post-1990 high-ranking government officials including political appointees, ministers, municipal mayors, deputy mayors, chiefs of district development committees, and their families. The target group also includes the chiefs of the Legislative, Judiciary and Executive bodies of the government, chiefs and deputy chiefs of the constitutional bodies and their families. The Cabinet meeting decided to recommend that His Majesty the King form the commission and describe its terms of reference- duties, responsibilities and rights- in accordance with the Chapter 3 (1) of the Probe Commission Act 2026 (1969). The Probe Commission shall submit its report within six months. The decision is in line with the demand put forth by the political parties before the ratification of state of emergency on February 23.

The Army is ready to provide adequate security coverage for all projects underway currently and to be launched in future keeping in view the prospects of terrorist attack on them. This has assured investors - local and foreign- about the continued security of their investment and scheme. The Army's preparedness was announced immediately after a police training center was bombed in Chautara, east of Kathmandu.

<u>Macro Economic Situation</u>

Economically, 2001 turned out to be bleak for Nepal. The International Monetary Fund has warned that the economic growth rate would be reduced to 3% as compared to 5.3% of the past year.

General News:

- In November, Nepal signed a much awaited tourism deal with China. Among other benefits, Nepal has been added to the list of outbound destinations for Chinese tourists.

- A quarterly review of Nepal Rastra Bank shows a 9% increase in government expenses and a 2.8% hike in the consumers' price index.

- Employees at the Central Bureau of Statistics (CBS) recently visited villages of 46 districts across the country to compile data for the 5th National Sample Census of Agriculture (NSCA). But the government's decision to cut 25% of the allocated budget for this effort is likely to have an adverse effect on the whole process.

- The 2001 Nepal Human Development Report says that despite Nepal's significant strides on fronts such as education, health and other social services, Nepal has the lowest human development level in the world. The 154 –page report also says that despite the government's emphasis on the issues over the last decade, people continue to suffer from low life expectancy, low literacy and poor living conditions. The report blames poor governance for the failure.

- Nepal Rastra Bank, the central bank of the country, has frozen more than a dozen individual accounts held in various commercial banks suspected to have Maoist links.

- Under pressure from the business community, Nepal Rastra Bank (NRB), has amended its earlier directive that required importers opening Letters of Credit (LC) of over US$15 thousand to submit business credibility information (BCI). The NRB has now raised the ceiling from 15 thousand dollars to 50 thousand for the mandatory submission of BCI.

- At the end of January, NRB Governor Dr. Tilak Rawal stated that Nepal's foreign currency reserve would not be able to bear import expenses if the current balance of payment continues. It contradicts the latest reports that the reserve of foreign currency in the country could bear imports for over eleven months.

- Finance Minister Dr. Mahat recently told Parliament that the government has created a supplementary budget to pool funds of around 4 billion rupees for security But he declined to mention the overdraft amounting to 6.54 billion withdrawn from the central bank in the last months of last fiscal year.

- With the Euro in use in Europe, Nepal de-listed the exchange rate of the currencies of six European nations at the end of December. Nepal Rastra Bank has notified all the commercial banks to surrender the currencies of the nations replaced by Euro by mid-January.

- Due to World Bank pressure, the finance Ministry is finally handing over the management of the country's two largest commercial banks to a private company in the next month. Concerned by the 21 month-long controversy that shrouded the management hand-over of these banks, the World Bank has warned that it would retract the promised loan assistance if the process is not completed by February 15.

- On the fourth day of the Fourth Ministerial Conference of the World Trade Organization (WTO) in Doha, Nepal voiced concerns that Least Developed Countries have not been able to fully benefit from the process of globalization. Minister for Industry, Commerce and Supplies, Purna Bahadur Khadka, said in a statement that increasing marginalization of the LDCs from the mainstream of the world economy and declining share in world trade, investment and output has been a matter of concern for all.

- The government has raised about 10 million dollars through a voluntary declaration of income and property that was introduced this fiscal year. The government has warned serious action against those who own property and income, not in the income tax net. While the government is firm in its policy, the method has been criticized for terrorizing investors and traders.

- At the Nepal Development Forum meeting, donors pledged that they would make available to Nepal resources worth 500 million dollars per annum for five years beginning this year when the new Tenth Plan begins in the next fiscal year. Although they were generous about continuing aid throughout the Tenth Plan period (until 2008) they repeated concern over the crisis in governance, rampant corruption, and poor implementation of development projects.

- The Asian Development Bank granted 956 million dollars to Nepal in 2001, as confirmed Resident Representative Richard Voles.

- The World Bank has pledged to loan almost 100 million US$ for telecommunication reform in Nepal.

- Nepal and India recently renewed a stalled trade treaty. The new treaty included the addition of a set of rules about export surge and value addition provisions for goods to be exported to India. The issue of export surge of five items: copper, wire, steel pipe, zinc oxide, vegetable ghee and acrylic yarn had delayed progress on the treaty.

- The Government has approved the contracted management of Nepal Bank Ltd. and Rastriya Banijya Bank. The Delitis Company of USA has entered into a contract with NRB for the management of Rastriya Banijya Bank; Nepal Rastra Bank has formally approached the ICC Bank PTC Corporation of Ireland to undertake the contract for management of Nepal Bank Ltd.

- Nepal Stock Exchange has classified 31 companies into A Group. Most of them belong to the finance and insurance sector. Soaltee Hotel and Nepal Lever are also in the same group.

- The World Bank and The UK Department for International Development have agreed to provide Nepal Rastra Bank with 250 million and 10 million US$ for a financial reform package.

Section 2. Policy Environment

Hydroelectricity

- To boost economic development and export earnings through proper development of hydroelectricity in the country, the Government has introduced a new hydroelectricity development policy for 2002. It aims to attract investment, especially from the private sector, into power-production. The new policy also makes the administrative procedures simpler. For example, no permission is needed for projects of up to one MW capacity. In addition, several concessionary measures have been provided for developing hydroelectricity projects in the country.

- Kali Gandaki A, the country's biggest 144 MW hydroelectric plant, has been connected to the national power grid allowing the country to be self-dependent on hydropower and allowing prospects for the export of energy. One of the three units of the project was integrated into the country's power system February 24, 2002. The other two units will be linked up by May. NEA officials say Nepal could be exporting almost 70 MW of power to India beginning with the next rainy season. The power exchange arrangement that exists between the two countries allows transactions up to 150 MW. In addition, the surrounding districts will get 10% of the revenue from the project this fiscal year.

- A 2 KW rural hydroelectricity project, built at the cost 3,000 dollars plus local labour, has been completed in Lidkhep, in Taplejung district. The scheme has benefited 42 families.

- Nepal Electricity Authority has concluded an electricity procurement agreement with seven hydroelectricity projects undertaken with Nepali investment. Four of the projects. Chilime (20MW), Piluwa Khola (3MW), Chaku Khola (900 KW), and Syange (180 KW) are currently under construction. The three others. Sunkoshi (3.5MW), Pheme (1MW) and Langtang (10MW) have just finalized the procurement agreement with NEA.

- Indrabati Hydroelectricity (7.5MW) is nearing completion with Nepali investment. The project under agreement has to sell 60%of production on 5.881-cent rate and 30% on the prevailing rate of rupee dollar exchange.

- At the end of January 2002, the 183 KW Syange hydroelectricity project of Taghinga village, Lamjung district was linked with the national grid. The project sells, as per agreement, 1,191,429 units of power to NEA every year.

- Western Seti Hydro project has been sidelined because of non-completion of the power procurement agreement. The work for the PPA for the 700 MW project has been undertaken by Australian company, Snowy Mountain Engineering Corporation (SMEC) over the past five years.

- The electricity procurement agreement of 20 MW Madi I hydroelectricity project is ready. The PPA will be finalized by Annapurna Group Pvt. Ltd. and NEA soon. The per unit production cost of Madi I is estimated to be 3 cents.

- The 12 KW Daunne Khola hydroelectricity project, completed in 1998, has now served 118 families in the area.

Transport

- The deadline for pollution tests for LPG vehicles in Kathmandu has been extended by one month. LPG vehicles have been greatly adding to the local pollution in Kathmandu, mostly due to leaks from in apporpirate technology to support LPG use.

- Because of artificial shortage of batteries, Safa Tempo considered most environmentally friendly and nonpolluting has faced a fuel crisis that has resulted in the grounding of 200 of the total 600 Tempos. The Lotus Company of Kathmandu is a supplier of batteries for the American Trojan Company. But they have not been able to distribute the batteries on time despite advance payments of up to 60%. Some professional vehicle owners have charged the agent not only charges more than the market price but also encourages black marketing of batteries through the creation of artificial shortage. Nepal adopted the vehicle in 1992 soon after Global Research, an international research institute, recommended the vehicle as most feasible for Nepal.
- Chief advisor of the Himalayan Light Foundation, Adam Friedensohn, stated that construction of an electric bus is underway in Kathmandu Valley. However, the Department of Transport says that refurbished milk transport buses cannot be permitted to take passengers even if they have been given a new internal structure.

- Gas three-wheelers have been banned in some areas of Kathmandu to reduce pollution from December 15. There are altogether 1,300 gas tempos and 600 microbuses at present in the city.

Rural Power

- Rural Energy Development Program (REDP) has produced 1111 KW of electricity through its 76 completed projects in 15 districts. There are 30 projects under construction, which will produce 500 KW of electricity in the near future. The Program has also installed 1200 solar systems in various rural areas of the country.

- Smoke free choolahs (stoves) have been very popular in Gulmi. The rural development project of Arghakhanchi has undertaken construction of the stoves in 39 places to meet the growing demand.

- Rural people have been attracted to renewable energy. Almost 90 thousand Gobar gas plants and 10 thousand solar energy plants have been already established according to official sources.

Electricity Sector

- The controversial Madi-Jagatpur 33kv transmission line project has been given a go ahead after being held up for four years. The project had earlier been rejected because of its estimated damage to the wild life in Chitwan Royal National Park.

- Nepal Electricity Authority is considering a seasonal rate for electricity after the 144 MW Kaligandaki A is commissioned this year. This would create an annual surplus of one billion units of power.

- Following the explosion of a 250KW power station iBhojpur by terrorists, 1,116 families have had to live in without power in the district. Built by NEA 13 years ago, the power station was in operation under Pashupati Power Pvt. Ltd for the last eight years.

Section 3. RE Financing

The Income Tax Act revision has discouraged investors interested in the sale and production of electricity. All amenities pledged by the Act for production, transmission and distribution to the private sector have now been cancelled.

In early February, the Finance Minister directed the NEA to not purchase electricity in US$ so as to not devalue the rupee.

Section 4. RE Equipment/Services Procurement Notices

Recent Procurement Notices (deadlines have passed)

Nepal Electricity Authority (NEA):

- NEA, Small Hydropower and Rural Electrification Department, Dadeldhura Branch, invited sealed bids from registered and experienced contractors for the erection of distribution lines at Dadeldhura district. NEA also invited bids for consulting services for detailed engineering design, survey and preparation of maps for rural electrification in various districts such Jhapa, Morang, Chitwan, Gorkha, Lamjung, Palpa, Gulmi, Arghakhanchi. NEA invited bids for the distribution and consumer service in the Bhairahawa branch of the Western Region Office of NEA.

Section 5. CDM Developments

In the beginning of March, Nepal hosted an international event on the theme of raising awareness about the challenges of protecting mountains and improving the living standards of the mountain people. Over 200 experts participated in the discussions, which were organized to mark the international Year of Mountains 2002 (IYM). In Nepal at least 50% of the population derive their direct source of livelihood from the mountainous forests.

The Cottage and Small Industries Department of the Ministry of Industry and Supplies has called for all paper and pulp, vegetable ghee, leather tannery, fermentation and wool processing industries to apply for pollution control certificates within sixty days. It is a requirement for to acquire such certificates in accordance with the Environment Protection Rules 2054 –regulation 15.

According to a report, the ozone layer above Nepal, and South Asia in general, is getting thinner . A Briber Spectrophotometer, imported from the U.S. with the support of the State University of Albany and Department of Physics of Tribhuvan University, is being used to measure the ozone layer above S. Asia.

Section 6. Project Leads, Partnering Opportunities and General News

Project Leads, Partnering Opportunities:

- Investors are wanted for 250 MW Rolwaling hydroelectricity project (Upper Tama Koshi), which is known for its cheap cost of construction at 300 million dollars.
  First publication date: January 3,2002
  Last date for submission: Open
  Address: District Development committee Office, Dolakha district

- The Privatization Cell of Finance Ministry, HMG, issued a notice on October 22 for selling shares of Butwal Power Company in connection with its privatization. 75% share will be sold to the private sector. (Fax. 257854, phone. 259820,259993, 257854). It might be recalled. two proposals for Butwal Power Company have been submitted. One was of Jyoti Group along with Norway's Interkraft, the other was of Chaudhury Group (ICTC). Khetan Group's Mutual Trading did not submit the proposal by December 5.

General RE News:

- On January 30, Prime Minister Sher Bahadur Deuba emphasized the need to develop rural energy systems to eradicate poverty using alternative energy sources. He felt that the unavailability of energy in the rural areas has led to the lack of development in the villages. Only 18% of Nepalese currently use electricity; and 80% of the population lives in rural areas.
- A public notice has been published for the demarcation of areas for the evaluation of environmental effects of Upper Marsyangdi.
- Notice has been served for an environmental impact assessment in Butwal Sunauli 122 KWA Project.
- A Saptagandak hydroelectricity project study committee has been constituted under the chairmanship of Director of Water and Energy Commission. The 25 MW project had earlier been studied in 1985 and the new committee is to submit its report in four months
- On the occasion of eighth anniversary of Environment Journalists' Society, the Minister for Science and Technology, Bhakta Bahadur Balayar, said that the government would accord more priority to alternative energy.
- The Bill related to transactions of electronic goods is being finalized in the House of Representatives.
- The House of Representatives has adopted the Bill related to controlling electricity pilferage.

Section 7. Calendar of Events

- A renewable energy workshop was organized in Kathmandu on September 29 under the auspices of Winrock International and USAID. Chairpersons of some 15 districts attended the workshop.
- A training program was held on October 6 for machine operators of small hydroelectricity projects. The program was sponsored by the joint sponsorship of Small Hydroelectricity Development Board, and the Rural Energy Development Program (of UNDP). 16 operators participated in the program. Nepal has already witnessed establishment of over 1300 projects of 100 KW small hydroelectric schemes over the years.
- The Energy Study Center, Institute of Engineering and USAID held a Energy Development Workshop in Nepal in January. The objective of the workshop was to develop energy as a means for economic development in countries of South Asia. Some 25 energy specialists of six SAARC countries attended the five-day workshop.

Philippines – Preferred Energy Inc. (PEI)

Section 1. Macro Political and Economic Situation

Important Acronyms:

Ledac	Legislative-Executive Development Advisory Council
DOE	Philippines Department of Energy
JCPC	Joint Congressional Power Commission
PSALM	Power Sector Assets and Liabilities Management Corporation
NPC or Napacor	National Power Corporation
PNOC	Philippine National Oil Company

RP Economy Grows 3.4% in 2001. The National Statistical Coordination Board (NSCB) reported a 3.4% expansion of the Philippines economy in 2001 as measured by GDP, despite the political upheavals experienced by the country at the start of the tear and the September 11's terrorist attacks. The figure was higher than the government's projection of 3.3%, but still lower than the 4.0% gain recorded in 2000. Gross national product (GNP grew at a slower 3.7% in 2001 versus 4.5% in 2000, as net factor income from abroad (NFIA) – particularly, property income -- experienced a slowdown. NFIA refers to the property income and compensation income earned by Filipino nationals abroad minus the property income and compensation of foreign nationals working in the Philippines. With the US economy on track to recovery, the strengthening of Eurozone economies and improved business and consumer confidence, the government expects its GDP growth forecast of 4.0% to 4.5% for 2002to be achieved.

Consumer confidence index hits nine month high. The consumer confidence index (CCI) shot up 9.1 points to 111.8 points, the highest in nine months. This was brought about by recent news of growth in GNP of 3.4% in 2001 compared to four percent the previous year, the positive perceptions of the start of the New Year and the optimistic prospects for the coming months. More Filipinos are confident that this year will be a better one, propelled by perceptions of a better business environment and improved government performance.

Agriculture GVA expands by 3.9%. The agriculture, fishery and forestry sector grew 3.9% in gross value added (GVA) in 2001, up from the last year's 3.3% increase. Data from the National Statistical Coordination Board (NSCB) showed that the sector listed a GVA amounting to 198.1 billion Philippine pesos (US$3.871) from PhP190.6 billion at constant 1985 prices in the same period last year. GVA is the difference between gross output and intermediate inputs. Among the economy's three major sectors, only agriculture was able to outperform its growth pace in 2000. The expansion of the sector's GVA was led by stronger performance of the fishery sub-sector (5.6%) and agriculture sub-sector (3.6%). The improvements of these two sub-sectors were more than enough to offset the 8.3% contraction in the GVA of forestry.

The government has expressed confidence that the economy will be able to achieve up to a 4.5% growth this year due to fiscal and monetary reforms and stabilizing security. Deputy Director-General Gilbert Llanto of the National Economic and Development Authority said he is confident that the target of 4.0 to 4.5% GDP is achievable. He noted that a series of positive economic indicators in recent months, including easing interest rates, falling inflation and a stable peso will support the achievement of this target . Due to an improved credit rating and a buoyant stock market, there was already a "takeoff platform" for better economic performance in 2002. Right now, inflation looks favorable. It shows there is flexibility in the central bank's overnight borrowing rate of 7.5%, its lowest level since 1995, with the lending rate at 9.75. Inflation had fallen to a 21-month low of 3.8% in January from a year earlier – a sharp reduction from 4.1% in December.

Passage of nine (9) economic reform bills vowed. The Legislative-Executive Development Advisory Council (Ledac) under the Macapagal Administration has vowed to pass into law, with the term of the 12 Congress, at least nine pre-market reforms to boost the domestic economy. Economic Planning Secretary Dante Canlas said that after the enactment last year of two landmark reforms – the Electric Industry Reform Act and the Anti-Money Laundering Act – the Ledac agreed, in a meeting in Malacanang, to fast-track other crucial structural reforms. The nine critical bills would address five major concerns. the level of non-performing loans, shrinking government revenues, insufficient housing and infrastructure as well as slow countryside development. The measures identified as a priority by the Ledac include.

- Securitization Act, which seeks to encourage public and private companies to borrow against a pool of existing assets and/or receivables;
- Special Purpose Vehicles Act, which will facilitate the setting up of asset management companies that will absorb the bad loans of the banking sector and free up liquidity for bank lending;
- Mass Housing Act;
- The indexation of sin taxes, such as the excise taxes on beer and cigarettes, to inflation so as to help generate more revenues to support housing;
- Corporate Recovery Act, which will likewise help in the financial restructuring of the corporate sector;
- Countryside and Barangay Business Enterprise Act;
- Removal of documentary stamp tax on secondary transactions to provide more liquidity to the capital markets;
- The Philippine Railway Modernization Act, and
- Amendments to the charter of Philippine Deposit Insurance Corp.

Reasons why Philippines business faces a brighter future. There are nine (9) reasons to believe that Philippine business will be better in this year and.

a. *Confidence of foreign investors*. Although other see it differently, the most impressive example of foreign investment is the final decision of Japan's Kirin Brewery to invest P27.9 billion in San Miguel Corp. making San Miguel the 5 biggest brewer in the world;
b. *Better restructuring, infrastructure and energy program.* The ongoing privatization of NPC and the operation of the Malampaya Deep Water Gas to power projects are positive signs of the advent of a whole new industry that will make the Philippine 52% self-sufficient in energy. In addition, the application of the information and communication technology is getting sophisticated, 2002 will be the best time to empower domestic trade and commerce;
c. *Growth of other cities will attract more investments*. Trade and domestic tourism markets are getting bigger in eight cities. Metro Manila, Cebu and Davao; Calamba City and Batangas City are emerging as logistic hubs in the Calabarzon region; while the burgeoning cities of Muntinlupa and Marikina are expected to sustain local business expansion. Naga City and Legaspi City can be the spark plugs of trade development in the Bicol regions, as Lapu-Lapu City becomes an eco-tourism site in the new year;
d. *Rural and SME development.* With more energy, the Philippines is expected to have an economically active countryside whose development will outpace that of the cities. Rural-based industries linked to agriculture, such as food processing, post-harvest services and packaging, will provide jobs to farm families. Provinces will teem with cooperatives of small, productive enterprises, which will serve as conduits for financial, marketing and technical assistance from local and international institutions;
e. *Stronger performance of agriculture*. Due to an expanded production of cash crops and a higher output in the three other major sub-sectors, the agriculture industry will continue to keep the Philippine economy afloat for the next few years;

f. *Recovery of the export industry.* Indications from the United States, our largest export market, are showing early recovery – not in the third or fourth, but in the first quarter of 2002. Since the US economy is still the No.1 engine for global economic growth, a quick end to US recession will bode well for Philippine exports, especially the Philippine electronics industry;
g. *Resiliency of the Filipino managers and entrepreneurs.* The Philippine Chamber of Commerce and Industry (PCCI), a catalyst in building a better business climate in the new year, believes in the reliability of Filipino managers and entrepreneurs;
h. *Furniture and home décor manufacturing is up.* Even with the threat of stiff competition from China, the furniture manufacturing and interior design for the high-end markets abroad are reporting high demand; and
i. *Sound fundamental economic policy.* Finally, financial institutions such as the World Bank, ADB, JBIC have affirmed the Philippines' credit worthiness, as other financial analysts and even the influential Makati Business Club are giving Pres. GMA fundamental economic policy high ratings.

Inflation slows to 17-month low. Government economic planners announced the latest National Statistics Office (NSO) figure showing a slowing pace of price increases for most consumer goods and services. Overall inflation settled at a 17- month low of 3.9% in December 2001. This allowed the government to meet its six percent inflation forecast for the whole of 2001. For 2002, inflation forecast is 4.5% - 5%. Stable cost of food, a decline in crude prices abroad, as well as a stable foreign exchange environment helped quell any major price hikes last year. The farm sector also provided the much-needed boost to the domestic economy. The absence of any major weather disturbance assured the steady supply of rice, corn and other major crops.

Section 2. Policy Environment

Department of Energy (DOE) hearings on proposed natural gas rules. The DOE will start public consultation on the proposed rules and regulations for the natural gas industry. Energy Secretary Perez said the rules would be implemented for the downstream development of the industry such as in transmission, distribution and supply of natural gas. The energy secretary said the circular would also outline the structures, regulatory principles and the approaches for its development to promote the interest of end-users and industry participants. The extension of the natural gas pipeline in Metro Manila is expected to create a wide market for non-power applications of natural gas in the commercial and industrial sectors and ultimately to households. Several local and foreign firms have already expressed interest in undertaking the construction of the Batangas-Manila onshore pipeline, which is estimated to cost about US$80 million. Contact Person. Sec. Vicente Perez, DOE, Tel. No. (632) 840-1401

DOE told to re-draft Power Law IRR. The Joint Congressional Power Commission (JCPC) has asked the Dept. of Energy to redraft the implementing rules and regulations (IRR) of the Electric Power Industry Reform Act based on the principles laid down by the oversight. According to Congress, the DOE would draft the final form of the IRR, with review by Congress to make sure that the principles laid down by Congress have been followed to the letter. Some of the issues/concerns that have yet to be resolved include the approach on how to recover stranded costs for the power purchase contracts with independent power producers, tax equalization and royalty reduction proposals on indigenous fuels, including renewable energy, among others. Contact Person. Sec. Vicente Perez, DOE, Tel No. (632)840-1401

PSALM to assume P18B coops debts. The Power Sector Assets and Liabilities Management Corporation (PSALM) is set to enter into a tripartite agreement with the NEA and the concerned electric cooperatives (ECs) on proposals to write off some P18B worth of outstanding debts incurred for the government's electrification program. With the planned condonation of the EC obligations, the national government, through PSALM, would assume the responsibility of repaying or re-financing these loans, as provided under Section 60 of the electric Power Industry Reform Act. The implementing rules and regulations (IRR) of the power industry reform law sets out the categories of loans that would be eligible for assumption by PSALM. The classification of debts to be written off would be based on the rural electrification program that would be approved by the President. NEA is currently preparing the list of the outstanding obligations of electric cooperatives that are being proposed for condonation. These are, of course, subject to endorsement by the Commission on Audit. Contact Organization. National Electrification Administration Tel No. (632)926-1322

Section 3. RE Financing

PNOC-EDC to borrow $600 M this year. The PNOC-Energy Development Corp (PNOC-EDC), the geothermal development arm of state-owned Philippine National Oil Co., expects to borrow more than US$600 million (approximately more than P3 billion) this year to finance its energy development projects. PNOC-EDC Chairman and President Sergio F. Apostol said they would tap various multilateral creditors for soft loans, which carry lower interest rates and longer maturity. He said by the first quarter of 2002, they would be expecting the release of a $56-million loan from Japan Bank for International Cooperation (JBIC) that would fund the 40 MW Phase 1 wind farm project of the company. Another $36 million is expected to be raised sometime this year from either JBIC or DANIDA (Danish International Assistance) that will finance the Phase 2 of the wind project in Burgos, Ilocos Norte. According to Chairman Apostol, they will need about $500 million for their geothermal exploration projects this year, particularly those in Sorsogon and Leyte. The official said they are now holding exploratory talks with some Lebanese and European groups to help the company finance some of these projects. Contact Person. Mr. Sergio Apostol, PNOC-EDC, (632)840-1446

ADB sets $309-M outlay for RP this year. Program and project loan releases of the Asian Development Bank (ADB) are expected to reach $309 million for this year, nearly $100 million more than in 2001. The 2002 loans will cover eight loan programs and projects for Mindanao. water sector, energy sector, education and infrastructure. The Education Sector Development Program and the Rural Roads Development Project both have allocations of $75 million each. Three projects also got an allocation of $50 million each. These are the Mindanao Basic Education Development Project, the Development of Poor Urban Communities Project, and the Power Trading and Pooling System. The Enhancement of Rural Livelihood in Mindanao Forestlands (also known as the Mindanao Community-Based Forest Resources Management Project) received an allocation of $40 million. The PNR (Philippine National Railway) Railways Restructuring Technical Assistance Loan is worth $5 million while the MWSS New Water Source Development Loan Project was given an allocation $4 million. Contact Organization. Asian Development Bank, Tel No. (632) 632-4444

RP needs $1.4B to develop the hydro- power program over next 10 years. The government will need almost $1.4 billion over the next 10 years (year 2002 to 2011) to finance the development of hydro energy in the country. Based on the Philippine Energy Plan for 2002 – 2011, the country's hydro resources can generate up to 13,426 megawatts (MW) of electricity. Under the energy plan, some 1,300 MW of large and mini-hydropower projects, or approximately 10 % of the country's hydropower potential, is projected to be added and connected to the main and small island grids. At present, the country has a total of 2,521 MW of installed hydropower capacity or 19% of the total installed generation capacity. The development of our country's hydropower potential is vital as we continue to look for alternative sources of renewable energy to meet the growth in energy needs. Contact Person. Mr. Francis Benito, EUMB-DOE, Tel. No. (632) 840-1817

RP seeks foreign financing for solar-powered irrigation. The Philippine government is awaiting $50 to $100 million in financing and technical cooperation from World Water Corporation (WWC), a United

States based company for the construction of solar powered irrigation systems that are expected to raise agricultural productivity. Jesus Emmanuel M. Paras, Administration of National Irrigation Administration (NIA), said in an interview that the WWC had initially agreed to a $300,000 grant for the feasibility study that will look into the economic and technical viability of putting up solar-powered irrigation systems in the provinces. It's a mixture of technology that can irrigate and also provide potable water. The technical assistance has been the subject of a memorandum of agreement (MOA) between the NIA and the WWC entered by the government during Pres. GMA's visit to the United States last November. Mr.Paras also mentioned that the feasibility study would be finished in six months. If the project is found viable, construction of the irrigation systems will begin within one year. Contact Person. Mr. Emmanuel Paras, Administrator, NIA, Tel. No. (632) 929-6071

Section 4. RE Equipment/Services Procurement Notices

Sale of hydro plants to include water rights. The parameters for bidding on hydroelectric power plants of the National Power Corporation (NPC) would include assignable long-term water rights agreements (WRA) that would be passed onto the buyers of the assets. This has been among the requirements provided in the NPC privatization blueprint and the implementing rules and regulations (IRR) of the Electric Power Industry Reform Act (EPIRA), in respect to the disposal of the hydropower facilities. The proposed water rights agreement, to be entered into initially by the Power Sector Assets and Liabilities Management Corporation (PSALM) and the National Irrigation Administration (NIA) would ensure the allocation of irrigation and requirements for domestic water supply, aside from the allotted water supply for the use of the power plants. Once the assets are privatized, the WRA would be assigned to the buyers of the assets.

Several hydropower facilities have been included in the packages of generation companies (gencos) lined up for sale, but several of them were also excluded from the privatization process due to questions of "national patrimony" or contractual arrangement raised against the plan of disposing of them too soon. Contact Organization. National Power Corporation, Tel No. (632)921-3370

NAPOCOR to bid out P10.5B fuel needs. State-owned NPC is set to bid out some P10.5 billion worth of fuel supply contract this February and March. In a press statement, NPC said the auction would cover the power firm's requirements for 8 months, totalling1.5 billion liters of fuel. The power utility firm will bid out the diesel requirements of both NPC-owned and independent power producer-run power plants as well as the power barges operated by its strategic power utilities group (SPUG) unit on February 14 and 15. The bidding would cover the fuel requirements of those units from July 1,2002 to December 31,2003. The first and third batches will be auctioned off using Napocor's electronic bidding system as part of the power firm's thrust to expand the use of its internally developed electronic procurement system. While the second bidding will use the usual public, two-envelope system as it will cover the smaller fuel requirements of the firm's power barges. Contact Organization. National Power Corporation

Government hopes to close Enron deal in due time. The government hopes to close within a few months the deal with cash-strapped US firm Enron Power to buy out the remaining years of its power purchase contract for the Subic and Pinamucan plants. Energy Secretary Perez, however, pointed out that they are being very careful with the deal. "We're currently in the due diligence stage right now and we hope we can come to agreement and get the conditions that we want", said Sec. Perez, as he pointed out that the Power Sector Assets and Liabilities Management Corporation (PSALM) is not really obligated to buy out the contracts. "PSALM does not really need to do the deal but if it is attractive enough and could reduce the stranded debt, then we would," said Sec. Perez maintained. DOE has already started its due diligence on the 105-megawatt Pinamucan and 115-megawatt Subic plants in order to assess all the technical, legal and financial aspects on the project that would affect the planned buyout. Contact Organization. National Power Corporation

Six firms bidding for Napocor Assets. At least six (6) energy companies from the United Kingdom, Canada and the United States have expressed interest in acquiring $5 billion worth of assets of the NPC, President Arroyo said. The privatization of the power sector will be the biggest new investment opportunity for this year. The NPC assets are worth about $5 billion. The President said the British energy firm National Grid Pty. Co. is interested in the transmission assets. American companies Edison Energy, MidAmerican Holdings and Intergen are looking at the generation assets while the Canadian firm Hydro-Quebec would like to bid for the hydroelectric plants. The President said the energy firm's privatization would take off in June when the government puts up Napocor's transmission assets, worth some $2 billion, for public bidding. The sale of transmission assets will then be followed by the auction for Napocor's generation assets and finally the sale of Napocor hydroelectric plants. The President said the six companies expressed interest in participating in the bidding during one-on-one meetings they had during the three-nation investment road show conducted by the DOE and DOF. Contact Organization. National Power Corporation

Section 5. CDM Developments

USAID Technical Assistance for Enhancing Private Sector Participation in Renewable Energy Investments for Off-Grid Rural Electrification. The project involved preparation activities to develop strategies for the involvement of the private sector accelerate barangay[7] electrification projects in off-grid areas. The project has completed six (6) major tasks, namely.

a) Facilitating Policy Reform and Development in Electricity Franchising- developed a standard franchise waiver agreement for private sector participation in rural electrification. Said agreement has been presented to various ECs for comments and suggestions;
b) Consultation with LGUs on NRE Investments – conducted extensive consultation work with LGUs in order to obtain their commitment and support in the conduct of proposed pre-investment studies on off-grid rural electrification;
c) Market Packages Development – the main output of the task was the development of the market package concept, where each market package is composed of at least 10 contiguous un-electrified barangays with sufficient critical mass for business operations. A total of 57 market packages have been identified and using a set of prioritization criteria, about 25 priority market packages have been identified.
d) Project Evaluation and Prioritization – identified and evaluated project proposals which are ready for implementation including the development of criteria for prioritization of these projects for promotion purposes to LGUs and private sector.
e) Coordination and Consultation with Private Sector Investors – conducted extensive coordination and consultations with potential private investors in 25 market packages in off-grid rural electrification;
f) Harnessing New and Renewable Energy for Off-Grid Rural Electrification -collection, analysis and packaging of information critical to investors for evaluating off-grid rural electrification investment options.

Winrock International has been awarded the contract to undertake the above activities. For more information on the above project. USAID-Manila, Tel No. 552-9834

[7] A barangay is a political division of a municipality or a city.

UNDP-GEF PHI/99/G42 PDF-B Project "Capacity Building to Remove Barriers on Renewable Energy in the Philippines." The STAP of UNDP and the GEF Council have reviewed and approved the Project Brief for the Full GEF Project.

To review, there were 10 task activities conducted by 10 national experts and 3 sub-contractors hired under the PDF-B Project. Said tasks involved the preparation of a full GEF Project that would implement various innovative strategies and mechanisms (policy, institutional, market development, financing, delivery mechanisms, information development, promotion and training, etc.) towards the development of market-driven NRE industry in the Philippines leading to the reduction of GHG emission by replacing conventional fossil use. The Project Brief of the Full GEF Project then prepared and incorporated comments from the funding agencies as well.

The implementation of the full GEF Project is expected to start on the second quarter of the year 2002. Contact Person. Mr. Francis Benito, EUMB, DOE.

WB-PHRD II-Feasibility Studies for an Off-Grid Rural Electrification Investment Project Component. The Objective is to develop a pipeline of bankable projects for possible support under the WB Adaptable Lending Program (APL) for decentralized electrification. The Project identified the market packages (defined as the clustering of unelectrified barangays in a municipality that are contiguous) which have potential for private sector investment for off-grid rural electrification. Prioritized six (6) market packages, namely. Taytay, Dumaran, El Nido and San Vicente in Palawan; Aroroy, Milagros and Masabate; Janiuay, Calinog and Lamgunao in Iloilo; Calatrava I Negros Occidental and Guihylgan in Negros Oriental; and, Malital Jose Abad Santos and Don Marcelino in Davao del Sur.

The preparation of pre-investment studies for projects that may attract private sector investments are currently on-going. The private sector will be encouraged to participate in these projects via a competitive bidding. Contact Person. Mr. Francis Benito, EUMB, DOE

Section 6. Project Leads, Partnering Opportunities and General News

Project Leads and Partnering Opportunities

Photovoltaic Rural Electrification Service (PRES) Project. The PRES Project proposed for French protocol financing aims to contribute to the achievement of the barangay electrification objectives. The project, which will be implemented by a Consortium of French Companies and their local partner, will be implemented in three (3) phases, namely. Phase 1: up-front social, financial, organizational and technical studies; Phase 2: systems installation; and, Phase 3: post-installation activities. The feasibility study shall commence by February 2002. Contact Person. Mr. Francis Benito, EUMB, DOE, Tel No. (632) 840-1817

Solar Power Technology Support Project to Agrarian Reform Communities (SPOTS). The NEDA Inter-Agency Coordinating Committee (NEDA-ICC) recently considered for implementation, SPOTS, a project which is funded through a Spanish mixed loan and grant and aims to provide energy and power to unelectrified Agrarian Reform Communities (ARCs). Solar energy will be tapped as enabling technology in the implementation of the project. The Department of Agrarian Reform (DAR) is the lead agency while the Dept. of Energy and National Electrification Administration would provide technical assistance to the project. Several issues were raised by NEDA that require clarification/improvements from DAR prior to final approval. Contact Person. Ms. Cerelina Afable, Project Manager, DAR, Tel No. (632) 372-8333

UNDP Multi Purpose Pilot Photovoltaic (PV)-Wind Turbine System for Rural Electrification in the Philippines. The project is a pilot centralized utility type 5kWp PV/10kW Wind Turbine hybrid system that will provide the electricity needs for lighting and operation of small home appliances of 200 households in Sitio Sicud, Barangay Candawaga, Rizal, Palawan. DOE will provide technical assistance to the project. Contact Person. Mr. Francis Benito, EUMB, DOE, Tel No. (632) 840-1817

PNOC, Shell, Dutch Government in solar power program. The Philippine National Oil Company (PNOC), in partnership with Shell Renewables Philippines Corporation and the Government of Netherlands, will soon start electrifying off-grid areas through Solar Home Systems (SHS). Some 15,000 units of photovoltaic solar homes system that will be installed in un-electrified rural areas in Cordillera Autonomous Region (CAR) over a period of five years. A photovoltaic solar home system is one of the best options for the electrification of off-grid and remote un-electrified barangays because of its reliability, low maintenance and zero fuel requirements. Thus significant benefits of solar power serve as catalyst for rural development. Contact Person. Mr. Francis Benito, EUMB, DOE, Tel No. (632)840-1817

General News

Estimated earnings from Malampaya natural gas project to reach PhP14.5 B by 2006. The government expects to earn at least 14.5 billion Philippine pesos (US$283.23 million at PhP51.195/$1) from the Malampayaproject. Of this amount, PhP7.58 billion will be in the form of fees and charges paid to the government while the rest will be income taxes collected by the Bureau of Internal Revenue, figures from the Dept. of Finance (DoF) showed. Finance Secretary Jose Camacho said the government expects to raise at least US$500 million this year when it starts "securitizing" a portion of the earnings of the Malampaya project.

Malampaya oil exported to Seoul. Mr. Eliseo Santiago, newly installed chairman of the Shell-Philippines, announced recently that the country's first crude shipment from the Malampaya natural gas wells had just been shipped to Seoul, S. Korea.

Mt. Arayat foothills yield Central Luzon natural gas field. A consortium of state-run energy firms has discovered a natural gas field in Victoria, Tarlac after two months of drilling. The discovery indicates good prospect for Central Luzon not only as a rice-producing region, but also as a petroleum basin. The President is optimistic that the latest discovery will act as a catalyst to spur exploration and drilling operations and, eventually, generate economic development in what is considered to be a basic agricultural region. Pres. GMA also called on local and foreign firms with expertise in the field to partner with subsidiaries of state-run PNOC to fully develop the gas potential. If the gas find becomes a commercial success, it could be a good source of either energy or to make fertilizer, or to bottle compressed natural gas.

Renewable Energy for Rural Development Conference Held. A conference on Renewable Energy for Rural Development was held at the Mandarin Oriental Hotel on February 22, 2002. Topics discussed included.

- Renewables for Development
  - Renewables in a Deregulated Power Sector
  - Renewables for Rural Energy
- Renewables for Grid Power
  - Replacement Bagasse Cogeneration Project
  - Rice Hull-fueled Power
- Renewables for Off-grid Energy
  - Community Power, The BP Solar Experience
  - Energy from Agricultural Processes Residue
  - Rural Power from Solar Energy

- Renewables for the Environment
    - Renewable Project and Carbon Credits

The conference was organized by the Sustainable Energy Program, UK Department of Trade and Industry with assistance from Preferred Energy, Inc. (PEI). Sponsors and trade partners included Embassy of UK and Northern Ireland and the UK and Phil-British Business Council. The conference was attended by prominent practitioners in the energy and renewable energy fields in the Philippines and in the UK. The conference was honored by the presence of the Deputy Head of Mission of the UK Embassy and the Secretary of the Philippine Department of Energy, Vince Perez Jr.

South Africa – Solar Engineering Services

Section 1. Macro Political and Economic Situation

Important Acronyms:

ANC	African National Congress
DAEC	Durban Alternative Energies Company
DME	Department of Minerals and Energy's
NER	National Electricity Regulator
SHS	Solar Home Systems

Political Arena. While the political environment in South Africa remains stable, the situation in much of Africa continues in chaos and armed confrontation. However, there are several things that may have positive outcomes. For example, Jonas Savimbi's assassination could end of 26 years of civil war in Angola, as the younger emerging leader of the opposition MPLA appears to be more amenable to a peace agreement. Laurent Kabila's son, who assumed power in the Democratic Republic of Congo after his father's assassination, also appears more conciliatory, and there is cautious optimism that the current peace talks at Sun City in South Africa may have a positive outcome in resolving the conflict in the Central states of Africa. The Presidential wrangles in Madagascar appear to be reaching a satisfactory conclusion. Behind all these events may be the shadow of Prime Minister Mbeki of South Africa, who appears to be more successful in solving Africa's problems than those in his own country. His "quiet diplomacy" has been less successful in Zimbabwe where stability and prosperity are unlikely to return in the foreseeable future.

The one major question mark on the continent is Zimbabwe, where the elections held on March 9 & 10, 2002, are unlikely to bring about peace and stability, for the foreseeable future, irrespective of the outcome at the poles. Civil war is by no means inconceivable. It is unclear whether the campaign of violent intimidation over the last two years by President Mugabe's supporters has succeeded in cowing the opposition voters, or whether it will backfire on him. Human rights monitors reported 18 political murders/executions, 35 kidnappings, 18 disappearances and 142 cases of torture in January and February 2002. It is reported that about 70,000 people have fled their homes in the past year due to violence. The opposition MDC party was only permitted to hold election rallies in about 40% of the poling constituencies. The number of poling stations in Harare, believed to be a MDC stronghold, has been significantly reduced, and these stations relocated to rural constituencies "in order to reduce the distance between poling stations." Mr. Mugabe is believed to have a greater following in rural areas. Under these circumstances it would be difficult to proclaim the election "free and fair." It will reflect poorly if the South African observer delegation does in fact report the election proceedings as "free and fair". This highly intelligent and academically well-educated leader (he has 5 degrees from recognized academic institutions) has succeeded in bringing one of the success stories of Africa to its knees over his 22 years of rule. With the 7 member of the Judiciary resigning, rule of law ceases to exist, and laws are simply changed by presidential decree. Freedom of the press is severely curtailed, and the situation in Zimbabwe is only received as a result of the incredible courage of local and international press correspondents. Much of the population of Zimbabwe is starving and reliant on international food aid.

By contrast, the political situation in South Africa has remained stable, as it is likely to do for the foreseeable future. However, Prime Minister Mbeki's popularity continues to decline, and the possibility of a split in the three member ruling ANC/SACP/Cosatu Alliance, increases. The main areas of criticism are the following.

- The Government's continued inertia in handling AIDS, which is now claiming between 800 and 1000 lives daily. If a war was claiming these casualties, then few South Africans would have a problem with the Government's controversial $3 billion arms deal. AIDS related deaths are expected to account for between 5 and 7 million people (over 10% of the population) during the next 10 years.

Nelson Mandela, Former President of the ANC, has openly expressed his concern at the ANC government's lack of leadership in this regard. The Departments of Health in three provinces have now defied the government's stance on AIDS and are now providing Nevirapine to HIV-positive mothers at all public hospitals.

- The Government's extravagant arms deal mentioned above, involving brand new fighter aircraft, corvettes and submarines all with state-of-the-art technology, purchased at an initial cost of $3.2 billion. This cost has already escalated to over $7 billion, in just over a year due to the declining value of the local currency. The deal has also been accompanied by apparent major fraud, which is under investigation by a pro-government panel. *The* Trade and Industry Minister claims that the SA economy stands to reap more than $6 billion from industrial participation projects linked to this questionable arms deal.
- The Government's approach of "quiet diplomacy" to the human right abuses in the run up to the Zimbabwe election is also eroding confidence in the government's credibility.
- The declining value of the Rand (R, local currency) is also cause for concern. In September 2001 the R/$ exchange rate was 8.2. Four months later it had fallen to 13.3. Many believe that the three items mentioned above (AIDS, arms procurement, and Zimbabwe) have a significant bearing on the lack of confidence and resulting fall of the Rand. The Rand has stabilized at around 11-11.5 to the US$ over the last two months.

Economic Situation. The Rand fell to an all time low of R13.3 to the US$ in December 2001 - a decline of 46% since the last quarterly report. This slide is expected to resume after the Zimbabwe election, unless there is a miraculous improvement in that country's prospects. The inflation rate is expected to average 6.9% in 2002, down from 8.1% a year ago.
South Africa export earnings have grown by on average 16% since 1996, hitting an all time high of R209 billion last year. The following recent trade agreements are expected to further boost South Africa's exports.

- The African Growth and Opportunity Act (ALGOA) signed by former US President Bill Clinton.
- The Trade Development and Cooperation Agreement signed with the EU will lead to a free trade area by 2012. This is the most comprehensive agreement concluded by the EU to date and includes all agricultural and industrial sectors.
- The framework agreement with Mercusor – a trading block comprised of Argentina, Brazil, Paraguay and Uruguay – paving the way for a free trade area involving South Africa and the South American countries.

Overall, South Africa represents a favorable climate for overseas investment. The Department of Trade and industry have a range of incentives to encourage local investment. Details in this regard are available on the Department of Trade and industry website. http://www.dti.gov.za/ - "Trade & Investment South Africa."

The South Africa banking sector has consistently been ranked in the top 10 internationally. Ratings since the demise of Saambou, SA's 6 largest bank, will probably jeopardize this rating. Mortgage rates are the lowest since 1988. Under valuation of the Rand favors exports from South Africa to overseas countries, and conversely, imports into South Africa are expensive. Wafer manufacturing represents a typical example where overseas investment in production could be profitable, depending on the prevailing demand for semiconductor grade silicon.

Section 2. Policy Environment

Non-grid Electrification. The Department of Minerals and Energy's (DME) non-grid electrification program has translated into action on the ground, and genuine progress is being made. The current situation is as follows.

Concessionaires. The Solar Vision Group operating in the Northern Province has signed an agreement with the National Electricity Regulator (NER) and is installing solar home systems (SHS). The RAPS/NUON Group, operating the Northern KwaZulu/Natal concession, are in the process of final negotiations with the NER and have installed about 80 SHS in a pilot program to evaluate their technology and the energy stores approach with local rural Zulu communities.

The Shell/Eskom Joint Venture in Southern KwaZulu/Natal and Northern part of the Eastern Cape, has not resumed installations for over a year, pending finalization of negotiations with the party that assumed overall responsibility for the DME's non-grid program (NER, Eskom or the DME).

Durban Alternative Energies Company (DAEC), the only non-Eskom Concedante, is currently interviewing organizations to conduct a survey in the Durban Unicity area. The survey aims to look at the plan too establish a number of prospective SHS that would be available for non-grid electrification in the Durban Unicity area and look at the importance of ownership. The DME utility approach precludes ownership by the user. The survey will be conducted in five areas where grid electrification is sparse, but the population adequate to support a SHS program.

Agreements.

- A MOU previously signed between the concessionaires (now referred to as "non-grid service providers") and Eskom (the National electricity utility) has fallen through.
- The agency agreement between the DME and Eskom, which was approved by the DME but not by Eskom, has been abandoned.
- Agreement has been reached between the DME and the NER to take overall responsibility and pay for the program.
- The DAEC will be approaching the NER to finalize its position as Concedante for the Durban Unicity Area as soon as the survey confirms the viability of the SHS program in the Unicity area. (i.e., are there sufficient prospective customers to justify a SHS program?)
- Business plans from at least one of the 4 concessionaires or program implementers have now been approved by the NER. This has taken almost a year to accomplish.
- Eskom's role is now that of auditor, to make random checks in order to confirm that implementers' SHS installation claims are factual. Payments from the NER to the implementers will also be routed through Eskom for the present.

The following contract arrangements have now been finalized by the DME/NER.

- The subsidy amount has been increased from R3500 ($318) to R3800 (about US$345). Due to the continued decline in the Rand, this figure will need to be revised from time to time.
- A connection fee has been increased from R120 ($11) to R150 ($14). This fee is required from the customer before installation of the SHS.
- The monthly "lease" fee has been set at R58/month ($5.27) pending resolution of the poverty alleviation subsidy of R40 ($3.64). Once this subsidy is approved, SHS lessees will pay R18/month ($1.64/month). Collection of this R18 could easily cost more than the amount collected. This poverty alleviation subsidy is to be implemented by the middle of this year but is expected to be applicable for 2 to 3 years. The poverty alleviation subsidy for grid-connected dwellings is a free supply of the first 50kWh/month.

- The DME non-grid electrification program does not envision ownership of the SHS passing to the homeowner. This is believed to be a major flaw in this program, and is expected to add substantially to the number and resulting cost of maintaining SHS. Maintenance is the responsibility of the program implementers in the present DME program

Section 3. RE Financing

Midrand Solar Water Heating (SWH) project is funded by the GEF, but progress in this project seems to be stalled due to the absence of the required (approximately 4.1 ratio) partner financing. GEF insists on a commotment oflocal funding prior to commencement of the project.

Durban Solar Water Heating Project. USAID funding has been received via Winrock International and NREL to implement a pilot SWH program in Durban. Further details on this SWH project are reported in Section 5.

Solar Development Group (SDG). Durban Alternative Energy Company (DAEC) and SDG have agreed to fund a survey in the Durban Unicity to establish the number of prospective SHS clients, affordability and several other aspects relevant to this project. Requests for quotations were advertised in the main newspapers and interested parties are currently being interviewed. The survey is due to commence by the end of March, and should be completed by the end May.

Lighting for Studies. Discussions have been held with Solar Beam regarding possible funding by SDG of a solar lighting project involving a special long life rechargeable battery. The intention is to assist scholars by providing appropriate lighting, in place of candles, for night time study. Light would be provided by means of solar lanterns, which the scholars would take to school on a daily basis for recharging. A business plan to motivate this project is currently being prepared.

Community Banking. The availability of loan financing to rural community members is viewed as a cornerstone to development of rural communities. The Maphephethe community has expressed keen interest in setting up community banking facilities, and has met with all three organizations. The Land Bank appears to provide the most viable point of departure, as they are willing to provide small loans without guarantees. These loans start at R250 ($27) and can be increased to R18 000 ($2000) once client credit-worthiness has been established. Finasol will not proceed further with their program until such time as satisfactory wireless connectivity has been demonstrated. A German student is working with SES and investigating this aspect as part of his university practical training. The DAEC rural non-grid electrification program could provide the necessary financial activity to enable the community/bank to proceed to the next level of banking. The existence and smooth operation of Rural Community Banks would not only greatly facilitate, but is in fact essential for the cost effective collection of small loans for SHS and other loans incurred for income generating activities in rural communities.

Eco-tourism. *D*iscussions have been held with financing agencies to discuss funding for manufacturers who supply the Eco-tourism sector. This is the fastest growing "farming" activity in South Africa, and is already a major user of PV and other renewable energy equipment.

Section 4. RE Equipment/Services Procurement Notices

Theft of PV Modules from Factory. The entire stock of assembled PV modules was recently stolen from the Liselo Module assembly plant. The company's two delivery vehicles and a trailer were used in the robbery.

Durban SWH Project. Request for quotations will be issued shortly for approximately 100 SWH required for this pilot project.

Section 5. CDM Developments

Durban Solar Water Heating Projects. Two SWH projects are about to be implemented in the Durban Metro. The Sustainable Energy and Environmental Development (SEED) SWH project in Durban, referred to in the last Industry report, is aimed at new housing units, where the SWHs would be installed during the construction phase. The project plans to install about 10 SWH in three-story rental housing blocks, which will be built during this financial year. The installation costs of the SWH will be met by the housing developer, while his costs will be recouped as part of the monthly rental payments by the tenants.

The second SWH project is funded by USAID via Winrock International and the National Renewable Energy Laboratory (NREL). The project has four components.

- A policy and financing coordination study,
- A consumer awareness campaign,
- A demonstration, training and system delivery component,
- A consumer preference survey,

Discussions will be held with all stakeholders including Durban Metro housing, Habitat for Humanity, Manufacturers, NGOs and other interested parties. The objectives of this project are.

- ♦ To establish what cost/benefit trade-off would be acceptable for low-income communities in respect of water heating.
- ♦ To establish whether SWHs meet their requirements and if not what changes are required
- ♦ To investigate what revolving credit or other form of funding can be made available in order to buy down the high initial capital cost of SWHs.
- ♦ To quantify the greenhouse gas (GHG) emission reductions that can be achieved through the increased use of SWHs
- ♦ To quantify the income generating and job opportunities that can be achieved through the increased use of SWHs
- ♦ To quantify the domestic cost savings that can be achieved through the increased use of SWHs
- ♦ To help kick start the SWH industry in SA which has been languishing since production peaked in 1982.

World Summit for Sustainable Development (WSSD)

The WSSD is expected to be the largest UN convention in the world to date. The Summit will be held in Johannesburg August 26 -September 4, 2002. Anticipated attendance for the conference is 110 to 193 heads of state, 6000 UN delegates, and 60,000 delegates. While the conference is expected to cost in the region of $50 million, it is expected to generate about $120 million in foreign exchange, and should generate around 14,000 jobs. It is anticipated that 39% of international delegates will take either a pre- or post- conference tour, and that these tourists will spend about $6 million.

The Summit received the nod of approval from President Thabo Mbeki who announced that 2002 was to be the year of Sustainable Development. Further information on the Summit is available at www.environment.gov.za and www.joburgsummit2002.com

Section 6. Project Leads, Partnering Opportunities and General News

The German KfW concession in the Eastern Cape has not been awarded, so this constitutes an opportunity for both module manufacturer and balance of system (BOS) suppliers to pursue. Either the DME or the RAPS group could be contacted in this regard. DME contact address is Dr. I. Kozte. iakotze@mepta.pwv.gov.za and Mr. Jurie Willemse of RAPS contact number +27-12-998 8280, e-mail jurie@raps.co.za.

Some SWHs contracts are likely to be issued in line with Durban Metro Housing SWH programs. Contact addresses for these projects are. Durban Metro Housing (willcawood@solarengineering.co.za)

A window of opportunity exists in the rapidly growing Eco-tourism industry. These opportunities range from the design, supply and installation of renewable energy equipment, and even the purchase of game farms and tourist destination while the price is still relatively low and the Rand is greatly undervalued. South Africa represents one of the greatest opportunities for developments in the Eco-tourism industry. However, the SA government's statements on AIDS and the political situation in Zimbabwe could jeopardize both foreign aid and tourism.

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