



ENERGY UPDATE

ISSUE 6

DEC 2004

Powering Economic and Social Development through Expanded Access to Modern Energy Services

Call for Submissions to Energy and Development Update

The purpose of this newsletter is to serve as a vehicle to share information across the Agency on the importance of energy to development. Please share your experiences with the broader energy and development community within the Agency by sending us articles or news items describing your programs. E-mail your contributions to Gordon Weynand at goweynand@usaid.gov. Responses to articles are also encouraged.

In this issue:

- Shedding Light on Sustainability 1
- Ecological Equilibrium on the Mesoamerican Reef 2
- Luz Para Todos: Electricity for All by Year 2008 3
- USAID Awards Grant to Solar Light for Africa, Ltd. 5
- Methane to Markets International Partnership 6
- Caribbean Utility Regulators Annual Meeting 7
- Supporting Private Sector Development in Energy in Namibia 8
- Global Regulatory Network in the News 8
- Recent Events 10
- The Energy Team 12

Shedding Light on Sustainability

Solar Home Lighting Systems for Rural Communities in Mexico



Residents of Arroyo del Caña gather to learn about their newly installed photovoltaic home lighting systems.

Two rural communities in the Mexican state of Veracruz, El Suspiro and Arroyo del Caña, are so small, isolated and dispersed that the probability of receiving public grid-tied electricity service anytime soon is limited. Without electricity, children complete their schoolwork under the flickering light of smoky kerosene lamps or candles. In the absence of light, moving about at night is awkward, sometimes even dangerous. Commonly used cell and automotive batteries are relatively expensive, discharge quickly and create hazardous waste when carelessly discarded. As a group, the communities are loosely defined and lack a strong organized governing structure. What brings them together is commonality with either the local elementary school or church.

The USAID-sponsored Mexico Renewable Energy Program developed an innovative response to these

challenges, one that focused on local governance of distributed energy systems. Guiding the people through the themes of community involvement, ownership and governance processes, a USAID team has helped the communities to understand how quality system design and hardware, good governance structures and comprehensive training work together to result in a long-lasting energy system. The team shared the lessons learned from past experiences: each of these components is necessary for any energy system to function well and to be sustained over time. In the words of El Suspiro community leader Rubén Vázquez Osorio, "We are willing to do whatever we need to do, just teach us how."

Organizing functional committees, the team worked with the communities to define their needs and identify their best energy options. Both communities elected to install distributed photovoltaic (PV) home lighting systems, as opposed to a centralized system for a community center. The committees instituted a maintenance fund and established monthly meetings. They defined the roles and responsibilities of the committee, the user and the community. Strengthening a previously weak relationship with the municipality, the committees were able to negotiate cost share arrangements that allowed users to share the cost of extra and enhanced PV systems among the funds they, the municipality and USAID contributed. The hardware for the PV system was provided through a USAID donation (plus municipality and end-user contributions), and the community collects fees to cover operation and maintenance costs and has a fund for battery replacement in several years.

The PV systems have been installed with the active participation of everyone in each community. The users have been trained in the specifics of load management while specialized community technicians, responsible for system maintenance and interfacing with the vendor, have received detailed technical training. Associated administrative and record keeping processes have been developed and are in place. The USAID team will soon follow up to ensure all is functioning as designed.

The lives of almost 200 residents in Veracruz have changed by the implementation of governance processes and the arrival of basic lighting to the homes. They are applying the principles they have learned to their community water system (recently installed and using PV pumping technologies) and potential micro enterprise activities. They are working together as a group, and more closely with the municipality on other community issues: sanitation, health, water, etc. They have become less marginalized and are now able to extend productive time past the setting sun.

For additional information on the Energy Team's rural energy activities in Mexico, please contact Patricia Flanagan, EGAT/EIT/Energy Team (pflanagan@usaid.gov) or Jorge Landa, USAID/Mexico (jlanda@usaid.gov).

Ecological Equilibrium on the Mesoamerican Reef

Biosphere Station Demonstrates, Teaches and Practices Clean, Balanced and Sustainable Techniques for Energy, Water and Sanitation Needs

Banco Chinchorro Biosphere Reserve is located approximately thirty-five kilometers from the southern Quintana Roo coastline of Mexico. It has the largest and best representation of coral reefs amongst all protected marine areas in Mexico. There are 95 different species of coral and over 200 different species of fish. Marine life includes endangered sea turtles, giant barrel and elephant ear sponges, elk horn and brain coral, conch, and spiny lobster. The Reserve is one of the Mexican components of the Mesoamerican Barrier Reef System off the Costa Maya shared with Belize, Guatemala and Honduras.

The environmental balance of Banco Chinchorro is threatened by tourism, over fishing, contamination and



Teamwork by Field Station stakeholders is demonstrated as solar collectors are lifted to the roof for installation.

the existence of non-native species. In order to effectively manage the relationship between conservation and use, the Mexican National Commission of Natural Protected Areas (CONANP) had decided to construct a Field Station on the Reserve at Cayo Centro. The roles of the Station are to manage and protect the natural resources of the area, support scientific research, and stimulate the propagation of knowledge.

The isolated and geological location of the Field Station presented concerns: lack of energy and fresh water, and how to address wastewater disposal. The only connection to infrastructure and amenities is a minimum four-hour once-per-week boat service to/from the coastal port of Mahahual. One idea was to install a combustible fuel generator and then transport diesel and fresh water each week. Untreated wastewater would either be dumped directly into the ground or stored in a septic tank until carried back to the shore by boat. It was quickly realized that in this scenario the presence of the Station would negatively impact the very environment that it was trying to protect, let alone the logistical costs of transportation, operation and maintenance.

Fortunately, other ideas were on the table from a synergistic team committed to the environment consisting of CONANP, World Wildlife Fund, Quintana Roo Society for Renewable Energy, USAID, and local fishermen. They proposed to implement a sustainable and replicable model, integrating both technology and techniques, which would affordably allow the Cayo Centro Field Station to best blend in with the environment. Clean renewable energy systems were installed along with energy efficient appliances; a rainwater collection, storage and filter system was put in place together with water conservation devices; and a wastewater treatment system was employed to neutralize water before entering the environment. Above and beyond the installation of such technologies, the staff and visitors of the facility faithfully practice conservation and recycling techniques everyday.

USAID's main contribution, through the sponsored Mexico Renewable Energy Program, was the hardware and technical expertise for implementing renewable energy systems and energy/water efficiency devices.

The Cayo Centro Field Station at the Banco Chinchorro Biosphere Reserve is now open to not only manage the resources of the Reserve, but also to show others how a facility can be operated in a balanced manner with nature. It is a model for all research, guard, education and visitor centers of the Mesoamerican Barrier Reef System to consider as well as local fisherman, coastal homeowners, mainland park personnel, and eco-tourism entrepreneurs. Plans are already underway to replicate the model for 15 fishermen cabins and a small eco-touristic lodge on the Reserve.

For additional information on the Energy Team's rural energy activities in Mexico, please contact Patricia Flanagan, EGAT/EIT/Energy Team (pflanagan@usaid.gov), or Jorge Landa, USAID/Mexico (jlanda@usaid.gov).

Luz Para Todos: Electricity for All by Year 2008

USAID/Brazil and EGAT/EIT/Energy Team Support Implementation of Luz Para Todos (LPT), Brazil's Ambitious Program to Provide Electric Service to All its Citizens by 2008

In November 2003, the Government of Brazil launched the Luz Para Todos (LPT) - Light for All, a program which goal is to provide universal energy services to the 12 million Brazilian without access to electricity by 2008.

In May 2004, a grant from EGAT/EIT/Energy Team's educational travel fund enabled six Brazilians to travel to the United States for a two-week rural energy training program hosted by the National Renewable Energy Laboratory (NREL) in Golden, Colorado. The program was designed to help determine effective strategies to support implementation of the LPT program and to develop an action plan to refurbish the Campinas solar-diesel system, a pilot hybrid facility that is now a centerpiece for the Brazilian Government's efforts to serve isolated communities with distributed generation.

Representatives from Brazil's federal Ministry of Mines & Energy (MME), Ministry of Environment (MMA), Electronorte (ELN), and three local partners from the Federal University of Amazonas participated in the training, which was conducted along two tracks: (1) Rural Energy Planning & Program Design, and (2) Rural Energy Options Analysis. These tracks included significant overlap between the two groups to allow for information sharing and enhance the participants' understanding and appreciation of the various roles and responsibilities in the rural energy development process.

The *Rural Energy Planning & Program Design* track focused on *Luz Para Todos* program development, activities under the Global Village Energy Partnership (GVEP), and identification of specific areas where outside technical assistance could support Brazil's rural development goals. After preparing a central timeline for implementation of LPT off-grid activities, this group quickly identified that its key challenge would be preparing electric concessionaires to develop implementation plans with effective strategies to serve isolated communities that will not be connected to the national grid.

With this goal in mind, the group identified specific training and capacity building needs, data collection needed, and funding requirements that will be necessary to develop the human and technical infrastructure to make LPT's off-grid efforts sustainable.

The outcomes of the training program will inform the MME's strategy for off-grid LPT implementation in the Amazon region that is currently under development. Through Electronorte, MME plans to contract 2-4 technicians to serve as LPT implementers within each federal utility. These technicians will need basic training in renewable energy technologies, distributed generation, data collection, and options analysis to carry out their jobs. EGAT, through NREL, will provide targeted training to help prepare these technicians to collect appropriate and sufficient data about local resources and rural energy needs in their service territories in order to perform meaningful options analysis. A second training session will focus on hands-on training in NREL's options analysis tools and methodologies, with an emphasis on the laboratory's HOMER model, which is expected to be particularly useful in helping Brazil determine off-grid options based on local resources and energy needs.

Participants in the *Rural Energy Options Analysis* track received training in the use of NREL's options analysis computer models, with an emphasis on the HOMER and Hybrid2 models and an introduction to ViPORA, a distribution design tool. The participants used Hybrid 2, a detailed engineering model, to conduct preliminary analysis of refurbishment options for the Vila Campinas hybrid system, and developed an action plan detailing the steps for full system refurbishment. MME has recently taken a strong interest in the Vila Campinas hybrid system, with plans to have it fully refurbished by early 2005 so that it can use it to showcase solar-diesel hybrid technology as an effective option for serving isolated communities under *Luz Para Todos*.

Beyond these training activities, the Energy Team is supporting NREL to provide technical assistance to evaluate the replication prospects for the Campinas hybrid system and more generally to determine the most effective ways to provide off-grid electric services in the State of Amazonas.

The Energy Team's work in Brazil is leveraged with efforts by the U.S. Department of Energy to refurbish the Vila Campinas hybrid system, and implemented in partnership with USAID/Brazil. This collaborative approach helps maximize programmatic benefits to both agencies while leveraging the technical and institutional strengths of each organization to the benefit of Brazil.

For additional information on rural energy activities in Brazil, please contact Patricia Flanagan, EGAT/EIT/Energy Team (pflanagan@usaid.gov), and Alexandre Mancuso, USAID/Brazil (amancuso@usaid.gov).

USAID Awards Grant to Solar Light for Africa, Ltd.

EGAT/EIT/Energy Team Supports Solar Electrification in East African Villages

Recognizing the important work that Solar Light for Africa (SLA) is doing in East Africa, USAID awarded, in 2004, a \$300,000 grant to the Leesburg, Virginia-based nonprofit organization. SLA collaborates with American and African church leadership, nongovernmental organizations, and governments to provide power and light to public facilities—health clinics, hospitals, schools, orphanages, churches, and community centers in rural regions of Africa.

The grant to SLA, provided by the EGAT/EIT/Energy Team, is specifically for:

- The solar electrification of the Kakuuto Hospital located in the Rakai District of Uganda where the AIDS epidemic was first identified. This installation enabled the medical staff to preserve vaccines and other medicines, as well as operate small medical equipment.
- The construction a solar powered pumping system with two large storage tanks and 3.2 kilometers of piping supplies the hospital with pure water.
- The launching of a program in Tanzania with the initial installation of 100 solar electric systems in rural health clinics, schools, and other public facilities.

A formal commissioning ceremony was held at the Kakuuto Hospital on July 27th. United States Ambassador Jimmy Kolker, spoke and stated that the U.S. Government, through the USAID, was pleased to be able to provide support for Solar Light for Africa as it seeks to bring solar electricity and pure water to rural hospitals, health clinics, schools and orphanages in rural Uganda. Ambassador Kolker quoted from a study documenting the fact that the most effective technical intervention in providing measurable improvement in quality of life for rural people is the provision of electric power. Also present at the ceremony was Ugandan First Lady Janet Museveni, a patron of Solar Light for Africa. She and President Yoweri Museveni have long been enthusiastic friends of the work of SLA in Uganda.

After completing the hospital project, SLA provided an American medical team to instruct the local doctors and nurses on how to operate the new medical equipment powered by solar. They also worked with the local staff in the treating of patients while there.

SLA's founder, Bishop Alden Hathaway, stressed that solar electrification in health clinics and hospitals has a key role to play in combating diseases, including HIV/AIDS. The ability to preserve vaccines and other medicines in refrigerators, as well as to operate medical equipment powered by solar, is of great benefit. The provision of good lighting at night enables the medical staff to better treat patients.

Another patron of SLA is First Lady Anna Mkapa of Tanzania who was present at the formal launch ceremony in the Bukoba District of Tanzania on August 1st. SLA plans to expand their work in Tanzania over the next several years as it has done in Uganda and other East African countries.

In all its work, SLA focuses on high-impact, community-based projects that will have long-term benefits for the local people. The leadership of various faith-based groups in each country selects the recipient facilities based on the greatest need. SLA also partners with an entrepreneurial business, Solar Energy Uganda (SEU), which installs the solar systems year-round, thereby providing employment to the local population. SEU monitors and maintains all systems to ensure their sustainability.

To date, SLA has provided power and light to 1,500 facilities in rural regions of East Africa, including two large regional hospitals. It has decreased environmental and human degradation by providing a clean energy source, eliminating the polluting toxic fumes of kerosene lanterns. It has aided in economic development by providing light at night for students to study and other activities, including micro-enterprise projects for increased productivity. In some instances, SLA has partnered with Discovery Channel to provide enough power for

satellite link-up to facilitate young people's access to the 21st century with educational programs and Internet connection.

SLA also organizes annual cross-cultural mission trips, bringing together senior-high and college-aged young people from the U.S. and East Africa for a two-three week hands-on experience of installing solar systems in rural public facilities. An American medical team also accompanies the group in order to work with local medical staffs at the health clinics and hospitals where solar power is provided.

Juan Belt, Director of EGAT's Office of Energy and Information Technology stated, "Access to clean, reliable and affordable energy is an essential component to social and economic development. In the health sector, electricity is essential for lighting hospital operating rooms, refrigerating vaccines, and running diagnostic equipment. In the education sector, electrification can extend the hours of study that students can devote to studying as well as the hours that a school can stay open. We are very pleased to have been able to support Solar Light for Africa as it provides clean electricity and water for hospitals, schools, clinics and orphanages in Africa, while building capacity in Africa and affording American young people the opportunity for service overseas."

USAID's funding is being channeled through the Global Environment and Technology Foundation (GETF), a partner organization of SLA's located in Alexandria, Virginia. GETF is a not-for-profit organization with a mission to help build the infrastructure for sustainable development. Hank Habicht, CEO of GETF, expressed his pleasure at partnering with SLA, believing that development of the economies of East Africa will not happen without access to clean energy and water resources. SLA's projects are important models of institutional cooperation to deliver these critical services to Africa's most needy communities.

For additional information please contact Kevin Warr, EGAT/EIT/Energy Team (kwarr@usaid.gov).

Methane to Markets International Partnership

USAID Administrator Andrew Natsios Speaks at first "Methane to Markets" Ministerial Meeting

The Methane to Markets Partnership is an action-oriented initiative that will reduce global methane emissions to enhance economic growth, promote energy security, improve the environment, and reduce greenhouse gases. Other benefits include improving mine safety, reducing waste, and improving local air quality. The initiative focuses on cost-effective, near-term methane recovery and use as a clean energy source. It will be done internationally through collaboration between developed countries, developing countries, and countries with economies in transition — together with strong participation from the private sector. The Methane to Markets Partnership initially targets three major methane sources: landfills, underground coal mines, and natural gas and oil systems. USAID plays a central role in the Methane to Markets partnership, by providing important technical expertise in the economic reform of energy sectors to create markets that support private sector projects in developing countries and those with economies in transition.

The 1st "Methane to Markets" Ministerial meeting was held in Washington DC November 15th-17th. USAID participants included Administrator Natsios, EGAT/EIT/Energy Team's Gordon Weynand, and E&E Bureau's Robert Ichord. Developing countries participating were Brazil, China, Columbia, India, Mexico, Nigeria, Russia, and Ukraine. Other members are Argentina, Italy, Japan, US, and the UK.

Administrator Natsios' speech addressed market development and economic issues, and included references to USAID oil and gas assistance in Africa, agriculture-related methane programs in Asia, energy regulatory work in Eastern Europe, coal methane work in the NIS, and landfill methane projects in Latin America. Other USG speakers included Jim Connaughton, Chairman, White House Council on Environmental Quality, EPA Administrator Michael Leavitt, DOE Secretary Spencer Abraham, and Paula Dobriansky, Undersecretary for Global Affairs, State Department Bureau for Oceans, Environment, and Science.

A task force was formed to look at methane issues related to agriculture. China and India agreed to co-chair the coal mining methane committee. Mexico and Russia agreed to co-chair the gas and oil committee. Argentina and Italy agreed to co-chair the landfill methane committee, with Columbia serving as vice-chair. The countries agreed to submit information needed to develop action plans on methane recovery.

Participating USG agencies are EPA (the lead agency), DOE, TDA, and USAID. President Bush has stated that the US will commit up to \$53 million over 5 years to support the partnership.

For more information, please contact Gordon Weynand, EGAT/EIT/Energy Team (goweynand@usaid.gov).

Caribbean Utility Regulators Annual Meeting

EGAT/EIT Director Juan Belt Gives Keynote Address at Organization of Caribbean Utility Regulators Annual Meeting

On November 3-5, 2004, Juan Belt, Director of the Office of Energy and Information Technology for EGAT, and a delegation from the National Association of Regulatory Utility Commissioners (NARUC), consisting of Chairman Bob Rowe (Montana PSC), Chairman Elia Germani (Rhode Island PUC), Chairman Brian Moline (Kansas Corporation Commission), Commissioner Constance White (Utah PSC), and Mr. Facundo Alberdi (Senior Program Officer, NARUC) attended the Second Organization of Caribbean Utility Regulators (CUR) Annual Conference on "Independent and Transparent Utility Regulation in the Caribbean" in Montego Bay, Jamaica.

Juan Belt was the featured speaker and he spoke about the objectives and requirements of an independent regulatory system, challenges faced in the telecommunications sector in the Caribbean, regional cooperation, and USAID support of future training programs. On this last item, Mr. Belt was clear to state before the audience that forthcoming activities would be dependant on "buy-in" funds provided by the regional mission and increased cost sharing by regional regulators.

Presentations at the conference provided insight into fundamental issues of independent and transparent regulation such as ethics (i.e. ownership interests versus past and post employment restrictions), legality (i.e. confidentiality and rules of conduct), accountability (i.e. checks and balances between government, utilities, and consumers), and benchmarking (i.e. best practice mechanisms). Presentations also dealt with the nuts-and-bolts of carrying out the functions of a regulator in an independent and transparent manner. Topics included performance-based ratemaking (i.e. framework for designing and evaluating) and security of supply (i.e. reliability standards and shared responsibilities) respectively, quality of service standards (i.e. legal framework and price regime), consumer protection (i.e. complaint management policy and consumer education), licensing (i.e. legal and political challenges), competition (i.e. pre and post market liberalization), and decision making (i.e. external factors against commission processes). On Friday, the last day of the conference, discussions turned to the appropriate framework and optimal institutional design of independent regulatory agencies and measuring their independence.

After the conference, the OOCUR members presented to USAID and NARUC their goal of establishing a Caribbean Regulatory Research Center (CRRRC) to be linked with the University of the West Indies (UWI). The project has been commissioned to Mr. Dennis Pantin, Chairman of the Regulated Industries Commission (RIC) of Trinidad & Tobago, and the estimated cost is US\$50,000. The steps for implementation, as outlined by Mr. Morgan, are to (1) conduct a needs assessment to determine priorities; (2) develop a curriculum; and (3) establish cost for sustainability. Mr. Belt offered to consider this project further when, and if, submitted to USAID.

NARUC, with funding from EIT, will continue to work with the regulators in the Caribbean through the Organization of Caribbean Utilities Regulators (OOCUR). The Public Utilities Commission (PUC) of Belize has expressed interest in hosting a Foundations Course in Utility Regulation in April or May 2005.

For additional information on the Global Regulatory Network Program, please contact Kevin Warr, EGAT/EIT/Energy Team (kwarr@usaid.gov)

Supporting Private Sector Development in Energy in Namibia

USAID Assesses Grid Code for NamPower, the National Electric Utility

In August 2004, USAID/EGAT/EIT and the Electricity Control Board (ECB) of Namibia undertook an initial assessment of a draft Grid Code for Namibia, prepared by NamPower, the national electric utility. The basis for this document, for the most part, is ESKOM's (South Africa) Grid Code. A Grid Code typically establishes the technical requirements for connection to and use of an electrical system, ensuring reliable, efficient, and safe operations. Namibia's draft Grid Code is comprehensive, containing most of the necessary elements. The document in some areas, however, is vague and contains inconsistencies such as market structure and approach to transmission pricing.

ECB believed it would benefit from more detailed discussions to more fully understand the implications and to discuss optional approaches. ECB's concerns were centered on three issues:

- ECB is the advocate for all stakeholders within the Namibian electricity sector;
- Only one other country/electric utility in the Southern African Development Community has a grid code, limiting capacity in the region on this subject; and
- ECB believes it can balance unilateral perspectives by leveraging the initial review.

USAID/EGAT/EIT, recognizing the importance of this effort agreed to continue their collaboration in assessing a draft Grid Code prepared by NamPower.

The timing of this collaboration is particularly important since the Government of Namibia has decided to develop an offshore gas field with the product serving as a source of energy for an 800 MW power station (an additional 800 MW is also envisioned). It is NamPower's belief that having a Grid Code in place will increase investors' confidence in the structure of Namibia's electricity sector. Should development of this gas field take place, it would represent the single largest investment in Namibia. The power station alone is estimated to be about \$600 million. NamPower is targeting the power station to be operational by 2009.

ECB and Nexant worked side-by-side during this visit, engaged in discussions about concepts, content, and approaches for a Grid Code. A joint meeting with ECB, NamPower, and Nexant also helped to identify concerns and provide approaches and solutions to these concerns. The assessment will provide a better product with the next revision, as ECB's understanding of the issues has increased significantly.

For additional information, please contact Kevin Warr, EGAT/EIT/Energy Team (kwarr@usaid.gov)

Global Regulatory Network in the News

EGAT/EIT Program Featured in "Africa Electra" Newsletter

The Energy Team has developed the Global Regulatory Network (GRN) Program under a Cooperative Agreement with the National Association of Regulatory Utility Commissioners (NARUC). The purpose of the GRN Program is to create a forum whereby regulators from the developing world can discuss mutual challenges and share best practices with their counterparts in the region, the U.S., other parts of the world, and other donors. The GRN Program focuses on regulators in Africa, Asia, the Caribbean, and Latin America. The Cooperative Agreement is structured to give USAID missions and bureaus a contract mechanism to engage in

a variety of programs to support utility regulators and associations of regulators through bi-lateral, regional, and international activities. The GRN Program and its success in Africa was recently featured in "Africa Electra," a fortnightly newsletter on the African power sector (see article below).

AFRICA: The Rise and Rise of the Electricity Regulator

"It has not happened overnight - and some countries are still only just finding their feet - but the concept of the regulator in Africa is here to stay. Throughout the course of the year, Africa's swelling ranks of regulators - perhaps the unsung heroes of the energy business - have gathered together at various events to sharpen their skills in a bid to assert their position in the continent's ever changing electricity sector. Most recently, the Rwanda Utilities Regulatory Agency (RURA) hosted an event in Kigali in collaboration with the National Association of Regulatory Utility Commissioners (NARUC) of the US.

Visiting American officials joined with their Rwandan counterparts to discuss broad fundamentals such as authority, autonomy, accountability, structure and functions. NARUC has emerged as something of a leading light in the development of Africa's regulatory infrastructure in recent years. As well as a partnership agreement with RURA it is a key player behind the Global Regulatory Network (GRN) initiative. The GRN, which strengthens regional regulatory associations and promotes understanding of complex practices by public utility regulators in Africa and elsewhere, is one of the driving forces in the new renaissance. It is financed through a co-operative agreement by the US Agency for International Development (USAID). In July, regulators from across Africa met in Mali at the second annual GRN conference. The Bamako summit - opened by energy minister Ahmed Diane Semega - was co-hosted by the local Commission de Regulation de l'Electricite et de l'Eau, the Regional Electricity Regulators Association of Southern Africa (RERA) and the African Forum for Utility Regulators (AFUR). After that came a power purchase agreement and contracts workshop and regional co-ordination meeting for West Africa. In August, NARUC and the World Bank organised a foundation course in South Africa to promote regulatory understanding. The meeting covered market reforms in Africa and looked at case studies in market design, rate of return and working with hybrid tariff systems.

The number of regulators in Africa is steadily rising. Last month, the West Africa Power Pool established a regional regulation office to be financed by French development funds. In August, the Lesotho Electricity Authority (LEA) commenced operations. It will oversee the break-up of the Lesotho Electricity Corporation and the ongoing industry privatization process. South African lawyer Kevin Morgan - a former Eskom and National Electricity Regulator man - was appointed to head the LEA during its first formative years. Elsewhere, a new regulator is expected to start work in Algeria in the near future, while Nigeria has already launched its Nigerian Electricity Regulatory Commission. It is all welcome news for business, of course. In the past, the lack of an independent regulator with sufficient clout to oversee the electricity industry was cited by critics as one of the chief factors in frightening off investors. The lack of an appropriate regulatory framework is still an obstacle - indeed, many regulators are perhaps mere toothless tigers - yet there is growing evidence to suggest that Africa is taking a more proactive stance not only in the creation of a regulator, but also in equipping it properly to do its job. Crucially, it is an all-important step in the long road to attracting the foreign investment that Africa's energy sector needs. Only through the creation of a competitive and sustainable industry - one that supports the regulatory function - can countries hope to attract the capital needed for development. It is a sign of a market maturing."

*Copyright: Africa Electra, Fortnightly News and Analysis on The African Power Sector
Issue 13 – 26 November 2004*

For more information on the Global Regulatory Network program, please contact Kevin Warr, EGAT/EIT/Energy Team (kwarr@usaid.gov).

Recent Events

Development Credit Guarantee Approved for Central American Renewable Energy and Cleaner Production Facility

On November 4, 2004, the Credit Review Board unanimously approved a development credit guarantee for clean energy in Central America, sponsored by the EGAT/EIT/Energy Team. The \$15-20 million Central American Renewable Energy and Cleaner Production (CAREC) Facility would offer middle or “mezzanine” financing instruments to support renewable energy, energy efficiency and cleaner production projects in seven countries in the region - Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama. The proposed portable guarantee would cover up to 50 percent of the losses experienced by private entities that lend into CAREC. (CAREC is also being supported by the IDB’s Multilateral Investment Facility (MIF) and the Central American Bank for Economic Integration.) The DCA will be managed by E+Co, a U.S. specialized financial services company and fund manager with a strong track record in clean energy project finance.

The Energy Team believes that this project offers an excellent opportunity to test these new types of ‘mezzanine financing’ instruments for small- to medium-scale infrastructure projects which may be applicable in other regions and sectors. Such financing is designed to provide critical ‘bridging’ financing to better allow project developers and small business owners to gain access to traditional bank loans. It does not seek to replace or compete with bank lending. Experience in the region has determined that a critical barrier to deals has not been the lack of bank capital to provide the loans, but the project equity and collateral requirements to access affordable, term lending. The proposed CAREC facility would be a low-cost and low-risk opportunity to test this approach and, hopefully, learn how to enhance its design in the future. The ‘test’ is simply that the types of mezzanine financing that CAREC offers will be sufficient to remove the barriers to financing clean energy projects. Success would be determined if (i) CAREC instruments successfully facilitate local bank lending (for senior debt), (ii) CAREC attracts project developers and becomes fully subscribed, and (iii) CAREC makes money (i.e., no/low defaults and properly priced products). For more information, please contact Jas Singh, EGAT/EIT/Energy Team (jsingh@usaid.gov).

Energy and Development Handbook for Journalists

The Energy Team’s Energy Sector Governance Program has developed “A Handbook on Energy and Development” that provides journalists with a neutral, comprehensive, yet readable review of key issues, policies and technologies associated with the development of the energy sector, particularly in transitional economies. The handbook covers energy sector fundamentals, global outlooks and overall economic development as it relates to energy, access to affordable energy, regulatory reform, policy and stakeholder issues, finance, environment, energy efficiency, energy and trade and the role of women in energy development. It also includes a glossary of terms, key units and conversions, a rich collection of resources that can be accessed through the Internet, and a “Quick Reference” guide of key concepts, terms and units. The Media Handbook is available in English, Spanish and Portuguese and the Quick Reference guide is available in English. Drafts of the kit were distributed at the “Energy and Development for Southern African Media” workshop for comment. The most common comment was “this is very useful, when can I get a copy”? For a copy of “A Handbook on Energy and Development,” please contact Ellen Dragotto, EGAT/EIT/Energy Team, edragotto@usaid.gov

Vehicle Inspection and Maintenance Programs: International Experience and Best Practices

Poor urban air quality in cities in the developing world takes a terrible toll in terms of human health and economic losses. Vehicle emissions are one of the largest and fastest growing sources of air pollution in these cities, and present particularly difficult challenges in terms of both conventional pollutants and greenhouse gases. A recent Energy Team report focuses on the most common policy tool for affecting emissions from in-use vehicles: inspection and maintenance (I/M) programs. The rationale and concept for an I/M program is simple: modern vehicles are dependent on properly functioning components to keep pollution levels low. Malfunctions in the air/fuel or spark management systems can cause emissions to skyrocket. Though simple in concept, the detailed design and implementation of I/M programs is far from simple, as the report illustrates in abundance. The report, entitled *Vehicle Inspection and Maintenance Programs – International Experience and Best Practices*, covers eight essential best practices for the effective design and implementation of I/M programs. These cover “institutional design” questions; test procedures and emission standards; enforcement and compliance promotion; and managing resources.

For a copy of “Vehicle Inspection and Maintenance Programs: International Experience and Best Practices,” please contact Simone Lawaetz, EGAT/EIT/Energy Team, slawaetz@usaid.gov

Global Development Alliance Award for Chevron-Texaco and Non-Profit Partners

At the recent USAID awards ceremony an energy company, Chevron-Texaco, and its non-profit implementing partners won the Global Development Alliance (GDA) award for their alliance in Angola. Administrator Natsios spoke about the success of the GDA model, which has leveraged \$500 million of USAID funding, with 2 billion worth of non-government contributions. “An excellent example of how USAID and a private partner can work together is the work we are carrying out with ChevronTexaco in Angola,” said Administrator Natsios. “At the end of 2004, this initiative will have helped nearly 900,000 Angolans.” Then Chevron-Texaco Overseas President George Kirkland spoke, and said that he hoped they would be able to repeat their GDA success in other countries.

USAID and Chevron-Texaco support agricultural development in the Planalto region of Angola - the region most affected by the country’s 27 years of civil war, which ended in 2002. Prior to the war, the Planalto was Angola’s breadbasket and a net food exporter. Agricultural projects under the initiative assisted over 660,000 people – either in direct food aid or training in agricultural practices – in the course of 2003.

“Investing in agriculture in Angola will have the largest impact on poverty reduction and provide the most dramatic potential for increasing family income,” said Fernando Paiva, Public and Government Affairs manager for Chevron-Texaco’s Angolan operating unit, Cabinda Gulf Oil Company. Additional efforts in 2003 focused on small- and medium-size business development. Funding was committed to support the opening of Angola’s first micro-credit bank, NovoBanco, which will provide banking services and loans to entrepreneurs and small- and medium-size businesses throughout Angola. Plans call for 10 nationwide branches within five years.

The EGAT/EIT/Energy Team is actively working with energy companies in implementing the new business model for the Agency and is interested in finding Missions interested in working with the Energy Team in both energy and non-energy development. Please contact Mark Schlagenhauf or Gordon Weynand, EGAT/EIT/Energy Team or visit http://www.usaid.gov/our_work/global_partnerships/gda/ for more information on the Global Development Alliance.

The Energy Team

The Energy Team within the EGAT Bureau's Office of Energy and Information Technology provides technical leadership and field support to USAID Missions and Regional Bureaus for increasing access to environmentally sound energy services. The Energy Team focuses on:

- Improving policy, legal, and regulatory frameworks to establish necessary market conditions for the private sector delivery of energy services and environmental management services;
- Increasing institutional (public, private, and NGO) ability to provide or deliver energy and environmental management services in the new and enhanced markets; and
- Increasing public understanding of, and participation in, decisions regarding delivery of energy and environmental management services.

Contact The Energy Team

Energy Team Leader -- Gordon Weynand at goweynand@usaid.gov

Energy Technical Assistance Indefinite Quantity Contract (IQC) II -- Todd Harding at tharding@usaid.gov

People, Energy and Development Indefinite Quantity Contract -- Ellen Dragotto at edragotto@usaid.gov

Energy Team Programs

Energy Sector Governance Program

- Work with governments to educate and assist them in understanding the commercial nature of energy, the range of options for governmental administration of the sector, and to help them develop appropriate levels of intervention, given their national circumstances, to promote private sector-led economic growth.
- Work with developing country enterprises to educate and assist them in changing from politically based operations to commercial operations based on market economics and democratic political institutions.
- Work with consumers, media, and the general public to increase their knowledge of and participation in the social, legal, financial, and commercial conditions required for provision of energy services.

For more information contact: Mark Murray at mmurray@usaid.gov; Kevin Warr at kwarr@usaid.gov; Davida Wood at dwood@usaid.gov; Walter Hall at whall@usaid.gov; Mark Schlagenhauf at mschlagenhauf@usaid.gov.

Rural Energy Services Program

- Address development challenges faced by populations living in rural areas through the improved provision of energy services.
- Focus on the energy dimension of rural services, such as health, water supply and purification, food production and processing, microenterprise, gender equity, education and information.
- Design energy interventions to expand economic and social opportunities within the socio-cultural context of the intended beneficiaries' environment and their community institutions, thereby ensuring their sustainability.

For more information contact: Patricia Flanagan at pflanagan@usaid.gov; Erik Streed at estreed@usaid.gov; Jeff Haeni at jhaeni@usaid.gov

Urban Energy Services Program

- Address a broad range of complex development challenges in urban and peri-urban areas through the improved provision of energy services.
- Focus on sustainable energy solutions for municipal services including electricity, cooking/heating, water, housing, transportation and waste management, including promoting and piloting new approaches and activities that encourage cost-effective efficiency improvements in the use of energy, water and natural resources.
- Encourage the adoption of integrated policy, technology and social approaches to reduce air pollution for both indoor and outdoor urban air quality.

For more information contact: Jas Singh at jsingh@usaid.gov; Pamela Baldinger pbaldinger@usaid.gov; Simone Lawaetz at slawaetz@usaid.gov

Energy Team

**Office of Energy and Information Technology
Bureau for Economic Growth, Agriculture, and Trade**

To learn more about USAID's energy program, visit

[http://www.usaid.gov/our work/economic growth and trade/energy/](http://www.usaid.gov/our_work/economic_growth_and_trade/energy/)