



ENERGY UPDATE

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

We extend our deepest condolences and offer continued support and sympathy for the victims of the tsunami disaster. Our thoughts and prayers go out to everyone who has been touched by the loss of life and suffering in Indonesia, Sri Lanka, Maldives, India, Malaysia, Thailand, Burma, Bangladesh, Seychelles, Tanzania, Kenya, and Somalia.

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 and news items describing your programs. Please use the case study template provided by the Agency (http://www.usaid.gov/branding/templates/Example_Case_Study.pdf) to develop your contributions to the newsletter. Responses to articles are also encouraged.

The March/April issue of Energy and Development Update will focus on how USAID meets the urban energy challenge, with emphasis on three primary areas: energy use, energy access and air quality. The Energy Team seeks articles on USAID initiatives and activities that address these issues. Articles may focus on approaches and activities that encourage cost-effective efficiency improvements in the production and use of energy, water and natural resources and the adoption of integrated policy, technology and social approaches to reduce air pollution, both for indoor and outdoor urban air quality. Please e-mail your inputs to Gordon Weynand (email: goweynand@usaid.gov) no later than April 1, 2005. Thank you.

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FEATURE ARTICLE

From Infrastructure to Application: USAID in Regional Energy Integration

Some countries are energy exporters; others are importers. Some have the capital to develop energy resources and facilities; others lack it. The effective integration of a subregion's energy markets, especially the electric and natural gas markets, could broaden the scale and improve the efficiency of the business of providing energy services. Such an environment would have the potential to lure investment, which, together with the expanded availability of energy, would offer development opportunities for the entire region. Enormous importance is attached to the energy sector because this sector can yield important economic benefits for countries, guarantee their self-sufficiency and produce surpluses for export outside the subregion.

Significant progress in regional integration is occurring all over the world. North Africa's oil, gas and electric grids are largely interconnected with onward links to Europe. The Southern African Power Pool links countries from South

Africa to the Congo DR and from Mozambique to Angola. East African countries have long shared hydroelectric capacity. Bilateral interconnections in west Africa are planned to come together into the West African Power Pool, supported by the West African Gas Pipeline. In Southeast Europe (SEE), the fragmentation of energy supply is being overcome through the physical reconnection of the network and collaborative treaties. SIEPAC (Electrical Interconnection System for Central American Project" aims to link the electricity grids of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama. In South Asia, private sector interest in cross-border trading is keen, and the possibility of creating a regional power grid is being explored through the South Asian Association for Regional Cooperation (SAARC).

Regional integration has not faltered for lack of resources or as a result of technological barriers, or even because of poor economic climate. Rather, the challenge of effective integration includes the need for long term energy planning, appropriate regulatory environments, human and institutional capacity, the establishment of collaborative forums and the harmonization of standards and labeling. USAID has played a key role in providing technical assistance and training to facilitate at each one of these stages, from infrastructure to application. This issue of the newsletter features the latest developments in regional integration initiatives in which USAID has been involved: the beginning of construction of the West African Pipeline Project in December 2004, the reconnection the Balkan Grid and agreement on a draft Energy Treaty in Southeast Europe in October and December 2004, and the incorporation of CLASP (Collaborative Labeling and Appliance Standards Program) as a stand-alone, nonprofit corporation in February 2005.

West Africa Gas Pipeline Project:

The West Africa Gas Pipeline began construction in December 2004. This is a flagship project in the push to accelerate economic integration in West Africa. The gas from Nigeria to the three neighboring countries of Benin, Togo, and Ghana, will be used initially for power generation, and later for other industrial and commercial uses. The West African Gas Pipeline project will provide cheap, efficient, and environmentally friendly fuel to the consuming countries, which will lower the cost of power in these countries and improve the competitiveness of goods and services. USAID missions in Ghana, Nigeria, the West Africa Regional Program (WARP), with support from the EGAT/EIT/Energy Team played a key role in contributing to the harmonization of regional, institutional, legal and regulatory frameworks in the participating countries.

The World Bank Board approved a total of US\$125 million in guarantees supporting the construction of the gas pipeline. The World Bank Group's contribution, although small compared to the total cost of the project: US\$590 million, is seen by private investors, as with the Chad-Cameroon Oil Pipeline, as the condition sine qua non for their participation in the project. WAPCo, led by Chevron Texaco, requested the Bank's involvement, indicating that it will not implement the project without appropriate mitigation of what they perceive as political risks linked to natural gas sales to state-owned power companies in Ghana, Benin and Togo.

The pipeline complements the proposed West African Power Pool (WAPP) project, which promotes increased electricity trade among the 15-member states of the Economic Community of West African States (ECOWAS) and is part of the action plan of New Partnership for Africa's Development (NEPAD).

It will help replace higher polluting fuels such as crude oil, heavy fuel oil and gas oil, with cleaner burning natural gas, and bring Nigeria closer to attaining the objective which its Government has fixed to eliminate gas flaring by the year 2008. Nigeria currently flares 75 percent of the gas it produces. WAGP is a relatively small part of the overall gas development in the Delta region of Nigeria (representing 5 percent to 10 percent of overall gas production).

For the past 10 years, Ghana has been struggling to meet demand for reliable and affordable electricity, which has been growing at about 8 percent per annum. The Volta River Authority (VRA), which produces nearly all of Ghana's electric power and supplies electricity to a number of neighboring West African countries, will account for about 90 percent of the initial gas transported from Nigeria, while electricity companies in Benin and Togo account for 5 percent each.

An increase in demand for natural gas is expected in all three countries. In Ghana alone, demand for electricity is expected to grow by 5 percent annually. Moreover, consumers in all three countries are expected to switch from liquid fuels to natural gas over time.

The project has three components, the first of which is the commissioning of the gas pipeline to the West African Gas Pipeline Company (WAPCo), a newly formed private entity expected to be owned (directly or indirectly) by Chevron Nigeria Limited (36.7%), NNPC (25%), Shell Petroleum Development Company of Nigeria Limited (18%), Volta River Authority of Ghana (16.3%), Societe Beninoise de Gaz S.A. (2%) and Societe Togolaise de Gaz S.A. (2%). WAPCo will build, own, operate, and transport natural gas from a terminal near Lagos (Nigeria) to the terminus at the western Ghanaian town of Takoradi.

The second component of the project will focus on the development of non-power gas markets in Benin, Ghana and Togo and the funding of other technical assistance needs while the third focuses on providing support to the newly-created West African Gas Pipeline (WAGP) Authority.

For more information, contact Cleveland Thomas, USAID/Ghana at cthomas@usaid.gov and Kevin Warr, EGAT/EIT/Energy Team at kwarr@usaid.gov

Energy Community for Southeast Europe (ECSEE)

The E&E Bureau (E&E) is working to further the development of regional energy markets integrated with W. Europe and international energy markets. A major E&E initiative involves a collaborative effort with the European Community, World Bank and other donors to forge a new regional energy market in Southeast Europe. In December 2004, Ministers from Southeast Europe and neighboring European Union (EU) states agreed on the principles of a Treaty to establish an Energy Community for Southeast Europe (ECSEE). This Treaty is expected to be initialed soon and then will be subject to ratification by the Parliaments of the Southeast Europe adhering parties (The Republic of Albania, Bosnia and Herzegovina, the Republic of Bulgaria, the Republic of Croatia, the former Yugoslav Republic of Macedonia, the Republic of Montenegro, Romania, the Republic of Serbia, the Republic of Turkey and United Nations Interim Administration Mission in Kosovo).

This legally-binding Treaty will commit the parties to adhere to the EU Electricity, Gas and other key Directives in return for full rights and responsibilities in the EU Internal Electricity and Gas Markets. These directives require the establishment of national regulators, the development of independent Transmission System Operators, non-discriminatory access to transmission and distribution grids on the basis of a regulated third party access model, the establishment of competitive markets both in generation and supply to eligible customers and suppliers to end consumers, non-residential market opening by 2008, elimination of duties and customs fees on inter-country trade and other important aspects related to promoting energy efficiency, complying with EU environmental standards, and ensuring public service obligations for energy utilities.

The ECSEE seeks to create a stable regulatory and market framework capable of attracting investment in gas networks, power generation, and transmission and distribution networks to enhance security of supply and provide the basis of economic development and social stability. The Energy Commissioner of the European Union stated at a recent EBRD Ministerial Seminar: "The progressive integration of South-East Europe, including Turkey, into the European Union energy markets, on reciprocal conditions in terms of trade and environment, benefits the whole of Europe." Many observers in see in ECSEE a parallel with the European Coal and Steel Community that was a predecessor of the current European Union.

This step toward integration was facilitated by the reconstruction of major transmission systems destroyed during the Balkan wars. On October 10, 2004, the Balkan grid was resynchronized with the Western European electricity system. A press release from the Union for the Coordination of Transmission of Electricity (UCTE) contains more details and a basic map showing the interconnection points [http://www.ucte.org/pdf/News/20041110 Reconnection Conclusions. Pdf](http://www.ucte.org/pdf/News/20041110_Reconnection_Conclusions.Pdf)

For several years, the E&E Bureau has played a role in supporting collaboration among utilities in SEE through the Regional Electricity Transmission Planning Project. This project has developed a single transmission model for the region that has been used to evaluate this interconnection as well as identify investments for strengthening the system, some of which have already been completed and/or funded by the International Financial organizations.

E&E Bureau and E&E missions have developed a team approach to supporting regional and national energy reforms that seek to harmonize legal, regulatory and market structures and functions. USAID is clearly the lead donor for the development of energy regulatory authorities and we are helping the European Commission to develop the framework for the Community Regulatory Board, which is one of the central bodies established under the Treaty. Through these efforts, USAID is contributing to the goals of the Stability Pact of Southeast Europe that includes economic integration and growth in the Balkans.

For further information, please contact Dr. Robert F. Ichord, Jr, Chief, Energy and Infrastructure in the E&E Bureau at richord@usaid.gov

Promoting Standards through Harmonization - CLASP Incorporates as Stand-alone, Nonprofit Corporation:

On February 14, 2005 the Collaborative Labeling and Appliance Standards Program (CLASP) incorporated into a stand-alone, nonprofit organization. Over the past five years, CLASP has provided assistance for the development and implementation of 9 new minimum energy performance standards, 9 energy efficiency endorsement labels, and 3 energy information labels for appliance and lighting products in four countries (China, Ghana, India and Tunisia). By the year 2014, savings from these standards and labels are estimated to reach above 200 TWh, and 250 megatonnes of CO₂ (70 megatonnes of carbon). During this period, CLASP has leveraged \$2.9 million of USAID funding into a \$10 million World Summit on Sustainable Development (WSSD) Sustainable Partnership that has become an element of the Efficient Energy for Sustainable Development (EESD) component of the Clean Energy Initiative (CEI).

CLASP is an outgrowth of an initiative begun in 1996 at Lawrence Berkeley National Laboratory (LBNL) to help developing countries pursue energy-efficient standard and labeling (S&L) policies. Shortly afterward, USAID embraced the effort and funded LBNL to pursue various aspects of the initiative. CLASP was formally created in December 1999 and, since then, has worked in Mexico, Uruguay, Brazil, China, India, South Africa, Poland, Ghana and Tunisia. CLASP has also met with and provided S&L tools to Ecuador, Columbia, Bahrain, Egypt and the Dominican Republic along with hosting or co-sponsoring S&L workshops in Mexico, Argentina, Sri Lanka, Thailand, Nepal and Egypt. At the time of CLASP's inception in 1996, there were 39 countries worldwide with S&L programs (including the then 15 E.U. members); today there are 57.

In February 2005, CLASP released its second edition of its guidebook for S&L program analysts and managers in developing countries titled, "Energy-Efficiency Labels and Standards: A Guidebook for Appliances, Equipment, and Lighting Products." The first edition of CLASP's S&L guidebook, published almost four years ago, has been hugely popular within the international S&L community, translated into Chinese, Korean and Spanish, with almost 1000 printed English copies distributed and many more downloaded at no cost from CLASP's website. Their website (www.clasponline.org) is visited by people in an average of 83 different countries each month (145 different countries in total).

In addition to CLASP's bilateral programs, a major emphasis has been placed on promoting standards through harmonization as a means of facilitating regional and global trade. CLASP reports increasing activity in its collaborations with the United Nations Development Program's Global Environment Facility (UNDP/GEF), Asia Pacific Economic Cooperation (APEC), Association of Southeast Asian Nations (ASEAN), the North American Energy Working Group (NAEWG), and the Renewable Energy and Energy Efficiency Partnership (REEEP), all of which are focusing increasing attention on the alignment and harmonization of various aspects of S&L, especially energy testing protocols and mutual recognition of test results.

CLASP is an example of how USAID can impact government policy with a longer-term commitment than it typically applies to projects. In CLASP's early years, USAID was one of CLASP's primary funders. However, as CLASP grew, USAID's portion of CLASP funding steadily decreased. Now, CLASP is a stand-alone non-profit global corporation, governed by an 11-person Board of Directors from 6 countries, and expects to develop appropriate new operating procedures over the next two years. Furthermore, significant support for CLASP may arise from the approval of upcoming GEF project proposals, which aim to support the harmonization of standards and labels in South America and Southern Asia.

For more information contact Jas Singh, EGAT/EIT/Energy Team at jsingh@usaid.gov

Update from Missions

USAID/Nepal: Increasing Private Sector Investments in Hydropower Development

Challenge

Only 18% of Nepal's population has access to electricity, with coverage plummeting to 7% in rural areas. The quality of electricity supply is poor, with high system losses and frequent outages. The energy sector financial needs grossly exceed government resources, making private sector participation and investment all the more crucial. Nepal has 83,000 MW of hydropower potential. If this natural resource was harnessed more effectively, the country could meet its domestic demand for electricity as well as export hydropower and potentially transform the economy. Currently, less than 1% of hydropower energy is developed and Nepal depends on bio-fuels, mainly wood, to meet its energy needs. This has serious consequences for Nepal's forests and environment as the unsustainable consumption of fuel wood accelerates deforestation and soil erosion. Furthermore, the lack of electricity is a major constraint to economic development and poverty alleviation. The challenge lies in how to transform Nepal's immense water resources into economic wealth in an environmentally and socially sustainable manner.

Initiative

USAID is encouraging socially and environmentally sustainable hydropower development in Nepal, by creating enabling conditions for policy reform, transparency, good governance, and private sector investment. Through a bilateral agreement with the Government of Nepal (GON) for a five-year (2001-2006) hydropower program, USAID is providing technical assistance and training to:

- 1) Set up a streamlined legal and regulatory framework and simpler licensing procedures;
- 2) Strengthen institutional capacity to address environmental and social impacts;
- 3) Assist the GON to implement a new hydropower policy that promotes investment in both domestic supply and export; and
- 4) Establish a Power Development Fund, with World Bank support, as a catalyst for energy investment.

USAID's key partners include the GON's Ministry of Water Resources, the Department of Electricity Development and the Nepal Electricity Authority. Donor partners include the World Bank, the Asian Development Bank, the Norwegian Development Agency, the German Development Agency, and the private sector.

Results

USAID's support for the energy sector has resulted in one of the most successful development assistance programs in Nepal involving the private sector.

Both national and international private sector investment in hydropower has reached \$378 million. In the past year alone, three major investments in hydropower totaling \$25 million have taken place. The largest is the award and initial deposit for the purchase of Butwal Power Company -- a 17 MW public utility -- by a group of

investors headed by Interkraft, a Norwegian firm, valued at \$11 million. The other two investments comprise two small hydropower facilities valued at \$14 million.

The private sector investment in hydropower generation has resulted in approximately 125 MW of additional capacity to the Nepal Electricity Authority distribution system. The added capacity along with some additions from public sector financing have made it possible to meet the load growth in the domestic system of about 8 percent per annum. In effect, the investment has provided energy security and some improvement in the quality of supply. Export of excess energy especially during the wet seasons in summer is also a possibility once the transmission infrastructure is in place and power sales agreements enacted with Indian trading companies.

Foreign investment in hydropower was disadvantaged with additional risk created by Maoist insurgency in the country. But small locally-financed projects managed to build and operate quite effectively. No additional impact has been noticed in the area of hydropower development following the recent political changes but the situation is being monitored. Hydropower development is featured in the country's recently announced 21 Point Program and the flavor of the policy is similar to that set by previous governments. The policy agenda emphasizes that maximum utilization of water resources/hydro power is to be made and that the private sector is to be encouraged in this endeavor.

Institution building and capacity strengthening activities have improved enabling conditions and Nepal's ability to attract further investments. Stringent rules, regulations and guidelines to ensure that hydropower projects are environmentally and socially sustainable have been developed and are in place.

Significant progress has been made in establishing, with World Bank support, a Power Development Fund (PDF) as a vehicle to attract investment. With USAID assistance, the Nepalese Department of Electricity Development launched an international competitive bidding process to select a bank that would act as the PDF Administrator. The selection process is substantially completed and the World Bank invited GON officials for final loan negotiations.

Access to electricity has increased from 13% to 18% of the population, improving the lives of 1,150,000 Nepalis. The beneficiaries are the 80 percent of Nepal's population living mostly in the rural areas without access to electricity. Each MW of hydropower that comes on line provides electricity to light up, at a minimum, 2,000 households. Each MW of exported hydropower also sequesters 6,000 tons of greenhouse gases.

USAID's hydropower program reduces Nepal's dependence on fuel wood for its energy needs, and thereby reduces deforestation and soil erosion. Hydropower is the sole natural resource that provides an alternative source of clean and renewable energy for Nepal and the region. In addition, harnessing Nepal's hydropower will pave the way for developing modern sector employment opportunities for millions of Nepalese citizens, contributing to removing one of the major root causes of the Maoist insurgency.

For more information contact Jeevan Shrestha, USAID/Nepal at jshrestha@usaid.gov and visit the USAID/Nepal website at <http://www.usaid.gov/np>

Rwanda: Women Empowered Through Biomass Energy Production

Introduction

Women development associations in Kigali, Rwanda have transformed their communities into environmental entrepreneurs by integrating the best in traditional wisdom and practices with cutting-edge solid waste management and biomass processing technologies.

Women's groups, local authorities and neighborhood residents have collectively formed an association to manage the community's household garbage, by converting it into fuel biomass briquettes for household use, and compost organic fertilizer useful in crop production. Skills upgrading and technological empowerment of these poor women have given them innovative income generating options, while at the same time conserving the environment. One such group, located in the City of Kigali, is the SAM Muhima community based

organization enterprise that has inspired many other similar organizations, groups and local authorities throughout Rwanda.

How it all started

Launched in 1998, four years after the genocide, the group started by selling vegetables and fruits in open and unhygienic places forbidden by the local authorities. They fought running battles almost daily with the local authorities, until they gave up their illegal trade. Now, without any form of livelihood, most of these poor women entered into illicit trades like prostitution and making a type of local brew, which was found to be toxic and banned by the government.



Eventually, with nothing to do, they gave up in life, and started gathering daily at their Muhima operational site, mainly to share their frustrations as they comfort each other in idleness.

The women later started collecting garbage from people's homes and processing it into compost fertilizer and dry waste to sell to a private entrepreneur for briquette making. These products were however, of very low quality because the women lacked the necessary skills and technical know-how needed to generate high quality products. The local entrepreneur could not buy the dried waste due to its low quality and also, he lacked an appropriate

briquetting machine. So most of the waste accumulated at the women's site and eventually became a nuisance.

Although the women were very much interested in this venture, they lacked knowledge in running such an enterprise, and technical know-how to make it viable and self-sustaining. Then in the beginning of 2004, the women received a grant of \$73,500 from USAID through Associates in Rural Development Inc.(ARD) for solid waste recycling & biomass energy development. This became, indeed, the turning point in the lives of these women of the SAM Muhima community based organization.



The women started collecting garbage daily from 5,245 households, sorting and processing the waste into high quality fuel biomass briquettes for household and industrial use, and compost organic fertilizer for agricultural production.

The fuel biomass briquette production is achieved using a locally made torrefaction-briquetting technology, the first of its kind in Africa. Both the biomass fuel briquettes and compost organic fertilizer are in high demand. However, the women group cannot meet the high demand due to their limited production capacity, because they only have one briquetting machine.



Personal Reflections

S raphine Hagenimana is the founder and president of SAM Muhima. She has seen and experienced it all. Just a year ago she was languishing in abject poverty, surviving virtually on nothing because she didn't have any source of income. She had a very bitter and horrible experience during the 1994 genocide when she lost almost everything. She is a primary school drop out without any training, which makes it very difficult for her to be hired for any job. She founded the SAM Muhima Women Group as a convenient forum to share her frustrations with the many other widows like her, left suffering by the devastating effects of the 1994 genocide. To have one

meal per day for Séraphine and the many other widows in this group was more than a miracle. She could not afford basic school requirements for her young kids, who in most cases could not go to school on a daily basis due to hunger and lack of proper clothing.

Until very recently, Séraphine had never known anything but of poverty, poor health, hunger, frustration and fear for her future. But now, after receiving the small grant, Séraphine with her group are full of optimism and hope for the future. "We were in the streets begging and practicing prostitution, but now we are dressed in a working uniform, providing the much-needed alternative source of cooking fuel to citizens and organic fertilizer to Rwandan farmers. Eating one meal per day was more than a miracle. But now we have a salary and a bank account. We can afford three meals per day."

Conclusion

This pilot solid waste recycling and biomass energy project has currently employed 117 regular workers and a further 10 to 25 part time workers. Close to 90% of these workers are women, with little or no formal education. The enterprise has three steady sources of income, (1) monthly service delivery fees from the 5,245 households where garbage is collected daily, (2) selling of fuel biomass briquettes, and (3) selling of compost organic fertilizer. Within a period of less than three months, the organization's bank account has skyrocketed from zero to Frw 5,157,500 (approximately \$9,350)! And every worker has opened his or her own bank account, where his or her salaries are deposited.

Within the eight months period this project has been operational, it has created a significant economic and environmental impact in the piloting sector of Muhima. It has contributed to the reduction in deforestation by providing an alternative source of cooking fuel in the form of fuel biomass briquettes, given that 98% of the Rwandan population uses charcoal and/or wood fuel for cooking. The activity has significantly reduced unemployment and the amount of garbage transported to the landfill. Thus, decreasing the money spent by the local authorities on solid waste management in this piloting sector by almost 50%.

All these accomplishments are due to a one-time small grant given by USAID to a group of enterprising Rwandan women. The project has the potential to receive additional funding, pending an evaluation of its technical, financial and institutional aspects.

For more information, please contact Michelle Cachaper, USAID/Rwanda at mcachaper@usaid.gov and Simone Lawaetz, EGAT/EIT/Energy Team at slawaetz@usaid.gov

Recent Events

EGAT/Energy Team Sponsors Course on "Infrastructure Policy and Regulation"

The Office of Energy and Information Technology held a competency-training course on "Infrastructure Policy and Regulation" in Washington DC, from December 6-10, 2004. The purpose of the course was to enhance the competencies of USAID officers specializing in infrastructure. The course was attended by 45 USAID officers from EGAT, the regional bureaus and field missions. It focused on the linkage between infrastructure and economic development, and the regulatory aspects of infrastructure development. Highlights of the course are summarized below.

Dr. Luis Guasch of the World Bank made some key points on the links between economic growth and infrastructure, particularly in Latin America:

- Economic returns from investment in infrastructure are high, ranging from 30 percent for energy and telecom to 200 percent for roads, and the largest impact is on incomes of the poor

- Under investment in infrastructure has slowed economic growth in Latin America and the Caribbean (LAC) significantly. About 20 percent of the difference in economic growth between Asia and LAC is due to the lower investment in infrastructure in LAC
- Competitiveness and productivity lag when there is under investment in infrastructure. For example, poor transport infrastructure in LAC requires businesses to maintain inventory levels that are 2 to 5 times the levels common in OECD countries
- Transport, trade finance, and other logistical costs in LAC make up 31 percent of the cost of manufacturing output compared to only 9 percent in OECD countries.

Dr. Guasch advised USAID to support programs that reform infrastructure policy and create effective regulatory environments. These are areas where USAID has an advantage *vis a vis* the multi-lateral development banks. USAID has an advantage in the provision of technical assistance (TA) and training, a result of our long partnerships with world class providers of TA and training, more agile contracting mechanisms and grant rather than loan financing.

Dr. Ioannis Kessides, author of a recent, highly acclaimed book on infrastructure reform, concluded that good regulation and governance of the infrastructure sector is the most important instrument available to increase infrastructure through private sector participation.

Anthony Vance, Director of USAID/Egypt, discussed the evolution of USAID support for infrastructure in that country. He highlighted the evolution of the program, from mainly “bricks and mortar” to a program that today is focused mostly on key institutional and regulatory issues.

Members of the Public Utilities Research Center (PURC) at the University of Florida presented on the general principles of regulation of network utilities, and on the specific aspects of regulating the power, water and telecommunications sectors. The Energy Team’s Davida Wood contributed to the PURC presentation with a module on public involvement in the regulatory process, with special emphasis on transparency and accountability in the electricity sector.

Silvia Alvarado de Cordoba, Regional Advisor for Latin America, El Paso Corporation, and formerly a senior FSN at USAID/Guatemala-Central American Programs, made a presentation which analyzed accomplishments in the energy sector in Central America and the Caribbean, the main challenges and the rationale for USAID assistance. Key points made in her presentation included:

- *Accomplishments:* Reduction in the fiscal drain from loss-making state-owned enterprises, over US\$2.5 million in revenues and more than US\$400 million in annual investments;
- *Challenges:* Despite success in energy sector reform and commercialization during the 1990s, regulation continues to be a weak area in many LAC countries. Continuing assistance in establishing credible and effective legal and regulatory frameworks is still an urgent need. The reform process requires a relatively long commitment in part because the social issues, and the difficulty of economic transition. Without sound legal and regulatory frameworks, it is clear that U.S. and other foreign investors will not be able to continue to invest in the region. This has an impact on economic growth, competitiveness and poverty. She also noted that without effective regulation, U.S. investors are beginning to retreat from the region; and
- *Rationale for USAID assistance:* USAID is uniquely placed to support the countries in the region because of its expertise and credibility; objective view of issues, local presence, and flexibility and quick response capability. This is particularly important for establishing effective regulatory institutions in the region. Ms. de Cordoba singled out the very positive role USAID/Dominican Republic has played in supporting the government in the recent power sector crisis.

- A panel comprising of 11 participants from field missions, discussed lessons learned from the three-day course and the importance of infrastructure reforms to spur economic growth, with an emphasis on improving the legal/regulatory frameworks for infrastructure and strengthening the regulatory agencies.

For more information on the “Infrastructure Policy and Regulation” course and content, and for updates on future courses, please contact Juan Belt, EGAT/EIT at jbelt@usaid.gov; Allen Eisendrath, EGAT/TT at aeisendrath@usaid.gov; and Ellen Dragotto, EGAT/EIT/Energy Team at edragotto@usaid.gov

2004 World Energy Outlook

The 2004 World Energy Outlook from the Paris-based International Energy Agency, presents a reassuring assessment today of the prospects for global energy supplies, but draws attention to serious concerns about energy security, investment, the environment and energy poverty. It calls for more vigorous action to “steer the global energy system onto a more sustainable path”.

The World Energy Outlook 2004 contains the IEA’s latest energy projections to 2030. The central message of the WEO remains an optimistic one. The Earth contains more than enough energy resources to meet demand for many decades to come. The world is not running out of oil just yet. Moreover, there is more than enough money globally to finance the large expansion of energy infrastructure that will be needed.

But soaring oil and gas prices, the increasing vulnerability of energy supply routes and ever-increasing emissions of climate-destabilizing carbon dioxide are “symptoms of a considerable malaise in the world of energy.”

In the Outlook’s “Reference Scenario”, which projects energy trends in the absence of new government policies or accelerated deployment of new technology, world primary energy demand is set to rise by 59% from now till 2030. Some 85% of that increase will be in the form of carbon-emitting fossil fuels: coal, oil and natural gas. Two-thirds of the new demand will come from the developing world, especially China and India.

Demand for oil will continue to expand, at 1.6% a year, from 82 mb/d today to 121 mb/d in 2030, and inter-regional trade in oil will double to 65 million barrels a day. Most of that additional trade will have to pass through vital chokepoints, sharply increasing the possibilities of a supply disruption. More and more oil will come from fewer and fewer countries, primarily the Middle East members of OPEC. The dependence of all importing countries on those suppliers will grow.

Gas use is projected to double by 2030, largely because it will be the fuel of choice for electric power generation. Coal will continue to supply a fifth of world energy needs, mostly in power generation and increasingly concentrated in China and India.

Nuclear power will grow very slightly, decreasing in Europe while advancing in Asia. Use of other non-carbon-emitting renewable energy sources will triple, but still will account for only 6% of world electricity production in 2030.

As in past editions, the 2004 World Energy Outlook presents an exhaustive set of historical data and projections covering demand, supply, trade, investment and CO₂ emissions for all fuels for 20 major world regions and countries. WEO also includes a number of special features:

- A focused study of the effects of persistent high oil prices. It concludes that, if oil prices stay high, they would erode oil demand substantially and reduce the income of OPEC producers over the medium term.
- A detailed analysis of how oil and gas companies calculate their “proven”, “probable” and “possible” reserves and a comparison of current estimates. The study finds that current

practices vary considerably among companies, confusing the overall reserves picture. The IEA calls for a new, universally-recognized methodology standard for reserve estimation.

- A hard look at the issue of energy poverty, including a new “Energy Development Index” (EDI), a handy measure of how far countries have advanced along the road to energy maturity in the areas of per capita energy use, the use of modern energy services and rates of electrification. According to the EDI, all developing regions can expect to experience increases in per capita energy use and improved access to modern energy services – including electricity. Yet only a few Middle East and Latin American countries will have reached the stage of energy development in 2030 that OECD countries had attained in 1971. Africa and South Asia will remain far behind. The EDI also seeks to capture the quality and quantity of energy services available to developing countries. Much like the UN Human Development Index (HDI), the EDI serves as a yard-stick by which a country’s progress toward development can be measured. When compared alongside the HDI, the EDI clearly illustrates the mutually reinforcing relationship between energy and basic measures of human development.
- An in-depth study of Russia’s growing role as a major energy power. While recognizing it as “the most important energy country” of the moment, there are enormous uncertainties surrounding Russia’s energy future.
- A “World Alternative Policy Scenario” – which for the first time includes the developing world and emerging market economies – considers what would happen if governments decided to act much more vigorously to combat environmental problems and reduce energy-security risks.

For more information on the 2004 World Energy Outlook, visit the International Energy Agency website at <http://www.iea.org/textbase/npsum/WEO2004SUM.pdf>

Mark Your Calendar!



EGAT's Energy Team invites you to a showing of the Award-winning film "Power Trip"

Watch what happens when privatization, corruption, and the demands of the public for electricity converge!

When: March 17th at 12:30
Where: Point Four Conference Room

"In an environment of pervasive corruption, assassination, and street rioting, the story of chaotic post-Soviet transition is told through culture clash, electricity disconnections and blackouts.

The former Soviet Republic of Georgia is, in the words of one journalist, "a basket case." During the country's old Soviet days, electric power was cheap—or even free. When AES Corp., the massive American "global power company," purchased the electricity distribution company in Tbilisi, capital of the former Soviet Republic of Georgia, AES manager Piers Lewis must explain to the formerly communist populace that in this new world, customers pay for their electricity. The Georgians meanwhile, from pensioners to the Energy Minister, devise ever more clever ways to get it free.

Amidst hot tempers and high drama, Lewis balances his love for the Georgian people with the hardships his company creates for them, as they struggle to build a nation from the rubble of Soviet collapse."

Source: Promotional material adapted from press kit for "Power Trip" at <http://www.powertrip-themovie.com/synopsis.html>

The movie will be followed by a panel discussion.

DVDs of Power Trip are available for loan to USAID Offices and Missions.

Point of contact: Davida Wood, EGAT/EIT/Energy Team, phone 202.712.0594, email dwood@usaid.gov

Message to Missions

The Energy Team wants to remind our Mission colleagues about two of the partnership instruments we have in our portfolio. Our cooperative agreement with the National Association of Regulatory Commissioners (NARUC) allows missions to support regional regulatory associations and to support bilateral regulatory partnerships. Our cooperative agreement with the US Energy Association (USEA) allows missions to support bilateral utility partnerships and bilateral regulatory partnerships, as well as study tours for journalistic media. Where the two instruments overlap, missions are encouraged to review them both and determine which organization's contacts, expertise, and experience best suit their development needs and objectives in-country.

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

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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; 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.

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Energy Team

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

To learn more about USAID's energy programs, visit

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