ENERGY UPDATE

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

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ENERGY UPDATE

Is the bimonthly newsletter of the Energy Team, Office of Infrastructure and Engineering, Bureau for Economic Growth, Agriculture and Trade.

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"Fueling Health Solutions: the Energy-Health Nexus"

SUBMIT ARTICLES

Please submit articles on other topics for the Feature Article section, and your project updates for the Notes from the Field section.

Initial submissions must be 500 words or less in length and include contact information.

The submission deadline is January 26th, 2007. Please e-mail your articles to the Editor, Davida Wood (dwood@usaid.gov).

Articles are accepted for publication from employees of USAID, associated organizations, contractors, and other partners in development.

LETTER FROM THE EDITOR

The Special Report in this issue of Energy Update presents highlights from the World Forum on Energy Regulation III, hosted by NARUC (National Association of Regulatory Utility Commissioners) in Washington, DC, in October 2006. I emphasize the word “highlights”, as we do not pretend to capture the full complexity and robustness of this event in the slim offering of this newsletter. Instead, we have selected a sampling of insights and concerns that illuminate how the three themes of the conference were both interrelated and of global concern.

The three tracks that were selected -- based on input from association memberships around the world as well as a survey that solicited direct feedback from stakeholders – were: investment in energy infrastructure; regional energy markets; and access and affordability. While these themes were of concern in both developed and developing countries, the issues took on different meanings and implications in diverse political-economies. For example, while predictability of regulation is a concern for investors everywhere, this might mean reduction of government involvement where political instability is an issue, but increased policy guidance where the development of new technologies is a goal. Regional markets are developing all over the world, but while mature economies tend to stress the importance of designing competitive markets, more precarious ones may favor longer term contracts. Poverty and price volatility impact affordability in different ways, yet diversifying the fuel mix may ameliorate both. Finally, diversification may address environmental concerns and growing global demand, but requires investment in the context of regional cooperation.

The Third World Forum on Energy Regulation was thus marked by a notable increase in global scope. Quantitatively, the percentage of participants from developing countries rose to 49%, up from 30% at the previous World Forum. The qualitative leap was equally significant: NARUC employed a collaborative agenda development process to ensure the conference tracks and session topics were of relevance to participants representing countries with diverse energy infrastructures. To this end, they assembled a Steering Committee composed of the chairs of the major regional regulatory associations around the world. During the past eight years, many of the programs that NARUC has implemented under the auspices of its USAID cooperative agreements have focused on the capacity development of several of these regulatory associations, most notably ERRA (Central/Eastern Europe), AFUR (Africa), and OOCUR (Caribbean). NARUC had also developed separate bilateral ties with CAMPUT (Canada) and CEER (Western Europe). With the active involvement of ARIAE (Ibero-America), EAPIRF (East Asia), and SAFIR (South Asia) in the World Forum III, the common goals of NARUC and USAID of increasing the cooperation among regulatory associations on a multilateral basis has taken a significant step forward.

Participants in World Forum III also attended two USAID-sponsored NARUC activities: a Partnership Summit, in which representatives from bilateral and multilateral exchange programs convened to discuss the benefits of long-term cooperative relationships, and a Consumer Roundtable. The Roundtable marks an invigorated interest on the part of NARUC to improve the dialogue between consumers and regulators. Details of both can be found in this Special Report.

We are encouraged that the Forum will serve as a unique conference in the future that discusses cutting edge energy regulatory issues around the world, and commend NARUC for its leadership.

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SPECIAL REPORT

Global Interconnections: Highlights from The World Forum On Energy Regulation III

INTRODUCTION

More than 600 participants from 85 countries gathered in Washington, DC, USA from October 9-11 to attend the World Forum on Energy Regulation III (WFERIII).

Attendees included representatives from more than 97 state and national energy regulatory authorities, government officials, policy makers and experts, energy industry executives, investors, academia, consumer associations, environmental groups, development agencies, and other energy experts from around the world.

The Technical Secretariat of the World Forum on Energy Regulation III closely considered the recommendations that emerged from the previous forums in Rome, Italy (2003) and Montreal, Canada (2000) and made a real and successful attempt to address some of the key issues specifically related to developing nations.

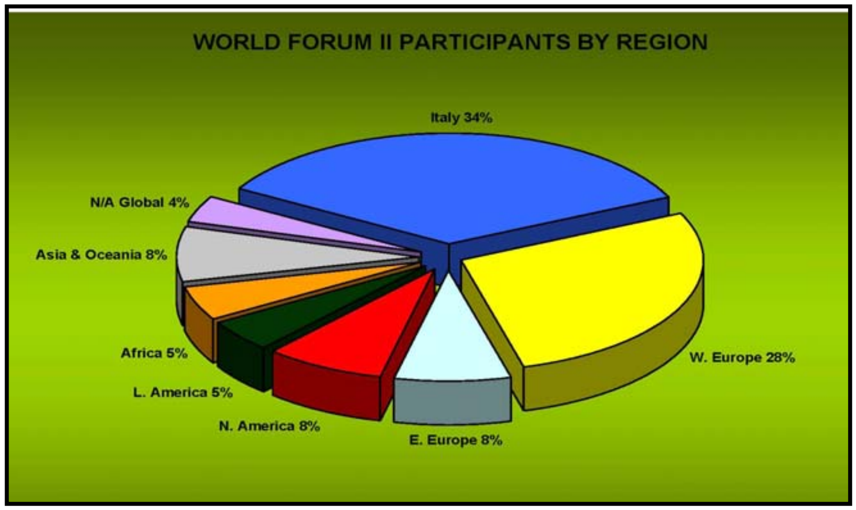
In 2003, 70% of total registrants came from developed nations while only 8% came from Asia, 8% from Eastern Europe, 5% from Latin America, and 5% from Africa. At the World Forum III, developed nations amounted to 51% of total participants while both Asia and Eastern Europe increased to 12% and Latin America and Africa to 9% and 13% respectively. At the same time, Caribbean participants had a sizeable presence with 2% of total.

The World Forum III focused on three main tracks: Investment in Energy Infrastructure, Regional Energy Markets, and Energy Access and Affordability. During the three days, participants discussed:

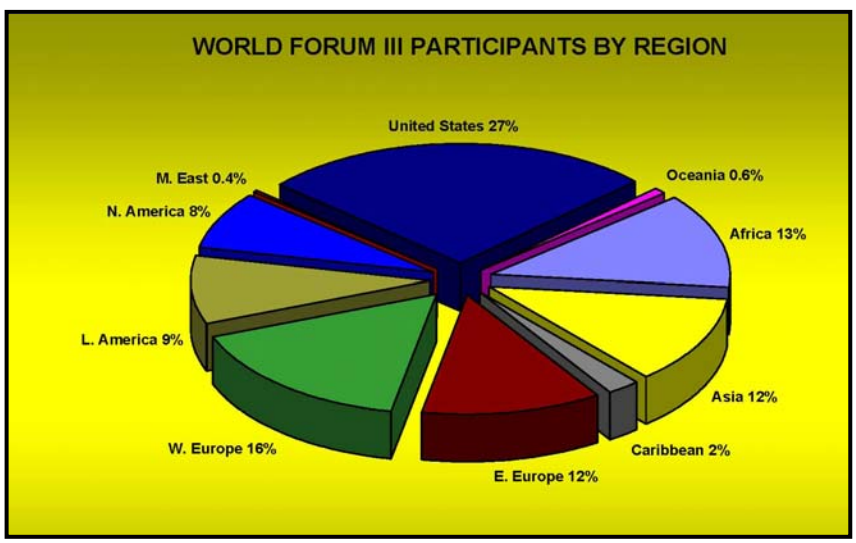
a) How electricity and gas markets are changing and how regulation is evolving.

b) Changes in regards to scale, functioning and complexity of these markets, as well as policies that impact the design and performance of energy markets.

c) How new social goals, environmental targets and security of supply concerns put pressure upon electricity and gas prices in the context of increasing primary energy costs and require appropriate regulatory action.



At the 2003 World Forum II, 30% of attendees represented developing nations.



At the 2006 World Forum III, participation from developing nations increased to 49%. NARUC employed a collaborative agenda development and marketing process to ensure inclusive participation by developed and developing nations.

Delegates listen to simultaneous translations (in Spanish, French, and Russian) of the proceedings at World Forum III.

What emerged over the course of the Forum was the commonality of the problems faced by the participating countries – not withstanding their diversity. All countries, both developed and developing now face challenges of attracting and maintaining investment in their energy sectors. As developing countries move to increase energy access, transitioning countries strive to improve energy infrastructure, and developed countries strive to ensure security of supply, all are facing ever more sophisticated market structures. Finally, the need for regional cooperation was recognized as important for increasing access and coordinating environmental standards. The three themes of the conference were thus both interrelated and of global concern.

In the Closing Statement, the Forum Steering Committee continued its pledge for collaboration towards common goals, including:

- Promoting the exchange of information on "best practices" to augment regulatory capabilities, including new partnerships between regulators from developed, transitioning, and developing countries.
- Strengthening efforts at regional coordination through associations of energy regulators and other key sector stakeholders.
- Increasing professional training programs to enhance institutional regulatory frameworks.
- Exploring opportunities for cooperation between international development agencies and associations of energy regulators.

INVESTMENT IN ENERGY INFRASTRUCTURE

Investor Perspectives

The World Forum began with a roundtable on "Investment in Energy Infrastructure: Regulatory Expectations." During this roundtable the panelists discussed a key factor in encouraging investment: regulatory predictability. The overriding theme discussed was that investors are looking for regulatory certainty, a stable market structure, a non-discriminatory market structure, and of course a return on their investment. However, when evaluating investment potential, companies look at a range of factors beyond the regulatory structure. These include: the political situation, social issues, financial, macroeconomic, culture, and the regulatory scheme. Investors recognize that regulation necessarily exists in the broader framework of a nation's macroeconomic, energy, and social policies. An independent regulator is very important, but political interference often erodes the effectiveness of a regulatory agency. Due to the large amounts of capital needed for energy infrastructure, investors would like regulators and governments to view infrastructure development in the long term. Therefore, it is important for governments and the public to avoid politically expedient decisions that do not serve long term needs.

Investor Confidence

A number of World Forum panelists stated that there are many regulatory models that can be used to deal with a country's particular needs and that there are multiple regulatory models that will result in successfully attracting investment. Mr. De La Rosa of AES stated that formalized arbitration and appeals tribunals staffed by experts, as in Chile, can be an effective tool in building investor confidence. Especially with respect to gas, several panelists advocated for long term contracts to provide both price and rate of return stability. Long term contracts reduce consumer dissatisfaction, thus reducing the likelihood of political interference and thereby encouraging investment.

Governance Perspectives

In a number of countries, reliability is less than ideal because the rates do not reflect the cost of service. However, the construct "cost of service" can mask a two pronged issue: inadequate rates, and company inefficiency.

Subsumed under company inefficiency are the issues of corruption, technical losses, and theft of energy. The regulator alone cannot tackle company inefficiency. The regulator needs to cooperate with the government to institute policies that confront corruption and losses. The efficient operation of an energy sector should not be viewed in a vacuum, but rather as an essential part of a nation's overall economy.

Vice President Katherine Sierra, World Bank Vice President for Sustainable Development noted that fraud in the power sector costs billions of dollars and undermines the public's faith in regulation. She emphasized the importance of transparency in regulation and the need to engage the public so that they are confident that their interests are being addressed, and not just the interests of investors or other vested interests. In addition, regulators should involve themselves in power purchase agreements and monitor the quality of service in a manner that allows them to offer rewards and penalties for service compared to given benchmarks. Ms. Sierra concluded by calling attention to the effect of regulation on achieving environmental goals including energy efficiency and reliance on renewable sources of generation.

Investment in Diversifying Technologies

Predictability ranks as a high priority when discussing the new nuclear projects as well as the development of markets for renewable technologies. For instance, the Nuclear Energy Institute stated that the 2005 U.S. Energy Policy Act is welcomed but insufficient in attracting capital to nuclear power because the loan guarantees in the Act do not amount to a subsidy and building a single new nuclear plant is a high-stake proposition even for the largest electric power companies. The panelists also stated that the continued safety of existing plants is a crucial component to investor interest in future nuclear power projects. In addition, safety relates directly to the need to resolve nuclear waste issues, in particular locating adequate repositories. This continues to be a major stumbling block in the United States and Europe.

With respect to other renewable technologies, such as wind and photovoltaics, again the panelists mentioned the need to harmonize regulatory and governmental policies in order to remove barriers to the development of an optimal sector and foster consultation and consensus among stakeholders.

Investors are concerned about the levels of return on their renewable energy investments and reliability problems related to the use of renewable energy. Sometimes, trying to square the issues of investment return and reasonable prices for consumers proves elusive. The panelists advocated for long-term policies and environmental goals, which provide certainty and predictability.

Conclusion: Investment in Infrastructure

Panelists concluded that the issues of regional energy markets or energy access and affordability cannot be addressed without addressing investment concerns. While regulators are central to investors' decision whether to invest, the panelists noted that the independence and transparency of the regulator is but one factor considered in investment decisions. The panelists stressed that countries need to view the energy sectors as an integral and inextricable part of a national political economy. In pure monetary terms, the capital needed for energy infrastructure development and maintenance is enormous. Thus, if a regulator and the government as whole do not operate in a predictable manner, the level of risk is unacceptable and investment capital will go elsewhere. This is true for developed and developing countries alike because the capital markets available for energy infrastructure are global.

REGIONAL ENERGY MARKETS

During the Forum, participants examined regional market models, designs and institutions, both inter-country and inter-regional, and sub-state national systems. As regional markets and power pools increase in size and sophistication, some common themes that are emerging are the role of monitoring in designing competitive markets; the pressure of increasing global demand; and regional approaches to environmental concerns.

Regional Market Development – Approaches from Around the World

The U.S. currently features four different models of regulatory cooperation, reflecting the regions' different popular preferences and utility characteristics. It occurs in an environment of contested state and federal authority over some issues. Systems developed for regional reliability purposes have grown to also handle economic trading.

State regulators participate in regional state committees, which are generally advisory or advocacy, advising the ISO or commenting to the FERC (Federal Energy Regulatory Commission). These regional entities are also joined for reliability purposes by larger regional and national reliability councils. Current challenges to electricity market in the US are assuring adequacy of future supply, strengthening transmission grids, and developing effective demand response. The current U. S. regional approaches are active experiments, searching out strengths and weaknesses of regional approach and complexities of state and federal jurisdictions, not necessarily an end state. The U. S. system may evolve further—though the direction is not at all clear.

The Southern Africa Power Pool (SAPP), developed 10 years ago, covers 12 nations (of which nine are interconnected), 230 million people, and generates 55,000 megawatts. SAPP optimizes the use of the region's energy resources and provides mutual support to each nation's electricity system. It began with a base of bilateral contracts, but in 2001 added short-term energy markets (STEM, which requires firm contracts and security deposits, provides for penalties for non-performance). Quality-of-service meters are required at all interconnections, and national law requires the reporting of any system disturbances *(See related article on recent USAID technical assistance to SAPP, page 15)*

Europe has moved slightly away from its planned single energy market to development of seven smaller regional markets. Establishment of the energy treaty between the European Union (EU) and South East European (SEE) countries has effectively added Europe's eighth regional government. Ultimately it will be integrated into a grand European market, covering perhaps 38 countries. To get there it must surmount many obstacles, including existing EU legislation based on a national (rather than regional) approach, non-harmonized national market operations (wholesale and real-time), insufficient investment in interconnection capacity, a lack of effective unbundling, political considerations related to multi-national jurisdictions, and a lack of market monitoring institutions. This produces a lack of transparency, even at national levels. Speakers discussed three possible approaches to Europe-wide regulation: national regulators advisory to EU (currently preferred), a European-wide regulator comparable to the FERC (with continued existence of national regulators and a division of jurisdiction between the two), and a unified European regulator.

Market Monitoring

Participants agreed that the main aspects of an open energy market are transparency, security of supply, the prevalence of competition, and the need for protecting consumers and the environment. The common expectations are for non-discriminatory access to the grid/network, viable market rules, effective development of interconnections, and tangible benefits to small businesses and domestic/residential customers. Data access was stated to be a critical issue and there was a general consensus that new tools for data management could ensure a transparent regulatory process. Participants noted that benchmarking has to be defined such that performance is measured in realistic terms based on political and technical framework within a jurisdiction.

Participants concurred that, in any market, it is critical to note how and who monitors the market. The U.S. has led efforts in the establishment of market monitoring. Market monitors can be government bodies (like the FERC in the US), internal monitors (such as the one in PJM), or external monitors (such as the one in ISO-NE).

Competitive Markets

Chairwoman Maria Teresa Costa of the Ibero-American Association of Energy Regulators (ARIAE) argued that integrated regional markets require a competitive model, which can function only if they have adequate interconnection infrastructure, freedom of access, and allow consumers to choose their suppliers. (See related text box, page 9)

Dr. Gabor Szorenyi of the Hungarian Energy Office presented his analysis of electricity regulation in more than 40 countries. He noted that competition is not perfect at enforcing efficiency gains and quality improvement.

The European Commission sector inquiry on the gas and electric markets started June 2005 and is due to be reported in early 2007. Its preliminary findings are that markets remain national and are characterized by a high level of concentration in generation, vertical integration persists, the low level of cross border trade has not threatened national monopolies, and the European markets lack of price transparency. *(See related text box, page 10)*

Presentation by Commissioner Maria Teresa Costa, Chairwoman of the National Energy Commission of Spain, during the session on "Perspectives on Creation, Implementation, and Oversight of Energy Markets." Political stability heads the list.

Chairman Joseph T. Kelliher of Federal Energy Regulatory Commission in the U.S. stated that national energy policy in the US relies on competition to assure adequate supply at reasonable prices. Effective competition requires good regulation. The United States 2005 Electricity Policy Act (EPAct 2005) supports competition, greater system reliability, the role of ISOs/RTOs and the markets they support—with direct access, real time and bilateral markets.

Mr. Jerson Kelman of the Electricity Regulatory Agency of Brazil noted that the utility regulatory reforms of the 1990s were focused on mature economies. National governments when faced with the threat of energy shortages tend to reevaluate free trade agreements. Mr. Kelman emphasized that competition should be *for* the market, rather than just *in* the market.

As an example, he encouraged the development of contracts which will attract new entrants to the market—15-year contracts for thermal plants, 30 years for hydro (both signed 5 years before power is first to be delivered).

Increasing Demand

Energy consumption will increase 71% by the year 2030 and security of energy supply becomes a paramount issue. With the increased demand from India and China, the USA and EU will lag in national/regional consumption. The question then becomes how such demand will be satisfied, because in spite of a decline in reserve for the next 25 years, there will still be a great dependency on fossil fuels. Not only is there a concentration in production worldwide, there is also a concentration in consumption.

While it is undeniable that the energy and the economy of a nation are linked, a key issue identified was the need for international cooperation in the energy sector. For that to be successful, there needs to be rational energy use, efficiency in energy use, efficiency in energy supply, environmental consideration including costs to consumers, and a business climate that allows investments in energy infrastructure. Of key concern is the need for adequate and secure transmission of energy from source to end user.

Natural Gas Markets

Speakers highlighted the regional nature of the market for natural gas, and the increasing importance that the global liquefied natural gas (LNG) markets will play. However, often the supply of gas is geographically distant from demand, necessitating new investments in infrastructure and coordination among national regulatory bodies. Panelists noted that price volatility is a separate challenge from high prices because the volatility makes business planning difficult and, in turn, inhibits investment in natural gas supply and delivery. Regulators must therefore balance the costs of infrastructure with the need to address volatility and ensure adequate supply.

Panelists discussed the success of efficiency and conservation efforts in reducing demand for gas over the last decade, the depressive effect of high gas prices on manufacturing activity, the reliability of forecasts, and the limited scope of regulators' influence on gas market issues. The emergence of the global LNG market and the security of supplies obtained from it drew the focus of speakers as two pressing questions for the future.

Environmental Concerns

Speakers expressed disappointment with the slow rate of transfer of efficient technology to developing economies and fear the current trend to decentralized energy generation will slow the implementation of new technology. Mr. Vinayak Pandey of Consumer Unity & Trust Society (CUTS), India, stated that generation, irrespective of its location (central station or distributed generation), must meet new and more stringent emission standards and argues that both global and national systems should provide both carrots and sticks. Environmental and economic regulation must be made "seamless," a problem especially in developing countries. Environmentally unsustainable energy generation/consumption should be rendered economically unsustainable over the long run.

Several speakers described the urgent need for action to restrict emissions. A new Regional Greenhouse Gas Initiative (RGGI) starts in seven northeast U. S. states (Maine, New Hampshire, Vermont, Connecticut, New York, New Jersey, and Delaware) in January 2009. Through the use of allowances and credits, RGGI seeks to achieve a 10% reduction in $CO2$ emissions by 2019 and reserves—state by state—a minimum of 25% of the allowances to benefit consumers.

Deputy Administrator Marcus Peacock of the U.S. Environmental Protection Agency spoke on the policy implications of climate change. He reviewed science showing global temperatures are at the upper end of the historic range with some indications of human attribution. The US is on track to exceed its goal of a 2 percent reduction in emissions over a ten year period.

Conclusion: Regional Markets

Continents are taking a step-by-step approach to creating efficient and competitive energy markets. Europe is now focused on development of smaller regional markets, as a prerequisite to development of an effective single market. In the US, several models have emerged given the diverse generation resources and economic benefits. On the natural gas side, however, the US is coordinating closely with Canada and Mexico on an overall North American market. Southern Africa has created an effective power pool while also addressing challenges of increased access.

As regional markets expand, regulators will remain challenged to ensure reliable service to customers at a reasonable price. Regulators and utilities must increase cooperation amongst themselves and each other to meet this challenge.

Market monitoring is becoming an increasingly important matter, with specific roles for regulators, utilities, and independent monitors being defined. Regardless of the status of competition in energy markets, participants must meet critical challenges in terms of quality, supply, investment, access, affordability, etc. It is evident that most regulators and utilities are undertaking more complex monitoring and benchmarking requirements to ensure strong market development.

Energy Regulation: The ARIAE Perspective

Ibero-American Association of Energy Regulators

The World Forum on Energy Regulation III experience has been particularly interesting for regional regulatory associations such as ARIAE -- Ibero-American Association of Energy Regulators. Composed of 22 energy regulators from 19 Ibero-American countries plus the Regional Electric Integration Commission, ARIAE's main purpose is to promote progress and the exchange of regulatory experiences in the energy sector, together with the regulatory knowledge of the sector.

The new energy landscape of the 21st century is the one in which the world's economic regions are dependent on each other for ensuring not only energy security and stable economic conditions but also effective action against climate change. In this context, those policies on regional energy integration leading to harmonize legal and regulatory frameworks across boundaries in order to facilitate trade and investment should be fostered.

First and foremost, we should point out the relevance of transnational markets in relation to the typically acknowledged objectives for energy policies. The economic efficiency of energy systems to the benefit of consumers, security of supply not only in the short term (as regards continuity in quantity and quality) but also in the long term (as a guarantee of supplies of a strategic nature), and the integration of energy processes within the framework of environmental protection policies, including the phenomenon of climate change, are all aspects of utmost importance.

However, the regional integration of energy markets is an intrinsically difficult process since it obliges states to reach a compromise between two equally important objectives: on one hand, the achievement of a certain degree of economic efficiency through the freedom of the market and of competition; and, on the other hand, the accomplishment of autonomy in energy matters, as an expression of sovereignty, given the strategic nature of energy for the economy and for citizens' welfare.

In this context,the importance of the process approach between the various regulatory frameworks as a means of facilitating interaction between the different energy markets should be highlighted. In this respect, a key issue is the exchange of knowledge, information, experiences and training, between regulatory authorities and also between the agents that operate the different energy regulatory systems surrounding ARIAE's framework.

Furthermore, we must not forget that, on the basis of the commitments defined in the Kyoto Protocol, the promotion of renewable sources of energy has become essential, not only from the point of view of protecting the environment, but also as a key factor in the promotion of energy development, as well as sustainable and economic development in Iberoamerican countries. Specifically, the need to establish Clean Development Mechanisms, as well as mechanisms to cut greenhouse gas emissions, will promote the transfer of cutting edge technology, improve the energy mix with the incorporation of renewable energies on a greater scale and, as a result, the growth of the local economy in these countries.

To conclude, it is important to set the parallelism to those processes of energy integration currently underway in Europe in which, unlike what is happening in Latin America, already has a supranational institutional structure in place to support the creation of a single European energy market. However, the energy self-sufficiency enjoyed by countries in Iberoamerica, in addition to their similar perception of energy regulatory models, allow for a certain feeling of optimism that, in the future, these markets might become mature enough to develop and consolidate the process of regional integration that is already underway.

Messages from Europe to the WFER III

Council of European Energy Regulators (CEER)

Europe has entered a new era in energy with a “common energy policy for Europe” topping the political agenda. The establishment of a more coherent European energy policy is grounded on three parallel objectives of sustainability, competitiveness and security of supply.

At World Forum III, European regulators noted that that the political commitment to a strategic vision for energy in Europe must be matched with the necessary legislative and regulatory framework to get to a well functioning integrated EU energy market (the so called “internal market”) as well as building a coherent external energy policy for Europe. The move from the current patchwork of national energy markets to a European energy market in the interest of the EU consumer is complicated by the fact that energy regulators’ jurisdictions are at the national member state level, and that the powers of regulators differ across countries.

To tackle the “regulatory gap” which exists across national borders of the national member states in Europe, new legislative and regulator measures are needed to (1) enhance regulatory powers at both national and EU level and (2) facilitate the development and operation of an integrated EU grid and (3) deliver effective unbundling of network companies. Regarding infrastructure needs, incentives schemes combined with a stable regulatory framework have proven very successful in creating the right climate for investment in some countries, but this is not enough. Infrastructure investment needs and security and reliability standards must be addressed at a pan-European level, subject to proper regulatory scrutiny.

European Regulators strongly advocate a regional approach as a first step to realizing a European energy market. The ERGEG Regional Initiatives, launched by the Regulators in 2006, create 7 electricity and 5 gas regions in Europe. Their aim is to tackle in a concrete manner many of the impediments to the current lack of market integration across member state boundaries. The entry into force of the Energy Community Treaty of (the Balkan states) in South East Europe marks the creation of an 8th region designed to fit seamlessly into the general framework of the EU’s Internal Market. Given the strategic importance (in terms of access to gas) of South East Europe, this is a major development in extending the EU’s external energy policy. Steps are also being taken in relation to Russia and the countries of the Euro-Mediterranean basin.

Turning to the interdependence of energy resources, a core message from the Sir John Mogg, the President of the CEER, at the WFER III is that security of supply and climate change are global issues. In remarking that sustainability is already a major issue in Europe and one that is growing in importance, he emphasized that more measures are needed not just within Europe but globally to reduce carbon emissions and that the time for action is now. Measures are needed in all areas; energy efficiency, renewable energy, storage, selection of energy mix, investment in research and development and (for some) the nuclear option. Some such measures – increased energy efficiency, use of nuclear power and renewables – meet the dual challenges of climate change and the security of supply aim by reducing dependency on oil and gas reserves.

European regulators advocated continued co-operation among regulators at a worldwide level and acknowledged the contribution of the World Forum on Energy Regulation in this regard. As a further step towards enhanced international collaboration the CEER launched at WFER III a web platform, the International Energy Regulation Network (www.iern.net), to facilitate information exchange on energy regulation. The Closing Statement of the Forum acknowledges that “With the support of the regulatory associations and development agencies, this global web platform will allow for the delivery of mutually beneficial information, a better understanding of trends in market design and regulation, facilitating international collaboration and improved research and training to the benefit of all energy regulators and market participants.”

ENERGY ACCESS AND AFFORDABILITY

"A third of the world has a developed electricity industry, a second third has electricity supply but it is inadequate, and a final third has no electricity service at all." -- *Former FERC Commissioner Branko Terzic*

Global energy demand is expected to increase by 57% between 2002 and 2025. The modern world needs increased access to electricity to stimulate socio-economic development and improve the standards of living of people. In recognition of this need, various electricity sector reforms and electrification efforts have been pursued with great enthusiasm in the last decade and the degree of success varies from one region to another due to various underlying factors.

Investment and Electrification

AES Executive Vice President Robert Hemphill said that the goals of regulators and investors are fundamentally compatible. Both seek to improve standards of living and sustain economic development by operating a reliable, reasonably priced electricity system. At the same time, he pointed out that planning, construction, and investment horizons are often longer-lived than the regulatory systems and government support mechanisms under which they operate and thus the need of systems and processes that work.

For developing nations with strong political and legal foundations, Dr. Bernard Tenenbaum of the World Bank argued that regulatory systems can "help" rather than "hinder" electrification—off grid in particular—by following four general principles:

(1) Adopt light-handed and simplified regulation.
(2) Allow (or require) the regulator to "contract out" or delegate, either temporarily or permanently, regulatory tasks to other government or nongovernmental entities.
(3) Allow the regulator to vary the nature of its regulation depending on the entity that is being regulated.
(4) Establish quality-of-service standards that are realistic, affordable, monitorable, and enforceable.

Electrification programs are aided if the government makes them a policy priority and finds a workable approach to support the building of new capacity beyond the current market/regulatory framework in place.

Availability, Deliverability and Affordability

Several panelists at the World Forum noted the common challenge of expanding fuel and supply options to bring various forms of energy resources to customers at affordable prices. Sustainability of the fuel mix is a requirement to reduce risk exposure and price volatility. This has led to the need to constantly innovate and adopt appropriate technologies that help increase affordable access to energy as well as broaden the scope of energy options available to a country or region.

Panelists also recognized the need for regional cooperation to enhance investment opportunities. In reality, trade in energy is fast evolving and breaking regional barriers through the adoption of new market forms and energy transportation modes permitting exchanges far-flung geographical zones at more optimal prices.

Mr. Jonathan Halpern of the World Bank pointed out how—in addition to the effects of poverty on energy availability—interconnection obstacles, poor governance over billing and metering, poor quality of service and low participation in decision-making are factors that make energy less affordable. He argued that targeted consumption subsidies could be improved but only marginally, while connection subsidies seem to have advantages where they are designed effectively.

Promoting Efficiency

Energy efficiency and renewable resources are capable of adding significant short- and long-term economic value to electricity systems. However, most regulatory oversight is structured to provide financial rewards only to traditional supply side resources and, in fact, often works to penalize investment in efficiency and renewable resource development. Panelists at the World Forum urged regulators and policy makers to set ultimate efficiency goals and then adopt regulatory measures that will promote those goals. They point out that benefits often reinforce each other as energy efficiency yields individual savings and results in lower societal/national prices and, at the same time, reduces emissions.

It was noted that commonly, regulatory systems do not always accommodate certain renewable and efficient technologies; that regulatory systems reward sales of units of energy and that rate system should reward utilities for cutting bills, not selling quantities of energy.

Mr. Amory Lovins of the Rocky Mountain Institute listed several "predictable surprises" showing that saving energy is cheaper than buying it. He explained that corporate leadership is recognizing the benefits from carbon reduction, reduction of petroleum imports, job creation and job retention.

The speakers also emphasized the complexity of factors involved in increasing efficient energy use such as the need for public education about energy alternatives, infrastructure barriers that limit the availability of some energy supply options and lack of overall integrated strategies and planning.

Conclusion: Access and Affordability

Given the pivotal role played by the various forms of energy in socio-economic development, all nations are faced with the challenge to find efficient and sustainable means of accessing energy.

Technology and investment are needed, without compromising affordability. Energy efficiency and demand side management can help meet these objectives and support environmental improvement.

Regulators have a critical part in extending electricity to the 2.7 billion people who now lack access. Empowering consumers with effective choice of suppliers and energy services also requires innovative technical solutions. Traditional forms of regulation must be reviewed and adapted to this new framework.

THE FORUM CONCLUDES

It is significant to note that on the final day of the Forum, the nine member regional regulatory associations of the World Forum Steering Committee affirmed the importance of the three major themes of the 2006 Forum by recommending them for the next Forum in 2009. Forum participants had the opportunity to share lessons learned and achieved results in promoting investment, developing regional markets, and expanding energy access and affordability. These are common challenges for all countries around the world, in varying degrees.

The World Forum allowed for interactive dialogue so that delegates can modify and adapt other country's best practices to enhance their own energy, economic, and environmental situations. Representatives for each of the nine major regional regulatory associations summarized the issues that were of critical importance to their regions.

Improving Regulatory Capacity

"Regulation is technically and politically complex; a fight between economists and engineers written by lawyers." -- Chairman Vidmantas Jankauskas, National Control Commission for Energy and Prices of Lithuania

To be effective, regulators require the best intellectual tools. Professional staff and commissioners in regulatory agencies need specific training to prepare them for their complex technical functions and for the demands of managing the stakeholder community of political leaders, service providers and consumers. As often the case in developing countries, regulators face some unique challenges framed by pervasive poverty, low education levels in communities and fledgling institutional and legal frameworks. Thus, training becomes necessary to create adaptive leadership among existing staffs. A panel devoted to this topic included the following perspectives from leading regulatory trainers:

• Credibility is the center of regulatory decision-making. Decisions are only as important as how they were made and by whom. (Prof. Pippo Ranci of the Florence School of Regulation in Italy)

• Training creates the capacity to do the technical as well as the political aspects of regulation. (Prof. Paul Sotkiewicz of the Public Utility Research Center at the University of Florida)

• Training must endeavor to strengthen the elements of good governance: transparency, accountability, participation, and capacity. (Mr. Shantanu Dixit of Prayas Energy Group, Pune, India)

Training not only improves the objective quality of the regulator's work, but also increases its confidence and assertiveness, both of which are essential for building trust, respect and legitimacy in the community. The constant evolution of national policies, industry practices and technology places an obligation on the regulator to be current and, quite often, to advocate and stimulate change.

Despite different problems and different approaches there are common challenges that developed nations share with others.

Among the key themes that were discussed, a number of issues emerged, in particular:

- Affordability and access – Regulators have a critical part in extending energy to the 2.7 billion people who now lack access. Technology and investment are needed, without compromising affordability. Sustainable development is a clear challenge. Energy efficiency and demand side management can help meet these objectives and support environmental improvement.

- Public and private infrastructure investment – There is widespread agreement on the need for transparent, predictable regulation as a basis for investment. Worldwide, the energy sector will require substantial new investments over the coming years. New investments are necessary in order to bring electricity and natural gas to those who still do not have access and to provide diversified sources of energy to consumer countries. Investments are also necessary in developed countries in order to modernize energy systems and increase reliability. Political and legal stability, as well as regulatory transparency and predictability are essential pre-conditions for attracting the required capital flows under favorable conditions.

- Security of supply – Security of supply continues to be at the forefront of regulatory importance. The Forum recognizes the global interdependence of energy resources. Rising prices and the levels of electricity and natural gas imports and exports increasingly affect national and international economies.

- Competitive energy markets – Markets require fair, consistent rules and oversight to be successful. Promotion of competitive markets and quality of supply remain a high priority for energy regulators. Different models have been tested and several lessons can be drawn from these experiences.

- Regional electricity and gas market development – Regional markets crossing national and/or state borders have been designed and implemented in several parts of the world. Although in general the technical and economic challenges of energy market integration have been successfully addressed, the institutional problems of combining different jurisdictions are more difficult to solve and no fully satisfactory schemes have yet emerged. Sub-regional markets are being created as a prerequisite for development of larger regional markets.

- Energy efficiency and the environment – Efficiency plays a greater role in light of new technology, environmental concerns and siting issues. Effective and efficient promotion of energy efficiency and integration of large amounts of distributed generation are crucial elements of a sustainable energy future. Empowering consumers with effective choice of suppliers and energy services also requires innovative technical solutions. Traditional forms of regulation must be reviewed and adapted to this new industry framework. Regulation must promote innovation along the whole energy value chain.

- Best practices in energy regulation – Training as well as compilation of successful regulatory methods have become increasingly important as energy sectors become more complex. Opportunities for exchange of information will help best regulatory practices.

Excerpt from Closing Statement of the Steering Committee of the World Forum on Energy Regulation III. Representatives of the Steering Committee: AFUR, ARIAE, CAMPUT, CEER, EAPIRF, ERRA, NARUC, OOCUR, SAFIR.

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For more information on the 2006 World Forum III proceedings, visit www.worldforum2006.org

NARUC AND USAID HOST REGULATORY PARTNERSHIP SUMMIT

On October 8, 2006, representatives from the USAID-funded energy regulatory partnership programs gathered in Washington, DC, to discuss the benefits of long-term cooperative relationships between U.S. organizations and their energy counterparts in developing and transitional economies.

NARUC administers these USAID-funded bilateral and multilateral management exchange programs which convey U.S. experiences and best industry practices to partnering institutions. Such activities have been conducted worldwide and have addressed practically every aspect of organizational and policy operations with a goal to establish long-term professional linkages between energy enterprises, regulators and non- governmental organizations and provide a learning mechanism for the U.S. energy industry to transfer its know-how in market-based energy.

The Summit agenda featured presentations and discussions on critical regulatory functions and country case studies. Representatives from Jamaica, Albania, Kyrgyzstan and Macedonia analyzed the role of their regulators in sectoral reforms, licensing, tariff and market development, respectively.

Representatives from Croatia, Ghana, and Moldova examined the role of their agencies in international trade and regional markets, noting examples of increased cross-border trade, the Energy Community of Southeastern Europe (ECSEE), regionalization and market clustering, as well as various collaborative efforts from the international donor community to continue support for reforms.

Representatives from Lithuania evaluated the institutional development of national energy regulatory Commissions, emphasizing attributes of independent regulatory decision-making and stable legal framework in which to adopt rules and procedures. Representatives from the Bulgarian State Energy and Water Regulatory Commission reviewed the Bulgarian experience in adopting and implementing the Uniform System of Accounts and financial monitoring.

Summit attendees concluded that the U.S. foreign assistance in the form of cooperative partnerships has greatly enhanced the pace of institutional development, structural reforms and impacted fulfilling of growing regulatory mandates.

For more information, visit the website of the USAID-NARUC Partnerships Program at http://www.narucpartnerships.org

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ROUNDTABLE ON CONSUMER ISSUES AND THE ENERGY SECTOR

Prior to the beginning of the World Forum on Energy Regulation, USAID and NARUC held a Roundtable on Consumer Issues & the Energy Sector. The Roundtable marked the release NARUC's International Consumer Report, the results of which stimulated the three primary discussion themes: public outreach; technical, legal and analytical resources of consumer organizations; and creating a more constructive dialogue between civil society and regulators.

The Public Outreach panel dealt with the two primary types of consumer organizations surveyed in the Consumer Report: those that are primarily oriented towards policy research and advocacy and those that are "grass-roots" focused organizations. The panel was chaired by the Honorable Ron Jones (Chair of the NARUC Committee on Consumer Affairs; and Commissioner at the Tennessee Regulatory Authority).

Mr. Shantanu Dixit of the Prayas Energy Group in India gave a presentation about Prayas' policy research work with high level governmental officials to bring about change in the energy sector. Ms. Nana Janashia from the Caucasus Environmental NGO Network (CENN) gave a presentation about the formation of Energy Services Consumer Associations in Tbilisi, Georgia that works to understand micro level consumer issues and in turn advocates on their behalf.

The second panel on the Technical, Legal and Analytical Resources of Consumer Organizations focused on what types of capabilities consumer organizations need in order to be effective advocates for consumer in a regulatory regime. Dr. Peter Kaderjak from the Regional Energy Policy Research Center in Hungary chaired the panel. Ms. Denise Parrish from the Wyoming Office of Consumer Advocate spoke about how her agency maximizes their resources, and in fact obtains the bulk of its funding from a levy on regulated industries.

Dr. Gill Owen from the Renewable Energy and Energy Efficiency Partnership (REEEP) in the United Kingdom discussed how organizations in the U.K advocate for consumers even with the introduction of competition and other market reforms.

The third panel, chaired by Dr. Davida Wood from USAID, led to a lively exchange about different funding mechanisms for consumer organizations and regulator-consumer organization relations. The Roundtable heard from Professor Sean Flynn from American University's School of Law, Commissioner Stephen Adu from Ghana, Director J. Paul Morgan from Jamaica, and Mr. Vinayak Pandey from CUTS in India. Each respondent discussed their own experience and that of their country as well as ideas about improving consumer participation.

This Roundtable marks an invigorated interest on the part of NARUC to improve the dialogue between consumers and regulators. NARUC intends to build upon the Roundtable and its International Consumer Report by working on a model law and tariff that countries and regulators can adopt to improve the participation of consumer groups in the regulatory dialogue.

NARUC's Consumer Report can be downloaded from the following web link:

http://www.naruc.org/associations/1773/files/pdf/NARUC-06CONSUMER-REPORT.pdf

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NOTES FROM THE FIELD

The Southern African Power Pool: Milestones to Private Sector Investment in Southern Africa

The Southern African Power Pool (SAPP) brings a modern organizational tool of the energy sector to a region of the world in need of improved energy security and enhanced international cooperation. With world energy prices increasing rapidly, it is important that resources are used wisely.

SAPP helps all member countries efficiently use precious power resources. That is due to the ability to transfer energy over larger land areas so that different levels of needs can more immediately be addressed. Through USAID funding, CORE International supported the process of SAPP reform through the review of four principal documents and the provision of specific recommendations for their enhancement. These documents include the (i) Inter-governmental Memorandum of Understanding (IGMOU), (ii) Inter-utility Memorandum of Understanding (IUMOU), (iii) Agreement Between Operating Members (ABOM), and (iv) Operating Guidelines (OG). CORE International, Inc. worked closely with all southern African nations within SAPP and with the SAPP Coordination Center to help bridge gaps so that SAPP can operate more efficiently.

Some of the achievements reached by SAPP through this assistance include improved understanding of the importance of regional power sharing by professionals in all areas, including political leaders, financial experts, policy makers, regulators, and lawyers. The reporting structure for SAPP changed to make SAPP a more efficient organization with smoother operating procedures and more rapid decision-making practices. This is an important step as SAPP moves toward a competitive market. Article 2c of the Revised IGMOU now opens the way for the operation of a regional electricity market based on the requirements of the SADC (South African Development Community) member states. This is a brand new article proposed by CORE and accepted by the SAPP. As a result of revisions to the IGMOU, electricity supply enterprises other than the national utilities in the SADC countries, can participate as full members subject to approval from the SAPP Executive Committee.

This opening to private sector investment sends a strong signal to worldwide private investors that the Southern Africa region is open to private sector participation and seeks to level the playing field between national utilities and independent power producers. Dispute resolution procedures are under development, further improving the enabling environment for private sector investment.

These reforms in SAPP are resulting in (i) improved information flow within SAPP, which helps the institution effectively address various concerns of the member states, (ii) a more open and expansive membership, which strengthens the enabling environment for private sector investment; (iii) more regional harmony and opportunity to enhance regional security, and (iv) greater regional integration. The increased stability within SAPP, and the possibility that it can expand membership, will serve as a role model for other African states and for budding integration initiatives throughout the world.

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NEWS & EVENTS

Kevin Warr Departs USAID

After five years with the EGAT/Energy Team, where he played a key role in the Sector Governance, and later, the Energy Market Development Program, Kevin Warr has relocated to San Francisco to pursue his dream of innkeeping. Kevin, we will miss you, but hope to see you soon at the California wine country's newest inn.

India-Sri Lanka Electricity Connection

Senior officials from the Government of India and Sri Lanka agreed recently agreed in principle on an electricity interconnection between the two countries.

The meeting was subsequent to informal discussions held as part of the USAID South Asia Regional Initiative for Energy (SARI/Energy) energy markets initiative, the findings of a SARI/E pre-feasibility report, and facilitative work by the USAID Sri Lanka Mission.

On Dec 5th, the Secretaries of Power from both countries met and agreed that an electrical interconnection via submarine cable would benefit their nations over the long term. The two countries will exchange letters on the topic, followed by an inter-governmental Memorandum of Understanding. The Secretaries will jointly chair a steering committee to assess and establish the details.

A technical level task force met on December 7th to discuss the submarine cable, with representatives from both India and Sri Lanka. The task force will study the USAID pre-feasibility report, and through additional analysis conducted by subcommittees will make recommendations to the Steering Committee. USAID's SARI/Energy program has been requested to continue their advisory, assistance and facilitative role in the process.

How it Works: Though neither country currently has a net excess of power, both countries have daily and seasonal times of reduced demand and increased availability (e.g. of hydropower) creating excess power for trade. Electrical submarine cables are a well established technology that allows two-way flow of electricity between countries. The link to India's grid would also allow Sri Lanka to harness their huge wind power potential.

The Power of Markets: Trade of power on a cost basis captures the fluctuations of seasonal resources, fuel prices, and consumer demand. Markets which allow these forces to balance result in a lower average price of power, and incentivize consumers and producers alike to be more efficient (e.g. less costly and more profitable) in their use or production of electricity.

For more information, contact: Robyn McGuckin, Regional Coordinator and Program Manager, USAID South Asia Regional Initiative for Energy (SARI/Energy), email: rmcguckin@usaid.gov

Nigeria: Bayelsa, USAID, Shell to Raise $25Million for Niger Delta

Bayelsa State Government, United States Agency for International Development Mission in Nigeria (USAID/Nigeria) and Shell Petroleum Development Company, launched a $25m partnership to improve living standard and social services in the Niger Delta region. The partnership which is aimed at the people of the state and the Niger Delta would provide $25m for cassava production and processing, aquaculture value chain development, integrated HIV/AIDS service provision, and other development projects to be agreed upon by the partners. Of the total amount, about $10 million has been earmarked specifically for Bayelsa State residents with a view to improving their livelihoods and services available to them.

A statement by the United States Embassy in Abuja described the partnership with Bayelsa State as a welcome development stating that "Bayelsa State is a committed partner in development and dedicated provider of public services to its people." According to the statement, "With this partnership, USAID, Shell, and the Government of Bayelsa State will be contributing to the development objectives of improving livelihoods and improved health services.

Through the agreed-upon activities, the partners will foster economic empowerment and improved health standards in Bayelsa State and the Niger Delta."

USAID has been working in Nigeria since the 1960s and provides $80-$100 million annually in development assistance to Nigeria in the areas of democracy and governance, agricultural development and economic growth, basic education, reproductive health and child survival, and HIV/AIDS.

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