

Energy Roundtable Discussion

Hosted by the E&E Bureau

On June 10th, 2009 Jeff Swedberg of the E&E Bureau Program Office hosted a roundtable discussion on energy with three Bureau experts from E&E EG: Bob Ichord, Jamshid Heidarian and Ira Birnbaum. Bob highlighted energy security namely the vulnerability, diversification and regional regulatory and market development. Jamshid covered energy prices with a focus on the patterns and trends, factors influencing tariffs and tariff issues in Ukraine. Ira underscored the importance and barriers to financing energy efficiency. All three panelists discussed experiences and lessons learned; discussion followed. Salient trends are featured below.

Bob Ichord ~ Energy Security

Vulnerabilities

- E&E is highlight dependent on Russia for energy, particularly gas
- Significant changes in gas prices, quintupling in two years then diving back down in 6 months, leads to volatile GDP
- Ukraine is distinctly vulnerable as a major transit country (penalties for gas storage, Russians want prepay for further transit revenues, forced to pay \$14B to pay for gas when cut off)
- Western Europe is highly dependent on energy imports and increasingly so, especially from Russia (60% of imports, 25% of total gas consumption).

USAID Involvement

- Ambassador asked USAID to assess the potential role for US in supporting the March 2009 EU-Ukraine Declaration
- USAID recently completed the gas assessment team visit and made recommendations for specific actions

Diversification

- Technology is driving new possibilities, solar energy
- Nabucco pipeline: a planned natural gas pipeline from Turkey to Austria is supported by US & EU
- Caspian corridor key to expanded gas production and export from Azerbaijan and Caspian
- Athens Energy Community is developing a gas ring
- Western Europe is seeking alternative gas supplies

USAID Focus

- Need to develop policies for diversification of gas imports and domestic supply

Regional Regulatory and Market Development

- Athens Energy Community Treaty was set up to encourage the development of a regional gas market by establishing a legally-binding commitment to adopt EU energy, competition and environment directives.
- The EU/South Eastern Europe Energy Community was established in 1999 to promote peace, democracy, respect for human rights and economic prosperity. There is an initiative to expand the Energy Community to include Georgia, Ukraine and Moldova
- Turkey has a key role both as an Energy Community Observer and in dimensions related to interconnecting with Romania and Georgia interconnecting to Ukraine and Moldova
- Cooperation of Black Sea states in developing integrated regional electricity transmission system

Jamshid Heidarian ~ Energy Prices

Costs of Service: both annual operation and maintenance costs of the electric utility facilities and costs associated with the investment in the facilities necessary to produce and deliver electric power

- Sources of supply and types of generation (hydroelectric, thermal, nuclear);
- Types of customers (residential, industrial, commercial, etc.) and customer mix;
- Age of the sector power plants;
- Size of the sector system (economies of scales for larger size);
- Rate of growth of the sector system (higher fixed costs);
- Sources of funds and methods of financing (cash, borrowing);
- Competition and market forces; Competition from neighboring utilities or other competitive fuel sources. This may force a utility to accept a lower rate of return in exchange for market share.
- Price elasticity: Demand for electricity by certain customers might be sensitive to price while for other customers, price might not be as important factor. If permitted, utilities may want to practice a certain amount of price discrimination between customer classes for the purpose of maximizing revenues.
- Metering constraints. Unless sophisticated time-of-use metering capable of measuring both demand and energy is installed, it is not possible to measure all of the individual customer's specific characteristics required to directly apply the applicable unit costs.
- Political/social-economic considerations. There may be a desire to incorporate certain cross-subsidies and direct subsidies into the tariff structure.

Factors Influencing Tariffs

- Most electricity and natural gas prices in E&E are regulated;
- Overall electricity prices in most countries in E&E are not based on cost of service;
- Cross subsidy (or within subsidy) exists;
- Electricity tariffs in Balkan and Baltic countries are closer to economic cost of service than in Eurasia;
- Average annual electricity tariffs have increased in all countries (not in similar paths) as results of:
 - New Tariff Methodology based on cost of service;
 - Inflation rate;
 - Higher import prices;
 - Higher oil * & gas prices;
 - Drought (low water levels for hydro power plants)
 - Various exchange rates with US Dollar;
 - Different VAT;
 - Political issues
- Average annual national gas prices increased in the region due to:
 - Higher imported prices (demand increased sharper than supply-removal of price subsidies to NIS by Russia);
 - Various exchange rates with US Dollar;
 - Different VAT;
 - Rate of inflation

Tariff Issues in Ukraine

- Residential Average tariffs are lowest (except Kyrgyzstan) in E&E;
- Tariff was relatively constant (2001-2005) and (2006-2008);
- GDP growth rate exceeds electricity consumption;

- T&D losses declined from 19% in 2002 to 12% in 2006

Ira Birnbaum ~ Energy Efficiency

Potential/Importance

- E&E energy intensity 3-5x more than West
 - Household affordability problems
 - Limits quality of municipal services
 - Hampers industrial competitiveness
 - Climate change implications
- Cost-effective savings potential
 - Residential: 20-40% low cost; 40-60% comprehensive
 - Municipal and industrial: 20-40% savings; <1 to 5 year paybacks.
 - District heating significant savings potential, formidable institutional barriers
 - Mitigates increasing fuel cost and tariff reforms
 - Indirect benefits: comfort, health, education, safety, job creation

Barriers to Financing

- Low tariffs; bills not based on consumption or cost-of-service
- Lack of awareness
- Lack of homeowner/condominium associations
- Budget constraints
- Lack of well prepared project proposals
- High collateral requirements
- Perceived risk/lack of familiarity by banks
- Relatively small projects
- Financing opportunities via IFIs, DCA

Experiences and Lessons Learned

- Municipal sector:
 - Bundle district heat modernization with building improvements; combine policy and local actions (e.g. Ukraine Municipal Heat Reform program)
 - Good DCA opportunities
 - Supports Local Government programs
- Industrial sector:
 - Incentive to lower operating costs
 - Ukraine U-IEEI projects: \$0.5-6m, 0.5-5 year payback
- Residential sector:
 - Most challenging sector
 - Importance of HOA/CA
 - Public information is needed
 - Building-level much more effective than individual apartments
 - Need special provisions for low income households
 - Growing interest of IFIs