

SESSION TOPIC: ENHANCING ENERGY EFFICIENCY

- Energy Efficiency: incentives vis-a-vis disincentives;
- Improved transmission of electricity;
- End-use efficiency in commercial and residential sectors

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1) Innovative Financing can Overcome a Significant Market Barrier to Project Development

Case Study	<u>DCA Facility for Municipal Energy Efficiency in Bulgaria*</u> USAID worked with United Bulgarian Bank (UBB) to develop a \$10 million lending facility for municipal energy efficiency projects. USAID's Development Credit Authority (DCA) provides partial guarantees to every loan issued by this facility, thereby decreasing the risk of lending and increasing the amount of money lent. The projects financed by the facility enable municipalities to lower energy costs, improve the quality of services delivered and reduce harmful emissions. In Phase 1, \$10 million in loans was issued for 33 municipal and industrial projects, saving 400 GWh, 1,419 TJ, and 530,000 tons CO ₂ . Under Phase 2, which will provide an additional \$10 million (revolving), to date two street lighting loans totaling \$280,000 have already been approved, and nine other projects are being developed. One of the street lighting projects will reduce electricity demand by 162 kW. Point of contact on U.S. delegation: Ira Birnbaum, ibirnbaum@usaid.gov
Lessons learned	Loan guarantees can leverage substantial lending (i.e. a 40:1 ratio of loans to foreign assistance) and can be used to stimulate a "new business line" for financing energy efficiency based on the energy savings generated by project investments.
Obstacle addressed	Access to affordable, longer-term financing for project development; address unique risk profiles and smaller scale nature of projects; need for non-asset based financing.
Next steps	Continue taking steps that can lead to commercializing lending for energy efficiency projects within Central and Eastern Europe, including lending to Energy Service Companies.

2) Standards and Labeling Programs: A Most Cost-Effective Investment

Case Study	<u>Collaborative Labeling and Appliance Standards Program (CLASP)*</u> Since its creation in 1999, the Collaborative Labeling and Appliance Standards Program (CLASP) has assisted with the implementation of 21 new minimum energy performance standards, energy efficiency endorsement labels, and energy information labels that will save 250 megatonnes of CO ₂ by 2014. CLASP promotes world's best practices in energy efficiency standards and labeling (S&L) for residential, commercial and industrial equipment and lighting by working with in-country technicians and officials, and by facilitating regional harmonization efforts. CLASP has developed S&L tools, including a guidebook for S&L policymakers and implementers, a comprehensive website, data collection protocols and an impact evaluator. Appliance standards for refrigerators in the U.S. have resulted in models that now use 60% less energy than 1980 models. Point of contact on U.S. delegation: Larisa Dobriansky, larisa.dobriansky@hq.doe.gov
Lessons learned	Standards and Labels are an extremely cost-effective public investment that can bring very high returns on government expenditures, significant energy savings from energy consumption reduction, and significant reductions in peak load demand and greenhouse gas and other emissions.
Next steps	Further S&L regional harmonization efforts in Asia, North America and elsewhere and the development and transfer of Energy Standards Information System interactive database set up within APEC.

* - Case study listed in CSD Matrix

+ - Case study to be submitted to Secretariat during CSD-14

3) ENERGY STAR: Promoting the Efficient and Healthful Use of Energy in Residential, Commercial and Industrial Products, Equipment and Buildings

Case Study | **ENERGY STAR***

With ENERGY STAR product labeling, the USG has set energy efficiency guidelines for more than 40 commonly purchased products for home and business use. These energy efficiency guidelines are above any minimum standards in place for products and employ agreed to testing procedures for the measurement of energy use. Products that meet the guidelines earn the Energy Star label. More than 1.5 billion ENERGY STAR qualified products have been purchased since the program's inception in 1992. In 2005 alone, the complete ENERGY STAR program (which now covers buildings and homes as well) led to energy savings of 150 billion KWh (about 4% of U.S. electricity sales), resulting in utility bill savings of \$12 billion and preventing 35 million metric tons of greenhouse gas emissions, equivalent to the emissions from 20 million vehicles. Point of contact on U.S. delegation: Tom Kerr: tom.kerr@epa.gov.

Lessons learned | **Voluntary labeling is a cost-effective means for branding products, services and buildings in the marketplace as energy efficient and environmentally sound and creating the opportunity for suppliers and end-users to make informed decisions and become stewards of our energy and environmental resources.**

Obstacle addressed | Market demand for and consumer awareness of the value of energy efficient and environmentally sound products, services and buildings.

Next steps | Scale-up and transfer elements of ENERGY STAR program; increase market penetration rate for energy efficient and environmentally sound products, services and buildings.

4) Increasing Use of Energy Efficient and Renewable Energy Technologies in More Integrated Community Energy Systems

Case Study | **Global Energy Network+**

A Global Energy Network of affiliated centers is being developed through the U.S. Department of Energy's "Efficient Energy for Sustainable Development Partnership" to accelerate the use of energy efficient and renewable energy technologies by developing model community energy systems. This is an open network of organizations affiliated for distributed peer production of models and tools for energy-smart community planning and development. A pilot Model Energy System in Chula Vista, California will generate lessons learned on integrating renewables, energy efficiency, CHP, distributed energy, district heating in the design and development of a greenfield community energy system to increase reliability and reduce emissions. Point of contact on U.S. delegation: Larisa Dobriansky, larisa.dobriansky@hq.doe.gov

Lessons learned | **By serving as an example, model communities that integrate energy efficiency and renewable energy technologies can build the capacity of municipalities.**

Obstacle addressed | Capability of Communities to adopt more advanced energy technologies that can significantly increase the efficiencies of generating, delivering and using energy throughout a community energy system. Approximately, seventy percent of our energy consumption patterns are affected by the way in which our communities are designed and operated.

Next steps | Link with other sustainable community development networks.

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