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Experience & Lessons Learned From USAID Energy Efficiency Projects in Eastern Europe

Ira Birnbaum
Energy Efficiency & Climate
Change Coordinator
USAID Europe & Eurasia Bureau

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ORGANIZATION OF PRESENTATION

- E&E Energy Efficiency Priorities and Approach
- Creating an Enabling Framework in the Region
- Summary of Current USAID/E&E Regional Program
- Success Story
- Critical Success Factors
- Future Challenges



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USAID/E&E CLEAN ENERGY ACTIVITIES

- REGIONAL
 - Strategic Planning for Renewables and Energy Efficiency
 - Regional Assessment of Renewable Energy
 - Energy Efficiency in Residential and Public Buildings
 - Regional Transmission Planning: SE Europe, Black Sea
 - Regional Energy Market and Regulatory Development
 - Low Emissions Strategies and Clean Energy Development
- BILATERAL
 - Macedonia
 - Bosnia & Herzegovina
 - Ukraine
 - Georgia
 - Armenia
 - Moldova*



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USAID INTEREST IN ENERGY EFFICIENCY IN EUROPE AND EURASIA

- Energy costs are increasing, leaving less money for buying other items.
 - Energy costs represent significant share (>10%) of a family's budget.
 - Energy cost impact is greatest among the lowest income groups, which pay a percentage two-to three times greater than average households.
 - Energy represents a substantial percentage of municipal expenses, limiting the ability to provide high quality public services.
- Energy costs can be reduced 20-40% through cost-effective projects.
- Important indirect benefits:
 - Improving comfort
 - Improving the quality of services
 - schools and hospitals can buy more text books and medicine;
 - school attendance increases;
 - hospitals have lower re-infection rates;
 - streets are safer.
- Environmental/climate benefits including lowering emissions of greenhouse gases and other harmful pollutants: lowest cost solutions.
- Energy security/reduce imports: lowest cost solutions.



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RESULTS: USAID-FUNDED ENERGY EFFICIENCY PROJECTS

Type (#)	Countries	Cost Range (000's)	Average Payback
Hospitals (16)	Bulgaria, Serbia, Lith.,Czech	\$40 - 380	2.9 yrs
Schools (18)	Serbia, Macedonia, Bulgaria Hungary, Poland, Czech, Ukraine	\$1.8 - \$127	3.1
Housing (5) (apartment buildings)	Albania, Poland, Slovakia, Ukraine	\$3.6 - \$163	3.5
Street lighting (20)	Serbia, Poland, Bulgaria	\$5 - \$450	3.9
Municipal buildings (6)	Bulgaria, Serbia	\$83 - \$362	3.1
District heat distribution (2)	Serbia, Bulgaria	\$44- \$393	2.8
Senior center (2)	Serbia, Macedonia	\$5 - 173	2.0



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USAID/E&E REGIONAL ENERGY EFFICIENCY PRIORITIES

- Areas of Focus
 - Public buildings
 - Residential/low income/affordability
- Approach
 - Stimulate and assist Governments development of effective energy policies and plans
 - Overcome barriers and improve investment climate to stimulate financing (including non-governmental)
 - Combined focus: regional templates; bilateral opportunities



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EE IN RESIDENTIAL & PUBLIC BUILDINGS REGIONAL PROGRAM COMPONENTS

- Stocktaking of Laws, Policies, Institutions
- National and Municipal Planning/Program Design
- Legal and Regulatory Support
- Project Preparation
- Awareness
- Financing and Business Development



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ENERGY EFFICIENCY POLICY FRAMEWORK

- Establish Responsibilities and Inputs
 - Government Ministry or Agency
 - Roundtable/Coordination Process with NGO Participation
- Funding Mechanisms
 - IFIs, Private Lenders/Guarantees, Funds with Independent Management
- National Energy Efficiency Action Plans (NEEAPs)
 - Sector-specific targets and implementation programs
 - Monitoring/Reporting/Verification
- Public Awareness
- Government Leadership by Example
 - Public buildings, equipment procurement



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ENERGY EFFICIENCY LEGAL FRAMEWORK

- Energy Efficiency Law, Secondary Laws
 - Codes, Standards, Labeling (including enforcement)
 - Energy Auditing Procedures and Certification
 - Heat Metering and Consumption-Based Billing
 - Municipal Energy Planning and Authority to Borrow
 - ESCOs and Energy Performance Contracting
 - Private Sector Participation in Municipal Utilities
 - Homeowner Associations, including Ability to Contract Utility Services and Implement EE Projects
 - Social Safety Mechanisms for Vulnerable Households
 - Incentive Mechanisms
 - EE Fund Operating Procedures and Eligibility Criteria



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ACTIVITY 1: NATIONAL AND MUNICIPAL PLANNING/PROGRAM DESIGN

- Assist Ministries in Developing National Energy Efficiency Action Plans and Programs for Buildings
 - Build capacity in Energy Community Ministries
 - Provide best practice examples, templates, guidelines:
 - NEEAP building sector preparation and monitoring/evaluation
 - National building sector EE strategies and programs
 - Low-income EE programs
 - Financial mechanisms and private sector participation
 - Selected country activities:
 - Municipal EE planning and networks
 - Implemented by IRG/ASE and EnEffect workshops and advising Ministries and local NGOs.



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ACTIVITY 2: LEGAL & REGULATORY SUPPORT

- Develop Enabling Framework for Investment.
- Focus on Selected Countries, to Provide Regional Models.
- Develop Templates for Key Secondary Legislation
 - Energy audit procedures, guidelines, certification
 - Building codes/standards/labeling
 - Homeowner/Condominium Association management
 - Guidelines for Funds/mechanisms
 - EE equipment financial incentives
 - Private sector participation and ESCO performance contracting
 - Municipal energy planning



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ACTIVITY 3: PROJECT PREPARATION

- Municipal and residential project in selected countries
- Technical and financial analyses.
 - Prefeasibility studies.
 - Preparation of business plans; presentation to lenders.
- Projects must have potential for high replicability to help meet goals of national programs.
- Performed by EnEffect working with local NGOs.



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ACTIVITY 4: AWARENESS

- Raise EE awareness and knowledge levels in Government and civil society.
- Focus on selected countries, to provide regional models.
- Build on earlier ASE Serbia EE public info campaign.
- Include media, Green School curricula, municipal energy planning guides.



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ACTIVITY 5: FINANCING AND BUSINESS DEVELOPMENT

- **Develop Tools to Promote EE Business Opportunities**
 - Operational guide to sustainable financing schemes
 - Green Directory of vendors, service providers, financing mechanisms
 - Case studies of successful financial schemes
- **Develop Regional EE Business Network**



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SUCCESS STORY: DEVELOPMENT CREDIT AUTHORITY

- USAID partial loan guarantee ($\leq 50\%$) for commercial lenders
- Loans issued by lenders following their approval process
- Supports non-sovereign lending (private sector and municipal)
- Addresses insufficient donor funds by leveraging limited development assistance with private capital
- Overcomes lender reluctance by reducing risk, increasing their willingness to extend loans
- Addresses barriers to borrowers: reduced collateral requirements, increases size of loans
- Well-suited for energy efficiency and renewable energy: short paybacks enable borrowers to repay
- Helps establish creditworthiness among newly eligible borrowers, e.g., Macedonia municipalities.



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DCA PROJECT IDENTIFICATION AND PREPARATION

- USAID or other donor-funded technical assistance identifies projects and prepares technical and financial analyses
- Important to get understanding, trust from borrower and lender
- Requires additional development assistance funding



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SUCCESS STORY: BULGARIA DCA

- Partner Bank: UBB
- Partial Loan Guarantee
 - Initially 50%, subsequently lowered to 30%
 - Leveraging started at 12:1, improved to 20:1, later 40:1
 - Reduced risk to lenders; reduced collateral requirements; increased size of loans; extended terms of loans



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BULGARIA DCA RESULTS

- Initial \$10 million Lending Facility
 - 33 projects financed
 - 22 municipal, 11 industrial
 - Annual savings: 400 GWh electricity; 1.419 TJ fuel and thermal; and 530,000 tons CO₂
 - 100% repayment rate (vs. pre-DCA default rate of 4.5% among total loan portfolio)
 - Maximum terms: 5 years municipal, 10 years industrial (vs. 1-3 years non-DCA)
 - TA <10% of loan amounts



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BULGARIA DCA ACCOMPLISHMENTS

- For years, DCA was the only lending source for energy efficiency of any sort.
- DCA was only source of municipal loans.
 - Demonstrated right and ability to borrow
 - Established right to borrow beyond electoral term
- DCA opened the market for small loans
 - Average loan: \$250,000
 - 39% of loans <\$100,000
 - Only 12% of loans >\$500,000; 6% >\$1 million
- Paved the way for BEEF (WB/GEF), EBRD, other IFIs



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OTHER COUNTRIES WITH DCA FACILITIES

- Macedonia -- \$10 million Lending Facility
 - UniBank, NLB Leasing
 - 50% guarantee
 - Municipal and residential projects; EE and RE
 - ESCOs eligible as borrowers
- Bosnia & Herzegovina -- \$10 million Lending Facility
 - Raiffeisen
 - Guarantee may be <50% at Raiffeisen discretion
 - Municipal and residential projects; EE and RE
 - ESCOs eligible as borrowers



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CRITICAL SUCCESS FACTORS FOR EE LENDING

- Lending Environment
 - Tariff and bill-paying discipline; consumption-based billing; cost-reflective energy tariffs
 - DCA fits niche lending environment
- Lender Commitment, Motivation
- Legal, Creditworthy Borrowers
 - Concerns with municipalities, Home Owner Associations
- Good Project Preparation Meeting Lender's Needs
- Capacity Training Among Lenders
- Awareness Raising Among Eligible Borrowers



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SUSTAINABLE PROJECT PREPARATION

- Phase I: Donor-funded TA (<10% of loan amount)
- Phase II: Include Costs in Loan Repayment
 - Initial TA paid as part of borrower's share
- Phase III: ESCO Included as Part of Comprehensive Turn-key Package



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FUTURE CHALLENGES FOR EE LENDING

- Lending to ESCOs
- Residential Energy Efficiency Lending
 - Microfinancing
 - Revolving funds
- Concerns:
 - Creditworthiness, lack of borrowing history, Homeowner Associations
 - Better terms from IFI soft loans
- Requires Innovative Approaches



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THANK YOU!

Contact Information:

Mr. Ira Birnbaum

Energy Efficiency/GCC Coordinator

USAID Europe & Eurasia Bureau

Washington, DC

ibirnbaum@usaid.gov

Phone: 202-567-4043. Fax: 202-567-4262