**European Commission, Directorate General EuropeAid**

# Energy Saving Initiative in the Building Sector in Eastern Europe and Central Asia (ESIB)

INOGATE

Energy cooperation between the EU, the littoral States of the Black & Caspian Seas and their Neighbouring Countries

Project funded by
l'Union Européenne

SOFRECO

Project implemented by SOFRECO
in consortium with AF Consult,
SEVEn and SODRUZHESTVO

# INOGATE Program and ESIB Project

- The INOGATE Program was launched in 1992 to support the development of energy cooperation between the EU, the littoral states of the Black and Caspian Seas and their neighboring countries. The Program covers the areas of oil and gas, electricity, renewable energy and energy efficiency. 11 INOGATE countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan and Ukraine. Russia and Turkey are observers.

- One of the key areas where significant energy saving can be achieved is the building sector. Residential and commercial buildings are in fact responsible for 40% of the world energy consumption. To tackle this, the EU with the INOGATE Country Coordinators and Working Group 3 (WG3 Suatainable Dvelopment) decided to launch the ESIB Project. This project covers all types of buildings: housing, public buildings, schools, hospitals, offices, shops, other tertiary buildings, etc.

# ESIB KEY FACTS

- Beneficiary countries: INOGATE Partner Countries
- Timeframe: 48 months (01/2010 – 01/2014)
- More on the web: www.inogate.org

# ESIB OBJECTIVES

- Support the awareness-raising initiative for EE in buildings
- Provide technical assistance to overcome obstacles to the transfer of best practice and technology
- Support the development and the enforcement of legislation related to EE in the building sector, including drafting of building standards and codes, as well as the promotion of regional harmonization of policies and regulatory practices and support to the development of homeowners associations

# ESIB OBJECTIVES

- Provide advice to establish an enabling investment climate and sustainable financial schemes for energy conservation projects, including identification and assistance to the preparation of EE investments in the building sector for submission to the IFIs
- Assess the needs for strengthening capacity of professionals in energy auditing, building technologies and design, and provide appropriate training and networking programs
- Provide TA in the implementation of demonstration projects

# ESIB MAIN AREAS FOR ACTIONS

- Legal: analyzing of the current state of EE legislation and recommendations for its further development
- Financial: developing new financial schemes
- Technical: improving and enhancing energy audit practice, bringing TA to new adapted building codes and technical norms to stimulate the use of EE solutions adapted to local conditions. Assisting in realizing demonstration/pilot projects

# Country-wise activities – Tajikistan

- 1st ESIB fact-finding mission to Dushanbe was held in June 23-27, 2010:
  - MEI, BT, State Energy Supervision Service, MEDT, Agency for construction and architecture, Municipality, Consumer Union and related Donors
- 2nd ESIB mission was held in Feb. 21-25, 2011:
  - MEI, BT, State Energy Supervision Service, Municipality, Consumer Union, related Donors, CAREC Project, EE material producers

# Workshops / Trainings

- Energy performance certification of buildings and energy labelling of appliances, Jan 18-19, 2011, Kiev
- Municipal heating strategies. How local governments can contribute to EE in buildings, May 11-13, 2011, Kishinev
- Planned Study Tour on Social Protection of Consumers in connection with EE Programs in the Housing Sector in the new EU States (The Czech Republic and Poland).
- In October 2011 in Dushanbe ESIB intends to provide a training on energy audit

# Concept of ESIB Training on Energy Audit

- 3 days training on a concrete case
- About 15 participants: engineers, architects, civil officers from ministries, municipalities, heating companies, etc.
- Material  is on Excel for an easy adaptation to the country, and easy use by participants
- The building selected as a study case is supposed to be later retrofitted with financing from other International Institution, such becoming an Integrated Pilot Project (IPP) potentialy including legislation and financing components

# Day 1

Morning

- Introduction from EU Delegation, Ministry of Energy, Ministry of Construction and Housing, Municipality, other stakeholders
- Presentation of the workshop and the selected building
- Technical Background for Energy auditing: construction norms, climate parameters and current state of EE technologies in the specific country

Afternoon:

- Part 1: Data input and calculation on Excel model: physical parameters, Site description, climate data, calculation of heat losses, ventilation, heating efficiency
- Part 2: Proposals, energy savings and costs on Excel model: Introduction and selection of technical solutions for improving building energy performance; heating system improvement, ventilation, final selection of EE measures; economic evaluation of the proposed EE measures.
- Preparation for day 2: Presentation of data collection form and walk-through audit basics, formation of study teams

# Day 2

Morning

- Transportation of trainees to the selected building
- Receive instructions and start data collection
- Complete data collection

Afternoon:

- transfers collected data into energy audit model description worksheets independently by each of the teams
- starts calculation of lambda, R and U values
- starts studying the content of the technical solutions
- description of the building component and calculation of heat losses
- Selecting technical solutions and making different proposals
- Define new system efficiency and ventilation, new heat losses
- Results of energy improvement, in kWh, and economic calculation
- Developing different EE scenarios

# Day 3

Morning

- Continuation of processing data, calculating heat losses, making economic analysis
- Presentation of results by each of the teams, and discussions, with all participants, comparison of cost-effectiveness of the proposed packages of technical solutions

Afternoon:

- Presentation of results by each of the teams, and discussions (continuation)
- Economic analysis: financing, analysis of investment attractiveness, project bankability. Presentation of the life cycle cost.
- Conclusions, questionnaire on evaluation of training and awarding training certificates

# THANK YOU FOR YOUR ATTENTION

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