

Energy Efficiency and Energy Supply Improvements of Public Institutions in Floresti

(autonomous boiler houses – quality,
efficiency, security, environmental
friendly)

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Mayor of Floresti, Moldova**

Why did we need a new approach?

- 2 schools were heated by HOB no. 3 (3 boilers КВГ-2.15 (5 kwt/h each) – S (heated) = 5 thous sq.m.)
- one school and kindergarten no. 7 were heated by HOB no. 2 (3 boilers КВГ-2.15 (kwt/h each) – S (heated) = 6 thous sq.m.)
- Center for children activity was heated by central city HOB no.1 (3 boilers ДКВР - 6,5 -13 / 14,4 kwt/h each)
- House of culture, Museum, Sport Center – were not heated for more then 15 years

Why did we need a new approach?

- Old heating system required:
 - Renewal of supply regime and regulation of boilers
 - 70% of heat pipes to be replaced
 - Insulation of all piping system

Why did we need a new approach?

- MC “Servicii Termice Floresti” - bankrupted

Debts:

- ✓ for gas – 110 thous \$
- ✓ for power – 30 thous \$
- ✓ for water – 20 thous \$

Why did we need a new approach?

- Indoor temperature in buildings – 10-16°C

Objective:

Qualitative heat supply
and consumption

Solutions found

Project no. 1

- Gasification of school no. 1 and boiler house equipment replacement, energy efficiency:

Gasification – 10 thous \$

Equipment replacement – 4,5 thous \$
(including 3 boilers KCF-60 – 2 thous \$)

Energy efficiency: replacement of 33 windows
– 13 thous \$

Solutions found

NEW:

- Involvement of community and private sector in the solutions approval process and participation in the municipal problems solving;
- Creation of partnership between local authorities - civil society – private sector

13 thous \$ =

8 thous \$ (Van Wert city, State of Ohio, USA,
Mrs. Megan Miller)

+ 3 thous \$ (city budget)

+ 1 thous \$ (SRL “Flerixon”)

+ 1 thous \$ (community)

Solutions found

Project no. 2

Construction of 4 HOBs

- Container boiler house and heating pipes for Children Center
- Container boiler house and heating pipes for kindergarten no. 7 and Russian Secondary School no. 2
- Container boiler house and heating pipes for House of Culture and Museum
- Boiler House (1100 kW) in existing building for Primary School, Secondary School no. 3, multifamily house (60 ap.)

Project Implementation Strategy

- Elaboration of **Energy Plan** and Energy Efficiency and Energy supply Projects (with assistance of Alliance to Save Energy, USAID Project) - 2002
- Elaboration of alternative heat supply options for Floresti (under the National Program for Heat Supply Decentralization) – 2002-2003
- Elaboration together with Ministry of Energy projects for:
 - Apartment level boilers – 440 thous \$
 - Building level boilers – 215 thous \$
 - Local boiler houses – 249 thous \$

Project Implementation Strategy

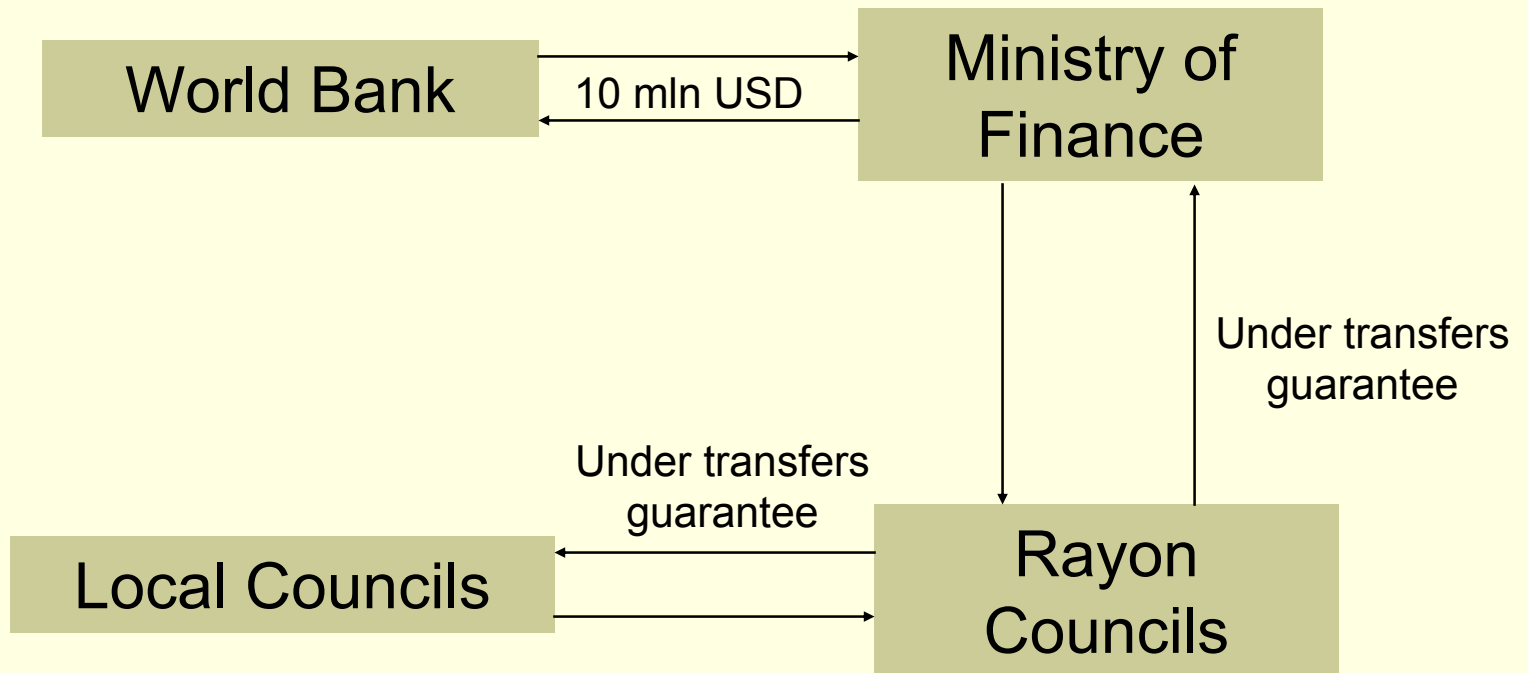
Interested Stakeholders:

- Local authority
- Population
- Central authority (Ministry of Energy)
- Local and foreign investors
- Technical assistance projects

Project Financing Sources

- Private investments (local)
- State investments
- Energy II Project (World Bank, 10 mln \$ for heat supply)

Financing scheme



Financing scheme

- Financing conditions:
 - 15 years term loan
 - 1,75% annual interest rate
 - grace period – 3 years
 - up to 10% of investments - local contribution
- Community share – 35 thous USD
 - construction of pipes (gas, water) and power grid

Stages of project implementation

- Competitive selection of 4 cities (incl. Floresti)
- Tender for construction companies organized by World Bank (through Project Implementation Unit) and mayors (local Councils): December 2003 – June 2004
- Contract signing with selected company (SRL “Romany Gaz Grup”, out of 4 candidates)
- 398 thous \$ - construction of boiler houses and heating pipes
- 52 thous \$ - energy efficiency (replacement of 102 windows and 22 doors)

Stages of project implementation

- July 2004 - March 2005 – construction of 4 boiler houses and heating pipes for 8 objects
- Monitoring – PIU – mayor (Project Manager)
- Finalizing 1st stage of project implementation – January 2005
- Final stage – march 2005

Project results

- Heat supply to 8 public institutions:
 - 3 schools
 - Kindergarten no 7
 - House of culture and Museum
 - Children Center
 - Sport Center

Project results

- Heat supply parameters: $T=95-70$ °C
- Minor heat losses
- $T=18-26$ °C (during 2005-2006 heating period with outdoor temperature of -25 °C, the indoor temperature was maintained at 18 °C!)
- High quality services
- Reduction of GHG emissions (Kyoto Protocol)
- No need to prolong the winter holidays
- Possibility to organize the activity of House of Culture, Children Center and Sport Center during the whole year

Factors that contributed to the project implementation

- Financing source
- Local authority role
- Role of PIU, World Bank experts
- Energy planning training, Alliance to Save Energy

Factors that hampered project implementation

- Imperfection of legal framework
- Political interests
- Technical factors

Conclusions and recommendations

- **Decentralization of utilities** – improved quality
- **Local authorities autonomy** – solution to attracting financing sources for municipal projects (incl. Energy efficiency, heat supply to low-income people)
- **Creation of partnerships** between local authorities, civil society and private sector – crucial for local development

Thank you for your attention

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