

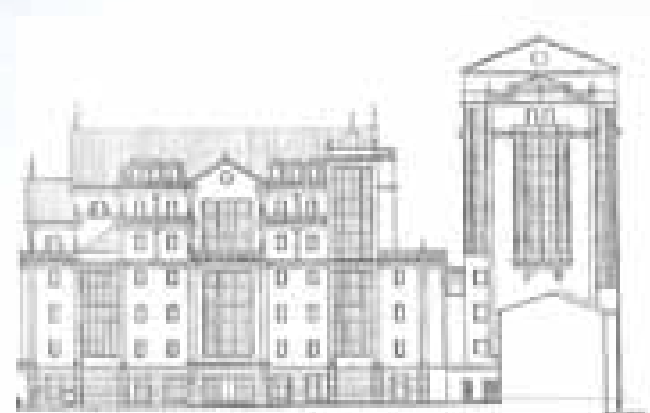
“Urban Economics Institute” *Fund*

# Problem of Rational Energy Consumption in the Public Sector

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# Problem of Rational Energy Consumption in the Public Sector

- Current situation
- Energy saving potential
- Mechanisms and models of energy saving
- Institutional barriers



# Current Situation

- In recent years, 2004-2006, the public institutions are paying for the consumed communal services.
- The communal services costs constitute a substantial part in the municipal budgets for education and health protection.



# **Energy Saving Potential Volumes of Consumed Communal Services (Rostov Oblast Example)**

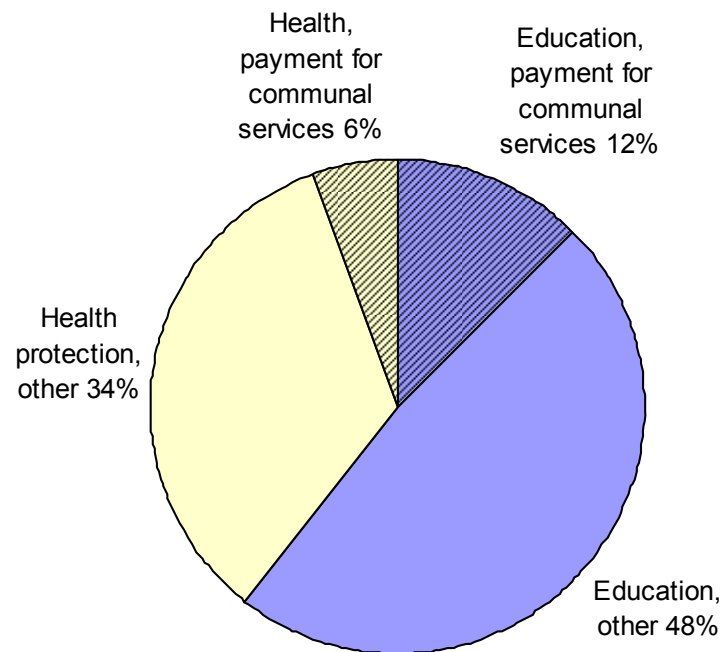
- **Rostov Oblast's consolidated budget bill for the public sector's communal services is:  
1 billion rubles (\$ 32 millions) annually**
- **These financial means are used to purchase:  
420 mln kWh of electricity;  
1 mln Gcal of heat;  
72 mln m<sup>3</sup> of natural gas; and  
180 ths tonnes of boiler and furnace fuels  
that makes a total of over 0,5 mln tonnes of equivalent fuel.**
- **The share of education and health institutions exceeds 70% of this amount.**



# Current Situation

- **Cheboksary City budget for 2003:**
- **32% - expenses for education, of which:**
  - **21% is used to pay the communal services bill**
- **21% - expenses for health protection, of which:**
  - **14 % is used to pay the communal services bill.**
- **The payment for the communal services supplied to education and health institutions accounts for a total of 9.7% in the municipal budget expenses.**

**The weight of communal services in the total expenses of the municipal budget for education and health is 18%.**



# Current Situation

- No professional management of public buildings.
- No economic incentives for rational energy consumption.
- Lack of energy consumption metering.
- The energy supply agreements fail to specify the key quality supply parameters.

**Conclusion: Budget expenses for communal services are not efficient.**



# Energy Saving Potential (Rostov Oblast Example)

- The meters installed in education institutions caused considerable savings:
  - 16% of thermal energy consumed for heat supply (50% in case of adjusting to “overheating”);
  - 69% of thermal energy consumed for hot-water supply;
  - 67% of water used for hot-water supply;
  - 34% of consumed cold water.



# Energy Saving Mechanisms

## Tasks:

- To create necessary motivating mechanisms.
- To change the management system for the real estate, which includes public institutions.



# Energy Saving Mechanisms

- **Approaches:**
- Full division of responsibility for:
  - Budget institution's core activities
  - Building efficient management
- Shifting from short-term (one year) to medium-term agreements
  - Implementation of medium- and long-term planning
- Transfer of special functions
  - Energy service, energy consumption monitoring, meters servicing to special organizations on a contractual basis.



# Energy Saving Models

- **Energy Efficiency Contests**
- Comparison of competitors (public institutions) based on the energy efficiency indicators, adjusted to commensurable conditions.
- Material reward of the contest winners.



# Energy Efficiency Competition Among the Education Institutions of Ryazan

- The social sphere of Ryazan City includes **269 institutions**.
- Energy supply costs for the public institutions for 2005 - **173,3 million rubles**.
- Contest participants - **17 education institutions**.
- The contest program included:
  - water and electricity consumption analysis;
  - implementation of energy efficiency measures;
  - exhibition of drawings, выставку рисунков, posters, slogans, flyers;
  - public campaign contest.
- The contest results showed during one month over **32,000.00 rubles** have been saved from the budget expenses planned for payment of energy resources for city's education institutions.



# Energy Saving Models

- **Moving Limit**
- The limit for the next year after control devices have been installed is equal to the initial one.
- After – the limit is reduced according to a tri-annul moving average.
- The savings are divided between the public institutions and the city budget during 3 years.
- The share of the saving withdrawn from the budget gradually grows.



# Energy Saving Models

- **Professional Management**
- **Will secure qualified maintenance of the buildings and communal services supply under a long-term contract with the budget resources administrator.**
- **The Management Company:**
  - **Optimizes the resources consumption regimes; and**
  - **Improves the buildings' condition to reduce the energy losses.**



# Institutional Barriers

- Local budgets, being as a rule grantors, are not interested to improve the budget expenses efficiency, i.e. energy saving.
- Lack of a mandatory medium-term budget planning does not allow for long-term service agreements to be signed and for involvement of energy servicing businesses in the energy saving processes in the public sector.



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