

## **Energy Efficiency in Federally-Funded Facilities in Russia**

In Russia, there are 138 Ministries, departments and other facilities financed from the federal budget. In all, these constitute more than 22 thousand buildings. The energy costs for those facilities are in the range of \$2-3 billion annually. Among the most intensive energy consumers are: Ministry of Defense (20%), Ministry of Education (11%), Ministry of Internal Affairs (7%), Ministry of Health and Ministry of Nature (6% each). If only energy costs of federal government buildings are reduced by 20%, the savings will amount to between \$400 and \$600 million, enough to increase monthly wages of two million teachers by \$20 per month – roughly 20% of the average monthly income.

The Russian government has passed a number of laws supporting energy efficiency in the federal arena, including:

- the 1995 federal law on state regulation of heat and electricity tariffs;
- the 1995 Law on Natural Monopolies;
- the 1996 Law on Energy Conservation;
- Statute No. 832 from 1997 addresses an increase in the effective use of energy resources and water by government-funded facilities;
- Statute No. 588 from 1998 addresses additional measures to stimulate energy efficiency in Russia; and
- Statute No. 12 includes a number of legal, normative, technical and methodological approaches.

Another Russian law, “Energy Conservation Russia,” was passed in 1998. This law contains five subprograms:

- Energy efficiency in the sphere of heat and electricity
- Energy efficiency in residential and communal services
- Energy efficiency in energy-consuming branches of industry
- Production of energy accounting equipment and regulation of expenditures on energy resources
- Production of efficient electro-technical equipment.

Energy Conservation Russia has been subject to a great deal of criticism, primarily because the law is not perceived to have a single, clear goal, and its current objectives are too broad and general. Most importantly, however, programs to implement this law are vastly under-financed and basic training is needed for personnel to implement energy efficiency projects. The general feeling is that the laws supporting energy efficiency in Russia lack identification of responsible parties for implementing and enforcing such programs.

In 1998-1999, there were several efforts made by the government to develop and implement an energy efficiency program for federally owned facilities. The Ministry of Fuel and Energy financed energy audits at 52 federal facilities (focusing on the six most energy intensive ministries). CENEf, the Russian Center for Energy Efficiency and a sister organization to the U.S. Alliance to Save Energy, actively participated in conducting three of these federal audits.

### Results of energy audits of federal buildings (1998)

Ministry	Number of Facilities (Bldngs.)	Consumption of Heat and Electricity in 1997 (in 000s of rubles)		Economic Effect after Introduction of Low Cost EE Measures				Payback of EE Measures		Limit on Energy Resources under payment for EE Measures	
		Heat	Electric	R/year (000s)		%		Years		Heat	Elec
				Heat	Elec	Heat	Elec	Heat	Elec		
Education	15 (228)	70,609	20,319	22,595	3,454	32	17	1.4	1.9	48,014	15,865
Culture	7 (16)	4,642	1,950	1,485	273	32	14	1.7	2.1	3,156	1,677
Defense	7 (61)	8,674	4,447	2,602	534	30	12	0.6	1.1	6,072	3,913
Health	5 (30)	4,567	3,002	1,598	570	35	19	0.9	1.6	2,968	2,431
Internal Affairs	3 (29)	469	2,709	1,251	69	28	12	0.3	0.8	3,218	2,140
<b>Totals</b>	<b>37 (364)</b>	<b>92,961</b>	<b>32,427</b>	<b>29,532</b>	<b>5,400</b>	<b>31</b>	<b>17</b>	<b>1.3</b>	<b>1.7</b>	<b>63,428</b>	<b>27,026</b>

The Russian Energy Efficiency Agency estimates that the potential for energy efficiency from low cost measures is approximately 30-60% for heat and 17-40% for electricity.

Fuel and energy consumption base levels were identified, the energy efficiency potential was estimated, and the projects of energy efficiency improvement aimed at 20% energy cost reduction were developed. The Ministry of Fuel and Energy was to allocate about \$20 million to implement these projects. Unfortunately, after the resignation of S. Kirienko, the federal government failed to finance this work and it was never completed.

For several years CENEf campaigned to transfer experience from the U.S. Federal Energy Management Program (FEMP) to Russia. CENEf conducted a number of meetings and talks with Ministry of Fuel and Energy officials discussing the development of a FEMP-like program in Russia and the experience of the Ukraine in implementing such a program. Ministry of Energy officials expressed a very clear willingness to move forward with this program but had not done so as of early 2002.

In spite of the federal program's suspension, the Ministry of Education continues to actively move towards energy efficiency improvement in its buildings. CENEf planned to carry out research and analysis during April-May 2002 regarding this Ministry's success, and two roundtables were to be conducted to address the obstacles to and opportunities for a FEMP-like program in Russia. Key stakeholders in Russia's federal energy management agencies were invited to participate in these roundtables. Prior to the roundtables, CENEf collected data and other information on the successes of the Ministry of Education in implementing energy efficiency programs throughout the country.

To date, the Energy Efficiency Agency in Russia has organized the following pilot projects to confirm the potential for energy savings in educational facilities. Sites included the following:

- Office buildings in the Ministry of Culture
- Chemistry building at Moscow State University
- Clinics of the Moscow Medicine Academy in Sechenov
- Ural Science Center of Radiological Medicine in Chelyabinsk

Looking to the future, below are the goals of the federal program, Energy Efficient Russia, for 1998-2005:

1. Energy investigation of the 53 facilities to determine potential savings
2. Development of a normative basis for energy efficiency in these facilities
3. Development of a method of energy accounting for energy demand in these facilities
4. Development of recommendations on rational energy use of energy resources in the federal sphere
5. Organization of a system to prepare and increase qualifications of energy specialist engineers and technicians specifically for energy efficiency
6. Information dissemination for such activities

**Important Websites:**

<http://www.cenef.ru> (CENEf)

<http://www.nice.nnov.ru> (Nizhny Novgorod Regional Energy Efficiency Center)

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