Community Development Support Program in the Russian Federation Based on Information and Communication Technologies (CDSP-ICT) 2011-2014

ROUND 2

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#CDSP-ICT- 13

Implementation of a set of energy-efficiency activities in the street lighting system of Luchegorsk

Requested amount $ 14 000
Grantee and other contributions $ 15 000
Total cost $ 29 000

The urban settlement of Luchegorsk is the capital of Pozharsky Raion of Primorsky Krai founded in 1966. Luchegorsk is the largest populated center in the Russian Far East without the status of a city. Its population is nearly 22,000 people. The primary employer of the settlement is Luchegorsk Fuel and Energy Complex (LUTEK) that includes Primorskaya State District Power Plant, which has the highest capacity in this region among the plants of this type.

Community problems addressed by the Project:

- High cost of taking the readings of power meters.
- Need in recording actual power consumption.
- High cost of electric energy.
- Low service life of lamps that may be increased by installing new start-control devices.

Project summary

1. Replacement of old DRL lamps with 250 new DNAT energy-efficient ones (high-pressure sodium arc lamps) with electronic start-control devices (EPRA);
2. Modernization of street lighting equipment control cabinets, including the installation of infrared radiation heaters to ensure their correct operation in winter;
3. Replacement of one-rate meters with multi-rate meters; simple timers with astronomical; and the installation of GSM-modems for transmitting data from electric meters to consumers;
4. Municipal energy savings resulting from installing energy-efficient lamps, electronic start-control devices and multi-rate electric meters is channeled to the municipal grant program “Warm Home”. Nearly 600,000 rubles are invested annually into this program.

Project results:

1. Installation of 250 energy-efficient DNAT lamps.
2. The service life of the lamps has been extended thanks to the installed start-control devices.
3. Installation of 22 multi-rate electric meters.
4. Improved quality of lighting in the settlement.
5. Energy savings (250-270 kW/h – 600,000 rub.) will be used for funding municipal grant programs.

Contact person:

Evgeny Starchenko, expert and project coordinator

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Organization

Title	Category	Profile
Luchegorsk Rural Settlement Administration	Government	Local governance

Duration (months)	10	**Start date**	1.04.2012	**End date**	01.02.2013

#CDSP-ICT- 14

Creation of comfortable conditions in Mukhen school

Requested amount $ 14 000
Grantee and other contributions $ 89 910
Total cost $ 103 910

Mukhen is an urban settlement in Lazovsky Raion, Khabarovsk Krai, with a population of 4,619 located in the southern part of the region, 84 km to the northwest of the raion capital Pereyaslavka. The local school is attended by 302 students and employs 27 teachers and 22 help staff.

Community problems addressed by the Project:

Need to introduce a system of sustainable energy consumption in the school to conduct an independent energy audit and put in place an effective system of monitoring the efficiency of energy resources consumption.

Project summary

1. Replacement of heating pipes in the school with the use of highly-efficient heat and hydro insulating installations; and putting in place a system of devices regulating heat parameters in the school and, thus, creating comfortable indoor climatic conditions.

Project results:

1. Replacement of the heating system in the school's gym and installation of roamed polyurethane insulation of the pipes and a system of devices regulating heat parameters.
2. Reduction of heat and electric energy losses and energy costs.
3. Power consumption costs decreased by 3,000 rub./year and heat consumption costs by 29,000 rub./year.
4. Project activities were covered in the local and raion press and a new project "Advertising Energy-Efficiency in the Community" was launched on the website of the school.
5. Increased environmental awareness of teachers and students.

Contact person:
Olga Lazorko, school principal and project coordinator

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Organization

Title	Category	Profile
Mukhen school	Government	Education and training activities

Duration (months)	8	**Start date**	1.04.2012	**End date**	30.11.2013

#CDSP-ICT- 15

Safe sports

Requested amount $ 14 000
Grantee and other contributions $ 9 550
Total cost $ 23 550

The rural settlement of Nekrasovka in Khabarovsk Raion has a population of nearly 10,000 and is located at a distance of 30 km from Khabarovsk.

Community problems addressed by the Project:

- Need to save electricity and properly illuminate the gym in the community center, the workout room and other sports facilities in accordance with existing sanitary standards.
- Low public awareness about the benefits of energy-saving technologies, the need to save energy and reduce environmental pollution.
- Need to save municipal funds of the settlement spent for electricity.

Project summary:

1. Installation of 100 light-emitting-diodes in the gym, workout room, locker rooms and the entrance hall to the gym in the local community center.
2. Conducting an information conference “Effectiveness of Energy-Saving” at the community center with the participation of the heads of rural settlements of the raion, representatives of the public, deputies, managers of enterprises and organizations and the staff of the Moscow firm LEDEFFECT.
3. Publication of an information letter on the results of the conference “Effectiveness of Energy-Saving” distributed in the raion in 500 copies.

Project results:

1. Installation of 100 light-emitting-diodes that providing good quality daylight illumination;

2. Saved electricity: 43,070 kW/year;
3. Saved municipal funds: 193, 815 rub./year;
4. Reinvestment of energy savings into community development, landscaping, youth development and sports;
5. Creation of conditions for safe athletic activities (the illumination of the gym in Nekrasovka complies with sanitary standards);
6. Increased awareness in the community about the benefits of utilizing energy-efficient technologies;
7. At the conference "Effectiveness of Energy-Saving" printed materials were distributed through ICT and the internet.

Contact person:
Valentina Lyagutskaya, head of administration and project coordinator

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Organization

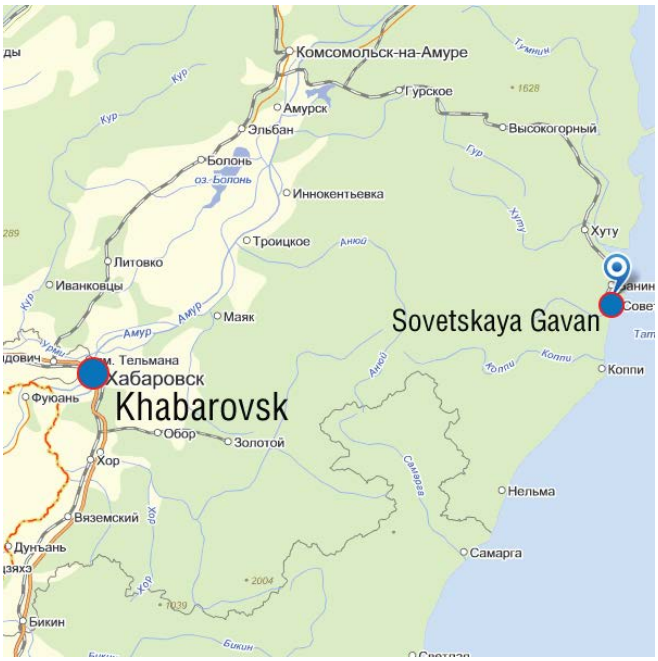
Title	Category	Profile
Nekrasovka Rural Administration	Municipal	Municipal governance

Duration (months)	6	Start date	1.04.2012	End date	30.09.2012

#CDSP-ICT- 17

Energy-efficient water supply control automation in Sovetskaya Gavan

Requested amount $ 14 000
Grantee and other contributions $ 1 900
Total cost $ 15 900



The city of Sovetskaya Gavan with a population of 27,202 is situated on the bank of the Gulf of Tatary. It is the capital of the Sovetsko-Gavansky Municipal district of Khabarovsk Krai.

Community problems addressed by the Project:

- Unsustainable use of the water resources of Bolshaya Khadya River.
- High power consumption in the water supply system of the city.
- Need to reduce the deterioration of key equipment by using reduced-voltage starts, eliminating water-hammer effect and reducing pressure.
- Absence of an automated control system at the water supply facilities of the city.
- Low energy-efficiency of the water production process.
- Low quality and reliability of the water supply system.
- Lack of a possibility to inform city residents online about accidents in the water supply system.

Project summary

1. Installation of an automated control station for 7 wells pumps with a capacity of 32 kW each (technical controller STK500 and a set of sensors is being acquired);
2. Development and installation of special software ASDKU for the upper level for servers and ARM, including visualization, data archiving and communication with facilities – control and on-line management of operating costs (electric energy);

3. Analyzing water supply time dynamics; operational control and elimination of emergency situations;
4. Informing consumers about technical parameter (power and water consumption at well lifting stations). Developing an information resource - Online dispatcher of the city water supply system - on the website of the city administration;
5. The project is a component of the 2012-2017 Sovetskaya Gavan Utilities Infrastructure Integrated Development Program as related to the comprehensive modernization of the city's water supply system.

Project results:

1. Reduction of annual consumption of artesian water from Bolshaya Khadya River during lifting by 555,800 m³ (by 25%);
2. Reduction of annual losses during water transportation to consumers by 200,000 m³ (by 9%);
3. Reduction of annual power consumption by 559,124 kW (60%) or by 1.8 million rubles (by 60%);
4. Reduction of equipment deterioration by 10%;
5. Reduction of the cost of maintaining basic equipment by half;
6. Creation of 1 new job.
7. Installation of a technological equipment automated control system at Zapadny inlet station with a possibility of collecting and processing data and providing operative information to a broad range of consumers.

Contact person:

Maria Blinkova, head of Department for Investment Policy, Business Development and External Relations at Sovetskaya Gavan City Administration

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Organization

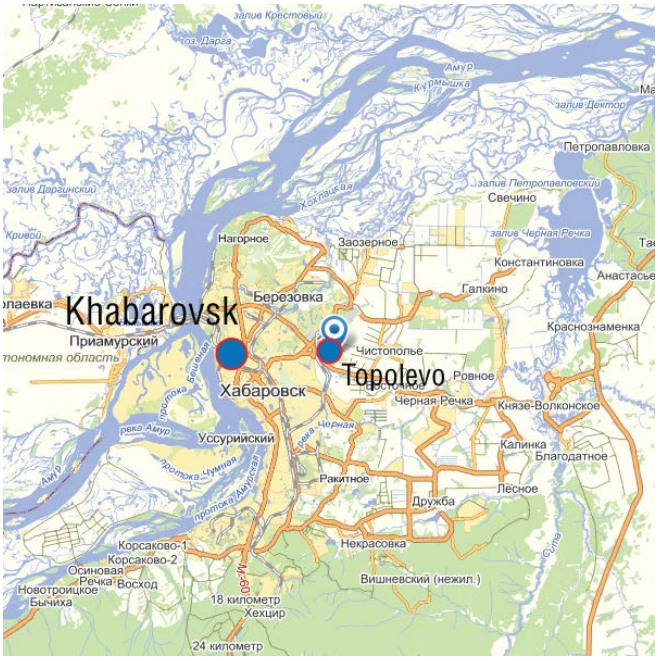
Title	Category	Profile
City Vodokanal LLC	Business	Water collection, treatment and distribution and heat energy transportation and distribution

Duration (months)	12	**Start date**	1.04.2012	**End date**	31.03.2013

#CDSP-ICT- 18

Modernization of street lighting with the use of computer networks and energy-saving technology based on microprocessors and an ASKUE system

Requested amount $ 14 000
Grantee and other contributions $ 5 000
Total cost $ 19 000



The rural settlement of Topolevo with a population of 4,900, is located in Khabarovsk Raion in Khabarovsk Krai in close proximity to the regional capital.

Community problems addressed by the Project:

- Poor quality street lighting.
- The need to save funds by lowering power consumption with the use of light-emitting-diode technology.
- Need to vary lighting schemes to ensure the safety of traffic and pedestrians on lighted areas.

Project summary

Modernization of street lighting, including the replacement of 20 DRL lamps with energy-efficient light-emitting-diode lamps. The lighting scheme was divided into several groups suitable for different conditions; an ASKUE (automated information-measuring system of complex measurement of energy resources) system was installed. To manage lighting, a microprocessor block equipped with light and wind sensors and video registers was installed that provides optimal lighting levels for given weather conditions. Power consumption is controlled by the ASKUE system. Broad dissemination of project results through the media and internet.

Project results:

1. Improved street lighting;

2. Improved pedestrian and vehicle safety;
3. Higher energy-efficiency level was achieved: during the use of an energy-efficient lamp of a 50 W capacity (DRL lamps have a capacity of 250 W) energy savings increase by 5 times;
4. During the use of ASKUE, the amount of saved electricity doubles due to regulated operational time and load.

Contact person:
Natalya Chubarova, deputy head of Topolevo Rural Settlement Administration

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Organization

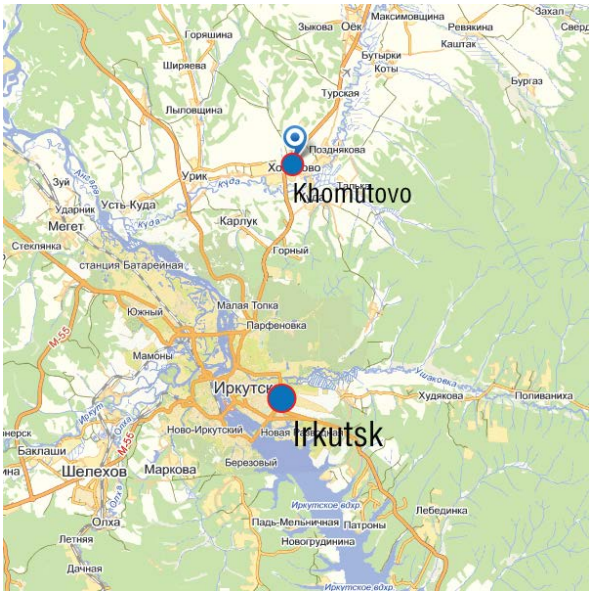
Title	Category	Profile
Topolevo Rural Settlement Administration	Government	Local governance

Duration (months)	6	Start date	1.04.2012	End date	30.09.2012

#CDSP-ICT- 19

Automation of the energy resources accounting and consumption system in Khomutovo settlement.

Requested amount $12 768
Grantee and other contributions $20 973
Total cost $33 741



The urban settlement of Khomutovo, a municipality of Irkutsky Raion in Irkutsk Oblast, is located at a distance of 25 km from Irkutsk on the banks of Kuda River that flows into Angara River. The municipality includes six populated centers (Khomutovo, Talka, Pozdnyakova, Kuda, Plishkino and Gorny) and has a population of over 12,000. Since olden times (over 325 years ago), it has been a transient point on the Main Siberian Trade Route and the site of an emerging Cossack movement and the development of new trades and agriculture to satisfy the needs of Irkutsk and nearby settlements. Up to date, Khomutovo remains the most densely populated and well-developed populated center in Irkutsky Raion. It has a public forum portal, the local administration actively interacts with the public in energy-saving decision-making and on issues related to improving wellbeing in the community.

Community problems addressed by the Project:

- Lack of real-time automated accounting and tracking of energy consumption, which leads to overstated billing for energy resources consumed by social institutions and community members as compared with actual consumption.
- Inefficient system of energy consumption and high costs paid by social institutions are worsened by budget subsidies.
- Inadequate accident awareness and elimination due to ICT underdevelopment creates risks in the community and at social institutions.
- Poorly functioning mechanism of re-investing energy savings and additional raised funds from the public, business and government (consolidated budget) into addressing social community issues (energy-saving and improving the infrastructures of social institutions).

Project summary:

1. Setting up a dispatcher information center at the local Culture and Sports Complex to record actual energy consumption; and the installation of an anti-vandal information terminal at the Community Center, to which social institutions are hooked up and later residential houses will be hooked up as well;
2. Conducting an energy audit in the social institutions of the municipality: at the Culture and Sports Complex (community center, health center and library) and using its findings for

modernizing energy systems, installing meters and connecting them to the general dispatcher center;

3. Launching a system of monitoring energy costs and timely informing the community with the use of internet networks about real-time energy consumption, accidents and measures to prevent them and also about energy-saving technologies;
4. Dissemination of information about the project and its results via a specially built website, articles in the media and the publication of a brochure about the project and the benefits of energy saving.

Project results:

1. This project implemented a system of recording and monitoring energy consumption that allows social institutions and residents to control their utilities expenses in real-time with the help of ICT and pay for actually consumed energy, which, in turn, has improved the quality of life in this community;
2. Energy consumption was reduced by 30% (120, 000 kW/h a year) and expenses of social institutions for heating and maintaining their buildings decreased by 240,000 rub. a year;
3. Time spent on eliminating accidents at the heat and power supply systems and their consequences was reduced by 10-20 times;
4. Public awareness about the use of energy-saving technologies was increased and the information on the operation of the dispatcher information center was disseminated, which helps promote citizen participation in addressing municipal energy-saving issues;
5. Energy-savings were reinvested in social energy-efficiency programs based on the experience of the pilot project;
6. ICT (websites, information seminars, public debates and publications) were widely used to replicate project results to other settlements in Irkutsk Oblast with the aim of enhancing sustainable community development.

Contact person:
Alexander Ivanenko, deputy head of Khomutovo Municipal Administration for Education, Economics and Finances

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Organization:

Title	Category	Profile
Khomutovo Municipal Administration	Municipal non-profit	Municipal governance

Duration (months) 10 **Start date** 01.04.2012 **End date** 31.01.2013

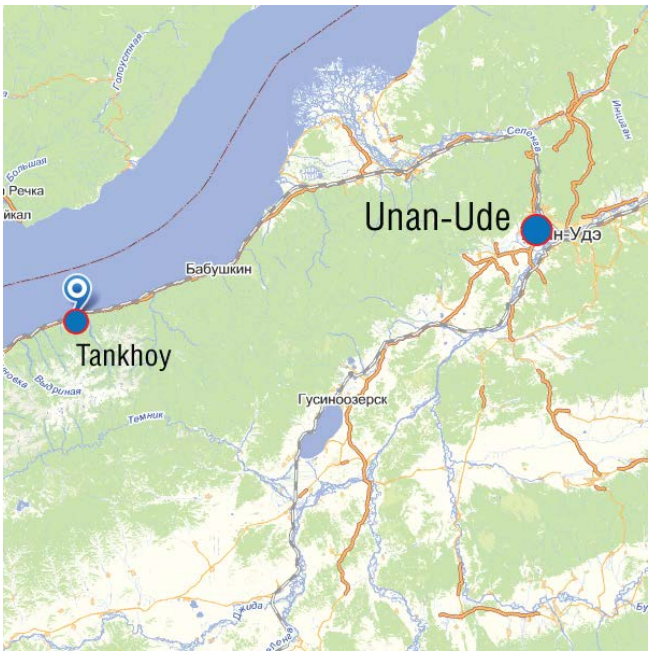
#CDSP-ICT- 21

Utilization of new information and energy-efficiency technologies in remote settlements of Buryatia

Requested amount $12 000

Grantee and other contributions $3 000

Total cost $15 000



The urban municipality of Tankhoiskoye is located on the southern bank of Lake Baikal in Kabansky Raion of the Republic of Buryatia in the cooperation zone of Baikalsky Biosphere Reserve. Along with Tankhoi, which is the central settlement of the municipality, it also includes the settlements of Kedrovaya, Vydrinnaya, Dulikha and Mishikha (where an environmental and tourist center Baikalskaya Bird Tagging Station is being built at a remote outpost). The population of the municipality combined with annual visitors reaches 3,000. This area is part of the Lake Baikal UNESCO World Heritage Site, where the main priority is the preservation of the environment based on the sustainable use of natural resources and energy-efficiency.

Community problems addressed by the Project:

- Absence of guaranteed power supply and blackouts at remote locations in the reserve that do not have central power supply.
- The requirement to utilize alternative energy techniques and use renewable sources of energy in the reserve to reduce hazardous impacts on the environment.
- Lack of internet resources at the visitor center of Baikalsky Biosphere Reserve, which is attended by large numbers of tourists, and in communities located in its cooperation zone.
- Low employment level among residents living on Lake Baikal UNESCO World Heritage Site, where economic activity is limited and an ecotourism infrastructure still needs to be developed to provide jobs and improve wellbeing in the community.
- Need to introduce ICT to increase awareness in the community about advanced energy-saving techniques and help residents learn more about existing internet resources.

Project summary:

1. Installation of solar batteries at the environmental and tourist center Baikalskaya Bird Tagging Station that is currently under construction in the remote settlement of Mishikha;
2. Utilization of ICT to improve the infrastructure of the cooperation zone of Baikalsky Biosphere Reserve by installing wireless internet equipment at the visitor center of the reserve and in the international volunteers' camp, thus providing stable internet access for the residents and guests of Tankhoi, Pereemnaya, Kedrovaya, Vydrinnaya and Mishikha settlements;
3. Conducting training seminars for local residents on the use of the internet;
4. The use of ICT (the websites of the reserve, Kabansky Raion Administration and regional media) for disseminating information on the importance of using renewable energy sources on protected nature areas.

Project results:

1. An educational model site demonstrating the use of alternative sources of energy was opened for the residents of 5 settlements located in the cooperation zone of the reserve;
2. The Bird Tagging Station was provided with power supply by installing solar batteries with a capacity of 360 W, thus allowing to save nearly 540 kW/h of energy during the season and to make it possible to successfully develop educational and tourist activities at Lake Baikal UNESCO World Heritage Site;
3. 120 local residents were trained in the practice of using energy-saving technologies;
4. Wireless internet equipment was installed at the visitor center of the reserve, in the international volunteers' camp and in settlements located in the cooperation zone;
5. At least 1,550 people were provided with guaranteed access to internet resources, including 1,000 local residents and nearly 550 tourists – this will facilitate social adaptation of the local population living in conditions of a special nature management zone;
6. 5 practical internet education seminars were conducted for community members on the use of the internet;
7. The level of tourist services and infrastructure at the visitor center of the reserve was improved and new jobs for people living in the cooperation zone were created.

Contact person:

Vasily Sutula, director of Baikalsky Biosphere Reserve

Contact information:

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Organization:

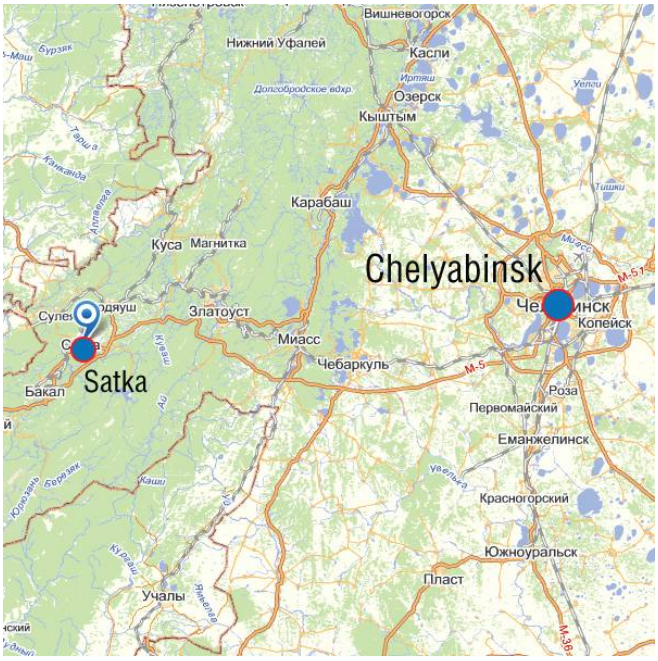
Title	Category	Profile
Baikalsky Biosphere Reserve	Government	Preservation, study and monitoring of nature complexes in Southern Lake Baikal Region, environmental education tourism and training environmental staff.

Duration (months) 11 **Start date** 01.04.2012 **End date** 28.02.2013

#CDSP-ICT- 22

Introduction of a soft hardware platform Dispatcher Center of Energy Resources Consumption Monitoring

Requested amount $14 000
Grantee and other contributions $307 140
Total cost $321 140



The city of Satka, the capital of Satkinsky Raion, is located 190 km from the regional center Chelyabinsk. Satkinsky Raion is situated in the zone of the economic influence (transport, trade, industrial and educational ties) of the largest Ural cities, which significantly benefits its development. The Chelyabinsk-Moscow Highway passes through the raion, as well as a railroad with a railroad station. There is also good transport communication with Yekaterinburg and Ufa. Due to the well-developed motor road network, the raion finds itself in the midst of a large consumer market with a transportation accessibility not exceeding five hours.

Community problems addressed by the Project:
Lack of a system for distributing information on energy resources consumption on a municipal level to local government bodies, resource supplying organizations and maintenance and management companies. There was no possibility to timely and accurately monitor energy resources consumption in government-funded organizations and residential buildings.

Project summary
The introduction of a soft hardware platform Dispatcher Center of Energy Resources Consumption Monitoring in Satkinsky Raion (PAP) provided the strategic management bodies of Satkinsky Raion utilities services with modern equipment, a methodology and software based on latest scientific and technical achievements and also with a possibility to timely present information on current levels of consumption and the quality of energy resources.

Project results:

1. Government-funded organizations and the population reduced fuel and energy consumption by 10% (as compared with 2012), thus saving 10.4 million rubles a year (4,460 Gcal or 1, 123,000 kW/h). The Dispatcher Center of Energy Resources Consumption Monitoring

services 102 consumers of the budget/social sphere: schools, kindergartens, community centers, hospitals and libraries and 86, 000 citizens, who live in apartment houses in Satkinsky Raion;

2. The population has timely access to house energy resources meters; all information that is fed into the dispatcher center around-the-clock is available either by request of through internet access;
3. Four new jobs were created (3 computer specialists and their supervisor).

Contact person:
Sergei Smolnikov, first deputy head of Satkinsky Municipal District

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Tel. (35161) 4-35-42

Organization

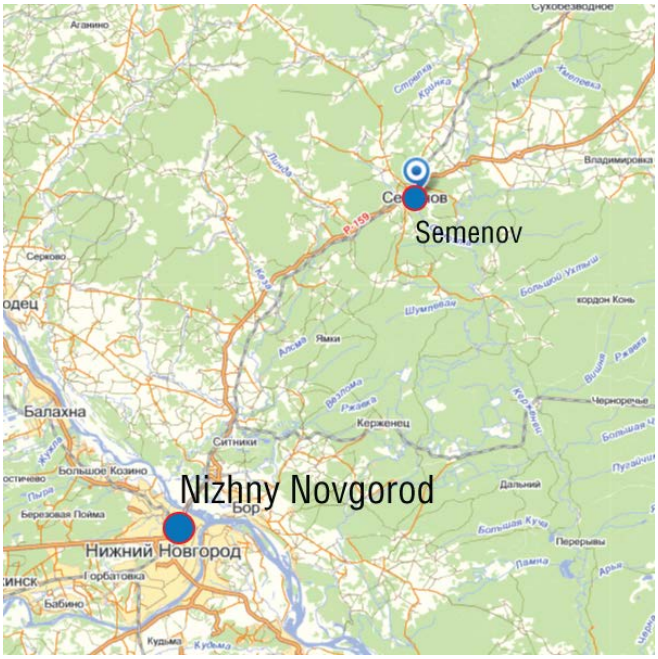
Title	Category	Profile
Housing and Utilities Authority at Satkinsky Municipal District Administration	Government	Implementation of the municipal policy aimed at ensuring the sustainable operation and development of the housing and utilities sector.

Duration (months)	12	Start date	01.04.2012	End date	31.03.2013

#CDSP-ICT- 23

Introduction of modern energy-efficient painting technologies at Khokhloma Painting Factory

Requested amount $ 14 000
Grantee and other contributions $ 19 867
Total cost $ 33 867



Semyonovsky Raion in Nizhny Novgorod is part of the Volga Federal District with the center in the city of Semyonov. The raion is located on the left bank of Kerzhenets River and its industrial specialization is metal working and wood processing. Local factories produce iron casting, equipment for the oil and gas industry, furniture and folk craftwork articles.

Community problems addressed by the Project:

The project is aimed at addressing the issue of utilizing energy-efficiency technologies and reducing emissions at the key employer of the city of Semyonov, the Khokhloma Painting Factory. Most of the wood-working equipment of the factory that employs 1,100 people was manufactured in the 1980s. The existing pollutant catching system has a low capacity of 60% and, as a result, large amounts of trinitrotoluene, butyl acetate, formaldehyde and suspended matter totaling to 1.6 tons/year are discharged to the atmosphere. Moreover, the existing purification system fails to remove all paint and varnish from the industrial water and most of it ends up in sewerage networks.

Project summary

Two modern highly-efficient painting chambers with independent air exhausts and collectors of water polluted with paint and varnish were installed to prevent the contamination of municipal sewage.

Project results

During the one-shift operation of the painting chambers, the following results were achieved:

1. Saved heat – 60 Gcal during one heating season (60,000 rub.);
2. Saved electricity – 74, 000 kW/h a year (294, 000 rub.);

3. Increased efficiency of treating hazardous emissions to the atmosphere and prevention of sewage contamination;
4. Project information is placed on the websites of the factory, the city and Nizhny Novgorod Oblast Government and published in the electronic journal *Energy-Efficiency* put out by Nizhny Novgorod Energy-Saving Center.

Contact person:
Evgeny Lazarev, chief engineer

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Organization

Title	**Category**	**Profile**
Khokhloma Painting Factory	Business	Production of hand-made wooden articles

Duration (months)	11	**Start date**	01.04.2012	**End date**	28.02.2013