



UNIDO Centre for International Industrial
Cooperation in the Russian Federation



Investment and Technology
Promotion Offices

Annual Report

▶ 2016



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About the UNIDO CIIC in Russia

Mr. Sergey Korotkov
CIIC DIRECTOR

The UNIDO Centre for International Industrial Cooperation (CIIC) was established in 1989 within a framework of the Agreement between UNIDO and the Government of the Russian Federation. The UNIDO CIIC is an integral part of the UNIDO ITPO Network.

The main purpose of the UNIDO CIIC, defined by the Agreement, is to promote international cooperation in the economic, technological, industrial and scientific spheres between Russian enterprises, associations and organizations and firms from developed and developing countries.

The UNIDO Centre acts as a catalyst and source of technical expertise in the design, organization and implementation of key events related to investment promotion and technology transfer in the Russian Federation.

The Centre gives special attention to environmental considerations, development of SMEs and employment generation in line with UNIDO strategies and policies in these fields. In the implementation of its activities, the Centre uses the programs, methodology, tools and software developed by UNIDO to promote investment and technology.

Major target beneficiaries of the Centre

- enterprises and organizations in the Russian Federation including industrial SMEs interested in cooperation with foreign partners;
- private enterprises, institutions and governments in developing countries and countries with economies in transition, which have increased possibilities to enter into different forms of partnerships with industrial enterprises in the Russian Federation;
- institutions that are involved in technology promotion.



HIGHLIGHTS IN 2016

ROUND-TABLE “GREENHOUSE EFFECT FOR ECONOMY: A YEAR AFTER THE PARIS AGREEMENT” TOOK PLACE IN THE PRESS-CENTRE OF THE RUSSIAN NEWS AGENCY TASS

On December 14th the Round-table “Greenhouse effect for economy: a year after the Paris Agreement” took place in the press-centre of the Russian news agency TASS.

The Paris Agreement on climate change, which is set out to replace the Kyoto Protocol, came into force on November 4, 2016. Yet, in spite the fact that Russia has signed the agreement, its stance remains unclear, because it has not ratified the agreement yet. The Round-table was aimed at analysing the role of the Paris Agreement for Russia and discussing socio-economic implications of its ratification. The event was attended by representatives of government, private sector and academic institutions, as well as experts from the UNIDO.



The participants expressed their hopes that Russia will eventually take the right decision in regard to the ratification of the Paris Agreement and will find a development scenario most corresponding to its socio-economic context.

Detailed information about the event is available on the official website of the organization in the "events" section:

http://www.unido.ru/eng/news_en/greenhouse_effect_for_economy

THE THIRD SESSION OF THE MINISTERIAL CONFERENCE ON TRANSPORT OF ESCAP TOOK PLACE IN MOSCOW

The Third session of the Ministerial Conference on Transport of Economic and Social Commission for Asia and the Pacific (ESCAP) took place in Moscow from 5 to 9 December, 2016. The Ministerial Conference on transport has been organized every 5 years since 1985, the present one being the seventh in the row. This year the conference was hosted by the Government of Russia, represented at the event by the Ministry of Transport of Russia. The goal of the conference was to discuss the future policy directions for regional transport development. The Ministerial conference comprised two segments: first, a senior official segment from 5 to 7 December; and second, a ministerial conference on 8 and 9 December 2016. The conference was attended by the delegations from the member-states of ESCAP, international organizations such as World Customs Organisation, ILO, European Commission, UNIDO, representatives of the Russian private sector. As before, this year the Ministerial Conference had a very busy agenda. The program included two important goals: first, to discuss



and assess the implementation of the Regional Action Programme for Transport Development in Asia and the Pacific, Phase II; secondly, to consider and adopt a new regional action programme for sustainable transport connectivity in Asia and the Pacific, phase I. In addition, within the first segment the participants have discussed seven topics related to tendencies in the transport sector in regard to the Sustainable Development Goals and the 2030 Agenda.

Detailed information about the event is available on the official website of the organization in the "events" section:

http://www.unido.ru/eng/news_en/third_session_of_escap

INTEGRATED DEVELOPMENT PROJECT FOR THE AGRICULTURAL INDUSTRY



November 25, 2016 in the framework of cooperation of the UNIDO Centre RF, Russian Academy of Sciences and of the SCO Business club a coordination Plan for implementation of Integrated sectoral project "Technological development of agricultural production of Russia 2016 – 2020 ", aimed at consolidating the resources of science, production and finance for development one of the priority sectors of the Russian economy was completed.

The project provides assistance to the scientific and technical enterprises of the agricultural complex at all stages of the innovation cycle from research to technology and production that requires the definition of new forms of cooperation between science and

business and the creation of the mechanism of formation and maintenance of practical projects.

Key participants of the scientific-technical sector in the implementation of the Complex project of agribusiness development at the initial stage of formation of the main directions are: Department of agricultural Sciences, RAS, Siberian branch of agricultural science, Institute of scientific information on social Sciences of the Institute, Pushchino scientific center RAS, JSC MSU Science Park, all-Russian research Institute of meat industry Russian Academy of Sciences, Scientific research Institute of baking industry, "Proektremstroy", JSC "Agency of investment development of the Novosibirsk region".

A MEETING OF THE "ST. PETERSBURG INITIATIVE"

22 November 2016, the plenary meeting, "St. Petersburg initiative" was held in a building of the Ministry of natural resources and environmental protection pursuant to the decisions of the Baltic sea Forum. The meeting was devoted to the problem of waste management in the Russian Federation, in particular, in the North-Western Federal district and to find solutions to this problem.



THE CONFERENCE "25TH ANNIVERSARY OF THE COMMONWEALTH OF INDEPENDENT STATES: RESULTS AND PROSPECTS"

28-29 September 2016 an international scientific-practical conference "25 years of the Commonwealth of Independent States: results and prospects." was held in Minsk

At the plenary session of the Conference was attended by representatives of all the Commonwealth countries, a high – ranking government officials, diplomatic missions, ambassadors and permanent representatives of the

CIS countries, representatives of bodies of the CIS basic organizations of CIS countries, members of the Commission on economic issues under the CIS Economic Council, heads of the largest scientific and educational institutions, leading scientists and experts, cultural figures and teachers and students of higher educational institutions.

The conference was attended by the Director of UNIDO Centre in the Russian Federation, Sergey Korotkov. He gave a report on the experiences and activities of UNIDO related to waste electronic and electrical equipment. In his speech Sergey A. Korotkov, told about implemented in Russia project and the possibilities of implementation of such activities on the territory of other CIS countries.

MEETING ON THE PCB-CONTAINING WASTE ISSUES IN RUSSIA

On the 22nd of June 2016 in the International Centre for Scientific and Technical Information in c. Moscow there was hold the meeting for the discussion of cooperation for the PCB-containing waste issues in the Russian Federation with the participation of the Ministry of Natural Recourses and Ecology of the Russian Federation, "Russian Railways" LLC, The Nordic Environment Finance Corporation (NEFCO), UNIDO Centre for International Industrial Cooperation in the Russian Federation and VTB CJSC.



Detailed information about the event is available on the official website of the organization in the "events" section:

http://www.unido.ru/eng/news_en/meeting_on_the_pcb_containing/

CLUSTER OF NUCLEAR AND NANOTECHNOLOGIES IN DUBNA AND THE UNIDO CENTRE SIGNED THE JOINT DECLARATION

On the 17th of June 2016 at the International University for Nature, Society and Man in c. Dubna the director of Innovative territorial Cluster of nuclear and nanotechnologies in c. Dubna Ratz A.A. and the director of UNIDO Centre in the Russian Federation Korotkov S.A. solemnly signed the Joint Declaration of mutual cooperation.



Detailed information about the event is available on the official website of the organization in the "events" section:

http://www.unido.ru/eng/news_en/cluster_of_nuclear_and_nanotechnologies/

INTERNATIONAL MOSCOW ECO FESTIVAL “NOVAYA ERA”

On the 25th of March in the Tsytin Main Moscow Botanical Garden of Academy of Sciences it was held the International Moscow ECO Festival “Novaya Era” organized with support of UNIDO Centre for International Industrial Cooperation in the Russian Federation, the Ministry of Natural Resources and Ecology of the Russian Federation and Moscow Department of Natural Resources Management and Environmental Protection.



Within the Festival framework it has been carried out the round-table discussion “UNIDO projects in Russia for Stockholm Convention implementation” where UNIDO results in environmentally sound management and final disposal of PCBs in the Russian Federation have been presented. Parallel with UNIDO officials, the representatives of “Russian railway network”, Gubkin Russian State University of Oil and Gas,

Russian energy agency, Tsytin Main Moscow Botanical Garden of Academy of Sciences have participated in this discussion. Along the discussion the importance of Stockholm Convention on POPs has been especially marked. The discussions of UNIDO project, its contribution in the implementation of Stockholm Convention as well

as the problems of river, soil and water contamination have been raised during this event. There has been marked the necessity of further improvement of the normative legal base to activate the work in this regard. Special attention has been paid to the importance of not only inventory of PCB-contaminated equipment and waste but their environmentally sound disposal as in consequence of cleanout it is necessary to avoid the recontamination and cross-contamination of the equipment and while disposal it is important not to form new hazardous substances.

Detailed information about the event is available on the official website of the organization in the "events" section:

http://www.unido.ru/eng/news_en/eco_festival_novaya_era_2016/

THE FIRST EURASIAN CONGRESS FOR THE PROCESSING OF E-WASTE EEWRC'16

March 22-23, 2016 the First Eurasian Congress on e-waste EEWRC 2016 was hosted in Moscow.

Representatives of ministries, agencies, non-profit organizations, business from the EEU, known foreign experts discussed issues in the field of treatment of waste electrical and electronic equipment (WEEE) to outline ways of their solution.

Experts and representatives of European companies from Austria, Belgium, Britain, Germany, Luxembourg, Czech Republic, Finland, Switzerland, Japan took part in the Congress. The most important moment in the work of the Congress was working behind the scenes. Representatives of Russian and foreign business, to



be able to discuss various nuances of the use of modern technologies, methods of collection and processing of WEEE. Personal communication was the beginning of contacts between processors, and processors with manufacturers and processing equipment.

THE INTERNATIONAL ECONOMIC FORUM “25 YEARS TOGETHER: NEW FORMATS OF INTERACTION”

18 March, 2016 Moscow hosted the international economic forum of States — participants of the CIS „25 years together: new formats of interaction“. The event was attended by members of the CIS Economic Council, EEU leaders of the Shanghai Cooperation Organization, representatives of the ministries of economy, finance, industry, commerce, chambers of commerce, industry associations and the banking community of states — participants of the CIS, as well as entrepreneurs. The



69th meeting of the CIS Economic Council was held in the framework of the Forum and included a wide complex of issues in the field of economic cooperation between CIS countries. The Forum featured thematic sessions as the conjunction of CIS projects, EEU and the economic belt of the Silk Road, financial and banking cooperation, formation of a common space of movement of goods.

Detailed information about the event is available on the official website of the organization in the "events" section:

http://www.unido.ru/eng/news_en/international_economic_forum_25_years/

VII INTERNATIONAL FORUM “ECOLOGY”

March 2-3, 2015 VII International Forum „St-Petersburg — the Sea Capital of Russia. Ecology“ took place in St. Petersburg.

The Forum was held with the assistance and participation of both chambers of Federal Assembly of the Russian Federation, Ministry of Natural Resources and Environmental Protection of the RF, Ministry of Housing and Building of the RF and other relevant ministries and institutions.

Large industrial and transport enterprises, oil and gas companies, housing and utilities companies, scientific and research institutions, equipment



producers, eco service companies (insurance, monitoring, certification, maintenance) were also invited to participate in the event.

The aim of the event was elaboration of the effective measures dedicated to mitigation of the human impact on water resources and ecological safety in time of waste treatment in the Russian Federation. The event included business and exhibition programmes. Main topics of the business programme were legal regulation in sphere of environmental protection, better quality of potable water and damage mitigation from municipal water discharge, elaboration and implementation of better available technologies.

Detailed information about the event is available on the official website of the organization in the "events" section:

http://www.unido.ru/eng/news_en/vii_international_forum_ecology/

PRESS-CONFERENCE “RUSSIAN REFRIGERATION INDUSTRY AND GLOBAL ENVIRONMENTAL AGREEMENTS”

January 28 in the framework of the project "Phase Out HCFCs and Promotion of HFC-free Energy Efficient Refrigeration and Air-Conditioning Systems in the Russian Federation Through Technology Transfer " a press-conference on the theme: "the Russian refrigeration industry and global environmental agreements" was held.

Participants of the press-conference presented domestic technologies based on natural refrigerants were presented, discussed measures on organization of import substitution in the refrigerating sector and announces a number of specialized activities, such as: discussion of possible introduction of f-gas regulation in the refrigerating sector, opening of the first Russian plant on destruction of the refrigerating



plants in the Moscow region, holding of forum “Refrigerating industry: status, problems, and approach to them” on March 2, 2016, as part of Climate World – 2016 international expo in Moscow.

Detailed information about the event is available on the official website of the organization in the "events" section:

http://www.unido.ru/eng/news_en/conference_russian_refrigeration_industry/

UNIDO Projects in Russia

In 2016 UNIDO Centre for International Industrial Cooperation in the Russian Federation continued implementation of the following projects:



Market Transformation Programme on Energy Efficiency in GHG-Intensive Industries in Russia



Partnership between Russia and Brazil in technology and innovation for development of SMEs with expansion to other BRICS countries



Environmentally Sound Management and Final Disposal of PCBs at the Russian Railroad Network and Other PCB Owners.

More information on each of the projects is set out below.



MARKET TRANSFORMATION PROGRAMME ON ENERGY EFFICIENCY IN GHG-INTENSIVE INDUSTRIES IN RUSSIA

BACKGROUND

Implementation dates: 2010-2017

Project coordinator: Lazareva E. Maria Lazareva.M.E@gmail.com

Website: <http://unido.ecdl.su/>

Objective – reduction of energy costs at enterprises (electricity, gas, etc.) through the introduction of the energy management system based on the international standard ISO 50001, program of optimization of large electrical systems, and the development and assistance in fundraising for modernization projects.

Target group – russian industrial enterprises.

The project activities are carried out in 4 directions:

- **Component 1:** Enhancing knowledge assets (methodical, information and human resources support).
- **Component 2:** Energy management system capacity building programme for large energy-intensive industries.
- **Component 3:** Energy management system capacity building and energy efficiency improvement in SMEs.
 - Energy management and implementation;
 - Systems optimization training (Fans Steam Compressed air Pumps Motors);
 - Assistance for EnMS and benchmarking implementation to improve energy efficiency;
 - Energy audit;
 - Preparation of energy efficiency investments plans;
 - Assistance for enterprises to obtain financing.
- **Component 4:** Government capacity building and support programme.

An important feature of the project is that energy efficiency is achieved largely by introducing no-cost and low-cost organizational changes, in other words by improving the energy management system and not by replacing the production technologies. It should be noted that introduction of the energy management system — is organizational innovation, one of the most effective on the criterion of „investment/saving energy“. Companies that only started to introduce energy management can obtain annual savings of 10-20% within the first 2 years. In the next years, most of companies that introduced EnMS reduce energy consumption by 2-3% per year against 1% in the usual approach.

The project will achieve this market transformation through activities that will:

- ✚ structurally improve industrial energy efficiency through increased energy efficiency investments,
- ✚ have a wider direct positive effect on rational energy use with related environmental benefits, and
- ✚ improve the capacity of the government to develop effective (industrial) energy efficiency policies.

Project partners. The main project partner is the Russian Energy Agency, the project is supported by the Russian Ministry of Foreign Affairs and a number of other commercial companies performing work commissioned by UNIDO is involved in the project on a contract basis.



EVENTS

<p>22.04.2016</p>	<p>Meeting of the UNIDO project Supervisory Board.</p> <p>In the meeting chaired by the Director of the Center for international industrial cooperation UNIDO – Korotkov, S. A., was attended by the UNIDO headquarters representatives, the Federal Executive authorities – the Ministry of foreign Affairs, Ministry of natural resources and ecology, the Ministry of industry and trade, as well as the project partners – representatives of the Russian energy Agency, Analytical center under the Government of the Russian Federation and others.</p>  <p>The results achieved in the implementation of the UNIDO project were presented at the meeting. It was emphasized that energy efficiency was largely due to no cost and low cost organizational changes in the system of energy management, i.e. due to energy management systems improvement.</p>
<p>20.07.2016</p>	<p>Industrial exhibition "Innoprom."</p> <p>In the framework of the thematic track on "Technologies for energy. Energy efficiency" Analytical center under the Government of Russian Federation held the discussion on the theme: "Energy and industrial policy: creation of a new impulse for development".</p>  <p>The participants discussed the importance of energy efficiency, the activities of the state in the field of industrial and energy policy, as well as the mechanisms and processes that contribute to the</p>

	implementation of the energy strategy and stimulating the development of Russian industry.
08-09.09.2016	<p>Regional training workshop "Building regional capacity for developing programmes for mitigation of global environmental problems".</p> <p>The seminar was a continuation of a series of the UNIDO regional trainings on the development of competencies in addressing global environmental problems with participation of representatives from Russia, Ukraine, Armenia, Kyrgyzstan, Kazakhstan and Belarus. The seminar in Moscow was devoted to a discussion of two key themes – the treatment of waste electrical and electronic equipment (WEEE) and energy efficiency and efficient water use.</p>  <p>The seminar was attended by representatives of ministries and environmental agencies of Russia and CIS countries, city administrations, industrial enterprises, enterprises for the processing of WEEE, universities and research institutes, public organizations and associations concerned with environmental issues and environmental protection.</p>
23-25.11.2016	<p>Fifth international forum on energy efficiency and energy ENES 2016.</p> <p>The largest event in the field of development, introduction and implementation of energy efficient technologies and energy development. More than 10 thousand representatives of Federal and regional public authorities, national and foreign industry companies, scientific and expert community participated in the forum. An important part of the forum was the ceremony of awarding the winners of the Third all-Russian competition of implemented projects in the field of energy saving and energy efficiency ENES. OOO ZHILKOMSERVIS, one of the Naberezhnye Chelny companies-partners represented the Republic of Tatarstan in the final stage of the contest in the nomination "Effective Management company in the field of energy efficiency," along with six more regions of Russia.</p>  <p>Among its energy-saving activities, OOO ZHILKOMSERVIS, in close cooperation with Russian and international experts UNIDO has been implementing energy management systems for 10 months. The work was carried out in 334 houses under the jurisdiction of the company. So, according to preliminary data, as a result of low-cost measures in the framework of the energy management system implementation 5.1% of the total energy consumption, which in monetary terms is equivalent to more than 28 million RUB were saved.</p>

MAJOR ACHIEVEMENTS IN 2016

During the reporting period of the project “Market transformation programme on energy efficiency in GHG-intensive

industries in Russia” the results were accumulated on the part of:

- methods of implementation and application practices of energy management systems in Russian industrial enterprises with obtaining of quantifiable and verifiable indicators of energy savings;
- methods of implementation and application practices of industrial systems optimization with obtaining measurable and verified savings of energy resources;
- creation of educational and methodical complex for industrial enterprises, including SMEs, on energy saving and increasing energy efficiency of enterprises in the form of a specialized information portal on the Internet;
- application of benchmarking tools for comparative analysis of specific energy consumption on the example of enterprises of the fuel and energy complex.

Component 1. Enhancing knowledge assets (methodical, information and human resources support)

1. During the reporting period, the project carried out PR campaign, aimed at increasing the interest of the target audience (especially among the Russian industrial enterprises) to the UNIDO project. The main emphasis was placed on participation in key industry events and holding their own discussion clubs and conferences devoted to the most acute issues related to the role of energy efficiency in the new industrial policy of the Russian Federation.
2. The project organized a regional training workshop "Building regional capacity for developing programmes for mitigation of global environmental problems". The seminar was a continuation of a series of the UNIDO regional trainings on the development of competencies in addressing global environmental problems with participation of representatives from Russia, Ukraine, Armenia, Kyrgyzstan, Kazakhstan and Belarus. The seminar in Moscow was devoted to a discussion of two key themes – the treatment of waste electrical and electronic equipment (WEEE) and energy efficiency and efficient water use.

In the course of events there were several reports, which were then used in PR activities for the project.

3. April 20, 2016 the meeting of the coordination Committee on the project "market transformation of energy efficiency of energy-intensive industries in Russia" was held at the Analytical centre for the government of the Russian Federation.

The results achieved in the implementation of the UNIDO project were presented. It was emphasized that energy efficiency was largely due to no cost and low cost organizational changes in the system of energy management, i.e. through better energy management system than by replacing production technology.

4. Publications in specialized electronic and print media were released. It helped to draw attention to the positive results achieved during project implementation.
5. The most important result of the reporting period was the finalization and testing of the UNIDO project portal (hosted on a temporary domain unido.ecdl.su). The portal is designed for project participants, experts in the field of energy conservation, employees of industrial enterprises, government agencies and all other stakeholders. The Purpose of the portal is to provide industrial enterprises with complete and accurate information in the field of energy management and energy efficiency. The resource provide information about the best practices in the field of industrial energy conservation, new energy efficient technologies, training materials for employees, as well as the latest information about regulatory and other aspects of the industry.

Figure 1. Design of the portal main page

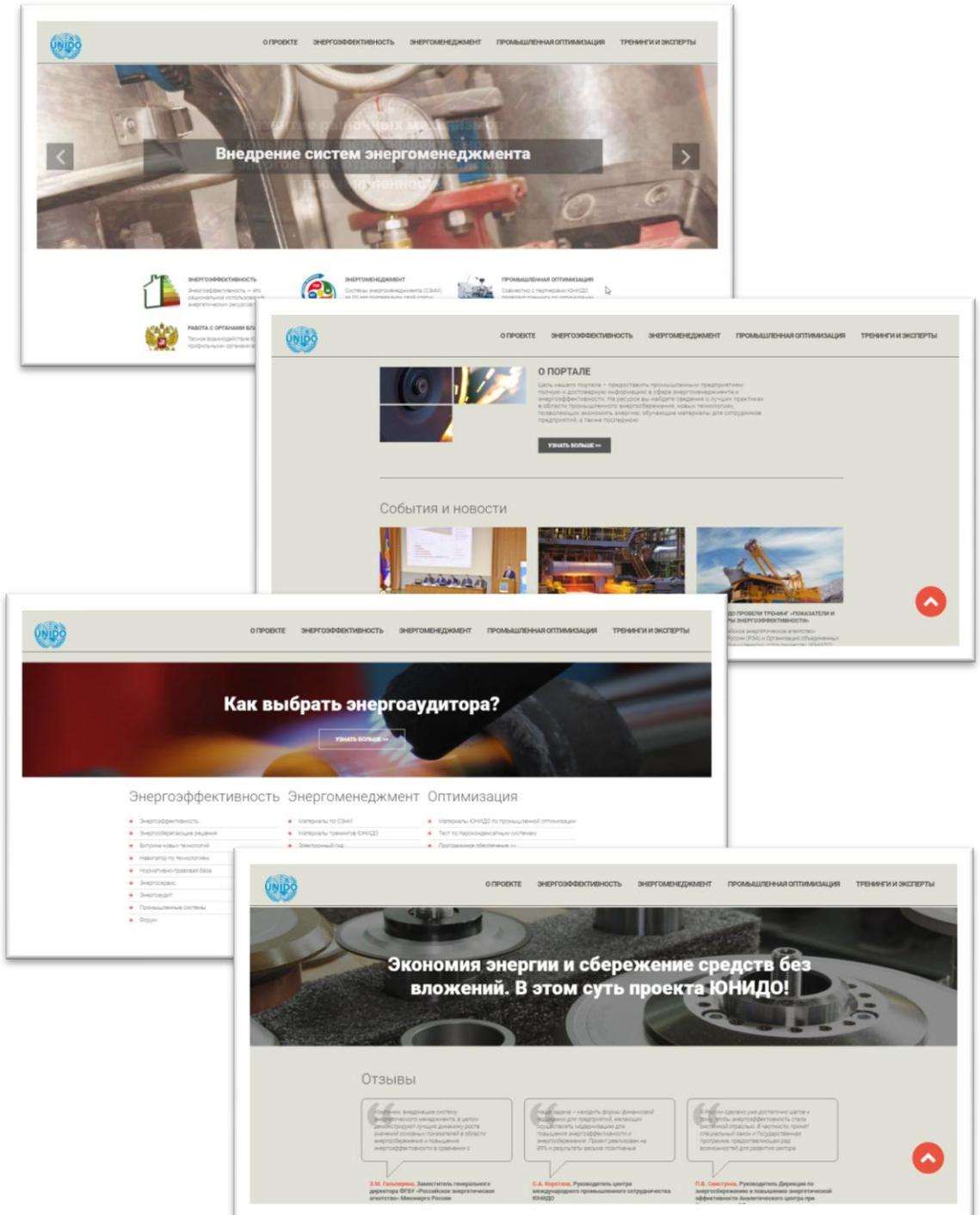


Figure 5. Training materials



Figure 6. Automated test systems

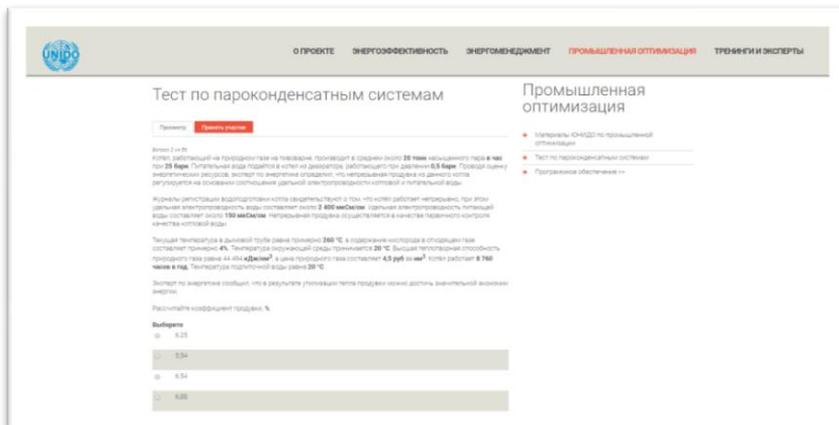


Figure 7. Analytical materials



Figure 8. Information page

UNIDO

О ПРОЕКТЕ ЭНЕРГОЭФФЕКТИВНОСТЬ ЭНЕРГОМЕНЕДЖМЕНТ ПРОМЫШЛЕННАЯ ОПТИМИЗАЦИЯ ТРЕНИНГИ И ЭКСПЕРТЫ

Как выбрать энергоаудитора

На сегодняшний день зарегистрировано больше 8000 энергоаудиторских компаний. У всех критерий разный: кто-то ориентируется на объем обследований и учет потребления энергетических ресурсов. Если вы планируете провести аудит своей организации и выбрать энергоаудитора, воспользуйтесь практическими рекомендациями, данными ниже.

Критерии выбора

- Членство в СПО.** Энергоаудиторская компания должна состоять из СПО (саморегулируемой организации) энергоаудиторов. Закон № 261-ФЗ «Об энергосбережении» дает право осуществлять деятельность по энергоаудиту только членам (аудиторским организациям) СПО энергоаудиторов. Обязательно запросите свидетельства о регистрации в СПО в области энергетического обследования.
- Квалификация сотрудников.** Энергетическое обследование могут проводить только квалифицированные специалисты в данной сфере. Квалифицированный специалист-энергоаудитор, как минимум, должен иметь высшее техническое образование и дополнительное образование. Рекомендации по курсам специальной подготовки энергоаудиторов содержатся в Приложении №1 к приказу № 104/03-02. Для включения в СПО компаниям должно иметь не менее 4-х квалифицированных специалистов. Вы можете запросить у энергоаудитора достоверные о квалификации сотрудников.
- Наличие оборудования.** Для проведения энергетических обследований предприятий и организаций энергоаудитору лучше использовать дорогостоящее специализированное оборудование: например, тепловизионная камера, компьютерные тепловизионные преобразователи, портативный счетчик мощности, трансформаторы, датчики тока, мультиметр, ультразвуковой расходомер и т.п.
- Наличие методов.** Энергетическое обследование зависит от сложности объекта и может быть проведено в разных объемах.

Энергетическое обследование

Типовое энергетическое обследование должно состоять в следующем:

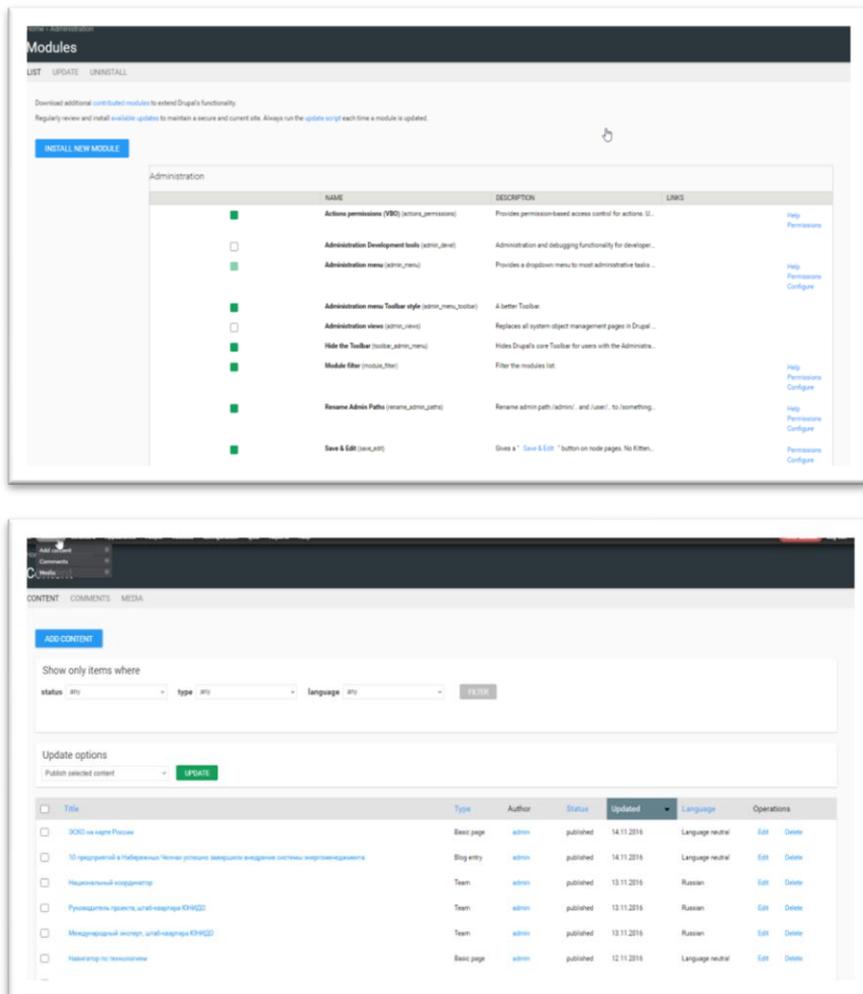
- документальное обследование (анализ затрат на энергоресурсы, анализ договоров со сбытовыми компаниями и

Энергоаудит

- Энергоэффективность
- Энергообеспечение объектов
- Ветеринария (ветеринары)
- Навигатор по технологиям
- Нормативно-правовая база
- Энергоаудит
- Промышленные системы
- Форум

- Как выбрать энергоаудитора
- Структура энергоаудита

Figure 9. Configurable and scalable internal software architecture of the portal



Component 3. Energy management system capacity building and energy efficiency improvement in SMEs

1. UNIDO is providing assistance to enterprises for the introduction of modern systems of energy management, developing energy-saving programs and optimization of large energy consuming systems, as well as support the development of investment plans and attracting financing for implementation of energy saving programs.
2. The project is working on the development of competencies in the field of energy efficiency among industrial companies and also is actively working with industry for optimization of systems and implementation of energy management systems. All services for enterprises and partners are free.

An important feature of the work on the project third component is that energy efficiency is achieved mostly at the expense of no cost and low cost organizational changes in the system of energy management, i.e. through better energy management system than by replacing production technology. It should be noted that the implementation of the energy management system is an organizational innovation, one of the most efficient in terms of "investment/saving energy". The company only started to implement energy management can obtain an annual savings of 10-20% within the first 2 years. In the future, most using SAM enterprises reduce energy intensity by 2-3% per year against 1% in conventional approach.

3. During the reporting period a complex of training activities was carried out. More than 40 events in 10 constituent entities of the Russian Federation were attended by the major industrial partners of UNIDO CIIC. More than 150 people were trained. They expressed appreciation for the work of the UNIDO international experts and the support of UNIDO CIIC.

The following seminars, trainings, energy audits and workshops were organized in the framework of the UNIDO project by the leading Russian and international experts:

Event, date	Brief description
Audit of implemented energy management system, 25.01.2016	Internal EnMS Audit at the "Sukholozhsky foundry-mechanical plant" (UMMC holding)
Audit of implemented energy management system, 26.01.2016	Internal EnMS Audit at the "UMMC-Agro Teplichnoe"
Audit of implemented energy management system, 27.01.2016	Internal EnMS Audit at the plant "Katur-invest" (UMMC holding)
Audit of implemented energy management system, 28.01.2016	Internal EnMS Audit at the Metallurgic plant in the name of A.K.Serov (UMMC holding).
Audit of implemented energy management system, 29.01.2016	Internal EnMS Audit at the "Revdinsky factory OTSM" (UMMC holding).
Audit of implemented energy management system, 01.02.2016	Internal EnMS Audit at the "Kirovsky Zavod OTSM" (UMMC holding).
Audit of implemented energy management system, 01.02.2016	Internal EnMS Audit at the metallurgical plant "Elektrostal Tyumen" (UMMC holding).
Audit of implemented energy management system, 04.02.2016	Internal EnMS Audit at the JSC "Shadrinsk auto-aggregate plant" (UMMC holding).
Workshop "Implementation of integrated systems of energy management: experience and opportunities", 16.02.2016	-
Training on optimization of energy systems, 15.02.2016 – 17.02.2016	Basic training for optimization of the cooling system.
Audit of implemented energy management system, 19.02.2016	Internal EnMS Audit at JSC "KVART".
Audit of implemented energy management system, 25.02.2016	Internal audit for compliance with the EnMS at the Kuzbassrazrezugol (UMMC holding).
15.03.2016 – 17.03.2016, a Round table on EnMS	A round table dedicated to EnMS on the UNIDO methodology within the framework of the Symposium on energy efficiency and energy saving in Kazan.

Training on energy efficiency, 17.03.2016 – 18.03.2016	Training "energy efficiency" organized jointly with the REA
Training in implementation of EnMS, 28.03.2016. - 01.04.2016	Planning EnMS training for Mamadysh and Naberezhnie Chelny group of companies.
A round table on SEM, 6-9.04.2016	A round table dedicated to EnMS on the UNIDO methodology, within the framework of Caspian technology forum in Astrakhan.
Support of the Astrakhan delegation, 15-19.05.2016	Participation in the Astrakhan official delegation at the UNIDO headquarters and the Vienna municipality to exchange experiences and discuss possible joint projects.
Presentation on the status of the project at the expert meeting on EnMS, 24-27.05.2016	Expert review meeting on the EnMS, the presentation of current results of the project – the event in the framework of the Vienna energy forum.
Consultation on the development of the roadmap on implementation of the EnMS to Resp. Tatarstan, 28.05-4.06.2016	Expert participation in the process of developing a road map for the EnMS implementation at the regional level in the Republic of Tatarstan.
The visit of the Brazilian delegation to the enterprises of UMMC Holding 29-31.05.2016	Organization and support of the Brazilian delegation to the enterprises of UMMC Holding to familiarize with the results of the EnMS implementation in the framework of the UNIDO project at 9 enterprises.
Regional meeting of PECP-Net, 7-10.06.2016	Regional meeting of RECP-Net – Resource efficient and cleaner production network in Batumi.
Innoprom, 11-13.07.2016	Participation in the expert discussions (about the EnMS implementation results according to the methodology of UNIDO in industry and municipalities) in the framework of the industrial forum "Innoprom" in Yekaterinburg.
Training on energy systems optimization, 19.07.2016 - 20.07.2016	Steam System Optimization USER training.
Training on energy systems optimization, 28.-7.2016 – 29.08.2016	Basic training for optimization of the draft system.
Training on energy systems optimization, 14.09.2016 – 24.09.2016	Basic and expert training on optimization of compressed air system
Training on EnMS implementation, 3.10.2016 – 7.10.2016	Planning EnMS training for Nab. Chelny City Programme.
investment forum "South dialogue", 11-14.10.2016	Participation of UNIDO national experts and representatives of the headquarters in investment forum "South dialogue" in Astrakhan.
Training on EnMS implementation, 09.2016	Operations EnMS training for Mamadysh and Naberezhnie Chelny group of companies.
The sustainable energy forum, 17-20.10.2016	Presentation of the project results at Kedrovsko coal mine (the Holding company of UMMC) in the framework of the VII International Forum on Energy for sustainable development in Baku.

Training on energy systems optimization, 17.10.2016 – 21.10.2016	Basic and expert training on optimization of electric motors.
Training on EnMS implementation, 31.10.2016 – 03.11.2016	Checking EnMS training for Naberezhnie Chelny Group.
Training on EnMS implementation, 11.2016	Checking EnMS training for Mamadysh Group of companies.
Training on energy systems optimization, 26.11.2016 – 02.12.2016	Basic and expert training on optimization of pumps and hydraulic systems.
Audit of implemented energy management system, 04 -07.12.2016	Internal EnMS Audit at the SUE "Astrvodokanal".
Audit of implemented energy management system, 11-17.12.2016	Internal EnMS Audit at the group of companies of the Naberezhnye Chelny city.

Component 4. Government capacity building and support programme

1. A research work on testing the methodology of benchmarking of industrial enterprises and the automated information system "Benchmarking of industrial enterprises" at the enterprises of the Tomsk region was carried out jointly with the Russian energy Agency.

One of the most common forms of attracting big business to solving the problems of energy saving and ecology is a system of rating and comparing the energy efficiency indicators of industrial enterprises and holdings. In Europe, the standard EN 16231 "Energy efficiency benchmarking methodology" is approved. At the same time, an officially recognized methodology of formation and implementation of energy efficiency benchmarking in industry is missing in Russia.

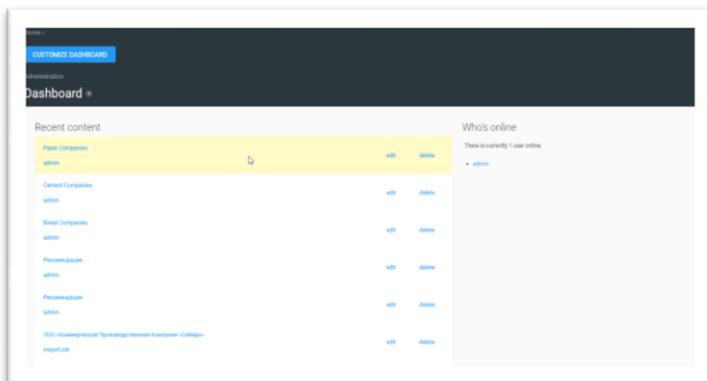
The main goal of this work is adjustment of the automated system of "Benchmarking of industrial enterprises" initial data collecting and processing, as well as visualization of the results of the third phase study on "Developing tools for market transition of Russian industries with the highest greenhouse gas emissions to energy-efficient path of development: a regional system of benchmarking industrial energy efficiency and business model for the implementation of energy management system on the basis of energy service contracts".

With an adaptive automated presentation tool for the results of regional benchmarking, the company can analyze both its current state and identify opportunities to improve energy efficiency in the future. Benchmarking as an approach to the planning of company activities, involving a continuous process of products level assessment, services and working methods, studying and evaluating all the best in other companies with the aim of using the acquired knowledge.

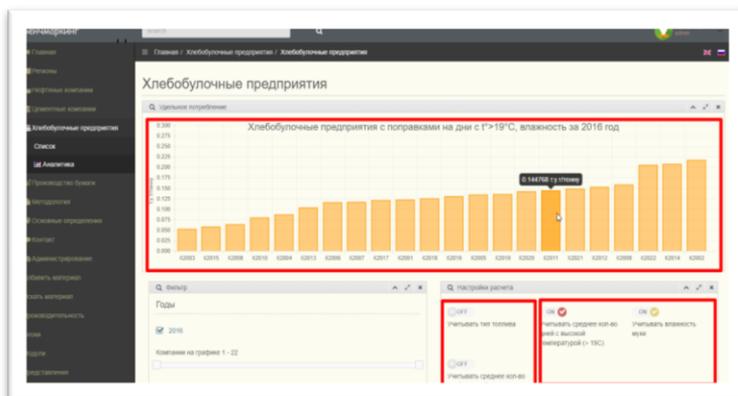
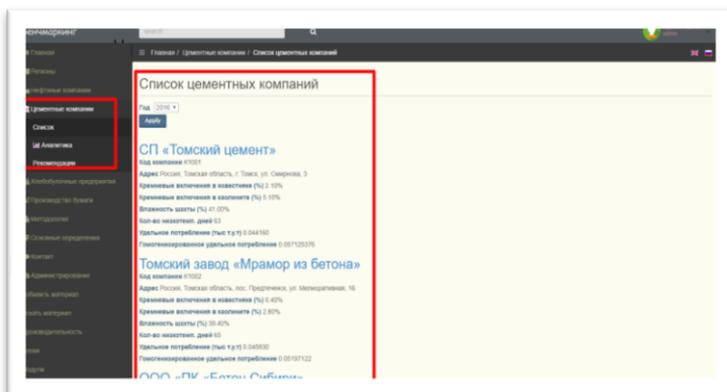
The result is an automated system that provides data collection capability to the conditions of the chosen region of the Russian Federation, visualization of research results for three selected industries in the form of interactive dynamic models representing the results of the ranking for the selected benchmarks.

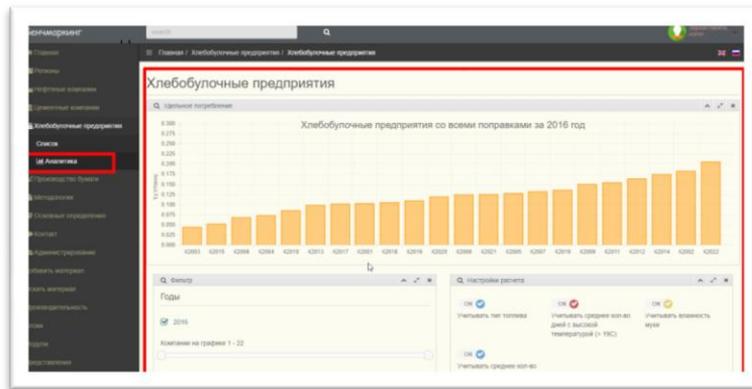
The following activities were done:

- a) The development of internal infrastructure: systems and content management capabilities for adding new blocks as well as control the access rights.



- b) Development of new functionalities in terms of carrying out regional benchmarking in three selected industries, adding modules benchmarking, development of universal data visualization.





- Also in the framework of the fourth components of the project the training on measurements and energy efficiency indicators (EnPI) for state and municipal employees and public sector employees was conducted. The training was attended by over 50 participants, which presented a variety of industries (engineering, energy, innovative technologies, etc.) and transport, energy service companies, independent experts, entrepreneurs and small business.

The training program included the following topics: analysis of energy data and reporting; the identification of energy saving potential; the calculation of expected energy consumption and the factors influencing it; the dependence of consumption on weather conditions; data collection on energy consumption; statistical models that take into account error and uncertainty; forecasting, goal setting, and budgeting; monitoring of energy efficiency; measurement and verification of results; international standard ISO 50015, etc.

THE FURTHER ACTIONS UNDER THE PROJECT

Preparation of reporting documentation under the project, including case studies, analysis of the project effect on the Russian industry, summing up the direction.

MEDIA COVERAGE

The project activities were covered by the following media:

- ✚ "Kommersant" newspaper, 26.05.2016, an article "Blank Energy" <http://www.kommersant.ru/doc/2989454>
- ✚ Magazine "UNIDO in Russia" (Issue 17, "Energy Efficiency Benchmarking" article)
- ✚ The magazine "Expert: Ural", 08.15.2016, article "Pear not to eat" <http://www.acexpert.ru/archive/nomer-31-33-697/grushu-ne-skushat.html>
- ✚ The newspaper "Moskovsky Komsomolets", 04.08.2016, article "Astrakhan - the first city in the world to introduce an energy management system" <http://ast.mk.ru/articles/2016/04/08/astrakhan-pervyy-v-mire-gorod-po-vnedreniyu-sistemy-energomenedzhmenta-na-municipalnykh-predpriyatiyakh.html>
- ✚ A series of articles in the electronic edition of the "Point A": <http://punkt-a.info/news/2/91728> , <http://punkt-a.info/news/3/91759>
- ✚ Internet newspaper «Just media», 22.04.2016, article "UMMC has saved energy for the whole city" http://justmedia.ru/news/economy/uqmk_sekonomila_elektroenergii_dlya_czeloogo_goroda
- ✚ The profile edition "Metal Supply and Sales" 06.20.2016 article "KZOTSM preparing for certification according to ISO 50001" <http://www.metalinfo.ru/ru/news/86537>
- ✚ TASS Information Message, 18.07.2016, article "Energy Efficiency in Russia - one of the" Innoprom " <http://tass.ru/novosti-partnerov/3465175>
- ✚ Internet edition of «Chelny-biz», 20.10.2016, article "International Conference on energy management will be held in Naberezhnye Chelny" <http://chelny-biz.ru/news/171656/>
- ✚ A series of press releases on the project portal [unido.ru](http://www.unido.ru/programmes/projects_unido/razvitie_rinocnih_mehanizmov/) http://www.unido.ru/programmes/projects_unido/razvitie_rinocnih_mehanizmov/



PARTNERSHIP BETWEEN RUSSIA AND BRAZIL IN TECHNOLOGY AND INNOVATION FOR DEVELOPMENT OF SMES WITH EXPANSION TO OTHER BRICS COUNTRIES

*To consolidate the efforts of the industrial and scientific-production enterprises in support of the UNIDO Project in 2016, the **Industrial innovation club (PIC)**, formed on a voluntary basis at the Center of UNIDO in Russia from among the representatives of Russian companies, continued to operate, representing the priority areas of industrial development and engaged in practical activities in the BRICS countries.*

BACKGROUND

Implementation dates: 2015-2020

Project coordinator: Viktor N. Kulkov prominclub-info@yandex.ru

Website: http://www.unido.ru/programmes/projects_unido/prom_innovac_klub/

Objective –promotion of scientific and technological development of industrial sectors for the development of the real industrial sector of sustainable economy.

Project tasks – development and implementation of complex industrial projects at all stages of the innovation cycle, from research and development to technologies and their practical use in production, including the establishment of mechanisms for the projects management.

Project partners:

- «Technological development of agricultural production in Russia 2016-2020»
 - Russian Academy Of Sciences
 - Department of agricultural Sciences
 - Siberian branch of agricultural science of the RAS
 - MSU science Park
 - INION
 - Business club of the SCO
 - LLC "PROEKTPISHESTROY" Moscow

- Agency for investment development of Novosibirsk, Novosibirsk
 - Pushchino scientific center RAS
 - Scientific research Institute of meat industry ran
 - Research Institute of baking industry
- **« Development of the textile industry in Russia 2016-2020»**
 - SOUZSLEGPROM
 - BKLM - Large Kostroma flax factory
 - JSC "Cotton factory "shuiskys sitty"
 - CJSC "Moscow silk"
 - JSC "Innovation center of textile and light industry"
 - Agency for investment development of Novosibirsk, Novosibirsk
 - MSU science Park
- **« Development of foundry production in Russia 2016-2020»**
 - Ministry of economic development of the Russian Federation:
 - Committee on foundry of the Union of machine builders of Russia, Moscow
 - Committee on innovations in metallurgy and foundry industry of the Tula CCI, Tula
 - The investment development Agency of the government of Novosibirsk region, Novosibirsk
 - Magnitogorsk state technical University, Magnitogorsk
 - Engineering company "LITAFORM", Moscow
 - Russian Association of casters, Moscow
 - Leningrad Association of foundry, St. Petersburg
 - Group of companies "reltek", Ekaterinburg
 - JSC "SIBELECTROTERM, Novosibirsk
 - JSC "SIBLITMASH", Novosibirsk
 - Coordinating Committee AFROCOM, Moscow
 - Foundry Association of BRICS, Beijing
 - Business club of the SCO, Moscow
 - "METALLURGMASH Engineers", Moscow
 - NRI TSVETMET research Institute, Moscow

EVENTS

26.02.2016	LITAFORM expert workshop "Innovative revival and development of the domestic foundry machinery and foundry production".
6.04.2016	Presentation of the UNIDO CIIC project proposals included into the Ministry of economic development roadmap for investment cooperation of BRICS 2016 – 2020.
23. 07.2016	The first constituent meeting of the "Foundry committee" of the Union of machine builders of Russia.
14. 09. 2016	All-Russian scientific-practical conference "Import substitution and competitiveness of the Russian economy" in the framework of the Second international specialized exhibition "Import substitution 2016"

29 11. 2016	Meeting of the Foundry production committee "Development strategy of the import substitution program in the field of foundry production"
20. 12. 2016	International scientific-practical conference "Modernization of Russia: priorities and challenges"

MAJOR ACHIEVEMENTS IN 2016

1. Obtained proof of concept of economic development of the Russian Federation on the proposal of the UNIDO Centre RF Integrated industry project "Development of foundry production in Russia for 2016-2020. (Letter of the Deputy Minister of economic development the MAYOR yellin E. I. on August 19, 2016).
2. The Plan of cooperation "Technological development of agricultural production in Russia for 2016-2020" between the Russian Academy of Sciences and the UNIDO CIIC was signed.
3. Three projects of priority industrial sectors were formed:
 - « The development of foundry production in Russia 2016-2020»
 - «The technological development of agricultural production of Russia 2016-2020»
 - « The development of the textile industry in Russia 2016-2020»
4. The Project proposals on development in 2017 were developed:
 - Action plans for 2017 for the agriculture, textile and foundry production
 - A working version of the mechanism of Complex industrial projects realization
 - Conceptual solution of the Project management as the management system

THE FURTHER ACTIONS UNDER THE PROJECT

Within the project implementation, the following activities are considered as of the main importance:

1. The implementation of the "action Plan for 2017" from December 15, 2016 industrial Integrated project "Technological development of agricultural production in Russia 2016-2020"
2. The implementation of the "action Plan for 2017" from December 22, 2016 industrial Integrated project "Development of foundry production in Russia for 2016-2020"
3. The implementation of the "action Plan for 2017" from December 27, 2016 industrial Integrated project "Development of textile production in Russia for 2016-2020"
4. The development of cooperation in the framework of the First (2015) Second (2016) Forums on small business regions of the participating countries of SCO and BRICS in formation and realization of Complex industrial projects.

5. In the framework of the Year of ecology in Russia 2017 to develop Comprehensive industry proposals by sector of Industrial innovation club Technology Platform:
 - «The development of small-scale energy and projects on renewable resources »
 - « Industrial waste management »
6. Participation in the VII Foundry BRICS forum 2017 in South Africa, on 12 -14 March 2017. Participation in the formation of the plan of action of the BRICS Foundry Association for the period till 2020 <http://www.brics-foundry.org>.

MEDIA COVERAGE

The project activities were covered by the following media:

- ✚ *The Integrated industry project is available in the news feed on the UNIDO CIIC website http://www.unido.ru/news/proekt_razvitija_agroproma/
- on the website of the RAS Institute (INION) <http://www.rkpr.inion.ru/ras/view/publication/general.html?id=100046211>
- on the webpage of the UNIDO CIIC Industrial innovation club http://www.unido.ru/programmes/projects_unido/prom_innovac_klub/2016_2020/agro/2102016/*
- ✚ *Participation in the formation of the site of the BRICS Foundry Association www.brics-foundry.org*
- ✚ *Preparation of a special issue for the online version of the magazine "UNIDO in Russia": "Integrated sectoral projects of industrial development to strengthen the real sector of the sustainable economy", March 2017.*



ENVIRONMENTALLY SOUND MANAGEMENT AND FINAL DISPOSAL OF PCBs AT THE RUSSIAN RAILROAD NETWORK AND OTHER PCBs OWNERS

BACKGROUND

Implementation dates: 2014-2018

Project coordinator: Mikhail P. Nikiforov minikif@gmail.com

Website: <http://www.stoppcb.ru>

Objective– creation of the state PCBs management system in the Russian Federation, PCBs identification system in the energy equipment of industrial enterprises, safe maintenance of PCB-contaminated energy equipment and PCBs environmentally sound disposal in accordance with Russian and international regulations.

Within the project it is prescribed to implement the following activities:

- Institutional, regulatory and workforce capacity building for implementation and performance of PCBs environmentally sound management system;;
- Country-wide inventory of PCB-contaminated equipment and wastes;
- Environmentally sound management and disposal of PCB-contaminated equipment and wastes.

In the year 2016 the draft laws and regulations aimed for adjusting the PCBs inventory at the energy enterprises all over the country, as well as draft amendments to existing legislation in terms of implementation of Stockholm Convention on POPs has been submitted for approval to the State Duma of the Russian Federation.

The project team continues inventory of electrical equipment of the Russian Railroads JSC, started in the year 2015. 5'262 samples of transformer oil has been taken from the energy supply objects of the Russian Railroads JSC and will be sent for the chemical analysis for PCBs presence. At the second stage of sampling campaign 5'320 samples will be taken from the energy supply and connectivity objects of Sverdlovsk, South-Ural, West-Siberian, Transbaikal and Far eastern railroads.

At the same time, the project laboratories are preparing for the samples analysis. Thus, UNIDO works on supply of chemical

reagents for PCBs analysis in insulating liquids; as well as provide training of laboratory personnel on PCBs analysis techniques and methods. It was bought two (2) gas chromatographs (GC) with electron capture detectors (ECD) assigned to chemical laboratory of "Inspectorate R" for temporary use. The laboratory of the Gubkin Russian State University of oil and gas has been renovated and equipped with the modern gas chromatograph with mass spectrometer (GC-MS). The analytical laboratory of Research and Production center on environmental protection – Russian Railroads branch (Yaroslavl city) prepared the industry-specific techniques and instructions on transformer oils samples and management of PCB-contaminated wastes for Russian Railroads JSC. It was also developed the "Requirements to the chemical laboratories carrying out PCBs analysis in technological liquids". The laboratory personnel jointly with UNIDO team works on searching the PCBs chemical reagents supplier in Russia.

Within the frame of technological component of the project it was hold a tender on procurement of PCB decontamination unit with unit on production of dechlorination reagents. The expected date of the units' supply and starting up the operation is October 2017. Currently it is carried out the tender for supply of unit for high-temperature oxidation of PCB-contaminated oil with the mass concentration of contaminant over 5000 ppm. The appropriate institutions work over the logistic issues of decontamination and disposal of PCB-contaminated oils, as well as technology and techniques for PCB-contaminated equipment dismantling. The results of this study will be taken as a basis for the future technological solutions.

Project partners:

- Ministry of natural resources and ecology of the Russian Federation;
- Russian Railroads JSC;
- «Vodokanal of St. Petersburg» SUE;
- Gubkin Russian State University of oil and gas.

EVENTS

<p>March 14-18th, 2016</p>	<p>Training of laboratory personnel on PCBs analysis on transformer oils (St. Petersburg)</p> <p>The training on PCBs analysis methods in transformer oils has been held for the period of March 14-18th, 2016 in St. Petersburg on the premises of chemical laboratory of «Inspectorate R» JSC. The participants of the training were laboratory personnel of the project partners – Research and production center for environment protection of the Russian Railroads JSC, Gubkin Russian State University for oil and gas, «Vodokanal of St. Petersburg» SUE, «Inspectorate R» JSC. Totally 8 participants took part the training.</p> <p>During the training it was learned the method of PCBs analysis in accordance with the GOST R IEC 61619-2013, as well as it was given a lectures on the general approaches for PCBs analysis in different media and alternatives on PCBs analysis to existing State standard.</p> <p>After the completion of the training course all participants received certificated on advanced professional training in the government-approved format.</p>
<p>April 6-7th, 2016</p>	<p>Educational workshop for enterprises of the Central Federal District “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations”(Moscow)</p> <p>The workshop “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations» was held on April 6-7th at the International Center of Scientific Technical Information. The workshop was organized by UNIDO jointly with the Russian Energy Agency of the Ministry of Energy of the Russian Federation. More than 150 representatives of Fuel and Energy complex enterprises, industrial enterprises of the Central Federal District, federal and</p>

	<p>regional authorities, environmental public organizations and research institutions took part the workshop.</p> <p>The following issues were discussed during the Workshop:</p> <ul style="list-style-type: none"> - Stockholm Convention on POPs requirements in terms of PCBs and PCB-contaminated equipment management; - Government control of activities on PCBs and PCB-contaminated equipment management; - Financial and tax incentives of enterprises for implementation of the BAT/BEPs, including techniques on environmentally sound disposal of PCBs; - Inventory of PCB-contaminated equipment in Russia and experience of the several companies; - PCBs accounting at the enterprises and Database of PCB-contaminated equipment created by UNIDO; - Laboratory support and PCBs analysis in transformer oils - PCBs disposal techniques. <p>The workshop was held within the series of UNIDO events on raising of awareness the industrial enterprises personnel on PCBs problem.</p>
<p>May 19-20th, 2016</p>	<p>Educational workshop for enterprises of the North-Caucasian Federal District “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations”(Stavropol)</p> <p>The workshop “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations» was held on May 19-20th at the Center of Scientific and Technical Information – Russian Energy Agency Office at the North-Caucasian Federal District. More than 130 representatives of Fuel and Energy complex enterprises, industrial enterprises of the North-Caucasian Federal District, federal and regional authorities, environmental public organizations, research institutions and companies involved in PCBs disposal took part the workshop.</p> <p>The following issues were discussed during the Workshop:</p> <ul style="list-style-type: none"> - Stockholm Convention on POPs requirements in terms of PCBs and PCB-contaminated equipment management; - Government control of activities on PCBs and PCB-contaminated equipment management; - Financial and tax incentives of enterprises for implementation of the BAT/BEPs, including techniques on environmentally sound disposal of PCBs; - Inventory of PCB-contaminated equipment in Russia and experience of the several companies; - PCBs accounting at the enterprises and Database of PCB-contaminated equipment created by UNIDO; - Laboratory support and PCBs analysis in transformer oils - PCBs disposal techniques. <p>The workshop was held within the series of UNIDO events on raising of awareness the industrial enterprises personnel on PCBs problem.</p>
<p>May 25th, 2016</p>	<p>Internation Moscow ECO-festival «New ERA». Round-table «UNIDO project on implementation of Stockholm Convention on POPs obligations in the Russian Federation»</p> <p>On May 25th the International Moscow ECO-Festival «New ERA» was held at the N.V.Tsitsin Main Botanic Garden of the Russian Academy of Science. The Festival was organised under the support of the UNIDO Center for International Industrial Cooperation in the Russian Federation, Ministry of Natural Resources and Ecology of the Russian Federation; the Natural resources management department of the Moscow Government.</p> <p>During the Festival it was held the workshop «UNIDO project on implementation of Stockholm Convention on POPs obligations in the Russian Federation», where the UNIDO's achievement</p>

	<p>on management and disposal of PCBs were presented. The representatives of Russian Railroads JSC, Gubkin Russian State University of oil and gas, Russian Energy Agency of the Ministry of energy of the Russian Federation, N.V.Tsitsin Main Botanic Garden and others took part the workshop.</p> <p>The issues addressed were improvement of the Russian legislation for implementation of Stockholm Convention on POPs; necessity of inventory of oily-filled energy equipment and disposal of PCB-contaminated wastes for prevention of repeated and cross- contamination of equipment and production of secondary contaminants like dioxin.</p>
June 2-3 rd , 2016	<p>Educational workshop for enterprises of the North-West Federal District “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations”(St. Petersburg)</p> <p>The workshop “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations» was organised for the industrial enterprises of the North-West Federal District on July 2-3rd, 2016 at Valisievsky Congress Hall, St. Petersburg. The workshop was held jointly by UNIDO and Russian Energy Agency of the Ministry of energy of the Russian Federation.</p> <p>70 representatives of Fuel and Energy complex enterprises, industrial enterprises of the North-West Federal District, regional authorities, environmental public organizations, research institutions and companies involved in PCBs disposal took part the workshop.</p> <p>The following issues were discussed during the Workshop:</p> <ul style="list-style-type: none"> - Stockholm Convention on POPs requirements in terms of PCBs and PCB-contaminated equipment management; - Government control of activities on PCBs and PCB-contaminated equipment management; - Financial and tax incentives of enterprises for implementation of the BAT/BEPs, including techniques on environmentally sound disposal of PCBs; - Inventory of PCB-contaminated equipment in Russia and experience of the several companies; - PCBs accounting at the enterprises and Database of PCB-contaminated equipment created by UNIDO; - Laboratory support and PCBs analysis in transformer oils - PCBs disposal techniques. <p>The workshop was the third (3rd) workshop within the series of UNIDO events on raising of awareness the industrial enterprises personnel on PCBs problem.</p>
July 5 th , 2016	<p>Meeting of Railroad administrations' authorized officials of the CIS member states (Yaroslavl)</p> <p>On July 5-6th in Yaroslavl the meeting of Railroad administrations' authorized officials of the CIS member-states, UNIDO experts and consultants, representatives of the state bodies and government oversight authorities, public and research organizations has been held.</p> <p>The issues discussed during the meeting were focused on environmental problems of railroad transport and searching of the ways for its solving.</p> <p>PCBs disposal issue was one of the subjects discussed.</p> <p>UNIDO Center for International Industrial Cooperation in the Russian Federation was presented by consultant - Mr. Valery Pershin.</p> <p>.</p>
July 20 th , 2016	<p>International industrial exhibition INNOPROM (Ekaterinburg)</p> <p>Within the thematic part “Technologies for energy engineering. Energy Efficiency” of the International Industrial exhibition INNOPROM the discussion «Energy and industrial politics – create the new impetus together” was organized by the Analytical Center under the Government of the Russian Federation.</p> <p>The UNIDO experts and consultants told about the Organization activities aimed for promotion</p>

	<p>of inclusive sustainable industrial development, about the UNIDO's projects in Russia on phasing-out of POPs from the Russian industry, including PCBs, as well as on increasing the energy efficiency. It was noted the importance of implementation of multilateral environmental agreements in Russia, in particular Stockholm Convention on POPs, which state obligation of the member-states on disposal of all accumulated PCBs to 2028.</p>
<p>September 8-9th, 2016</p>	<p>Educational workshop for enterprises of the Volga Federal District “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations”(Kazan)</p> <p>On September 28-9th, 2016 in the Shalyapin Hotel the workshop “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations” was held. The workshop was organized by UNIDO jointly with the Russian Energy Agency of the Ministry of Energy of the Russian Federation. 70 representatives of Fuel and Energy complex enterprises, regional authorities, and research institutions took part the workshop.</p> <p>The following issues were discussed during the Workshop:</p> <ul style="list-style-type: none"> - Stockholm Convention on POPs requirements in terms of PCBs and PCB-contaminated equipment management; - Government control of activities on PCBs and PCB-contaminated equipment management; - Inventory of PCB-contaminated equipment in Russia and experience of the several companies; - PCBs accounting at the enterprises and Database of PCB-contaminated equipment created by UNIDO; - Laboratory support and PCBs analysis in transformer oils; - Monitoring of POPs, and OCBs in particular, in different environmental media; - PCBs disposal techniques. <p>The workshop was the fourth (4th) workshop within the series of UNIDO events on raising of awareness the industrial enterprises personnel on PCBs problem.</p>
<p>October 12-13th, 2016</p>	<p>Educational workshop for enterprises of the Siberian Federal District “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations” (Krasnoyarsk)</p> <p>On October 12-13th, 2016 at the Krasnoyarsk branch of the Russian Energy Agency the workshop “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations” was held.</p> <p>The workshop was organized by UNIDO jointly with the Russian Energy Agency of the Ministry of Energy of the Russian Federation within the frame of UNIDO project. 50 representatives of Fuel and Energy complex enterprises, industrial enterprises of the Siberian Federal District, regional authorities, and research institutions took part the workshop.</p> <p>The following issues were discussed during the Workshop:</p> <ul style="list-style-type: none"> - Stockholm Convention on POPs requirements in terms of PCBs and PCB-contaminated equipment management; - Government control of PCBs and PCB-contaminated equipment management; - Inventory of PCB-contaminated equipment in Russia and experience of the several companies; - PCBs accounting at the enterprises and Database of PCB-contaminated equipment created by UNIDO; - Laboratory support and PCBs analysis in transformer oils; - PCBs disposal techniques. <p>The workshop was the fifth (5th) workshop within the series of UNIDO events on raising of awareness the industrial enterprises personnel on PCBs problem.</p>
<p>November 10-11th, 2016</p>	<p>Educational workshop for enterprises of the Ural Federal District “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations” (Tyumen)</p>

	<p>On November 10-11th, 2016 in the Doubletree by Hilton Tyumen Hotel the workshop “Safe Maintenance of PCB-Containing Equipment and its Disposal at FEC Organizations” was held. The workshop was organized by UNIDO jointly with the Russian Energy Agency of the Ministry of Energy of the Russian Federation. 50 representatives of Fuel and Energy complex enterprises of Ural Federal District and research institutions, as well as representatives of the Federal Service for Supervision on Natiral Resources use took part the workshop.</p> <p>The following issues were discussed during the Workshop:</p> <ul style="list-style-type: none"> - Stockholm Convention on POPs requirements in terms of PCBs and PCB-contaminated equipment management; - Government control of activities on PCBs and PCB-contaminated equipment management; - Inventory of PCB-contaminated equipment in Russia and experience of the several companies; - PCBs accounting at the enterprises and Database of PCB-contaminated equipment created by UNIDO; - Laboratory support and PCBs analysis in transformer oils; - Monitoring of POPs, and OCBs in particular, in different environmental media; - PCBs disposal techniques. <p>The workshop was the sixth (6th) and the last workshop within the series of UNIDO events on raising of awareness the industrial enterprises personnel on PCBs problem.</p>
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MAJOR ACHIEVEMENTS IN 2016

Component 1.1. Strengthening of the policy and regulatory framework

1. The working group under the Ministry of natural resources and ecology prepared the draft National Implementation Plan under the Stockholm Convention on POPs. The Plan includes provisions on updating the national legislation in accordance with Stockholm Convention on POPs requirements. The draft Plan was adjusted with 19 federal governmental bodies, as well as 85 regional authorities of the territorial entity of the Russian Federation. 16 regional authorities made the remarks to the Plan. After resolving the complaints, the Draft will be send for approval to the Ministry of Foreign Affairs and, hereafter, to the Government of the Russian Federation. After the conciliation procedures, the approved NIP and related Order of the Ministry of natural resources and ecology will be sent to the Stockholm Convention Secretariat.
2. The working group under the Federal service for supervision on natural resources use developed the draft normative legal documents in terms of control of PCBs management and implementation of Stockholm Convention on POPs provisions, in particular:
 - Draft order of the Ministry of natural resources and ecology «On approval the procedures of inventory the equipment and materials using or containing PCBs, as well as inventory of PCB-containing wastes in the Russian Federation»;
 - Draft Decree of the Government of the Russian Federation «On approval of the Rules on PCB-containing equipment and wastes managing»;
 - Motion on expanding the Federal Law No. 7-FZ dated on 10.01.2002 «About protection of environment» regarding definition of «persistent organic pollutants» and measures of the state control on POPs management;
 - Draft amendment to the Russian Federation Administrative Offence Code (Federal Law No.195-FZ dated on 30.12.2001) regarding settlement of administrative fine for non-confirmity with the rules on PCB-containing equipment and wastes management;

- Motion on expanding the Federal Law No. 89-FZ dated on 24.06.1998 “On production and consumer wastes” concerning requirements to management of PCB-containing equipment and wastes;
 - Draft amendment to the Decree of the Government of the Russian Federation No.400 dated on 30.07.2004 «On approval of the Regulations about the Federal Service for supervision on Natural resources use and introduction of amendments to Decree of the Government of the Russian Federation No.370 dated on 22.07.2004” in terms of conferring the Federal Service for supervision on Natural resources use with the power on maintenance and annual updating of the electronic database on accounting the PCB-containing equipment, materials and wastes, as well as operating and storage places of such equipment, and storage places of PCB-contaminated materials and wastes;
 - Amendments to the Order of the Ministry of natural resources and ecology of the Russian Federation No.868 dated on 18.12.2002 «About organization of professional training for permits for hazardous waste management» regarding the draft program of professional training for the personnel having permits for hazardous waste management in the parts of requirements to self-employed entrepreneurs and companies, owing PCB-containing equipment and wastes.
3. The drafted legislative regulations were sent for approval to the relevant Ministries and bodies (Ministry of energy of the Russian Federation, Federal Service on Surveillance for Consumer rights protection and human well-being, Federal Environmental, Engineering & Nuclear Supervision Agency, Ministry of transport of the Russian Federation). Basing of the comments received, the regulations were completed and sent for the further consideration to the Ministry of natural resources and ecology. Currently the Department on state policy on environment protection, Department of international cooperation, Legal Department consider the Draft regulations.
 4. On the own initiative the Working Group prepared the Draft Law aimed for implementation of Stockholm Convention on POPs provisions in terms of inventory, environmentally sound disposal and state control of PCB-contaminated wastes. The draft Law was sent to the State Duma of the Russian Federation, the Committee on natural resources management and ecology. After the consideration of the Draft, the Federal law “About amendments to the several legislative acts” was prepared. The Federal Law focused on activities to be made for implementation of Stockholm Convention on POPs provisions in the Russian Federation. The amendments to the Draft Federal Law were made by the Working group under the Government of the Russian Federation; the financial feasibility study is preparing for the document.
 5. As a part of legislative component of the project the special aspects of regulation the PCBs reference standard import and export on the territory of Eurasian Economic Union were found. Thus, import of PCB-containing chemical reagents is prohibited, while the certified Russian-produced analogues are absent. The project consultants cooperates with the related governmental bodies - Ministry of natural resources, Ministry of industry and trade, Federal custom service, Eurasian Economic Commission – on changing the corresponding legislative acts in the view of removal of a ban the PCBs reference standards.

Component 1.2. Training on the new regulations of staff of the federal and regional government agencies, customs authorities, NGO's and PCB owners

6. The Draft regulations on PCBs management developed by the working group under the Federal Service for supervision on natural resources use, approved by the related Ministries and Governmental bodies and distributed among its personnel;
7. The First (1st) Volume of the Guidelines on PCBs and PCB-contaminated wastes management was prepared. The Guidelines contain information about the PCB problem, legislative aspects of PCBs management, both Russian and international regulations; transformer oils sampling and analysis for PCBs presence. The Guidelines will be distributed among industrial enterprises and companies, involved in PCBs management;
8. The Second (2nd) Volume of the Guidelines on PCBs and PCB-contaminated wastes management was prepared. The Volume contains information about the Rules and recommendations on PCB-containing equipment

management at the place of its operation, PCB disposal and decontamination technologies;

9. It was carried out the training of technical and managing personnel of the energy enterprises on PCBs management issues, including state regulation of PCBs management, undertaking of PCBs inventory on-site, sampling of transformer oils, labeling of contaminated equipment and environmentally sound disposal of PCBs wastes. Totally 520 people attended the workshops. The training was held by the Russian Energy Agency of the Ministry of energy of the Russian Federation;
10. It was held the training of 170 managers and technical specialists of the Russian Railroad JSC on the safe maintenance of PCB-contaminated equipment, its decontamination and disposal of PCB-containing wastes. 612 specialists of Russian Railroads JSC were briefed on the rules of sampling of PCB-contaminated transformer oils.

Component 1.3. Introduction of ESM measures for safe management/disposal of PCB wastes and occupational health

11. The Federal Classificatory Catalogue of Wastes which include waste transformer oils containing PCBs, was approved by the Order of the Federal Service for supervision on natural resources use No.445 dated on 18.07.2014;
12. The works on identification of the main sources of POPs unintentional production has been started by the Working Group under the Federal Service for supervision on natural resources use.

Component 2.1. Adoption of methods for PCBs analysis and accreditation of 3-4 laboratories for PCB analysis

1. The State Standard GOST R IEC 61619-2013 "Insulating liquids. Contamination by polychlorinated biphenyls (PCB) determination by capillary column gas chromatography method" which is authentic to the standard IEC 61619, was entered into force on July 1st, 2014;
2. The State Standards GOST EN "Petroleum products and used oils. Determination of polychlorinated biphenyl (PCB) and related products. Part 1. Separation and determination of selected PCB congeners by gas chromatography (GC) using an electron capture detector (ECD)" and GOST EN 12766-2-2014 "Petroleum products and used oils. Determination of polychlorinated biphenyls (PCB) and related products. Part 2. Determination of PCB content", allowing to carry out analysis of 12 PCBs congeners in transformer oils, were entered into force on July 1st, 2016;
3. Three (3) laboratories were accepted as a project laboratories for PCBs analysis within inventory of electrical equipment. These laboratories are Laboratory of analytical chemistry and ecology of the Department of Industrial ecology of the Gubkin Russian state university of oil and gas, Laboratory of analytical chemistry of the Research and Production Center for environment protection of the Russian Railroads, laboratory of "Inspectorate R" JSC (based on the Protocol of the meeting No.16 dated on 30.10.2015);
4. Gas chromatographs and laboratory glassware are bought for the project laboratories. Thus, the laboratory of Gubkin Russian state university of oil and gas on the own account bought the gas chromatograph with mass-spectrometer, made renovation of laboratory rooms, furniture and glassware;
5. UNIDO bought two (2) gas chromatographs with electron capture detectors (ECD) for PCBs analysis in accordance with GOST R IEC 61619-2013 «Insulating liquids. Contamination by polychlorinated biphenyls (PCB) determination by capillary column gas chromatography method». Gas chromatographs were set up and put into operation. Its on temporary use of «Inspectorate R» JSC laboratory;
6. The analytical laboratory of the Research and Production Center for environment protection of the Russian

Railroads JSC (Yaroslavl city) developed «The requirements to laboratories, performing analysis of technological liquids for PCBs presence»;

7. «Instruction on management of PCB-contaminated wastes» for Russian Railroads has been developed jointly by UNIDO experts, the analytical laboratory of the Research and Production Center for environment protection of the Russian Railroads JSC and laboratory of Gubkin Russian State University of oil and gas;
8. The training of the project laboratories' personnel on PCBs analysis techniques was held on March 14-18th, 2016. The training was organized at the premises of «Inspectorate R» laboratories. The lecturers were leading specialists in PCBs gas chromatograph analysis with more than 30 years of experience. Eight (8) people participate the training and, after completion of the course, received certificates on advanced professional training.

Component 2.2. Undertaking the extended inventory on PCBs

9. The second stage of the transformer oils sampling campaign has been started. 5320 samples will be taken from the energy supply and electricity objects of Sverdlovskaya, South-Ural, West-Siberian, Transbaikal and Far-Eastern railroads;
10. 5262 samples of transformer oils sampled in the year 2015 from the Russian railroads objects are stored at the Contractor warehouse and ready for sending to any project laboratory.

Component 2.3. Establishing the PCBs inventory labeling and database

11. The Database on Control of implementation the Stockholm Convention on POPs provisions in the Russian Federation in terms of inventory of industry, equipment and materials using or containing PCBs, as well as PCB-contaminated wastes was created. The interface and attribute composition of the system is agreed with the Federal Service for Supervision on natural resource use as an end user of the software;
12. The Database are filling with the data about PCBs presence in transformer oils basing on the sampling protocols data. The data-in mode about the results of chemical analysis is agreed. The responsible laboratory will enter the chemical analysis results; the data will be automatically uploaded from the GC software.

Component 3.1. Establishing the System for Environmentally Safe Packaging, Storage, and Transportation of PCBs

1. The Research and Production Center for environment protection of the Russian Railroads JSC specialists jointly with laboratory of analytical ecotoxicology of the Severtsov Institute on evolution and ecology problems performed determination of the class of hazard of PCB-containing equipment and technological liquids;
2. It is preparing the research work on development the technological and logistic scheme for management and disposal of PCB-contaminated transformers and oils. Basing on the research work results, the proposals on collection and transportation of PCB-contaminated equipment to the disposal places will be made.

Component 3.2. Selection of Environmentally Safe Disposal Technology

3. The tender for supply of the PCB-decontamination unit with PCBs mass concentration less than 5000 ppm, and the unit for production of dechlorination reagents has been completed. The supplier selected is «Scientific development and production center «Decanter» LLC. The expected delivery time is October 2017;
4. The tender for supply of the Unit for high temperature oxidation of the highly PCB-contaminated oils (with the PCBs mass concentration over 5000 ppm) is holding. The tender closing date is January 6th, 2017.

Component 3.3. Environmentally Safe Disposal of 3800 tons of PCBs

5. Based on the premises of the Research and Production Center for environment protection of the Russian Railroads JSC (Yaroslavl city) the facility of thermal disposal of wastes of the 3rd-4th class of hazard, including those containing PCBs, was put into operation. The Facility equipped with the complex of connected equipment and after-burning unit ensuring prevention of dioxin production and cleaning of exhausted gases before its release into environment. The permission to place an object into use is No. RU 6517306-019-2015 dated on 30.10.2015. The Facility is able to dispose more than 4500 tons of wastes of the 3rd-4th class of hazard. The Russian Railroads JSC investments to the Facility are estimated as 11,6 mln. US Dollars;
6. In order to consolidate the hazardous waste management in the company, the Russian Railroads incorporate the Tagul complex on thermal treatment of hazardous wastes and the Research and Production Center for environmental protection into one company with the managing office in Yaroslavl. The Tagul thermal treatment facility has two (2) processing lines with the capacity of 1500 kg/h, or 11 000 tons/year. The Facility can dispose a wide range of wastes of the 3rd-4th class of hazard.

THE FURTHER ACTIONS UNDER THE PROJECT

Within the project implementation, the following activities are considered as of the main importance:

- Making amendments to existing legislation of the Russian Federation in the view of Stockholm Convention provisions;
- Making amendments to the Custom legislation of the Eurasian Economic Community member-states in terms of import the PCB reference standard for laboratory use;
- Making amendments to the list of occupational health and safety risk when working with the PCB-containing electrical equipment;
- Sampling of 4680 samples of transformer oils from the objects of Russian Railroads JSC;
- Analysis of transformer oils for PCBs presence;
- Put into operation the Database on Control of implementation the Stockholm Convention on POPs provisions in the Russian Federation in terms of inventory of industry, equipment and materials using or containing PCBs
- Creation of the system for labelling of transformers depending on the PCBs presence;
- Decontamination and disposal of 3800 tons of PCB-contaminated insulating liquids.

MEDIA COVERAGE

The project activities were covered by the following media:

- ✚ *The blank energy //Thematic addendum «Business Guide» to the «Commerzant» newspaper – Dated on 13.05.2016;*
- ✚ *Dangerous oil // Thematic addendum «Business Guide» to the «Commerzant» newspaper – Dated on 13.05.2016;*
- ✚ *How to save from pollutants// Web-portal «PR-files». Dated on 01.06.2016;*
- ✚ *UNIDO in Russia create the POPs management system // Ecological Bulletin of Russia, №7'16; Dated on 23.06.2016;*
- ✚ *PCB-containing equipment in the fuel and energy complex of Russia – results of the pilot inventory // Ecological Bulletin of Russia, №7'16; Dated on 23.06.2016;*
- ✚ *Anastasia Sergeeva. The PCBs management system will be created in Russia / Implementation of Stockholm Convention on POPs provisions – Dated on 01.07.2016;*
- ✚ *International environmental project were discussed in Yaroslavl // News agency ITAR TASS. Dated on 08.07.2016;*
- ✚ *On the PCBs management in Russia// Ecological Bulletin of Russia, №8'16; Dated on 20.07.2016;*
- ✚ *Environmental projects and perspectives of international cooperation in Yaroslavl// UNIDO in Russia, №17. Dated on 22.07.2016;*
- ✚ *Mrs. Natalia Sokolova, the Head of Administration on the state environmental supervision of the Federal service for supervision on natural resource use, told about the measures on reduction of PCBs influence to environment // UNIDO in Russia, №17. Dated on 22.07.2016;*
- ✚ *Protection from PCBs: interim results // UNIDO in Russia, №17. Dated on 22.07.2016;*
- ✚ *UNIDO at the INNOPROM Exhibition – the main event of the Russian industry // UNIDO in Russia, №17. Dated on 22.07.2016;*
- ✚ *Energy efficiency in Russia is one of the INNOPROM subjects// News Agency «AK&M». Dated on 24.07.2016;*
- ✚ *Interview of Mr. Sergey Korotkov, Director of UNIDO Center for International Industrial Cooperation in the Russian Federation // UNIDO in Russia, №17. Dated on 02.08.2016;*
- ✚ *To save environment and health // UN in Russia. Dated on 26.08.2016.*

Publications

The CIIC official magazine "UNIDO in Russia" is published on a regular basis. At the present time the magazine is distributed through the Investment and Technology Promotion Offices (ITPO) and the Ministry of Foreign Affairs of the Russian Federation to the largest government agencies and industrial enterprises of the Russian Federation.

The main purpose of the magazine — information support on UNIDO projects and activities, aimed at attracting foreign technology and investments related to modernization of the Russian industry and economy, promotion of Russian technologies in other countries and assistance in the placement of funds of Russian investors abroad.

The magazine covers the following topics:

- Automotive industry
- Mining industry
- Rail transport
- Housing and public utilities
- «Green» building
- Medical industry
- Metallurgical industry
- Waste management
- Food Industry
- Industrial Ecology
- Vocational education
- Rocket and space industry
- Fishery
- Agriculture
- Textile Industry
- Fuel industry
- Chemical and Petrochemical Industry
- Refrigeration industry
- Power industry



Internet resources

The following websites were established to inform on the activities of the UNIDO CIIC and UNIDO Projects in Russia:

The **UNIDO CIIC official website** (www.unido.ru) is devoted to the description of the mission and activities of the Center in Russia and abroad. The website news line is regularly updated.



Online version of the magazine «UNIDO in Russia» (www.unido-russia.ru)





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