



Public Annual Report



Performance Results of The State Atomic Energy Corporation “Rosatom”

2013: THE ENVIRONMENTAL
PROTECTION YEAR



Public Annual Report-2013 The Environmental Protection Year

Safety



One step ahead



Responsibility for
the Result



One Team



Respect



Efficiency



Performance Results of The State Atomic Energy Corporation "Rosatom"

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About the Report

The Public Annual Report of the State Atomic Energy Corporation Rosatom (hereinafter referred to as “ROSATOM” or “the Corporation”) for 2013 is the fifth report voluntarily published by the Corporation for a broad range of stakeholders.

The Report has been produced in an integrated format; it comprehensively describes ROSATOM’s strategy and main financial, economic, and production results for 2013 (including KPIs of the top management), as well as results in the field of nuclear and radiation safety and environmental protection, contributions to the development of host territories, implementation of the Corporation’s social policy, and other aspects of sustainable development.

The top management and representatives of stakeholders defined the priority topics of the Report as: “Management of ROSATOM’s Natural Capital as a Factor of Sustainable Development” and “ROSATOM’s Performance Efficiency in the Reporting Period”. Information on the selection of the substantial topics to be disclosed in the Report is given in the section titled “The Report content definition process”.

According to internal regulatory documents, ROSATOM employs an annual reporting cycle; the previous annual report was published in 2013. The Report reflects activities of the Corporation in the period from 1 January 2013 to 31 December 2013.

Standards and regulatory requirements

The Report was drafted in compliance with the requirements of the new international reporting standards issued in 2013: the International IR Framework and the Sustainability Reporting

Guidelines of the Global Reporting Initiative (GRI, version G4). Substantial topics to be disclosed in the Report have been defined in accordance with these standards’ requirements (see Appendix 5).

While drafting the Report, the Corporation was also guided by the following regulations:

- the Public Reporting Policy of the State Atomic Energy Corporation ROSATOM,
- the ROSATOM Standard of Annual Public Reporting,
- standards of the AA1000 series of the Institute of Social and Ethical Accountability, and
- recommendations of the RSPP to be followed in management practices and corporate non-financial reporting, including the calculation methodologies of performance indicators.

Stakeholder involvement

The drafting of the Report was carried out with the input of stakeholders as per the International Standard AA1000SES to enhance the transparency, accountability, and substantiality of the disclosed information. Four dialogues with stakeholders were held to discuss the Report concept. Two featured dialogues on the Report’s priority topics, as well as public consultations to discuss the draft Report. The Report takes into account all of the main recommendations given by the representatives of stakeholders during these dialogues (see Chapter 4).

Verification of the reported information

The credibility of the reported information is verified by statements produced by:

- the Audit Commission of ROSATOM (see Appendix 2),
- an independent audit organisation that confirmed the credibility of the annual financial statements, and
- an independent audit organisation that confirmed the credibility of the non-financial statements as per the standards GRI G4 (“Core”), ISAE 3000 and AA1000AS (see Appendix 4).

ROSATOM’s Department for Internal Audit and Control conducted an internal audit of the compliance of the public reporting processes with ROSATOM’s Public Reporting Policy and local regulations regarding public reporting (see Appendix 3).

Representatives of key stakeholders conducted a public assurance of the Report as per Standard AA1000SES. This confirmed its substantiality and the completeness of the disclosed information as well as the Corporation’s response to requests from the stakeholders in the course of the Report’s drafting. Please refer to page 151 for the Public Assurance Statement.

The Report’s boundaries

The Report’s scope encompasses the activities of ROSATOM and its entities in the Russian Federation and other countries. Information on the current activities of the nuclear weapons complex is not fully disclosed because state secrets and features of ROSATOM’s activities must be kept secure.

The Report utilises several perimeters of consolidation. In all sections of the Report, the integral performance indicators, as well as the financial and economic indicator EBITDA, are disclosed for the Corporation’s entities as per the parameter of budget consolidation as of 31 December 2013, except for those entities for which reporting is classified. In all sections of the Report, the financial and economic performance indicators are brought in line with the parameters of the IFRS consolidated financial reporting of ROSATOM. The financial and economic performance indicators in the section “Financial and economic results” are brought in line with the parameters of the IFRS consolidated financial reporting of JSC Atomenergoprom (the IFRS summarised consolidated financial reporting and statements from independent auditors are given in the [report of JSC Atomenergoprom](#)).

Forward-looking statement disclaimer

The Report contains information on the mid- and long-term plans and intentions of the Corporation. The plans are of a forward-looking nature and their feasibility depends, among other things, on a number of economic, political, and legal factors beyond the Corporation’s control (the global financial, economic, and political situation; the situation in the key markets; changes in taxation, customs, and environmental laws). Hence, actual performance indicators in the future can differ from the forward-looking statements published in the Report.





ces. A number of cooperation agreements were signed in the framework of fulfilment of the obligations on construction of nuclear power plants, i.e. a package of agreements on construction of Hanhikivi NPP (Finland) between ROSATOM and the Finnish company Fennovoima Oy; the technical contract between Russia and the People's Republic of Bangladesh concerning construction of Ruppur NPP. The first power was attained at Unit 1 of Kudankulam NPP (India), Bushehr NPP was handed over to Iran for operation. ROSATOM won the tender for construction of a NPP in Jordan. In June 2013 in St. Petersburg an international conference of the IAEA "Nuclear Power in the 21st Century" and the international forum ATOMEXPO-2013 were held, which became milestone events for the entire international nuclear community.

Last year Russia was preparing for the Olympics in Sochi and ROSATOM took part in organization of this most important event in the country's life. The special interagency operations headquarters, which included representatives of ROSATOM, was responsible for safety and security of the XXII Winter Olympics and XI Winter Paralympic Games. Nuclear workers also supported the Olympic Torch Relay, i.e. the nuclear icebreaker 50 Let Pobedy delivered the torch to the North Pole.

The Corporation will continue strengthening its positions in the Russian and global markets. Our plans for the coming decade focus on achieving the global technological leadership, development of new products and services, raising a share of foreign assets up to 25 %, bringing a number of power units being constructed in parallel up to 30, raising proceeds by 3-5 times, and further increasing labour efficiency.

Address from Boris Gryzlov, Chairman of the Supervisory Board

Dear Colleagues,

Welcome to the Public Report of ROSATOM for 2013. Over the recent five years the Corporation has voluntarily prepared the annual public reports in the integrated format, which allows comprehensively describing its activity results and plans for the future.

All main indicators of the Corporation activities established by the Supervisory Board for the reporting period have been successfully achieved. Many indicators have been exceeded.

One of ROSATOM's activity areas is implementation of the state functions in the field of the use of atomic energy. So in 2013 the Corporation 100 % met all targets set by the state. Implementation of the State Programme for Development of the Nuclear Power and Industry Complex in 2012-2013 contributed greatly to achievement of the indicators set forth in the Decrees of the President of Russia of May 7, 2012. In the reporting year, 6,218 new jobs were created in the nuclear industry, up 8 % from the preceding year. A share of the innovative products and services in the proceeds was 13 %, up 1.3 times from 2012.

In 2013 the Corporation continued expanding its presence in the international markets of nuclear technology and servi

Chairman of the Supervisory Board
of ROSATOM
Boris Gryzlov



Address from Sergey Kirienko, CEO of ROSATOM

Dear colleagues and partners,

Last year, we achieved sizeable results in all the Corporation's areas of activity. Uranium mining significantly grew compared to 2012 (from 7,600 up to 8,300 tons), as did the 10-year order portfolio (from US\$ 66.5 up to US\$ 72.7 billion). Consolidated labour efficiency in the civil sector of the industry increased by increased by 28,5 % as compared to 2011.

The restoration of lifetime performance to the RBMK-1000 reactor graphite stacks was the most important outcome of 2013. The repair was successfully completed at Unit 1 of the Lenin-grad NPP, and now this technology will be copied to repair the RBMK reactors of other plants, i.e. the Kursk and Smolensk NPPs. This will extend the service lives of uranium-graphite RBMKs until replacement capacities are in place.

In spite of the objective difficulties caused by the downtime of the RBMK reactors because of the repairs, the Corporation managed to meet the targets set forth by the FST: In 2013, the amount of generated electricity was 172.2 billion kWh. As in preceding years, there were no operational events rated at Level 2 on the International Scale INES at the Russian NPPs.

In 2013, the last stage of the 20-year Russia-U.S. cooperation agreement under the HEU-LEU Programme was successfully completed. The programme converted Russian weapons-grade uranium into fuel for nuclear power plants in the U.S. Under

this contract, Russia's cumulative revenues amounted to US\$ 17 billion.

In 2013, preparations for the first criticality of the BN-800 reactor at Beloyarsk NPP began, design and survey work commenced on the construction site of Smolensk NPP-2, and the keel of the pilot universal nuclear-powered icebreaker of the new generation was laid at Baltiyskiy Zavod.

In the reporting year, important corporate reforms were implemented. ROSATOM's uranium mining assets were restructured to establish the holding Uranium One Holding N.V., which now consolidates the overseas nuclear fuel cycle front-end assets of the Corporation, while JSC Atomredmetzoloto is now developing all uranium assets within Russia.

Environmental protection is one of our priorities. In Russia and in ROSATOM, 2013 was announced as the Environmental Protection Year. So more than 1,000 issue-related projects were implemented in the nuclear industry. The Corporation's total environmental protection spending grew by nearly one fourth, from RUB 15.7 billion in 2012 up to RUB 19.6 billion in 2013.

I would like to thank all employees of ROSATOM for the high quality of their work and professionalism, which have helped us achieve such excellent results, and to wish them success in the implementation of our common plans for the future.

CEO of ROSATOM
Sergey Kirienko



Address from Elena Panfilova, Director of the Centre for Anti-Corruption Research and Initiatives Transparency International-Russia.

Dear Colleagues,

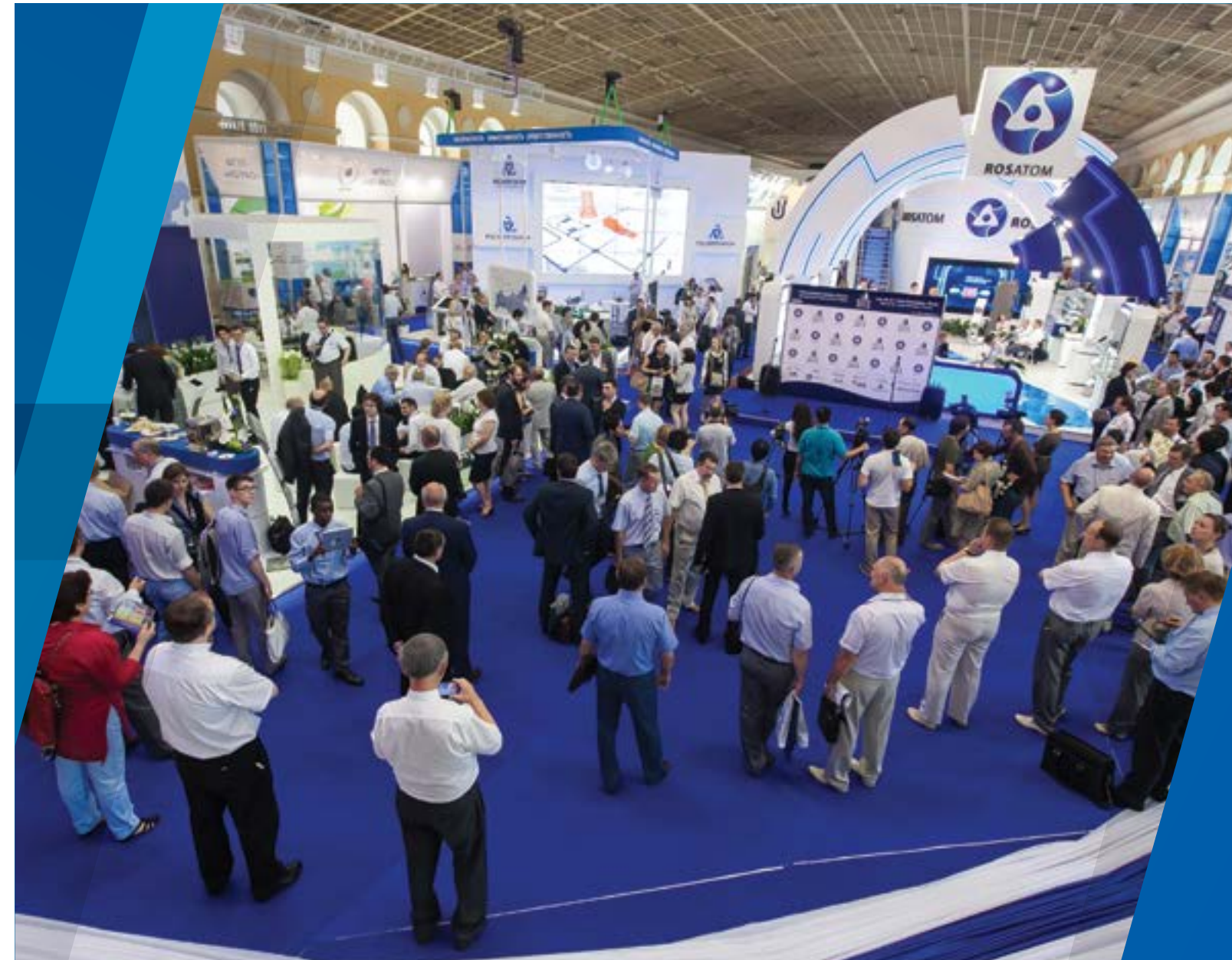
I would like to begin my address from several questions. Why does a public corporation need transparency? Why one should care about information disclosure? Why one should pay attention to the public opinion at all? These appear to be simple questions, but, regretfully, the answer to them is not always apparent to very many people in this country. Moreover, it seems to many citizens that the activities of the government authorities and most of the publicly-owned corporations and companies have nothing to do with them in principle, because they do not affect their everyday life. A significant number of bureaucrats and persons who manage public resources in turn believe that the transparency enhancement means additional troubles and senseless fuss.

ROSATOM's Report demonstrates that it is not quite so. Rather, far otherwise.

The way of cooperation our organization – The Centre for Anti-Corruption Research and Initiatives of the Transparency International-Russia – and ROSATOM have travelled has not been simple and easy at all. Today, recollecting our first efforts of independent monitoring of the Corporation's procurement system, exercises in formulating the first recommendations on enhancement of its efficiency and transparency, the first contacts and difficult discussions, it looks that the entire interaction was rather doomed to remain a single-time project without any further practical use and evolution. But going through meeting after meeting, discussion after discussion, through trials and errors we have made a long difficult way to learn to speak the same language and move in the same direction. It rarely happens, so more valuable this experience is. Especially, when this experience leads to a substantial saving of funds: ROSATOM's procurement system saved over RUB 20 billion in 2013 only.

In 2013, **the Activity Transparency Enhancement Committee** of ROSATOM worked in the following areas:

- enhancement of transparency of the non-related assets restructuring process (procedures of the “competitive negotiations” and external independent evaluation were developed);
- development of efficiency improvement mechanisms of the non-governmental oversight in the property management system (the competition-based procurement procedures were subjected to control by the public);
- development of the compliance system in the Corporation (a compliance function development schedule has been developed and introduced);
- development of a system to control over conflicts of interests in procurement (mechanisms for declaring and settling conflicts of interests in procurement have been developed and introduced);
- pilot trials of procurement tools with the application of mechanisms and tools of Contracting (the procurement monitoring and assessment of efficiency improvement when applying the Contracting was carried out, with recommendations on modification and revision of legislation produced).



The Activity Transparency Enhancement Committee of ROSATOM reviewed many issues ranging from audits, including that of anti-corruption procedures and practices, through development of a system to control over conflict of interests of persons engaged in the Corporation's procurement activities. It is one thing if they just spoke and forgot about this matter. But in our case, nearly all proposals of the Commission members, innovative tools and methods (e.g., for enhancement of transparency of non-related assets restructuring or for non-governmental oversight in the property management system, for building a sound and capable compliance system) and on many other issues have been reflected, in this or other way but nearly always, in the daily activities of ROSATOM and its structural divisions.

Does this mean that everything has succeeded and we can rest on our laurels? Certainly, it does not. The transparency, accountability and involvement of the public are not single-time actions but a complex and integrated process where perfection cannot be achieved. The agenda includes complicated issues such as introduction of the control tools to prevent affiliation, adaptation and use of new procurement

mechanisms in the framework of the contracting, debugging to ensure uninterrupted functioning of the system for declaring incomes and property of a substantial number of top managers and employees of ROSATOM. This process will be difficult but, no doubt, interesting and extremely useful not only for ROSATOM but also for the entire country. It will be as important as the experience of all pioneers and innovators.

This Report describes exactly such experience.

Director of the Centre for Anti-corruption Research and Initiative Transparency International-Russia
Elena Panfilova

Principal events in 2013



February

Production

- › Setting up the Lifecycle Back-end Management Division

March

Sustainability

- › All-Russia educational forum “New Generation – Resource of the Future” within the project “ROSATOM’s School”

June

International

- › Establishment of Uranium One Holding N.V., which consolidates the overseas uranium mining assets of ROSATOM
- › The IAEA International Ministerial Conference “Nuclear Power in the 21st Century” and the International Forum ATOMEXPO-2013 in St. Petersburg

Sustainability

- › The operation to rescue Russian polar explorers from the drifting research station North Pole-40 in the Arctic Ocean

July

Sustainability

- › The first night of the musical “We” within the project NucK-ids 2013 in Kesthele, Hungary

August

Production

- › Beginning of project surveys for construction of Smolensk Phase II

September

International

- › Handover of Bushehr NPP to Iran for operation
- › First power generation at Kudankulam-1 (Republic of India)

Production

- › Completion of modernisation of the process complex for the fabrication of fuel, fuel rods, and fuel assemblies with MOX-fuel for BN-600 and BN-800 reactors at SRC NIAR

Sustainability

- › The first contest “Ecology Entity Par Excellence of the Nuclear Sector” (the winner: Kursk NPP)

October

International

- › Initial concrete laid at Tianwan-4 in the People’s Republic of China

Sustainability

- › Delivery of the Olympic torch to the North Pole by the 50 Let Pobedy nuclear-powered icebreaker

- › Launch of the third overseas Atomic Energy Information Centre (Dhaka, Bangladesh)

November

International

- › ROSATOM won the tender for building an NPP in Jordan

Production

- › Restart of Leningrad-1 after completed restoration of lifetime performance of RBMK-1000 reactor
- › The keel of the pilot universal nuclear-powered icebreaker of the new generation laid at Baltiyskiy Zavod

December

International

- › ROSATOM won the tender for building an NPP in Jordan
- › Completion of the multi-year cooperation under the Russia-U.S. HEU Programme that reprocessed Russian weapons-grade uranium into fuel for U.S. NPPs
- › Signing of an agreement package by ROSATOM and the Finnish Company Fennovoima to build Hanhikivi NPP

Production

- › Preparation for the first criticality of BN-800 reactor at Beloyarsk NPP



Alexander Lokshin
First Deputy CEO for Operations Management

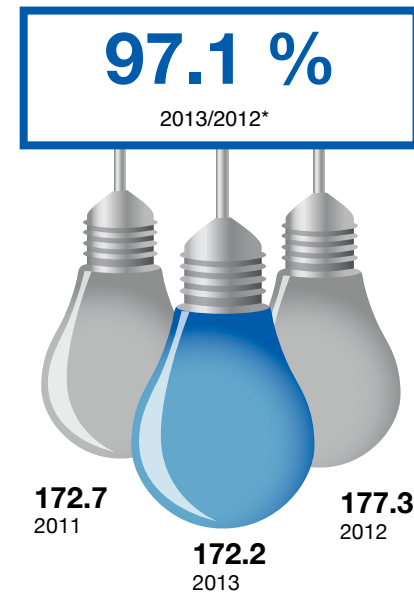
I consider the main achievement of 2013 to be the successful completion of the recovery of the lifetime performance of the RBMK reactor at Leningrad NPP Unit 1. The nuclear workers were faced with a task of unprecedented complexity; it was not only successfully solved but also done within the predetermined deadlines. The technology and necessary tooling were developed from scratch, and the best nuclear scientists and specialists were engaged in the problem-solving process. As a result of the concerted efforts of JSC Rosenergoatom Concern, various research institutes, and sectoral enterprises, we have obtained the efficient technology of retaining generation capacities on the sites of NPPs with RBMK reactors, which ensures the required safety and reliability parameters. This helped to avoid huge losses in terms of electricity generation, and thus saved the proceeds of JSC Rosenergoatom Concern in the period up to 2030.



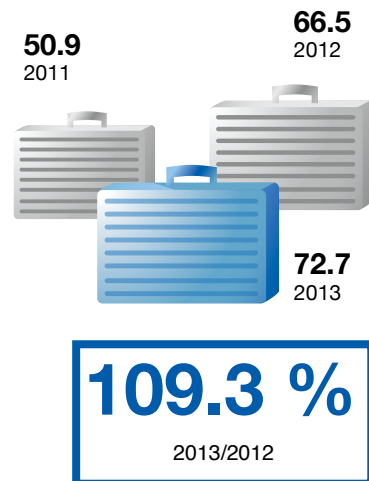
Key results

Main indicators of ROSATOM's operation, as set forth by the Supervisory Board

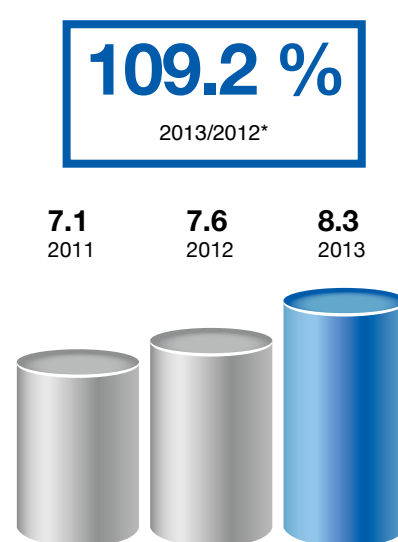
Electricity generation at NPPs (billion kWh)



10-year overseas order portfolio (exclusive of the HEU Contract) (US\$ bln)



Uranium production (thousand t**)



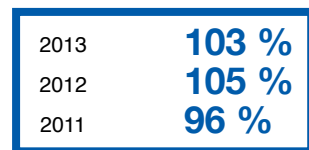
Governmental order performance index as a percentage



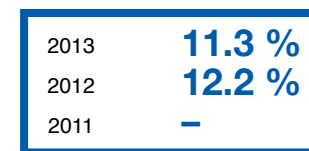
Number of events rated above Level 2 on the INES scale



JSC Rosenergoatom Concern's investment programme performance index as a percentage



Percent cost reduction in procurement of products (works, services)

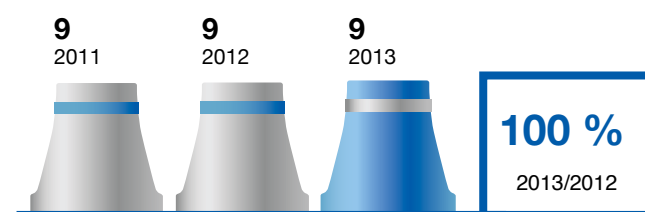


Percent increment of consolidated labour efficiency (in current prices) compared to 2011 level (excludes NWC)

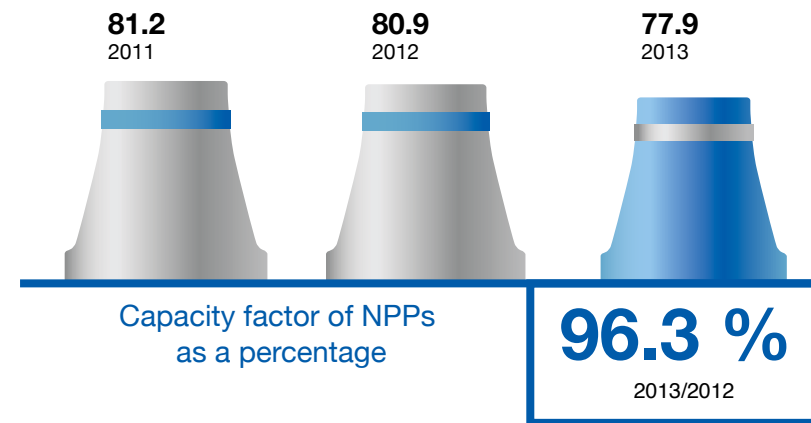
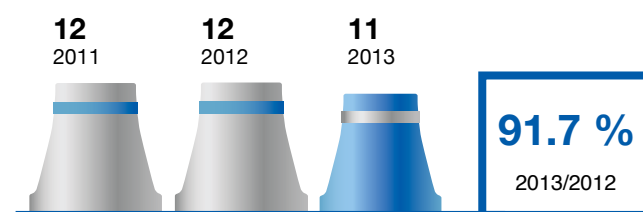


Main production and financial results and sustainability performance outcomes

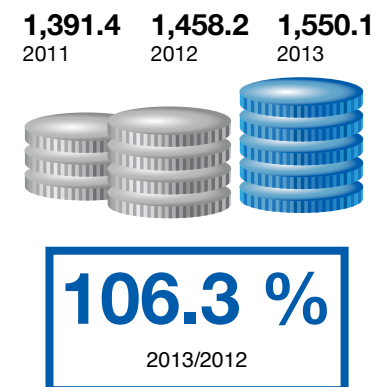
Number of reactors under construction in Russia



Number of reactors under construction abroad



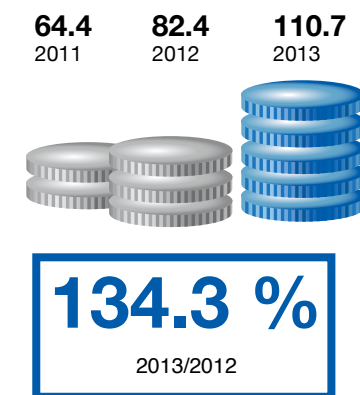
Net assets, as per IFRS (billion RUB)



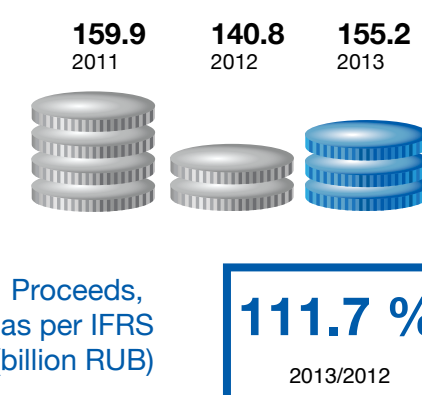
Intangible assets, as per IFRS (billion RUB)



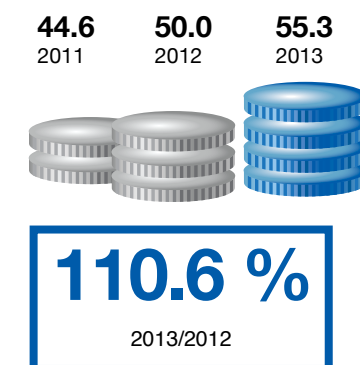
Taxes paid by ROSATOM and its entities to budgets of different tiers (billion RUB)



EBITDA (billion RUB)****



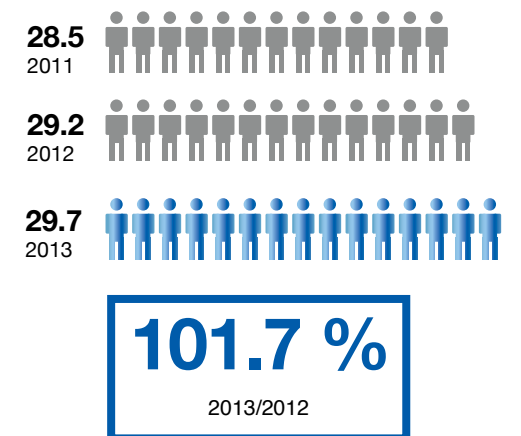
Average salary of nuclear sector employees (thousand RUB/month)



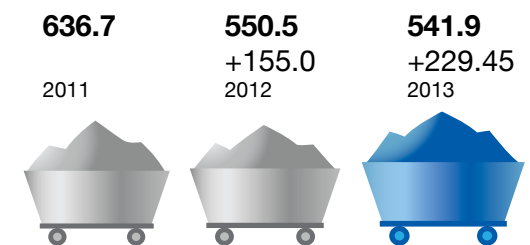
Governmental defence order performance (NWC)



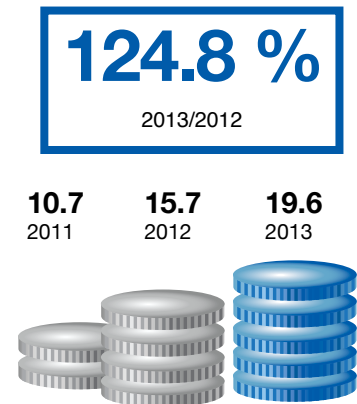
Percentage of specialists under 35, %



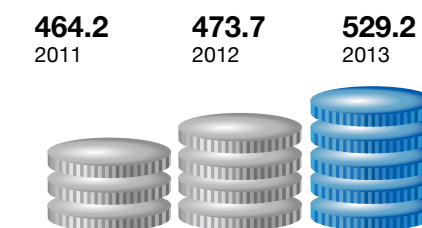
Uranium feedstock (Russian assets) (thousand t***)



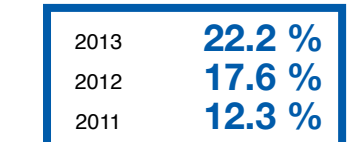
Total spending and investments in environmental protection (billion RUB)



Proceeds, as per IFRS (billion RUB)



Percentage energy saving in comparable conditions, in monetary terms to reference 2009



* Indicators in the column "2013/2012 (%)" were calculated with the 2012 data taken to equal 100%.

** The indicator was calculated with information taken from the off-take contract data.

*** In the lower line, the figures with a "+" show the uranium feedstock of Uranium One Inc. Due to the change in calculation methodology in 2012, the data are given separately for the Russian assets and Uranium One Inc.'s feedstock. The 2011 data are presented for the Russian assets only.

**** The data are consolidated as per Russian Accounting Standards (RAS).



One step ahead

We strive to be the leader in the global market. We are always one step ahead in technology, knowledge and the professional strength of our employees. We foresee what will be tomorrow and are ready to be it today. We continuously advance and learn. Every day we try to work better than yesterday.

Chapter 1.

Information about the Corporation

16	1.1. General information and description of company
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1.1. General information and description of company

ROSATOM is one of the largest utilities in Russia and one of the leading companies in the global nuclear technology market. It is first in the world in terms of the number of NPPs being built concurrently across the world; second in the world in terms of uranium reserves; third in terms of uranium mining; and second in terms of installed capacity among nuclear utilities, providing about one third of the uranium enrichment requirements of Western-design reactors and meeting 17 % of the demands of the nuclear fuel market.



Table. Organisational structure and key activity areas of ROSATOM

Nuclear Weapons Complex Nuclear Weapons Complex Directorate		Support of Russia's nuclear deterrence policy and strategic presence in the Arctic Performance of the government defence order
Nuclear Icebreaker Fleet FSUE Atomflot		Navigation via the Northern Sea Route in Arctic Emergency rescue operations on the ice
Nuclear Power Complex	Mining Division Management company: JSC Atomredmetzoloto Business segment: Uranium One Holding*	Uranium exploration, mining, and processing
	Fuel Division Management company: JSC TVEL	Uranium conversion and enrichment Fabrication and sale of nuclear fuel and its components for power and research reactors in Russia and abroad
	Sales and Trading Division Management company: JSC Techsnabexport	Export of uranium enrichment services and enriched uranium products to the Western-design reactor market
	Machine Engineering Division Management company: JSC Atomenergomash	Manufacture of equipment for building NPPs and other facilities, including for allied industries
	Power Generation Division Management company: JSC Rosenergoatom Concern	Power generation at NPPs
	Overseas Construction Management company: JSC NIAEP	Construction of NPPs abroad
	Construction in Russia - Engineering Management company: JSC Atomenergoproekt	Design and management of construction of NPPs and other facilities
Lifecycle Back-end Division		Safe operation of nuclear power facilities and other facilities that potentially pose nuclear and radiation hazards Implementation of national policy in the field of RAW, SNF, and nuclear decommissioning Doing away with "nuclear legacy" problems from the past economic and defence activities of the nuclear industry Management of radioactive waste and spent nuclear fuel and decommissioning of nuclear- and radiation-hazardous facilities
Corporate Development and International Business (including radiation technology development) Management company: JSC Rusatom Overseas		Promotion of Russian nuclear technology in global markets

Information about the Corporation

Innovations Management

Management company:
JSC Science and Innovations

Fundamental and applied research
Scientific and engineering support for the nuclear power and industry development programme
Innovative developments, including in other industries

Advanced Materials

Management company:
JSC SPC Khimpromengineering

Development of innovative projects in the field production of chemical fibres and carbon-based composite materials

* Since 2013 JSC Atomredmetzoloto has been the management company of the Russian uranium mining assets of the Corporation, while Uranium One Holding has managed the overseas ones.

The State Atomic Energy Corporation Rosatom was established on 18 December 2007. ROSATOM's status, establishment, activity goals, functions, and authority are stipulated in Federal Law No. 317-FZ of 1 December 2007 "On the State Atomic Energy Corporation Rosatom".

The Corporation is authorised on behalf of the Russian Federation to fulfil the international obligations of Russia in the field of peaceful uses of atomic energy and the observance of nuclear weapons a non-proliferation regime. ROSATOM is responsible for the implementation of national policy in the use of atomic energy and is a global company that owns assets in all stages of the nuclear power and industry production chain, including: uranium exploration and production, the generation of heat and electricity, uranium conversion and enrichment, the fabrication of nuclear fuel through the decommissioning of nuclear facilities, and the management of spent nuclear fuel (SNF) and radioactive waste (RAW).

As of 31 December 2013, ROSATOM has incorporated more than 360 different corporate entities. A list of the organisations and enterprises is given on the [Corporation's website](#).

The full name of the Corporation in Russian is

Государственная корпорация по атомной энергии «Росатом».

The short name in Russian is

Госкорпорация «Росатом».

The full name of the Corporation in English is

State Atomic Energy Corporation «Rosatom».

The short name in English is

ROSATOM.

The Corporation's headquarters is:

24 Bolshaya Ordynka St., Moscow, Russian Federation.

The auditor of the consolidated financial reports of the Corporation for 2013 is

Nexia Pacioli LLC.

The auditor of the sustainability information disclosed on the Corporation's 2013 Report is

PricewaterhouseCoopers.



1.2. Markets in which ROSATOM has a presence

Fig. Markets and value chains of ROSATOM

Markets	Value chain					Products/services
Natural uranium market	Feedstock development	Ore mining	Ore processing			Natural uranium
Conversion and enrichment services market	Natural uranium	Conversion	Enrichment			UF6, EUP*
Nuclear fuel market	Natural uranium	Conversion	Enrichment	Fabrication of nuclear fuel components	Fabrication of fuel assemblies	Nuclear fuel components > Fuel assemblies
Power machine engineering market	Design/engineering	Manufacture	Installation	Servicing		Nuclear steam supply system > After-sale services
Electricity and power market	Operation	Sales on the wholesale market	Sales on the retail market			Electricity > Heat
NPP construction and servicing market	Construction (including design and commissioning)	Operation	Servicing			NPP power units > After-sale services for power units
Market for RAW and SNF management and nuclear facility decommissioning	Decommissioning	Collection/categorisation	Reprocessing/conditioning	Storage/disposal		Decommissioning > RAW and SNF management
Radiation technology market	Design/engineering	Construction/arrangement	Components/equipment	Distribution/sales	Operation/servicing	Isotopes > Medical equipment, radiopharmaceuticals, engineering > Linear accelerators > Irradiation centres > Inspection systems

* UF6 - uranium hexafluoride, EUP - enriched uranium product

Information about the Corporation

1.2.1. Natural uranium market

Uranium demand directly depends on the amount of electricity being produced at nuclear power plants. In 2013, the global uranium demand was 64,000 tons. By 2030, natural uranium requirements could increase to 86,000 tons.

In 2013, global uranium mining yielded 59,100 tons (up 3% from 2012). The remaining demand was met by secondary uranium supplies (the HEU Contract, re-enrichment of depleted uranium hexafluoride, recycled uranium, etc.). Mining will grow in the period up to 2030 to meet the increasing demand (during this period, uranium production has to rise to 95,000 tons). During this time, secondary supplies are expected to drop after the completion of the HEU Agreement to about 11,000 tons of uranium equivalent by 2030.

In the natural uranium market, a lasting group of leaders has formed, which as of 2013, includes ROSATOM (~14% of the world output), NAC Kazatomprom (Kazakhstan), Cameco (Canada), AREVA (France), BHP Billiton (Australia-UK), Paladin Energy (Australia), and Rio Tinto (Australia-UK). The seven largest players have a 78% share of the total uranium mining output.

In 2013, new uranium mining facilities with an average capacity of 706 tons per year were commissioned. Some companies continued building new facilities, and if conditions are favourable, they plan to begin production in 2014 with an average capacity of 3,046 tons a year.

Due to uncertainties in nuclear development prospects and the continued price drop in the market, the following large miners have revised their plans for the further development of existing and future projects: Navoi MMC, Cameco, NAC Kazatomprom, Uranium One Inc., Talvivaara Mining Company jointly with Cameco, and Paladin Energy Ltd.

For more details, see the Report section “International business” and [JSC Atomredmetzoloto’s report for 2013](#).

1.2.2. Uranium conversion and enrichment market

Uranium enrichment is a key stage of the nuclear fuel cycle (NFC) front-end. The products offered in the market are enriched uranium product and uranium enrichment services; the latter is measured in separative work units or SWUs.

Exploration companies across the world have continued active surveys of promising projects. The work is actively going in Canada and the U.S., as well as in Africa, Latin America, and Australia. Greenland could re-emerge as a promising region, since the radioactive material mining ban was lifted in 2013.

Fig. Largest players in the natural uranium market in 2013

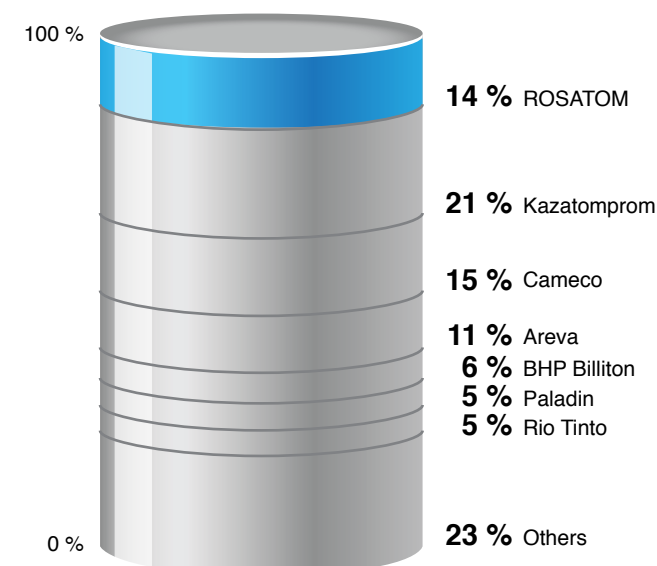
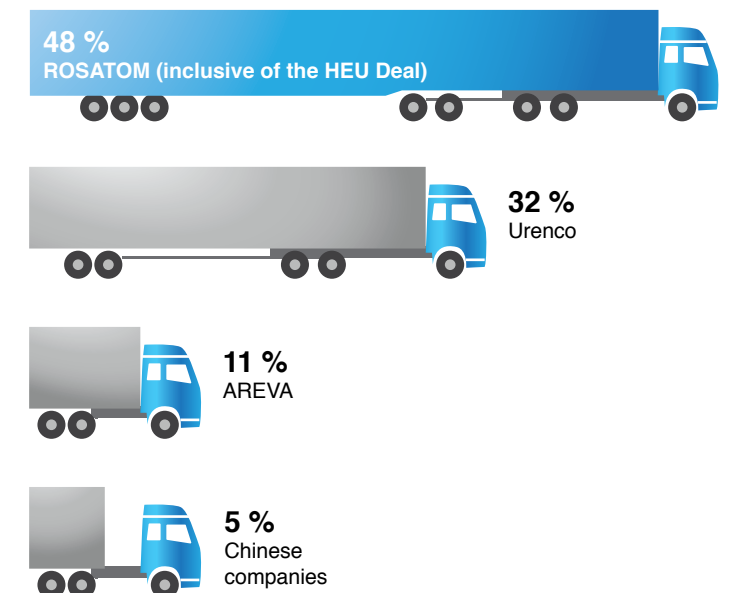


Fig. Largest players in the market of uranium enrichment services in 2013



In 2013, the global uranium enrichment market capacity* was ~51 million SWUs. By 2020, the need for enrichment services could grow to 57 million SWUs and to 86 million SWUs by 2030.

The main enrichment services suppliers, along with ROSATOM, are URENCO (the United Kingdom, Germany, and the Netherlands), AREVA group (France), and USEC Inc. (U.S.), which control about 85% of the market. The position of USEC Inc. has weakened substantially, while the Chinese uranium enricher CNEIC is becoming more competitive.

In 2013, the Corporation filled nearly half of the world's uranium enrichment needs, having a substantial share in all key geographical segments of this market (48%). In the uranium enrichment market, ROSATOM's key competitor is URENCO. As of the 2013 year end, the total installed production capacity of URENCO was ~15.3 million SWU/year. By 2015, URENCO plans to reach 18 million SWUs a year.

For more details, see the Report section "International business" and the reports for 2013 produced by [JSC TVEL](#) and [JSC Technobabport](#).

1.2.3. Nuclear fuel fabrication market

In 2013, the capacity of the global nuclear fuel market was about 11,000 tons of heavy metal (tHM), of which about 8,000 tHM was fuel requiring uranium enrichment (where ~1,000 tHM was fuel for VVER reactors) and 3,000 tHM was fuel for heavy water reactors. As the reactor fleet grows, fabrication service needs could increase to 13,000 tHM and to 15,000 tHM by 2020.

The global suppliers of fabrication services include: Westinghouse/Toshiba, AREVA, ROSATOM, and Global Nuclear Fuel (GNF).

AREVA has commissioned, and is expanding the capacity of, its Georges Besse II (GBII) plant, which uses gas centrifuge technology; the plant's capacity will be 7.5 million SWUs a year by the end of 2016.

In June 2013, USEC Inc. shut down its uranium enrichment plant, which had an installed capacity of 8 million SWUs a year. The company plans to build a gaseous diffusion plant in the U.S.—the American Centrifuge Plant (ACP)—capable of providing 3.8 million SWUs a year (as of the 2013 year end, the project is in the R&D stage).

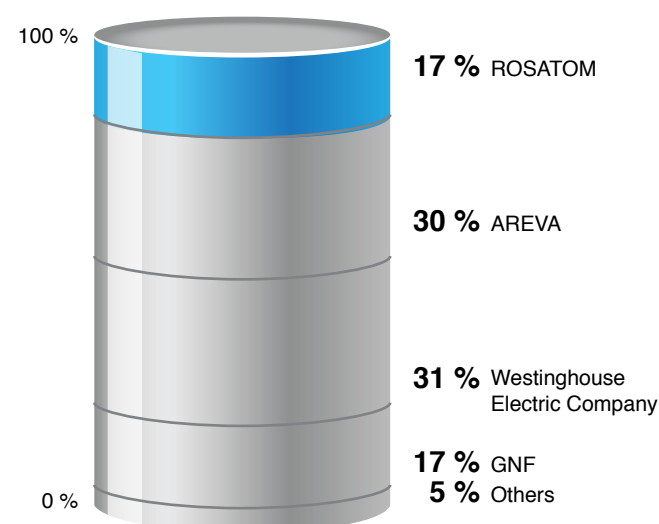
Westinghouse makes nuclear fuel for nearly all types of light-water reactors (LWRs): PWRs, and BWRs, as well as for VVERs. Its main sales markets are in the U.S. and Western Europe.

Global Nuclear Fuel is a joint venture between GE, Hitachi, and Toshiba that covers 17% of the market. GNF incorporated two production sites: GNF-J (to operate in the Japanese market) and GNF-A (to cover other markets). The company fabricates fuel for BWRs only.

* Market capacities herein are given in fixed prices for 2013.

For more details, see the Report section "International business" and [JSC TVEL's report for 2013](#).

Fig. Nuclear fuel fabrication vendors by percentage in 2013



1.2.4. Power machine engineering market

At the present time, the global machine engineering market is estimated at approximately US\$ 98 billion a year, of which 61% is equipment for thermal power, 27% is equipment for the oil and gas industry, and 13% is equipment for nuclear power. By 2030, the market capacity could be over US\$ 145 billion a year.

In 2013, most of investments in equipment for new plants were made in thermal power. In the future, up until 2030, shares of investments in nuclear, thermal, and oil and gas are expected to level off.

Russian machine engineering trends

In the coming years, the Russian machine engineering market will be in line with global trends, and the nuclear machine engineering market will take first place going forward to 2020. In 2013, the Russian power machine engineering market was estimated at US\$ 9.4 billion a year, of which 54% was for thermal power equipment, 33% was for oil and gas equipment, and 13% was for nuclear power equipment. By 2030, the market could grow to US\$ 14.9 billion.

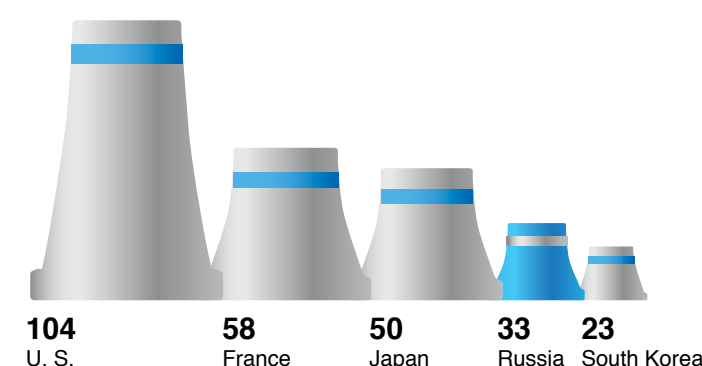
In Russia, the growth of the power engineering market is associated with plans for new nuclear builds as per the General Scheme of Deployment of the Electricity Generation Facilities for 2020 and 2030, as well as the Roadmap of Building Nuclear Power Plants, which is being developed by ROSATOM. Also, in 2013, the Ministry of Energy of the Russian Federation approved the scheme and programme of development of the United Power System of Russia in 2013–2019.

For details, see the Report section "Machine Engineering Division" and [JSC Atomenergomash's report for 2013](#).

1.2.5. Electricity and power market

The WNA (World Nuclear Association) data show that in 2013, nuclear power's share of the world's power supply was about 6%. As of 31 December 2013, there were 437 power reactors in operation with a total power capacity of 373.3 GW (excluding the temporary shutdown of the Japanese reactors) and 72 reactors under construction.

Fig. Leading countries in terms of nuclear reactors under construction in 2013



In the reporting year, work began on the construction of ten new reactors: four in the U.S., three in China, and one each in South Korea, Belarus, and the UAE. In the reporting year, new nuclear building plans up to 2030 were estimated (WNA data) at 484 reactors with a total capacity of 544 GW, down 3% from 2011 estimates. As per the WNA's reference scenario published in 2013, the world's NPP fleet will be 589 reactors totalling 574 GW in 2030.

Asia is the dominant region in terms of demand for the construction of new NPPs.

ROSATOM holds second place in the world in terms of installed capacity among nuclear utilities, behind French utility EDF (75 GW). The Corporation is actively strengthening its nuclear build positions abroad, being the largest world player in terms of projects in its overseas portfolio (21 power units).

In the period leading up to 2030, ROSATOM's key rivals in the international markets will remain AREVA and Toshiba/Westinghouse, with growing competition coming from Chinese and South Korean companies.

1.2.6. NPP construction and servicing market

The Power Generation Division of ROSATOM actively promotes after-sale services abroad. In 2030, proceeds from the after-sale services at NPPs of Russian design abroad will be RUB 121 billion and consist of:

- proceeds earned at the construction stage: RUB 42 billion (of which RUB 2 billion falls in the BOO category); the market share of the division will be 100%,
- proceeds earned at the operational stage: RUB 79 billion (of which RUB 41 billion falls in the BOO category); the market share of the division will be 37% by 2030 (with a projected market volume of 59 reactors).

For more details, see [JSC Rosenergoatom Concern's report for 2013](#).

1.2.7. RAW/SNF management and nuclear decommissioning market

RAW handling, reprocessing and disposal market

In 2013, the market for the handling, reprocessing, and disposal of RAW amounted to US\$ 7.2 billion. In the coming years, the market will gradually grow, owing to a large number of nuclear facilities to be decommissioned, and in 2020, it will reach its maximum (projected at US\$ 11.2 billion). In subsequent years, the market will gradually shrink, following decreasing decommissioning, and in 2030, it will be about US\$ 9 billion. Key players in RAW handling, reprocessing, and disposal are ROSATOM, AREVA, Energy Solutions, URS, and Washington Group International.

Nuclear decommissioning market

In 2013, the value of the market for the decommissioning of nuclear- and radiation-hazardous facilities was about US\$ 6.8 billion. The market will progressively grow, since the coming years will see a major decommissioning of reactors, which will reach its maximum of US\$ 8.1 billion in 2019. In subsequent years, nuclear decommissioning is expected to drop to gradually slow the market.

For details, see the Report section "Solutions to accumulated 'nuclear legacy'".

1.2.8. Radiation technology market

In 2013, the nuclear medicine market was US\$ 14.9 billion. It is expected to grow up to US\$ 24 billion by 2020 and up to US\$ 43 billion by 2030. The largest market players are GE, Siemens, Philips, Toshiba, and Lantheus. In 2013, the Russian market was worth US\$ 0.5 billion, but by 2030, the domestic market could grow more than fivefold. The Corporation plans to seize ~2% of the global nuclear medicine market by 2016 and up to 12% by 2030.

The global ecology market (water treatment, disposal of waste) in 2013 amounted to US\$ 144 billion; by 2020, it is expected to grow up to US\$ 200 billion and by 2030, it is expected to increase up to US\$ 300 billion. The largest market players are GE, CNIM, Martin, Babcock & Wilcox, Vølund, Doosan, and

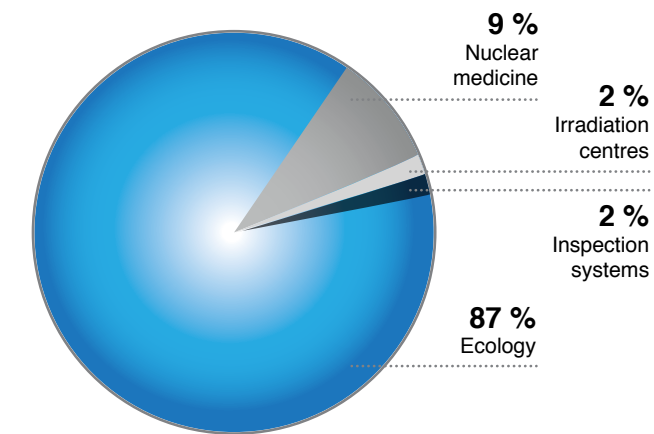
Veolia. The Russian market in 2013 was US\$ 5.9 billion; it has prospects of growing up to US\$ 8.2 billion by 2030. The potential share of the Corporation in this market is 0.01% by 2016 and 2% by 2030.

The value of the irradiation centres market in 2013 was US\$ 2.5 billion; it is expected to grow up to US\$ 5 billion by 2020 and up to US\$ 13–14 billion by 2030. The largest players in this market are Nordion, IBA, Hungaroster, and Sterigenics. In 2013, the Russian market was worth US\$ 4.9 million; it is expected to grow up to US\$ 45 million by 2020 and up to US\$ 294 million by 2030. By 2016, the Corporation's potential presence in the market is 1% by 2020 and 12% by 2030.

The value of the global inspection systems and non-destructive testing market in 2013 was US\$ 3.1 billion; by 2020, it is expected to grow up to US\$ 4.6 billion and up to US\$ 7.6 billion by 2030. The largest players in the market are Smiths Detection, Rapiscan, and L3 Communication. In 2013, the domestic market was worth US\$ 50.8 million; by 2020, it is expected to grow up to US\$ 83 million and US\$ 126 million by 2030. By 2016, the Corporation's potential presence in the market is 2% and 6% by 2030.

For details, see the Report section “Radiation technologies”.

Fig. Outlook for global radiation technology development by 2030



1.3. Business model and value-creation process

1.3.1. Process of creating value

ROSATOM manages the Russian nuclear industry assets at all stages of the nuclear fuel cycle, during the cycle of construction, and during the operation and decommissioning of nuclear power plants, as well as during other segments involving the use of atomic energy. Being aware of the significance of its activities for the Russian economy and society, ROSATOM has set itself the task of sustainable business development, increasing the aggregate value of the Corporation itself and for a broad range of stakeholders and the country's population as a whole. The notion of “value” is understood as not only products created, services rendered, and the financial results of the Corporation, but also the economic, social, and ecological influence of the Corporation on its stakeholders and the surrounding world as a whole.

Table. Outcomes of creating the aggregate value of ROSATOM in 2013

Capital	Capital index	2012	2013	2013/2012, Δ (%)
Financial	EBITDA (billion RUB)	140.8	155.2	+10.2 %
	Net asset value (billion RUB)	1,458.2	1,550.1	+6.3 %
	Portfolio of overseas orders (billion US\$)	66.5	72.7	+9.3 %



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Capital	Capital index	2012	2013	2013/2012, Δ (%)
Productive	Reactors in operation	33	33	–
	Reactors under construction in Russia	9	9	–
	Reactors under construction abroad	12	11	–8.3 %
Intellectual	Value of intangible assets (billion RUB)	44.8	48.3	+7.8 %
Human	Average number of staff (thousand people)	256.4	255.3	–0.4 %
	Involvement of personnel (%)	62	67	+5 %
Social and reputational	Level of support for nuclear power development in Russia (%)	66.1	70.3	+4.2 %
Natural	Uranium feedstock base (Russian assets) (thousand tonnes)	550.5	541.9	–1.6 %
	Uranium feedstock base (assets of Uranium One Inc.) (thousand tonnes)	155.0	229.45	+48.0 %

* Based on polls conducted by the Russian non-governmental research organisation Levada-Center. For details, see Section 3.6. “Management of social and reputational capital”.

ROSATOM's aggregate value is based on three core business activities.

The first includes the nuclear weapons complex, the nuclear icebreaker fleet, and activities to ensure nuclear and radiation safety. The key activities are the fulfilment of governmental defence orders, support of navigation in the Arctic, and ensuring the NRS (for details, see sections “Nuclear weapons complex”, “Nuclear icebreaker fleet”, and “Integrated solution for accumulated nuclear legacy problems and ensuring nuclear and radiation safety”).

The second core includes the nuclear power complex, whose enterprises operate at all stages of the nuclear fuel cycle and the cycle of NPP construction and operation (for details, see section “Efficient supply of nuclear electricity to Russia's economy”).

Activities within the third core, “New businesses”, are aimed at the diversification of ROSATOM's companies, as well as the development of innovative technologies and expansion into new areas of the nuclear industry, such as nuclear medicine, industrial irradiation, etc. (for details, see section “Diversification of business (third core of business development)”).

1.3.2. Business model

ROSATOM defines a business model as a system that ensures the creation of value in the long-, mid-, and short-term, and is aimed at the achievement of strategic goals.

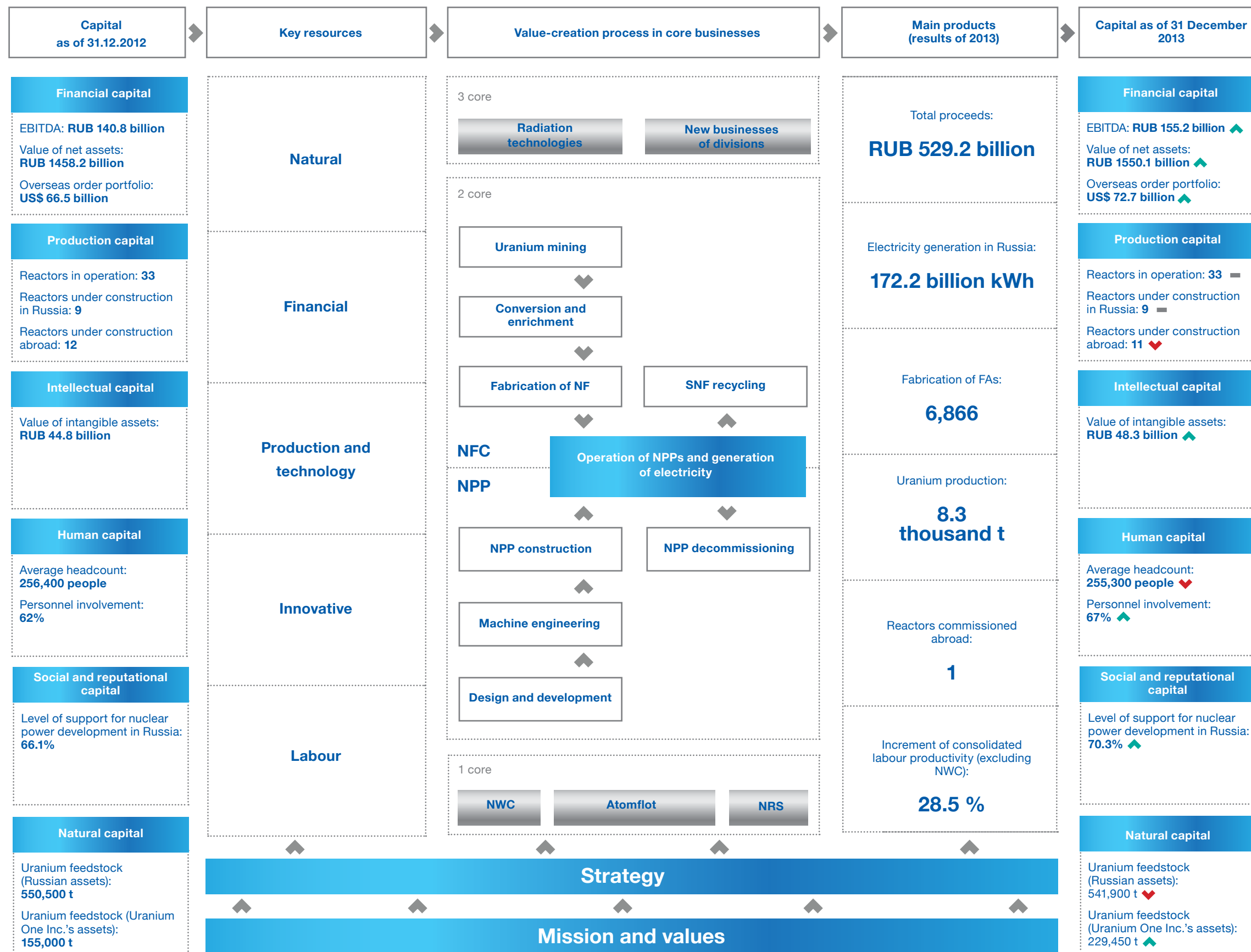
ROSATOM's business model is based on the Corporation's mission and long-term strategy up to 2030. The business model includes:

- assessable capital (for details, see Section 3.1. “Capital of the Corporation”);
- a management system aimed at the most efficient use of capital;
- activities to create value, which are supported by the operation of the three business cores of the Corporation; and
- activity results and their contribution to the long-term increase of the capital of the Corporation, which is achieved by meeting the strategic target indicators.

ROSATOM's business model pays special attention to the environment because: a) part of the assessable capital of the Corporation comes from the environment and a sizeable fraction of the outcomes associated therewith, and b) the environment is a source of key risks and opportunities for the Corporation.

The provided schematic diagram represents an integrated value-creation process. The business model of ROSATOM is the foundation of this process. It defines the totality of different activity areas and outcomes contributing to changes in key capital over the reporting period.

Fig. Business model and value-creation process of ROSATOM



“Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

UN Commission on Sustainable Development

1.4. Sustainable development management

The ROSATOM approach to sustainable development is comprehensively covered in [the 2012 Report](#).

1.4.1. Sustainable development agenda of ROSATOM

Due to the great public significance of the nuclear industry's activities, one of ROSATOM's priorities is the sustainable development of its nuclear industry entities, the Corporation itself, and its contribution to the development of the country and mankind as a whole.

Since ROSATOM performs a broad range of work in different areas, sustainable development issues are regulated for each of these areas.

The Corporation's agenda is to ensure the sustainable development of business through:

- › non-proliferation of nuclear weapons, nuclear materials, and critical nuclear technologies;
- › ensuring the nuclear and radiation safety and reliability of nuclear facilities;
- › ensuring energy security;
- › management of the lifecycle of nuclear facilities;
- › development of modern technologies for RAW management and solving “nuclear legacy” problems;
- › application of nuclear technologies in the industries that are essential for the quality of living and lifespan of the population;
- › positive economic and social impact on the regional, national, and international scale;
- › minimisation of environmental impact, including on the world's climate;
- › increasing capital use efficiency;
- › affirmative interaction with the stakeholders;
- › ensuring the safety, and securing the rights, of the employees;
- › enhancing transparency and accountability; and
- › ensuring public acceptance of nuclear power development.

Corresponding sections of the Report elaborate the implementation of the sustainability agenda in 2013.

1.5. Corporate governance

The main objectives of ROSATOM in the field of corporate governance in 2013 were:

- approval of principles and mechanisms of corporate and functional governance, approval of procedures of interaction with all complexes and business incubators, and regulation of the interaction of all divisions, complexes, and business incubators with organisations within their management area;
- implementation of red-tape reduction rules in the interaction processes of nuclear industry organisations;
- legal safeguarding abroad and registration of ROSATOM's trademark in three partner countries; and
- improvement of instruments of accounting for intellectual property created in the course of work under the Corporation's orders.

Table. The composition of the Supervisory Board (as of 31 December 2013)

Member of the Supervisory Board	Position
Gryzlov, B. V.	Permanent Member of the Security Council of the Russian Federation and Chairman of the Supervisory Board
Borovkov, I. V.	Chief of Staff of the Government Military-Industrial Commission and Deputy Chief of Staff of the Government Executive Office
Brycheva, L. I.	Aide to the President of Russia, Aide to the President, and Head of the Presidential State-Legal Directorate
Kirienko, S. V.	Chief Executive Officer of the State Atomic Energy Corporation ROSATOM
Klepach, A. N.	Deputy Minister of Economic Development of Russia
Novak, A. V.	Minister of Energy of Russia
Trutnev, Yu. P.	Deputy Chairman of the Government and Plenipotentiary Representative of the President of Russia in the Far East Federal District
Ushakov, Yu. V.	Aide to the President of Russia
Yakovlev, Yu. V.	Head of the Economic Security Service within the Federal Security Service of Russia

In 2013, the Supervisory Board held 10 meetings, of which 4 were by personal attendance; 43 issues were addressed.

By its decisions, the Supervisory Board approved the key activity indicators of ROSATOM in 2013 and the report of the Corporation for 2012. It also approved a draft update of the Corporation's Long-term Activity Programme.

To implement a plan of measures ("the Roadmap"), "Providing a greater access of the small and medium entrepreneurs to procurements of the infrastructural monopolies and companies with public ownership" was approved by the Directive of the Russian Government No. 867-r of 29 May 2013. The Supervisory Board approved changes to the Uniform Sectoral Procurement Standard (the Provision on Procurement) of ROSATOM.

1.5.1. Governing bodies and controls

1.5.1.1. Supervisory Board of ROSATOM

The Supervisory Board is the superior governing body of ROSATOM as per Article 23 of the Federal Law No. 317-FZ of 1 December 2007 "On the State Atomic Energy Corporation ROSATOM" (hereinafter referred to as "the Law"). The members of the Supervisory Board are presented on the ROSATOM website.

The Supervisory Board consists of nine members: eight representatives of the President of Russia and the Government of Russia, and the Chief Executive Officer of ROSATOM, who is a member of the Supervisory Board by virtue of the position. The Supervisory Board members and their Chairman are designated by the President of the Russian Federation. Members of the Supervisory Board, except for the CEO of ROSATOM, are not part of the executive management of ROSATOM.

There were no changes in the composition of the Supervisory Board in 2013.

The Chief Executive Officer of ROSATOM is charged with control over the execution of the Supervisory Board and the Chairman of the Supervisory Board's instructions.

1.5.1.2. Chief Executive Officer of ROSATOM

The functions and authority of the Chief Executive Officer are defined in the Federal Law "On the State Atomic Energy Corporation ROSATOM". The Chief Executive Officer of the Corporation is the sole executive body of the Corporation and exercises leadership over its current activities.

Sergey Vladilenovich Kirienko was appointed CEO of ROSATOM by Decree of the President of Russia No. 1663 of 1 December 2007 "On the Chief Executive Officer of the State

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Atomic Energy Corporation ROSATOM". The Chief Executive Officer's biography and scope of authority are provided on ROSATOM's website.

1.5.1.3. The Management Board of ROSATOM

The functions and authority of the Management Board are defined in the Federal Law "On the State Atomic Energy Corporation ROSATOM".

The Corporation's Management Board is a collective executive body. Members are appointed and dismissed by the Supervi-

sory Board upon the recommendation of the CEO of the Corporation. Management Board members work full time for the Corporation or are employees of the Corporation's entities, joint-stock companies of the Corporation, or their affiliated companies, as well as subordinate enterprises. The Management Board includes the CEO of the Corporation, who is a member by virtue of the position and leads the Management Board's activities.

Biographies of the Management Board members and details on the authority of the Management Board are provided on ROSATOM's website.

Table. The composition of the Management Board (as of 31 December 2013)

Member of the Management Board	Position
Kirienko, S. V.	Chief Executive Officer of ROSATOM and Chairman of the Management Board
Denisov, K. I.	Deputy Chief Executive Officer for Security
Elfimova, T. L.	State Secretary and Deputy Chief Executive Officer for Government Relations and Budgeting
Kamenskikh, I. M.	First Deputy Chief Executive Officer for Nuclear Weapons
Komarov, K. B.	Deputy Chief Executive Officer for Corporate Development and International Business
Kryukov, O. V.	Director for Public Policy on RAW, SNF, and Nuclear Decommissioning
Lokshin, A. M.	First Deputy Chief Executive Officer for Operations Management
Nikipelov, A. V.	Chief Executive Officer of JSC Atomenergomash
Obozov, S. A.	Director for ROSATOM Production System
Olenin, Yu. A.	President of JSC TVEL Fuel Company
Pershukov, V. A.	Deputy Chief Executive Officer for Innovation Management
Romanov, Ye. V.	Chief Executive Officer of JSC Rosenergoatom Concern
Solomon, N. I.	First Deputy Chief Executive Officer for Corporate Functions and Chief Financial Officer
Spasskiy, N. N.	Deputy Chief Executive Officer for International Relations

In 2013, V. L. Zhivov was dismissed from the Management Board by a resolution of the Supervisory Board of ROSATOM.

Information about incomes, expenses, and property and property-related liabilities of the Management Board members, as well as other employees of ROSATOM and their relatives, are provided on ROSATOM's website.

In 2013, the Management Board held 39 meetings, of which 3 were held under the format of joint attendance. A total of 373 issues were addressed. The key decisions made by the Management Board include approval of the report on meeting the key activity indicators proposed by ROSATOM in 2012, approval of the key activity indicators of ROSATOM for 2013, and approval of a draft Long-term Activity Programme for the State Atomic Energy Corporation ROSATOM (2009–2020).

1.5.1.4. The Audit Commission

The Audit Commission of ROSATOM controls the financial and economic activities of the Corporation.



Table. The Composition of the Audit Commission (as of 31 December 2013)

Member of the Audit Commission	Position
Artyukhin, R. E.	Head of the Federal Treasury and Chairman of the Audit Commission
Buzina, L. F.	Deputy Director of the Department for Budget Policy of the State Military and Law Enforcement Services and the Governmental Defence Order of the Ministry of Finance of the Russian Federation
Katrenko, V. S.	Auditor of the Accounts Chamber of the Russian Federation
Rozhnov, A. V.	Deputy Head of the 12 Main Department of the Ministry of Defence of the Russian Federation
Utkin, V. K.	Office Head of the Department of Defence Industry of the Government of the Russian Federation

The Statement of the Audit Commission on financial and economic activities of ROSATOM in 2013 is provided in Appendix 2.

1.5.1.5. Commissions, boards, and committees affiliated with the governing bodies

In 2013, there were about 40 committees, boards, and commissions affiliated with the governing bodies that were acting on a standing basis in ROSATOM.

Table. Key collective governing bodies

Committee	Chairman
Strategic Committee	Kirienko, S. V., Chief Executive Officer
Operations Committee	Kirienko, S. V., Chief Executive Officer
Public Board	Kirienko, S. V., Chief Executive Officer
Activity Transparency Enhancement Committee	Kirienko, S. V., Chief Executive Officer
Staff and Incentives Committee	Kirienko, S. V., Chief Executive Officer
Budget Committee	Solomon, N. I., First Deputy Chief Executive Officer for Corporate Functions and Chief Financial Officer
Investment Committee	Lokshin, A. M., First Deputy Chief Executive Officer for Operations Management
Globalisation Committee	Komarov, K. B., Deputy Chief Executive Officer for Corporate Development and International Business
Public Reporting Committee	Komarov, K. B., Deputy Chief Executive Officer for Corporate Development and International Business
Scientific and Technical Board	Laverov, N. P., Academician and Vice President of the Russian Academy of Sciences

Changes in the corporate structure in 2013

In 2013, six FSUEs within the consolidation area of ROSATOM were reformed into JSCs, and one FSUE was closed down.

According to the Decree of the President of Russia No. 377 of 22 April 2013, the FSUE United Ecological, Technological, and Research Centre for Disposal of RAW and Environmental Protection was added to the list of FSUEs, which are subject to ROSATOM's authority as the property owner on behalf of the Russian Federation.

Other changes made to enhance the corporate structure include the:

- establishment of a 100% affiliated company of ROSATOM, JSC AtomCapital, to increase the number of financial market instruments available for the implementation of infrastructure projects;

- sale of 57% interest in Uranium One Holding (which manages international uranium mining assets), which was owned by JSC Atomredmetzoloto, to the benefit of JSC AtomCapital in the framework of the project of restructuring the mining complex of ROSATOM and singling out the uranium mining segment under ROSATOM management;
- sale of cumulatively 12.49% of shares of the authorised capital of JSC INTER RAO UES, which was not a strategic asset of the sector, to the benefit of JSC Rosneftgaz by JSC Atomenergoprom and other organisations of ROSATOM;
- establishment of the private foundation “Historic and Cultural Centre” with the implementation of the project “Nuclear Industry Museums”; and the
- acquisition by JSC Rusatom Overseas of a share of the authorised capital of the project company JSC AKKUYU NPP.



1.5.2. Plans for 2014 and mid-term

One of the main areas of the corporate management system's improvement is the introduction of management mechanisms, which on the one hand, will help solve tasks related to ensuring the unity of the management of the nuclear sector organisations (including those outside Russia) ROSATOM is in charge of, and on the other hand, will not violate the legislative requirements of foreign states regarding the regulation of the activities of overseas companies within ROSATOM's corporate management perimeter and will not encroach upon their independence.

– The most significant included the risks associated with the nuclear fuel cycle goods and services market, which were affected by the stagnation in demand and the downward trend of prices. In the reporting year, the impact of these risks was largely offset by the signing of long-term contracts using different pricing mechanisms.

The risk management efficiency of an organisation is evaluated by the results of its activities. In the reporting year, the established parameters of risk preparedness were met. But the risk management system has to be continuously developed; otherwise at a certain point, it could fail to meet the requirements of both external and internal environments. The earlier the risk management work starts, the greater the effect of its corresponding measures; therefore it is important to implement risk identification and assessment procedures in the working processes at the planning stage.

– What risks could affect the achievement of strategic goals and the stability of ROSATOM's business processes in the long term?

– ROSATOM's long-term strategy is linked to international activity. Therefore the most serious risks are the international political and regulatory ones.

– In your opinion, what is necessary to improve the corporate risk management system, and what are the main priorities for the near- and mid-term?

In the coming years, the main work areas are the completion of the CRMS's organisational structure and the development of risk management processes in ROSATOM's divisions.

Also, there are plans to improve the monitoring system, including the integration of indicators describing risks in the system of reporting. This will improve the quality of risk monitoring and allow timely adjustment approaches for their management.

Tatiana Fokina
Head of Risk Management Department

– What were the most significant risks taken in achieving ROSATOM's strategic goals in 2013, and what measures were taken to reduce them? How would you evaluate the efficiency of risk management in the reporting year?

1.6.1. The Corporate Risk Management System (CRMS)

Corporate Risk Management System development by the Corporation and its organisations started in 2010.

As per the Risk Management Policy, the main areas of CRMS development are:

- › the development of the CRMS organisational structure;
- › integration with business processes;
- › the development of the CRMS methodology; and
- › the development of knowledge and competencies of CRMS participants.

Fig. Organisational model of the Corporate Risk Management System

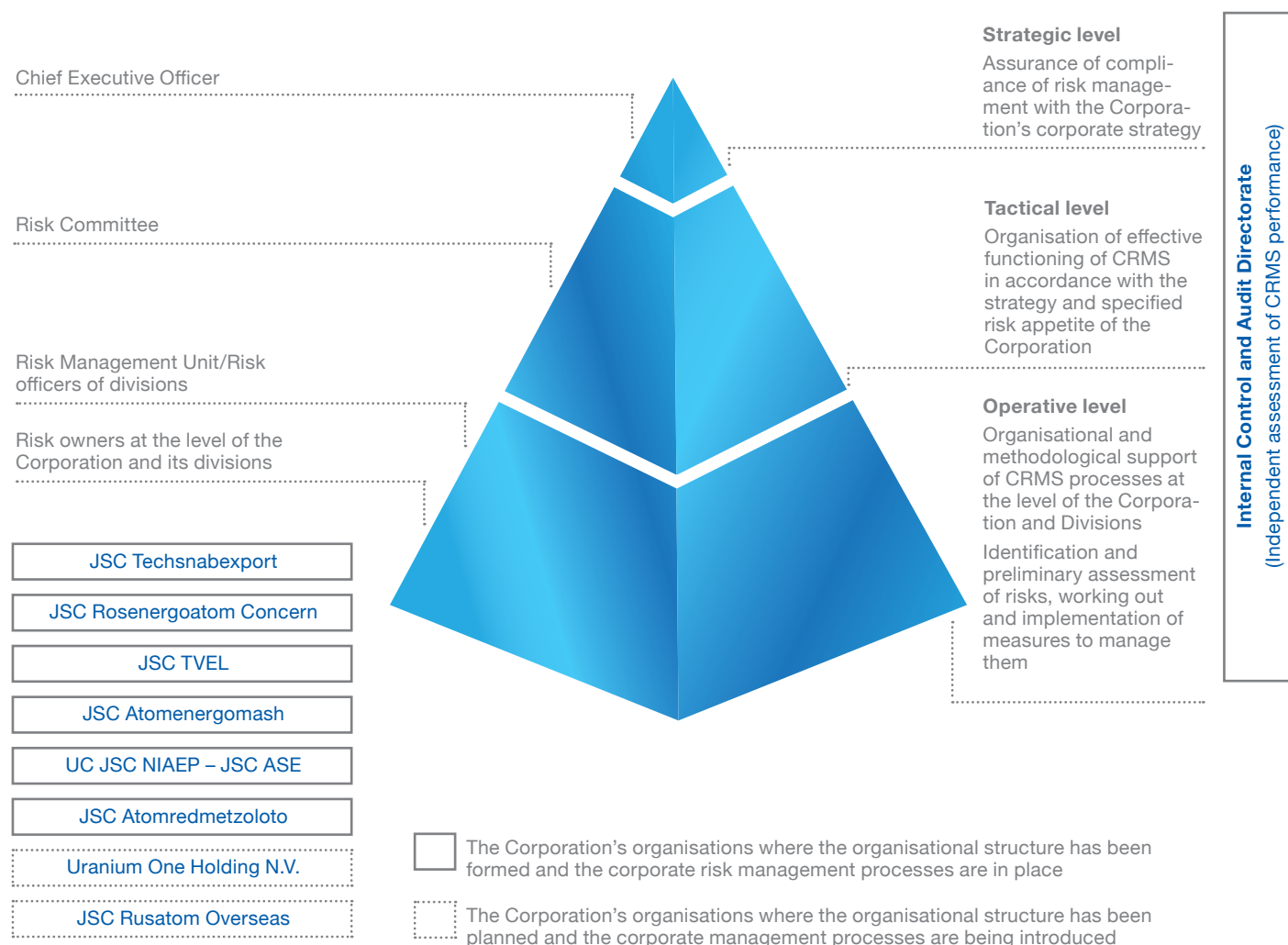
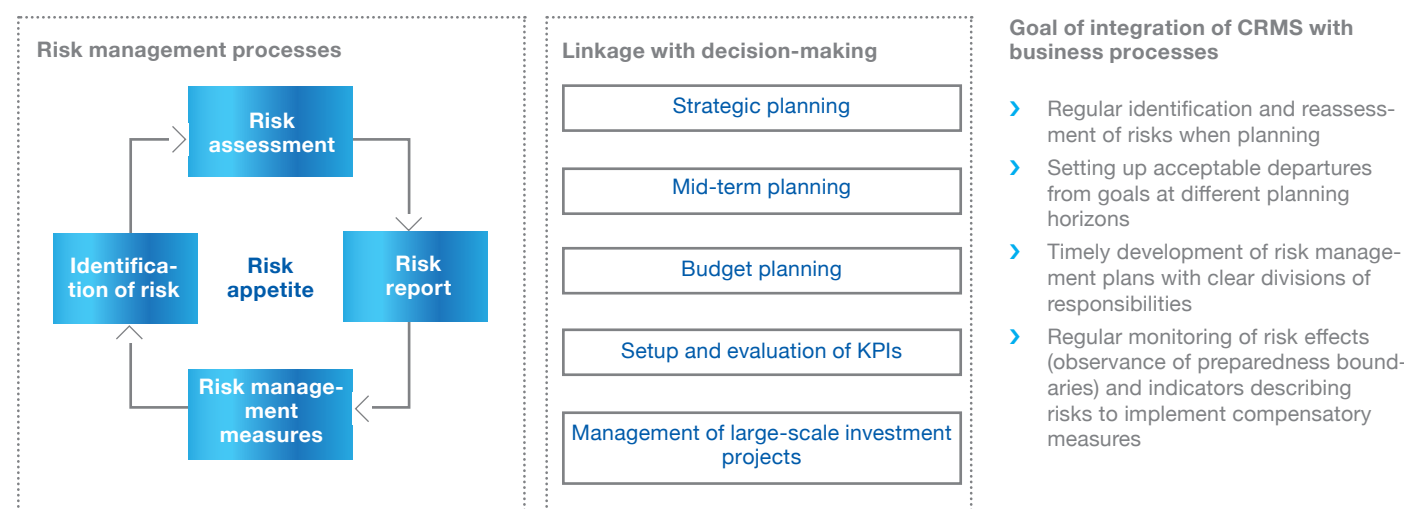


Fig. Integration of CRMS with planning processes



Information about the Corporation

1.6.2. Management of key risks

A detailed description of risks inherent to the Corporation and its organisations' activities and main approaches to manage these risks is provided in the reports of the Corporation for 2011–2012. The main results from the management of the key risks that produced the most serious impact in 2013 are given below.

Risks and risk management results in 2013

In 2013, the approved risk preparedness measures were observed by both the quantitative (financial) indicators and by the groups with zero preparedness for a breach.

Table. Risks and risk management results

▼ drop, ▲ growth, or ■ no substantial changes

Risks and their dynamics	Risk management results
Financial risks	
▼ Currency risk	The Currency Risk Strategy and the Currency Risk Hedging Programme were approved. The programme's implementation helped to decrease the risk of losses due to unfavourable fluctuations in currency exchange rates.
▼ Interest risk	As interest rates grew in the reporting year, risk was decreased by drawing five-year maturity loans at fixed interest rates that led to an increase in the mid-term credit portfolio. As a result, the interest on profit and loss levelled out over the maturity periods.
▲ Credit risk	Risk growth was due to increased activity by the Central Bank to revoke the licenses of problematic banks, the untimely discharge of obligations towards JSC Rosenergoatom Concern in the electricity and power market (failure to pay for consumed electricity), and a drop in economic growth rates in Russia. To minimise the risk: <ul style="list-style-type: none"> › limits were set for agency banks; › guarantees were used and advance payments benefiting external counterparties were limited; › a regular monitoring of accounts receivable of the sectoral enterprises was carried out while accounts receivable committees operated in the Corporation and its organisations; and › the credit risk with regard to buyers and customers under contract for the delivery of products or services, which assumed payment delays, was assessed and measures were implemented to manage the credit risk depending on its assessment level.
▼ Liquidity risk	The risk reduction was due to the fact that in the reporting year, the rating agency Moody's Investors Service gave JSC Atomenergoprom a long-term international rating of Baa2, with a stable outlook, and a national rating of Aaa.ru. Also, in the reporting year, the rating agency Fitch Ratings gave JSC Atomenergoprom a long-term international rating of BBB, with a stable outlook, and a long-term national rating of AAA(rus). Moreover, in October 2013, the international rating agency S&P affirmed JSC Atomenergoprom's credit rating at the sovereign level of BBB/A-2, with a stable outlook. For details, see the Report section "Financial capital management".
Commodity risks	
▲ Risks associated with the market of nuclear fuel cycle products and services	Risk growth was due to the stagnation of demand and a downward trend of prices in the NFC product and service markets, caused mainly by the delays in restarting NPPs in Japan, nuclear power abandonment, or share reduction policies in a number of European countries (primarily Germany, Switzerland, and Belgium), as well as competitive pressure from shale gas on nuclear generation in the U.S., the growing competition of NFC market participants, and the large unsold inventories of producers and traders of uranium products. Over 2013, spot natural uranium prices dropped by 21% and long-term ones dropped by 11%; spot price quotations of enrichment services decreased by 17%, and long-term ones decreased by 15%. To ensure risk reduction: <ul style="list-style-type: none"> › agreements were reached with suppliers regarding pricing mechanisms that "mirror" the pricing of contracts with a high level of commodity risk; › volumes to be contracted were discussed early on with buyers and future volumes of buyers' contracts were assessed based on the history of interaction with them and the market situation. Alternative options of replacement/additional contracting were considered; and › quantitative flexibilities and options, which help harmonise purchase and sale volumes, were stipulated in contracts with suppliers of U3O8, conversion services, and SWU. In fact, in 2013, in spite of the continued stagnation of demand for, and processing of, the NFC product and its service markets, the Corporation managed to maintain the volume of its foreign portfolio of orders for NFC products and services for a 10-year period at last year's level. See the Report section "International business", as well as the reports by JSC Technabexport , JSC TVEL , and JSC ARMZ for 2013.
▲ Electricity market risks	Risk growth is due to the slowing down of Russia's economic growth and expectations of a drop in electricity consumption that could in turn negatively affect the electricity market price. The possibility of managing this risk is limited. It is fairly difficult to use financial derivatives as one of the possible management instruments due to the low liquidity of trading platforms. In 2013, the growth of day-ahead prices of electricity sold by JSC Rosenergoatom Concern was 12.5%. This was caused, to a great extent, by a natural gas price increase in Russia from 2012.

Risks and their dynamics Risk management results	
Operational risks	
<div> <div></div> <div> Risk of decreasing electricity generation </div> </div>	<p>In 2013, a project to restore the lifetime performance of a graphite stack was implemented at Unit 1 of the Leningrad NPP; the minimum balance of the FST (the minimum amount of electricity JSC Rosenergoatom Concern should produce over the year) was met at 101.6%. In fact, 172.22 billion kWh of electricity was generated.</p> <p>For details, see the Report section “Power Generation Division” and the JSC Rosenergoatom Concern’s report for 2013.</p>
<div> <div></div> <div> Industrial safety and ecology risks </div> </div>	<p>In 2013, the sectoral enterprises operated safely (there were no operational events from the nuclear facilities that posed any danger to the public or the environment).</p> <p>For details, see the Report sections “Nuclear and radiation safety” and “Management of natural capital, environmental safety, and environmental protection”, as well as the environmental reports of the Corporation’s organisations.</p>
<div> <div></div> <div> Investment risks </div> </div>	<p>In 2013, the projects that were implemented using the Corporation’s own funds were optimised to increase the total return of the portfolio by 1.5%.</p> <p>For details, see the Report sections “International business”, “Capital projects and engineering”, and “Financial capital management”.</p>
<div> <div></div> <div> Political risks </div> </div>	<p>The main risk factors that hindered the establishment and broadening of international cooperation were the political instability in a number of regions around the world, the post-Fukushima syndrome that still persists in some countries, unfair competition on the part of some players in the international market, “stove-piping” that took place in the foreign mass media to discredit the Corporation’s activities and the technologies it uses, and attempts to place national legislation over international law.</p> <p>In 2013, all key overseas projects of the Corporation were implemented or continued as planned. Also, the conclusion of 11 intergovernmental agreements and 7 interagency arrangements in the fields of peaceful uses of atomic energy, nuclear safety, and research and development in nuclear and energy areas, etc., was a positive sign of the renewal of interest in nuclear power development in foreign states.</p> <p>For details, see the Report sections “International cooperation” and “International business”.</p>
<div> <div></div> <div> Reputation risks </div> </div>	<p>Risk growth was due to:</p> <ul style="list-style-type: none"> negative outlooks regarding the economic development of Russia that entailed a reduction of budget support to Russian municipalities and subjects that host nuclear industry facilities; stably negative dynamics of global uranium processing, which made the current mining of natural uranium by the shaft method at JSC PIMCU unprofitable along with a number of other mining projects featuring a high cost of extraction in Russia and abroad; because of this, the Corporation had to implement programmes for the improvement of mining operational efficiency, including staff number optimisation at JSC PIMCU; and a background factor was the persistent instability of activities to eliminate the consequences of the accident at the Fukushima-Daiichi NPP (continued leaks of radioactive water). <p>To achieve risk reduction, work was done to build up positive attitudes among the public regarding the development of nuclear technologies through information transparency and open interaction with all stakeholders.</p> <p>In 2013, according to a poll conducted by Levada-Centre, in Russia the average percentage of supporters of nuclear power development remained at the preceding year’s level of 51.3%.</p> <p>For details, see the Report section “Management of social and reputational capital”.</p>
<div> <div></div> <div> Risk of asset loss and damage </div> </div>	<p>The Corporation employed a consistent sectoral system to prevent corruption and protect assets.</p> <p>In 2013, the prevention and audit measures to protect assets brought about an effect worth RUB 5.1 billion.</p> <p>For details, see the Report Section “Corruption and Other Law Offences Countering System”.</p>
<div> <div></div> <div> Compliance risks </div> </div>	<p>In 2013, an audit of the compliance function of the Corporation was conducted. As a result, compliance risks were identified and prioritised, and their owners were designated. The roadmap for the compliance function development in the Corporation was approved.</p> <p>For details, see the Report section “Internal control system”.</p>

1.6.3. Risk insurance

One of approaches to risk management is risk insurance.

The Corporation’s enterprises and organisations meet the full scope of the requirements of the current legislation as well as the by-laws concerning the use of mandatory and enjoined types of insurance, such as insurance for liability for nuclear damage, mandatory insurance for the liability of owners of hazardous production facilities and hydraulic structures, mandatory insurance for the liability of owners of vehicles, liability insurance during construction and installation, mandatory insurance for the civil liability of carriers for damage to the life, health, and property of passengers, etc. To reduce the risk of financial losses due to damage and loss of property, as well as risks associated with the quality of life and health of employees, personnel and property are insured.

To increase the reliability of insurance protection, the Corporation jointly with the insurance company continues working on the possibility of reinsuring the property risks of the Russian organisations operating through the international pooling system. In 2013, a sizeable part of the civil liability for the nuclear damage of Russian NPPs was reinsured in the international pooling system, which confirmed that the international nuclear insurance community recognised the sufficient safety and reliability of Russian NPPs.

International insurance inspections were conducted at the Bilibino, Kalinin, Kursk, and Kola NPPs (with the participation of international pooling system experts). The inspections analysed the risks associated with the handling of nuclear fuel, NPP operation, staff skill levels, fire safety, environmental monitoring, etc. From the inspection’s findings, the international experts concluded that the safety level of the inspected plants met international standards and confirmed the possibility of reinsuring the property risks of the Russian organisations operating in the international pooling system. The Kursk and Kola NPPs were re-inspected, and the international insurance experts concluded that a sufficiently high level of safety was achieved there and that substantial work had been done to follow the recommendations of previous inspections.

In 2014, the plan is to continue insurance inspections while maintaining the core enterprises of the nuclear industry.

1.6.4. CRMS development objectives in 2014

In 2014, the plan is to:

- implement corporate risk management processes in Uranium One Holding N.V. and JSC Rusatom Overseas;
- develop a methodology for the management of certain key risks and introduce it in operational and project activities;
- integrate risk information (reporting) into the corporate reporting system; and
- organise regular seminars for the Corporation and its organisations’ staff in the Corporate Academy.

1.7. Internal control system

1.7.1. Internal control system

The internal control system’s goal is to ensure that the strategic goals of ROSATOM and effective corporate management are achieved, along with a unity of purpose within the nuclear industry. One of the most important tasks is to maintain corporate governance mechanisms, primarily the controlling ones, so that they are adequate to handle changing external and internal conditions.

At the present time, the sectoral vertical system of the specialised internal control bodies (SICB) has a total staff of 265 and covers 42 organisations of the Corporation.

The main results of 2013 include:

- the SICB conducted 656 inspections, of which 96 were audits of A&S (146 organisations [41%] of the Corporation were covered by inspection activities); and
- the Internal Control and Audit Service conducted 38 controlled events, including 26 outdoor audits of organisations, 10 internal audits, and 2 expert and analytical exercises.

Findings from the 2013 control efforts confirmed the improvement of financial and economic discipline in the Corporation’s organisations. Economic operations involving departures from cost estimates decreased by 11%.

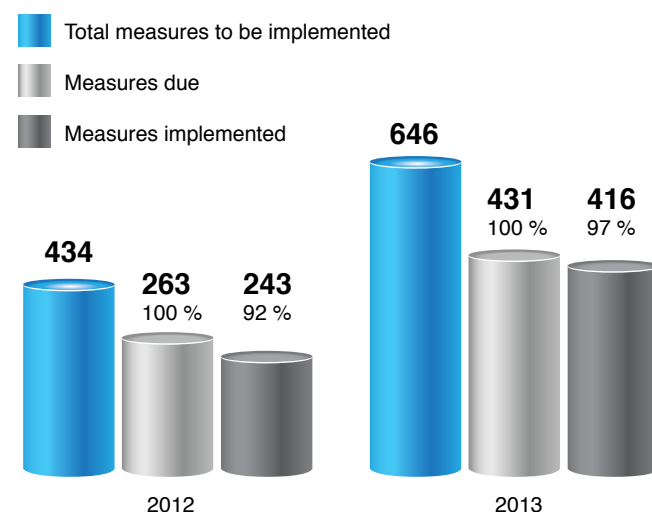
In 2012, the state control and supervision authorities, including the Audit Chamber of Russia, did not reveal any indicators of improper and unlawful use of budget funds and property.

Implementation of corrective measures

In 2013, the Corporation’s organisations were presented with 646 corrective measures, including 431 measures due in 2013, of which 97% were implemented.

Implementation of the corrective measures was 100% supervised.

Fig. Implementation of corrective measures imposed following the results of SICB inspections



Objectives of the Internal Control System's development in 2014

In 2014, it is planned to:

- continue integrating control procedures into the Corporation's processes, including controls that ensure the achievement of the Corporation's strategic goals (while minimising excessive controls);
- complete implementation of the schedule of the compliance function development in the nuclear industry;
- develop the regulatory basis of the functioning of internal financial controls and audits; and
- pass an independent assessment and obtain a confirmation of compliance of the "internal audit" function to the International Internal Audit Standards.

In 2013, professional recognition of the IC&AS was confirmed with a certificate of appreciation granted by the Institute of Internal Auditors "For Contribution to the Profession's Development" and awards from the Institute of Certified Financial Managers: for Building up an Effective Internal Control System, for Contribution to the Internal Control System's Development, and for being "A Reliable Partner".

Control of the stakeholders

In 2013, the Central Arbitration Committee of the Corporation and arbitration committees of the Power Generation and Fuel Divisions received 969 appeals from vendors concerning violations of the Uniform Sectoral Procurement Standard. Of them, 292 (30%) were deemed to be justified.

Over the reporting period, the efforts of the arbitration committees led to the saving of RUB 249 million.

For details, see the Report section "Procurement management".

1.7.2. Management of the compliance function

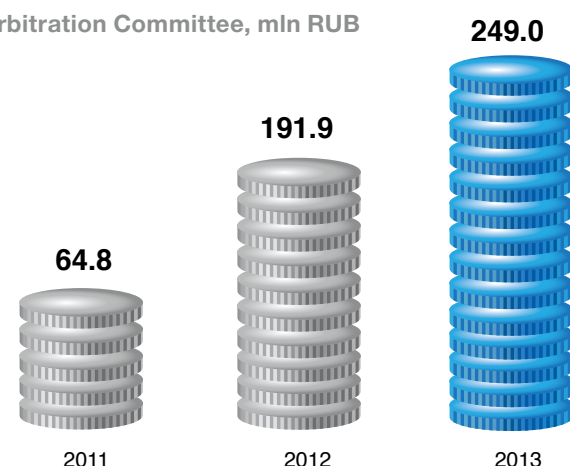
In accordance with a decision made by the Transparency Board, and to exclude the possibility of the discrimination of organisations of the Corporation from international markets, a decision was made to improve the management of the compliance function in the Corporation.

In the framework of this decision, in 2013, an audit of the compliance function in the Corporation was conducted, a plan of its development concerning compliance with international business standards was produced, and a list of key compliance risks was specified.

In 2013, the leaders of the Corporation and representatives of the Internal Control and Audit Service took part in the annual conferences of the ISA/ICS, known as "Compliance in Russia", and of the International Institute of Internal Auditors.

The best Russian and international management practices for the compliance function were used in the proposed internal audit system that was approved by the sectoral expert community.

Fig. Direct savings owing to rulings of the Central Arbitration Committee, mIn RUB



1.8. Corruption and other legal offences countering system

ROSATOM has established a sectoral system for countering corruption and protecting assets, established a vertical management and information support system, and has tuned up mechanisms for the functional management of units that protect the assets of the sectoral organisations.

1.8.1. The 2013 results

In 2013, ROSATOM met the full scope of requirements according to federal laws and legal acts of the President and the Government of Russia regarding the combating of corruption and other legal offences.

In particular, pursuant to instructions laid down in Presidential Decree No. 309 "Regarding the Implementation of Certain Provisions of the Federal Law 'On Countering Corruption'", the following was done in 2013:

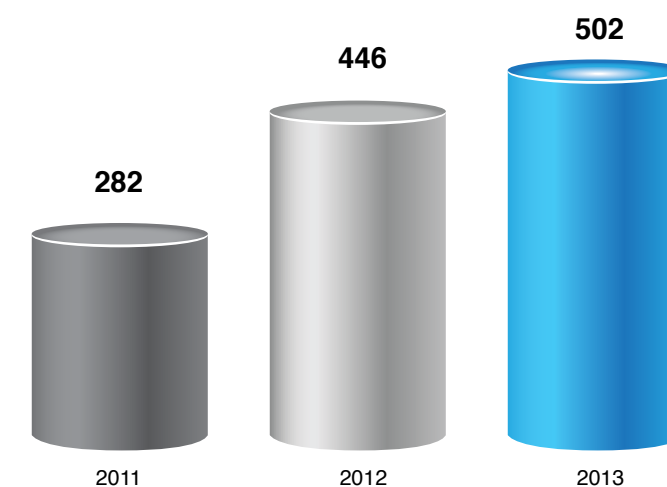
- the structural unit—the Asset Protection Department—and officials of ROSATOM were designated as responsible for the prevention of corruption and other legal offences;
- the Commission for the observance of the requirements for professional conduct and the settlement of conflicts of interests was set up;
- approval was given to modify a list documenting where citizens were being assigned and what positions employees were filling so that it would also provide information about their incomes, property, and property-related liabilities, as well as information on the incomes, property, and property-related liabilities of their spouses and underage children;
- a regulation was introduced covering the procedure for the providing of information about the incomes, spending, property, and property-related liabilities of persons on the list of positions within ROSATOM for which such information should be provided; a procedure for checking the credibility and completeness of this information was written and implemented; and
- the professional training of employees whose job descriptions include participation in anti-corruption activities was organised (93 employees were trained).

On the whole, the economic effect of the prevention and inspection measures aimed at protecting assets in the reporting year was estimated to be RUB 5.1 billion.

1.8.2. The "Hot Line" operation

The "Hot Line" is one of the key elements of the information support system for the anti-corruption and asset protection system, which provides public interaction not only on the part of Corporation employees but also on the part of citizens and organisations, including foreign states.

Fig. Number of messages received by the "Hot Line"



In 2013, the "Hot Line" received 502 messages (up 12.6% from 2012). The percentage of anonymous messages is decreasing; it was 42% in 2013, 48% in 2012, and 61% in 2011.

1.8.3. Plans for 2014 and the mid-term horizon

The intention is to improve the system of countering corruption and other criminal offences in accordance with the legislation and statutory acts of the President and the Government of Russia, including Presidential Decree No. 226 "Of the National Plan of Countering Corruption for 2014–2015".

In particular, the goal has been set to intensify efforts to build up negative attitudes to corruption within employees of ROSATOM and its organisations, and to implement organisational, expository, and other measures related to the observance by employees of constraints and prohibitions imposed to counter corruption, including those in the framework of Governmental Resolution No. 816-r that approved the Anti-corruption Education Programme for 2014–2016.



Safety

Safety is the highest priority. In our work, we ensure absolute safety of people and the environment first. There are no minutiae in safety; we know safety rules and follow them, while putting a stop to violations.

Responsibility for the Result

Each of us bears personal responsibility for his/her work result to the State, Sector, colleagues and customers. In our work, we set for ourselves the most stringent requirements. It is not the spent effort that is evaluated, but the achieved results. The successful results are the basis for our new achievements.

Chapter 2.

Strategy implementation

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2.1. ROSATOM's activity strategy

2.1.1. Mission and values of the Corporation

ROSATOM's mission is to deal with governmental tasks regarding defence capabilities, nuclear and radiation safety, the publicly acceptable production of nuclear electricity, and the command of global technological leadership through cutting-edge expertise in atomic and nuclear science.

In the long term, ROSATOM sees itself as a global technological leader within the group of the three largest players in the world in all key segments of the nuclear industry and as an acknowledged leader in the application of nuclear technologies in related markets.

2.1.2. Strategic goals of the Corporation

The "Strategy of Activities of the State Atomic Energy Corporation ROSATOM for the Period until 2030" was developed in 2011. The Strategy was approved by the Corporation Management Board on 24 November 2011. The Strategy's implementation goal is the achievement of global technological leadership.

The Strategy defines five strategic goals for the civil nuclear industry:

- › the efficient provision of nuclear-generated electricity to Russia's economy (see the section "Efficient supply of nuclear electricity to Russia's economy");
- › an integrated solution for the accumulated "nuclear legacy" problems and ensuring nuclear and radiation safety (see the section "Integrated solution for accumulated nuclear legacy problems and ensuring nuclear and radiation safety");
- › strengthening of the innovative potential for further development of Russian nuclear technologies and the broadening of their application (see the section "Strengthening the innovative potential of the further development of

Russian nuclear technologies and the broadening of their application");

- › strengthening of its position as a global player in the global nuclear services market (see the section "Strengthening as a global player in the world market for nuclear services"); and
- › the realisation of national priorities when the Corporation executes state powers in designated spheres of activity (see the section "Realisation of national priorities when executing state powers in the designated sphere of activity").

The Strategy of the Corporation is based on the following documents:

- › the Concept of Long-term Socioeconomic Development of the Russian Federation for the Period until 2020 (approved by a Directive from the Government of Russia No. 1662-r of 17 November 2008);
- › the Energy Strategy of Russia for the Period until 2030 (approved by a Directive from the Government of Russia No. 1715-r of 13 November 2009);
- › the General Scheme of Deployment of Power Generation Facilities (approved by the Chairman of the Government of Russia, Directive No. 215-r of 22 February 2008);
- › the Long-term Activity Program of ROSATOM (approved by a Resolution of the Government of Russia № 705 of 20 September 2008);
- › the Strategy for the Innovative Development of the Russian Federation for the Period until 2020 (approved by a Directive from the Government of Russia No. 2227-r of 8 December 2011); and
- › the National Program of the Russian Federation "Development of the Nuclear Power and Industry Complex" (approved by a Resolution of the Government of Russia No. 506-12 of 2 June 2014).

Table. The Corporation's Strategy: Target indicators for 2030

Goals	Target indicators for 2030
Technological leadership	Expenditures for new developments – 4.5 % of proceeds
	Share of new products – 40 %
	Number of international patents – 15 a year by 2020
Globality	Share of overseas operations: share of overseas operations – 50 % share of overseas assets – 25 %
	Brand strength – top 100 in the world
	Share of the global uranium enrichment market (without considering HEU-LEU) – ≥ 33 %
	Share of the PWR fuel market – 5 %

Strategy implementation

Goals	Target indicators for 2030
Scale	Share of the NPP services market – not less than 10 % by 2020
	NPP capacities – growth by 2.5 times (from 24 up to 60 GW)
	NPP construction abroad – about 30 power units
Operational efficiency	Proceeds – growth by 3-5 times times
	Procurement cost reduction – 30 % by 2015 (as compared to 2011)
	Increase in labour efficiency up to the level of the global market leaders

2.2. Financial and economic results



Victoriya Andriyenko
Chief Accountant

In the reporting year, we continued applying approaches of the ROSATOM Production System (RPS) to accounting processes. So, by excluding cash payments to employees, we managed not only to reduce the working hours of office processes but also to gain an actual reduction of expenditures in monetary terms. In the course of implementing this project, we actively used developments gained through the implementation of the ERP systems.

In 2014, we intend to actively involve the accounting units of the sectoral enterprises

in RPS projects, including learning from the best practices of Russian companies that employ the principles of lean production in accounting processes. The plan is to restructure the function of accounting and its allied processes, optimise document turnover, and level information flows in the framework of accounting and its allied functions, while seeking loss reduction and increased efficiency. This "internal revolution" has to be carried out without loss of quality and the failure to meet due dates for the preparation of our core product, i.e. financial reporting. I think that the existing experience, skills, and motivation of the employees will allow us to complete this task efficiently as well.

2.2.1. Main financial and economic results*

Table. Main financial results, bln RUB

	2013	2012**	2013/2012, %	2011	2012/2011, %
Proceeds	436.1	394.8	110.5	389.4	101.4
Cost of sales	(277.8)	(269.2)	103.2	(226.8)	118.7
Gross profit	158.3	125.6	126.1	162.6	77.2
Commercial and administrative expenses	(78.5)	(72.3)	108.5	(66.0)	109.5
Other receipts and expenditures (net)	(19.0)	(18.1)	105.3	(10.3)	175.7
Financial receipts and expenditures (net)	(9.7)	1.8	(535.8)	(8.2)	(21.9)
Share of the net profit/(loss) of companies accounted for by the equity accounting	(1.9)	(0.2)	930.9	2.7	(7.6)
Expenditure on the profit tax	(18.0)	(12.1)	148.0	(19.7)	61.5
(Loss)/profit from closed-down activities (deducting the profit tax)	(6.6)	2.2	(305.3)	–	–

* This section contains information on JSC Atomenergoprom and its affiliated companies (hereinafter referred to as "the Group AEPC") prepared in accordance with International Financial Reporting Standards (IFRS). The Group AEPC is an integrated group of Companies that consolidates the civil assets of the Russian nuclear industry, which span the full production cycle of nuclear power. The affiliated companies include Russian open-type joint stock companies, closed-type joint stock companies, limited liability companies (as defined by the Civil Code of the Russian Federation), and companies registered abroad. The summarised consolidated financial statements, as per IFRS, and statements made by independent auditors are provided in [JSC Atomenergoprom's report](#).

** The 2012 data were recalculated because the revised IFRS (IAS) 19 "Employee Benefits" relate to the base for defining receipts and expenditures in preset benefit plans after termination of employment, and because there was a need to reflect the terminated activity associated with the loss of control of Uranium One Inc., which resulted from the sale of the interest in Uranium One Holding. According to the IFRS, when a line of business is deemed to be terminated, the comparative data from the profit or loss statement and other consolidated income are presented as if this line of business had been terminated at the beginning of the respective period of comparison.

	2013	2012**	2013/2012, %	2011	2012/2011, %
Profit over the year	24.7	26.8	92.1	60.9	44.0
Other consolidated receipts/(losses)	7.1	(20.3)	(35.1)	5.2	(388.3)
Total consolidated receipts over the year	31.8	6.5	487.3	66.2	9.9
Net operating profit after taxes (NOPAT)	42.8	23.0	185.9	66.5	34.6

In 2013, the growth rate of proceeds (10.5 %) was substantially higher than that of the cost of sales (3.2 %).

The revenue trend (reflecting a growth by 10.5 % or RUB 41.3 billion compared to 2012) was affected predominantly by the following factors:

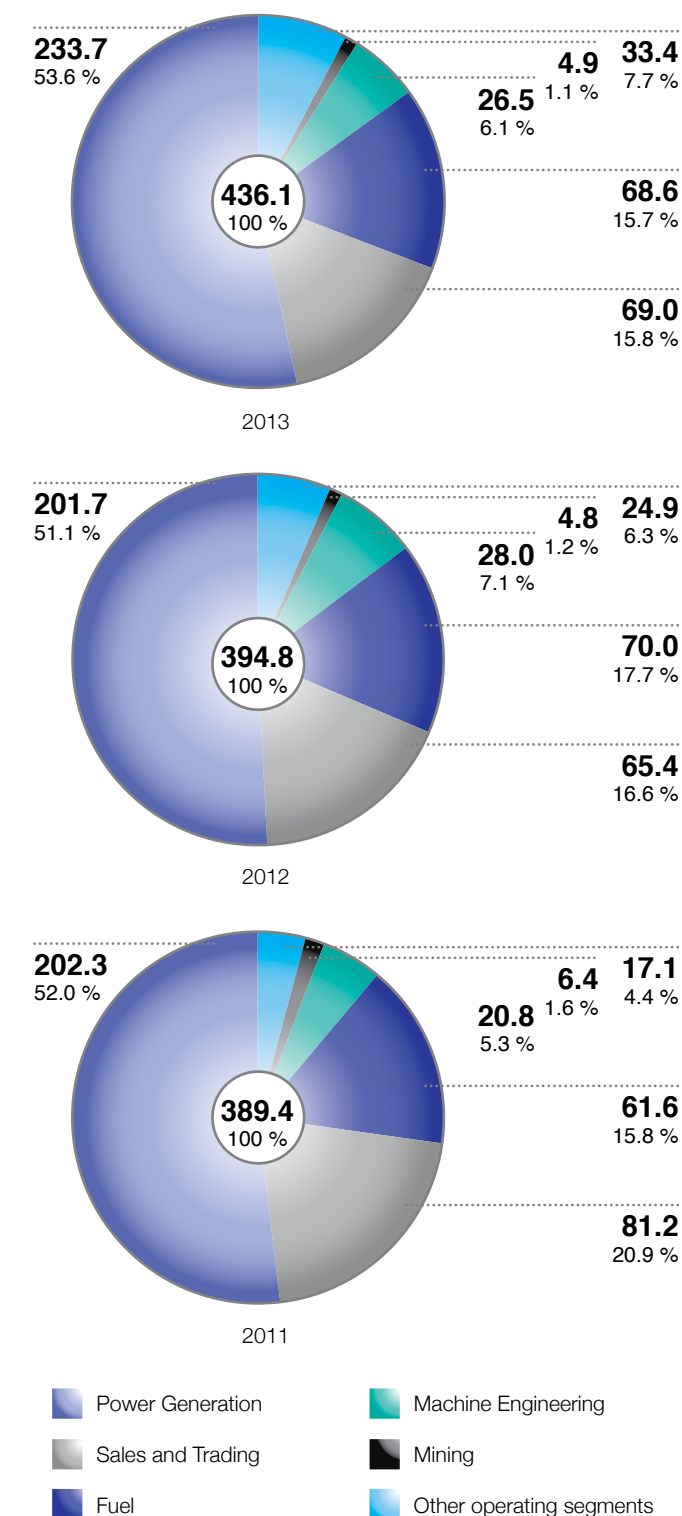
- the growth of revenue from sales of electricity, power, and heat, caused by the favourable price situation in the free electricity market, the increased price of power for the competitive capacity outtake (CCO), and the beginning of power generation by the Kalinin NPP Unit 4;
- the growth of revenue from supplies of NFC products. Negative changes due to the drop in market prices for uranium-containing products and enrichment services were compensated by larger volumes of nuclear fuel supplies sold to foreign NPPs, including entry into new markets; and
- the growth of revenue through a larger volume of design services to foreign NPPs.

Over 2013, the profit was RUB 24.7 billion, down RUB 2.1 billion from the preceding year (RUB 26.8 billion in 2012).

The following factors produced the most substantial impact on financial results in 2013:

- the excessive growth of proceeds as compared to the growth of the prime cost, which resulted in an increase in the gross profit to RUB 32.7 billion;
- the negative revaluation of JSC INTER RAO UESs shares for 2013 at RUB 19.4 billion was partially compensated for by the profit of RUB 5.8 billion, but the ultimate result (loss) was RUB 13.6 billion (shown as part of the financial expenditures);
- the profit from the fair price revaluation of shares in Uranium One Holding and Uranium One Inc., as of the retirement date, amounting to RUB 8.9 billion (shown as part of the financial receipts);
- the loss of RUB 31.4 billion from the depreciation of assets, shown as other expenditures (the corresponding amount for 2012 was RUB 26.3 billion), was mainly induced by:
 - a decrease in the long-term outlook for uranium prices that led to a depreciation of the uranium mining assets of the operating segment "Mining" in Russia (RUB 7.6 billion) and abroad (RUB 14.6 billion); and

Fig. The revenue mix from sales to external buyers by operating segment, bln RUB



Strategy implementation

- a decrease in the volume of orders, along with the deterioration of the situation in the steel markets that led to a depreciation of assets for the operating segment "Machine Engineering", totalling RUB 4.7 billion;
- the positive effect of changes due to the revaluation of reserves for decommissioning, RAW, SNF, and other reserves, shown as RUB 12.1 billion in other receipts; and

other consolidated receipts in 2013 were RUB 7.1 billion, with the main positive effect under the heading showing the actuarial gains of pension plans from the enterprises.

Thus, the total consolidated receipts over 2013 increased by RUB 25.3 billion from 2012 to RUB 31.8 billion.

2.2.2. Cost structure

Table. Cost structure, billion RUB

Cost of sales	2013	2012*	2013/2012, %	2011	2012/2011, %
Feedstock, materials and fuel	66.3	64.2	103.3	55.4	115.9
Staff costs	70.8	64.9	109.1	56.5	114.9
Costs of purchasing electricity for resale and in-house needs	23.2	21.6	107.4	19.5	110.8
Depreciation	64.8	59.1	109.6	60.8	97.2
Production-related work and services of third parties	24.9	32.5	76.6	22.5	144.4
Expenditures on the property tax and other payments to the budget	11.3	8.7	129.9	7.1	122.5
Other expenditures	31.5	26.7	118.1	26.5	100.7
Changes in the inventories of end products and products in process	(15.0)	(8.4)	178.6	(21.6)	38.9
Total	277.8	269.3	103.2	226.7	118.8

* The 2012 data were recalculated because the revised IFRS (IAS) 19 "Employee Benefits" relate to the base for defining receipts and expenditures in the preset benefit plans after termination of employment and because there was a need to reflect the terminated activity associated with the loss of control over Uranium One Inc., which resulted from the sale of the interest in Uranium One Holding. According to the IFRS, when a line of business is termed as terminated, the comparative data from the profit or loss statement and other consolidated income are presented as if this line of business had been terminated at the beginning of the respective period of comparison.

The cost trend (growth by 3.2 % or RUB 8.6 billion from 2012) was affected predominantly by the following factors:

- the growth of expenditures for process personnel (by 9.1 % or RUB 5.9 billion) was mainly caused by the indexing of salaries and wages to the consumer price index in the second half of 2013;
- the growth of depreciation (by 9.7 % or RUB 5.7 billion), expenditures for property tax, and other payments to the budget (by 29.9 % or RUB 2.6 billion) due to the commissioning of fixed assets, including Unit 4 of the Kalinin NPP;
- the reduction in volume of the production-related works and services of third parties (by 23.3 % or RUB 7.6 billion) was reached owing to the optimisation of production processes, the implementation of the energy efficiency programme, and the implementation of the Russian Government's instruction to reduce costs for the procurement of goods (works, services); and
- the increase in volumes of products in process and the remainder of products (by 78.4 % or RUB 6.6 billion).



2.2.3. Main financial and economic indicators

Table. Financial stability indicator

Indicator	2013	2012
Debt-to-equity ratio	0.35	0.35

Table. Liquidity indicators

Indicator	2013	2012
Quick assets ratio	0.94	1.18
Current liquidity ratio	1.50	1.91

In the reporting year, the quick assets ratio dropped by 20 % from 2012, primarily due to a decrease in the cash balance.

The decrease in the current liquidity ratio by 21 % was due to the excessive growth of the debt on short-term loans and borrowings as of the period in question against a growth in non-fixed assets.

Table. Turnover indicators, days

Indicator	2013	2012
Daily sales in inventory	206	194
Turnover time of accounts receivable	51	47
Turnover time of accounts payable	63	63

Table. Profitability indices, %

Indicator	2013	2012
Return on sales (ROS)	6.6	6.7
Return on assets (ROA)	1.3	1.4
Return on equity (ROE)	1.8	2.1

In 2013, there were no substantial changes in the turnover and profitability indicators.

2.2.4. Structure of assets

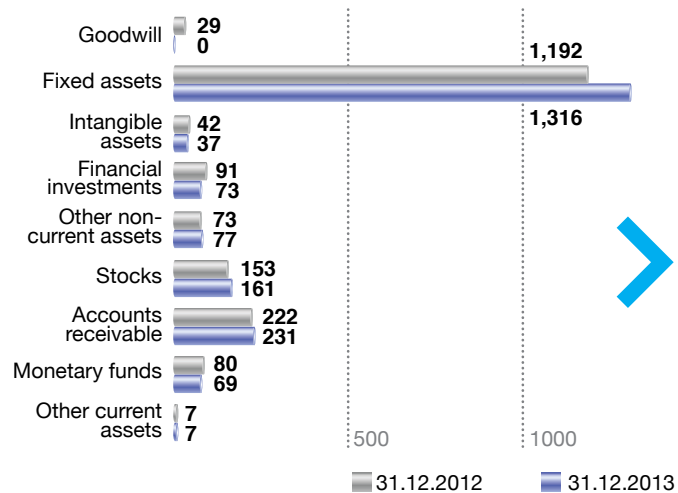
The decrease in goodwill by RUB 29 billion was caused by the acknowledgement of the loss resulting from the depreciation of goodwill regarding Mantra Resources Limited and Energo-mashspetsstal (by RUB 12.4 billion), as well as the withdrawal of Uranium One Inc. from the Group AEPC.

The decrease in intangible assets by RUB 5 billion reflected the loss due to the depreciation of the intangible assets of the operating segment “Mining” in 2013.

The growth of the value of the net assets by RUB 124 billion was mainly at the expense of capital investments in branches of JSC Rosenergoatom Concern.

Long-term financial investments dropped by RUB 18 billion (net impact), which was predominantly related to the withdrawal of in-

Fig. Main changes in the structure of assets, bln RUB



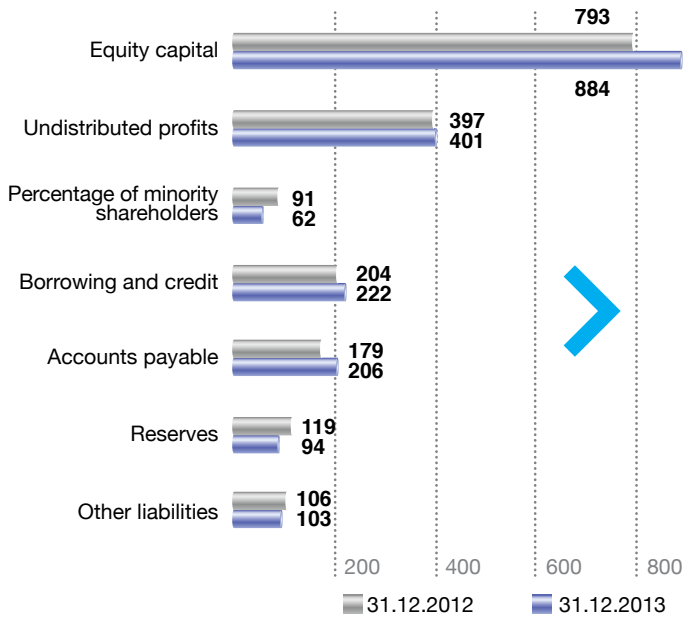
Strategy implementation

vestments accounted for by the equity accounting (associated with the sale of the interest in Uranium One Holding), the sale in 2013 of JSC INTER RAO UESs shares, and the acquisition of long-term bills from JSC VTB and JSC VTB-Leasing.

There were no material changes in other asset items in 2013 compared to 2012.

2.2.5. Structure of capital and liabilities

Fig. Structure of capital and liabilities, billion RUB



The growth of equity capital by RUB 91 billion in 2013 was predominantly due to an increase in the authorised capital because of the placement of additional shares of JSC Atomenergoprom (worth RUB 83 billion).

The decrease in the percentage of minority shareholders amounting to RUB 29 billion was predominantly due to the sale by JSC AtomCapital of the controlling stock of Uranium One Holding, which in turn owns the controlling stock of Uranium One Inc. This transaction resulted in the Group AEPC losing control over Uranium One Inc.; the effective percentage of the authorised capital of Uranium One Inc. decreased to 48.55 %.

The growth in borrowing and credit by RUB 18 billion (net impact) was primarily due to the acquisition of loans from JSC Sberbank of Russia, JSC Bank VTB, and JSC Gazprombank in 2013 and due to a reduction of liabilities as of the end of 2013 in regard to Uranium One Inc. because of the company’s withdrawal from the Group.

The growth of accounts payable by RUB 17 billion was due to the increase in debt on the commission contracts payable.

The decrease in reserves by RUB 25 billion was mainly at the expense of the decrease in the reserves related to the decommissioning of fixed assets (by RUB 8 billion) and reserves related to spent nuclear fuel management (by RUB 10 billion).

There were no material changes in other liability items in 2013 compared to 2012.

2.3. Realisation of national priorities when executing state powers in the designated sphere of activity

2.3.1. Execution of state functions



Tatiana Yelfimova
Deputy CEO for Government Relations and Budgeting,
State Secretary

– What are main results of law-making activities in the reporting year? How does the change in the legislative framework affect the activities of ROSATOM?

– The key drafted law affecting ROSATOM in 2013 was the adoption of Federal Law No. 188-FZ “On Amendment of the Federal Law ‘On the State Atomic Energy Corporation ROSATOM’ and Certain Legislative Acts of the Russian Federation”.

This law stipulated the system of management of the nuclear weapons complex of the country, including the special status of the nuclear weapons complex’s organisations, i.e. it enshrined the notion of “federal nuclear organisations” and the procedure for assigning this status to unitary enterprises.

Also, the law eliminated the uncertainty associated with the validity period of ROSATOM’s status and, at the same time, confirmed the “rightfulness” of the chosen approach of state policy in the use of atomic energy, development, and the safe functioning of organisations within the nuclear power and industry complex and nuclear weapons complex, and the safe functioning of organisations that operate the nuclear-powered icebreaker fleet.

With the adoption of this law, the transitional period of activity has ended. Now, the Corporation has permanently set forth the authorities it was given in the transitional period, i.e. of:

- › the chief controller of budget funds, the recipient of budget funds, and the chief budget revenue administrator;
- › the state customer of governmental defence orders in the specified area of activity and the state customer of governmental programmes in the field of defence and security; and
- › the state customer of long-term target programmes.

Also in the previous year, serious work was done on the legal regulatory issues involving the standardisation and accreditation of products (works, services). The relevant resolutions of the Government of Russia were adopted, which allowed the building up of a uniform accreditation and standardisation system in the use of atomic energy that meets the current realities.

Regarding infrastructural changes related to the Corporation’s activities, I would like to highlight the changes made to Federal Law No. 210-FZ of 27 July 2010 “On the Provision of Central and Local Government Services”, under which the Corporation has the right to draft and adopt administrative regulations for the provision of public services and discharg-

2.3.1.1. ROSATOM’s contribution to the “May Decrees” of the President of Russia

Table. Effects of the implementation of the national programme for development of the nuclear power and industry complex in 2012–2013 upon achievement of targets set forth by Decrees of the President of Russia from 7 May 2012

Presidential Decree	Target indicators	Assessment of the national programme’s effects*
“On the Long-term National Economic Policy” (No. 596)	Creation and modernisation of 25 million high-efficiency jobs by 2020	In 2013, 6,218 jobs were created in the nuclear industry, up 8 % from the preceding year.
	Increase in investments up to at least 25 % of GDP by 2015 and up to 27 % by 2018	The growth of investments in the nuclear industry is predominantly due to investments in the development of nuclear power and the modernisation and expansion of the science, technology, production, and resource base of the nuclear industry. In 2013, the investment-to-proceeds ratio of companies was 27 %.
	Increase in the share of products of high technology and the science-intensive sectors of the economy in terms of GDP by 1.3 times by 2018 compared to the 2011 level	The relative share of the innovative products and services in the total sales of the nuclear industry in 2013 was 13 %, 1.3 times the 2011 indicator (9.9 %).
	Increase in labour efficiency by 1.5 times by 2018 compared to the 2011 level	In the nuclear industry, labour efficiency in 2013 was 1.29 times the level of 2011.
“On Measures for Implementation of the National Policy in the Field of Education and Science” (No. 599)	By 2015, the percentage of Russian researchers’ publications in the world’s scientific journals indexed in the Web of Science rose by 2.44 %	In 2013 the indicator of the national programme “Number of Publications in the World Peer-reviewed Publications in the Field of the Use of Atomic Energy (per 100 researchers and developers a year)” was 8.5 items, up 29 % from 2011.

* The assessment is made in accordance with the indicators of the Roadmap for the implementation of instructions described in the Decrees of the President of the Russian Federation from 7 May 2012, as approved by a list of instructions given by the CEO of ROSATOM on 28 September 2012.

2.3.1.2. Legal regulatory activity

The intensive development of the nuclear industry and the broadening of nuclear technology applications require an extensive improvement of the legal framework.

ing of state functions, as well as the right to provide the services electronically.

The said changes have allowed ROSATOM to position itself as a full-fledged participant (on the level with federal executive bodies) in the existing legal framework in relation to the provision of public services using information and telecommunication technologies, including the use of the Single Portal for Central and Local Government Services and interagency information interaction.

– **What are the priority objectives with regard to the discharge of governmental functions by the Corporation in 2014 and in the mid-term?**

– Work will continue to synchronise the nuclear legislation with a consideration for features of atomic energy use in conjunction with the changes in the law of general jurisdiction and certainly, for the further development of the nuclear legislation itself.

As part of the interaction of ROSATOM with the houses of the Federal Council of the Russian Federation in 2013, more than 180 draft laws were continuously monitored and amendments to 7 draft laws were produced and submitted. All amendments were adopted.

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In 2013, the Federal Law No. 188-FZ of 2 July 2013 “On the Amendment of the Federal Law ‘On the State Atomic Energy Corporation ROSATOM’ and Certain Legal Acts of the Russian Federation” was adopted, which:

- › legally defined the system of management and development of NWC for the long term; and
- › ended the transitional period of Corporation activity and guaranteed on a permanent basis the powers of the Corporation, which had been granted during the transitional period.

In 2013, eleven federal laws and a large number of legal regulatory acts, including those aimed at the implementation of statutory provisions for the said federal laws, were adopted.

In 2013, a group of authors under the editorship of T. L. Elfimova (ROSATOM) issued a comment on the Federal Law of 21 November 1995 “On the Use of Atomic Energy”, which illustrates the huge technical and organizational legal changes that have taken place in the nuclear industry over the past several years.

2.3.1.3. Distribution of budget funds and implementation of FTP in 2013

ROSATOM has the authority of the chief controller of budget funds (CCBF), which assumes the function of budget accounting for Russia’s state treasury property. The budget control was exercised in accordance with the applicable norms of the budget legislation and the legal regulatory framework of the chief controller of budget funds. The budget control, in the first place, covers nuclear materials exclusively owned by the state, including the national stockpile of special feedstock and fissile materials.

At the same time, ROSATOM has been given the associated authority of the chief administrator of fiscal revenues, including those from export sales of low-enriched uranium.

The execution of CCBF authority by the Corporation increases the level of control on the part of the Ministry of Finance of Russia and the Accounts Chamber of Russia over the spending of budget funds; it also increases the efficiency of budget funds management.

For information about the execution of state powers, see the [Report of ROSATOM to the Government of the Russian Federation](#).

Table. Federal budget funds received by ROSATOM in 2013, bln RUB

Type of expenditure	Actual received funds
Federal budget, total	145.3
including:	
Property contribution	81.6
Budgetary appropriations for FTP implementation	29.7
including:	
Contribution to authorised capital	1.1

2.3.2. Nuclear weapons complex (NWC)



Ivan Kamenskikh
First Deputy CEO and Director for the Nuclear Weapons

– **How successful do you think 2013 was for the nuclear weapons complex activities?**

– The main task of the NWC is to maintain the country’s nuclear stockpile at the necessary level and to ensure its safe operation. This task was handled effectively and with good quality. The state defence order was 100 % fulfilled.

The total capacity of the supercomputers in Russian Federal Nuclear centres grew by 40 % compared to 2012. This enables the successful development of simulation modelling technologies for complex engineering products in the interests of the high-technology sectors of the industry.

During the year, we carried out substantial work to deploy engineering features for physical protection not only at ROSATOM’s facilities but also at essential facilities of the Ministry of Defence of Russia.

– *In 2013, NWC enterprises achieved a striking result, i.e. proceeds from the sale of non-related products grew by 20 %. At what cost was this achieved? Could it be explained by the greater competitiveness of civilian products made by NWC*

– *Yes, absolutely. Last year, civilian production developed in five areas, namely, electrical engineering, security systems, computing means and techniques, laser technologies, and the automation of process control systems.*

Despite hard competition, we succeeded in obtaining and fulfilling orders for the design and installation of the access control information system for the Olympic facilities during the XXII Olympics in Sochi. We also developed an integrated security system for the combined (automobile road and railroad) Adler-Alpika-Servis road over its 49 kilometres.

The deliberate entry into competitive markets of civilian products motivates NWC enterprises to broaden their chain of supplies, develop external cooperation, monitor markets, and improve products in the interests of their customers.

– **What are the priority development areas of NWC enterprises in the near term?**

– *In 2014, it is planned to continue restructuring NWC enterprises in accordance with the Russian President's Decree "On Federal Nuclear Organisations" and ROSATOM's NWC development strategy up to 2020. With this agenda, we have to ensure the development of the experimental and test, computing, and production and technological bases to bring them to a qualitatively new level in order to meet the existing Comprehensive Nuclear Test Ban Treaty and to ensure competitiveness with the other leading nuclear powers. The plan is also to start releasing [from restricted access areas] the supporting and auxiliary production facilities, including the use of mechanisms for establishing sectoral technology centres.*

2.3.2.1. Results of 2013

Filling of the governmental defence order and cooperation with the Ministry of Defence of Russia

ROSATOM, jointly with the Ministry of Defence of Russia and the nuclear weapons military commands of the Armed Forces of Russia, has maintained the combat stock of the Armed Forces of Russia in terms of the appropriate quality and quantity at the level that guarantees the implementation of Russia's nuclear deterrence policy.

In 2013, ROSATOM's enterprises carried out research and development in accordance with the approved National Arms Programme for 2011–2020. In the reporting period, the plans for development and production of ammunition set forth in the governmental defence order were fulfilled in full.

Labor efficiency with regard to other products of NWC in terms of consolidated proceeds (KPI for 2013) exceeded the same indicator from 2012 by 15 %.

Restructuring of NWC enterprises

In the framework of the restructuring of the Nuclear Weapons Complex (NWC) conducted in accordance with ROSATOM's NWC development strategy up to 2020, the target indicators describing the state of the NWC facilities were achieved in full. The production areas and headcount of NWC facilities were reduced and salaries were raised. Renovation of the equipment of the scientific, production and technological bases of NWC facilities has continued.

Activities in the civilian sector

In 2013, NWC enterprises carried out science-intensive innovative developments in the interests of the core industries of the Russian economy.

The consolidated proceeds with regard to other products of the NWC (KPI for 2013) totalled RUB 55.3 billion, up 2.4 % from the target indicator and up 21 % from the same indicator for 2012.

The main activity areas included:

- the development of new technologies and equipment for nuclear power; solution of problems associated with spent nuclear fuel;
- developments in the field of nuclear medicine;
- the development of supercomputers and the improvement and development of modern computation technologies;
- the development, manufacture and deployment of integrated computer-based process control systems at facilities serving the fuel and energy sector of Russia;
- the development and improvement of engineering complexes and systems for the oil and gas industry;
- the development of optical and laser systems;
- the development of complexes for recording high-speed processes to be used in research in nuclear physics and high-energy physics;
- the provision of services by the Shared Use Centres;
- the development of instruments, hardware and complexes for the development of other areas in the civilian sector.

For details, see the Report Section "Strengthening of the Innovative Potential of Further Development of The Russian Nuclear Technologies and Broadening of Their Application".

Measures to improve efficiency of NWC enterprises

To improve ROSATOM's system of management of NWC enterprises, the Plan and a system of indicators for the integrated assessment of condition and development trends

Strategy implementation

of NWC organisations have been put into effect along with the this process monitoring procedure. The system of indicators consists of economic, production, process, labour and financial indicators, as well as indicators of innovation, production and management efficiency (a total of 53 indicators). Based on the results of the integrated assessment of NWC conditions and development trends carried out in 2013, it was found that all NWC enterprises of ROSATOM were financially sound and developing with positive trends.

In 2013, the implementation of the energy saving and energy efficiency improvement programme brought about savings in energy consumption at NWC enterprises of 20.3 % as compared to the reference period (2009); in terms of cost, that is more than RUB 814 million.

To increase production efficiency, the ROSATOM Production System (RPS) was implemented at NWC enterprises. The main task of RPS development in NWC in 2013 was to improve the production efficiency management system through the integration of RPS with other NWC development programmes as related to the production of the principal and other products. The task was completed. The NWC enterprises met the targets of eight sectoral and 89 site-wide RPS projects, yielding an economic benefit of their implementation of about RUB 350 million.

Nuclear and radiation safety, ecological efficiency of NWC enterprises

All NWC enterprises have imposed limits on the release and discharge of noxious chemical and radioactive substances; the appropriate monitoring of releases and discharges is in place.

In 2013, there were no operational events rated greater than Level 0 on the INES scale at nuclear installations on NWC sites.

The implementation of mid-term measures of the Plan of Safety Improvement at Nuclear and Radiation Hazardous Facilities of NWC was continued.

To implement the Federal Law "On the Radioactive Waste Management," local strategies for radioactive waste management were developed by NWC enterprises; work on the initial registration of radioactive waste generated before the law came into force was started.

2.3.2.2. Plans for 2014 and on a mid-term horizon

In 2014, it is planned to:

- fulfil completely all the tasks set forth by the governmental defence order;
- continue developing the legal regulatory framework of the NWC enterprises restructuring;
- ensure the development and start of implementation of the Integrated Programme of Production Efficiency Improvement of the Nuclear Weapons Complex in 2014–2018;
- further maintain and develop experimental, testing, computing, production and technological capabilities to achieve

their new qualitative level in the condition of effects of the Comprehensive Nuclear Test Ban Treaty and ensuring competitiveness with other leading nuclear powers;

- start activities to segregate supporting and auxiliary facilities, including through the mechanism of the creation of sectoral technology centres.

2.3.3. Nuclear icebreaker fleet

2.3.3.1. Description of the nuclear icebreaker fleet

As of 31 December 2013, the operating fleet included four nuclear-propelled icebreakers. The nuclear icebreaker Sovetskiy Soyuz has been in the operational reserve; a decision was made to restore it for the winter navigation season of 2017–2018. Also, a decision was made to return to service the nuclear lighter ship Sevmorput. Three nuclear icebreakers have been at holding anchorage. The nuclear icebreaker Lenin is used as a museum.

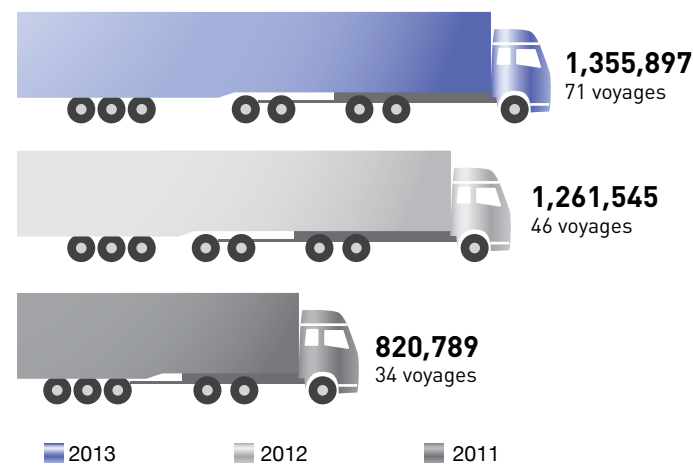
2.3.3.2. Results of 2013

Steering of ships and shipments of cargoes via the Northern Sea Route and the Baltic Sea

In 2013, the nuclear icebreaker fleet of ROSATOM supported freight transportation and emergency rescue operations in the aquatic area of the Northern Sea Route (NSR), freezing northern seas and estuaries of rivers. In the framework of the regulated activity paid for as per rates established by the Federal Tariff Service of Russia (FST), 151 steering operations were carried out for ships with cargo and in ballast to and from ports in the aquatic area of the NSR, including steering of ships with cargo for building Sabetta Port of JSC Yamal SPG to Okskaya Bay and steering of a convoy of Navy ships under a contract with the Ministry of Defence of Russia.

In June 2013, an operation rescued a Russian polar explorer from the drifting research station North Pole-40 in the Arctic Ocean.

Fig. Cargo traffic on the NSR routes, tonnes



Transit voyages were made from Europe to the Asia Pacific countries. Over the 2013 summer-autumn navigation season, 71 transit steering operations were carried out, including 25 foreign-flag ships (during the 2012 navigation season, 46 similar transit steering operations were carried out, including 28 foreign-flag ships). A total of 1,356,000 tons of various cargoes was shipped east and west through the aquatic area of the NSR. In 2013, the volume of transit cargo traffic increased by 7.5 % as compared to 2012 (1,261,000 tons).

One of the most important events of the reporting year was the steering of ten combat ships and vessels of the Northern Fleet. The group was headed by the heavy nuclear missile cruiser Petr Velikiy. Four icebreakers steered the group through the difficult-to-pass-through regions in the Matisen Strait and the approaches to the Boris Vilkitsky Strait.

In the reporting year, the nuclear icebreaker fleet also supported winter navigation in the White Sea. From February to April 2013, the nuclear icebreaker Rossiya safely steered 355 ships.

Building new icebreakers

In 2013, the building of the pilot universal nuclear-powered icebreaker of the next generation continued. The following work was done:

- the ship's keel laying and related certification by the Russian Maritime Register of Shipping;
- the development of the design documentation, the start of building and installation of sections on the slipway;
- the registration of the ship in the register of ships under construction; a certificate of ownership of the ship by Russia has been obtained;
- signing of contracts for the manufacture and supply of the critical equipment, purchasing of materials, rendering of services, including the supplying of the reactor installation RITM-200 with OKBM Afrikantov, for the manufacture of the steam turbine with JSC Kirov-Energomash Plant, and for the supplying of the propulsion system with the Krylov State Research Centre;
- the selection of equipment vendors and awarding contracts to suppliers and subcontractors.

In August 2013, the Government of Russia issued a Resolution on the budget investments in building two universal nuclear icebreakers. In November 2013, bids were requested for a governmental contract to build a series of two nuclear icebreakers.

In October 2013, the icebreaker 50 Let Pobedy carried out a unique operation to deliver the Olympic torch to the North Pole. Two new records were set: the icebreaker made the voyage to the North Pole during the polar night and did so in a record-breaking time. It took the icebreaker 91 hours and 12 minutes to get from Murmansk to the northernmost point of the planet.

Results of the nuclear and radiation safety programme

In 2013:

- in the framework of the free technical assistance rendered and financed by the Government of Norway the equipment was purchased to fit a radiation process monitoring laboratory and water chemistry laboratory;

Strategy implementation

- activity was measured and certificates were issued for 116 containers with conditioned SRW;
- the hardware and software complex of RMS Feniks on the nuclear icebreaker 50 Let Pobedy was subjected to trouble-shooting;
- a gamma-radiation monitoring post with readings displayed at FSUE Atomflot's RMS was installed on board the floating nuclear maintenance ship Lepse, which is in the Nerpa Ship Repair Yard;
- the following documents were drafted and sent for approval:
 - draft "Justification of Regulated Values of Permissible Radioactive Substances Releases to Atmospheric Air at FSUE Atomflot";
 - draft "Justification of Regulated Values of Permissible Radioactive Substances Discharges to a Water Body (Kola bay of the Barents Sea)".

Results of the environmental safety programme

In the field of environmental protection, the nuclear icebreaker fleet's priority measures are the planning and execution of works to minimise negative impacts on the environment, i.e. to reduce noxious releases into the environment (sewage discharges to the aquatic area of Kola Bay in the Barents Sea, atmospheric releases and placement of production and consumption waste).

In 2013, the Ecological Policy of FSUE Atomflot was updated. In the reporting year, 17 different ecological safety measures were implemented.

FSUE Atomflot was awarded a certificate by the Murmansk Region Government for active participation in environmental protection measures in the framework of the Environmental Protection Year.

2.3.3.3. Plans for 2014 and on the mid-term horizon:

- safe maintenance of facilities related to the use of atomic energy;
- implementation of the service life extension programme of nuclear icebreakers up to 175,000–200,000 hours;
- icebreaker-supported steering of ships in the NSR aquatic area and freezing ports of Russia;
- modernisation of the fleet's maintenance and repair capabilities;
- disposal of nuclear icebreakers and NMSs whose service lives have expired.

2.4. Strengthening of the innovative potential of further development of Russian nuclear technologies and broadening of their application



Vyacheslav Pershukov
Deputy CEO for Innovation Management

– ROSATOM pays great attention to the applicability of science, its results orientation and subsequent commercialisation of developments. What mechanisms are used to address this task?

– We have developed a system of identification and commercialisation of scientific developments, both already in hand and newly created. All requests for research are subject to an assessment using a special methodology and are defended by topical R&D plans or innovative development plans for each enterprise. Priority is given to works that have customers and whose implementation will raise the efficiency of existing facilities and have a high market potential, the ones that allow setting up of technological startups with the use of licensing agreement tools. For the latter, protection of the results of intellectual activity by patents or know-how is provided.

– How effective do you think was the innovative activity of ROSATOM in 2013?

– The programme of innovative development and technological modernisation of ROSATOM includes infrastructural projects, modernisation of existing technologies and development of new technologies for power generation and non-energy markets. Over the past two years, the programme has been at the top of Russian ratings of innovations. All planned works were completed: the programme for development of nuclear medicine equipment production was fulfilled, production of the most demanded isotope – Mo-99 – was launched and its sales started, the programme in support of the fusion reactor project was completed, and there are serious successes in the development of the technologies for the new nuclear power platform.

– ROSATOM implemented the ambitious project “Breakthrough,” aimed at closing the nuclear fuel cycle. What are its results and what is to be done in the coming years?

– The “Breakthrough” project is the transition from a demonstration of separate innovative technologies to the integrated world-class solution, i.e. a pilot demonstration facility that includes the on-site nuclear fuel cycle. There are no comparable facilities in the world. The project involves 30 organisations, of which 19 are scientific and educational entities, and the total number of engaged scientists exceeds 1,500.

The 2013 results are the justification of nuclear and radiation safety, development of the lead-based test rig to test reactor components and the first series of experiments with nitride uranium-plutonium fuel at the test rigs. Fuel rods with nitride fuel were put in the power reactor for tests for first time in the world. In the framework of the project “Ultimate disposal of RAW,” new data were obtained to justify the selection of matrix glass- and mineral-like materials, and the first test results allowed moving on to their fabrication technology development. I think the most special success of the past year was the completion of the design of the first phase of the demonstration facility, i.e. the module for fabrication and successful review of this documentation by Glavgosexpertiza of Russia. We have started building this facility in the Tomsk Region on the territory of JSC SCC. In 2014, we plan to complete designing the BREST reactor and starting its pre-construction work.

It is construction of such complex scientific facilities that constitutes the major challenge for the “Breakthrough” project team.

2.4.1. Programme of innovative development and technological modernisation

ROSATOM implements the Programme of Innovative Development and Technological Modernisation (hereinafter referred to as the Programme) for the period up to 2020. The Programme is aimed at solving the strategic goal of ensuring the innovative development of the nuclear industry based on increasing the science and technology potential and broadening applications of nuclear technologies in different industries in Russia and abroad.

ROSATOM’s program of innovative development won first place in the Expert-RA rating of innovative programs.

The priority areas for innovative development are:

- › improvement of competitiveness of products and services in the nuclear power markets through the modernisation of existing technologies;
- › development of new breakthrough technologies and products, both in large power generation, traditional for the nuclear industry, and in the growing segments of small power, electricity transmission and storage;
- › gradual technological and product diversification through the transfer of the sector’s developments to markets that are new to the Corporation, e.g. nuclear medicine, inspection systems, new materials, etc.

A share of the products developed over recent years in the total order portfolio of the Corporation for the 5-year period was 13.04 % (KPI for 2013); that is 119.8 % of the target value.

Main tasks of the Programme for 2013:

- › the large-scale implementation of the innovative development strategy;
- › the implementation of an effective management system for innovative activities and the business model;
- › improvement of operating efficiency of innovations.

Strategy implementation

Table. Results of implementation of the Programme of Innovative Development and Technological Modernisation

KPI of the Programme	2011	2012	2013
R&D financing (% of proceeds)	4.0	4.78	4.53
Number of patents in foreign states (European Union countries, U.S., Japan, etc.) granted for results in research and development, know-how and results of intellectual activities (progressive total) (number/year)	12	26	40
Number of registered know-how for results of intellectual activities in science and technology (number/year)	65	71	81
Proceeds per person (as calculated per employees of research institutes) (RUB thousands/year)	921	1,222	1,244
Percentage share of financing of R&D orders placed with universities of the total R&D financing	4.5	3.52	4.1
Percentage of R&D carried out by entities outside the nuclear sector	13.8	15.7	17.2

Plans for 2014

In 2014, it is planned to update the Programme, taking into account its implementation in 2011–2013 and changes in external conditions. The updating will not affect the achievement of planned results and key performance indicators.

2.4.2. Development of the new technological platform and CNFC

2.4.2.1. Project “Proryv” (“Breakthrough”)

Project “Breakthrough”, which is to develop new generation nuclear power technologies based on the closed nuclear fuel cycle with fast neutron reactors, has been implemented under the FTP “Nuclear Power Technologies of the New Generation for the period of 2010–2015 and until 2020” (FTP NPNG).

Main results of R&D under the Project “Breakthrough”:

- › the safety justification of BREST-OD-300 reactor was carried out;
- › a laws bench was developed to test structural components of the BREST reactor installation;
- › the first series of experiments with mixed nitride uranium-plutonium fuel (MNUP fuel) was carried out at a large physical test rig;
- › work to fabricate MNUP fuel for experimental fuel assemblies is 100 % complete;
- › for the first time, fuel assembly rods with nitride fuel rods were installed in power reactor BN-600 for in-pile tests;
- › the basic hybrid process flow of recycling spent nuclear fuel, which has no parallel in the world, was developed; the process combines the leading pyrochemical stage and the subsequent hydrometallurgical stage;
- › new data were obtained to justify the selection of glass- and mineral-like matrix material for the ultimate disposal of RAW;

- › the first test results were obtained, and that allowed proceeding to the generation of input data and terms of reference for individual processes of ultimate RAW disposal.

Plans for 2014:

- › to complete the main part of R&D (except for SNF recycling problems);
- › to produce the project documentation for BREST-OD-300 construction;
- › to produce conceptual designs for the main installations of the SNF recycling facility;
- › to develop a process hardware configuration for the SNF recycling and NFCE’s RAW management module;
- › to produce engineering designs for pilot key process installations of the fuel fabrication module.

2.4.2.2. Infrastructural project MBIR

The project “Development of the Multi-purpose Research Fast Neutron Reactor MBIR” (hereinafter referred to as the Project MBIR) has been implemented under the FTP “Nuclear Power Technologies of the New Generation for the period of 2010–2015 and until 2020” and aims to build a research installation with unique characteristics on the site of SRC NI-IAR in Dimitrovgrad.

Main results of the Project MBIR in 2013:

- › research and development to justify design and engineering solutions was completed in the scope set forth by the FNP NPNG for 2013; the engineering design for the MBIR reactor installation was produced;
- › the State Environmental Review Authority granted a positive statement in regard to the siting licence application package;
- › the siting licence application package was submitted to the Federal Environment, Industrial and Nuclear Supervision Service and accepted for review;



- the project documentation for the facility “Construction of the Multi-purpose Research Fast Neutron Reactor MBIR, JSC State Research Centre – Research Institute of Atomic Reactors, Dimitrovgrad, Ulyanovsk Region” was produced and submitted to the State Expert Evaluation Department of Russia (Glavgosexpertiza).

Plans for 2014:

- to complete the R&D programme run to justify adopted engineering solutions;
- to get approvals for the project documentation and a construction permit;
- to obtain a MBIR reactor siting licence from the Federal Environment, Industrial and Nuclear Supervision Service;
- to produce and submit to the Federal Environment, Industrial and Nuclear Supervision Service a construction licence application package for the MBIR reactor (including holding of public hearings on the preliminary environmental impact assessment of MBIR reactor construction);
- to invite bids, select the principal construction contractor and conduct pre-construction activities on the MBIR reactor site;
- to carry out bidding, select the vendor and place orders for the manufacture of the long-lead equipment, including the reactor vessel and internals.

The Project MBIR is implemented in accordance with the approved schedule.

2.4.3. Development of supercomputer technologies

In 2013, work was done to improve functional capabilities of domestic software packages LOGOS (LOGOS-CFD, LOGOS-Strength), DANKO+Gepard, NIMFA developed under the project “Development of Supercomputers and Grid Technologies” (2010–2012) and intended for supercomputer modeling of a broad range of physical processes (gas, aero, hydro dynamics, acoustics, heat and mass transfer, turbulent mixing, strength, deformation and destruction, multi-phase multi-component filtration, etc.). This is a unique development which has no parallels in Russia and which consolidates the vast knowledge and advanced experience of leading scientific schools of the country. The software packages helped develop more than 200 state-of-the-art physical and mathematical models, numerical methods and algorithms.

In the framework of the activities to develop high-capacity computing systems in 2013:

- supercomputers were designed and released under third party orders: FSUE SRC IPPE (22 Tflops), N. L. Dukhov VNIIA (100 Tflops), and FSOE SRC RSI (15 Tflops);
- a new series specimen of the universal small-size supercomputer APK-1M2, based on cutting-edge engineering solutions, was developed and successfully passed tests. Small series production has been launched;

- about 100 small-size supercomputers designed by ITCP of NFRC-VNIIEF, including 31 machines of 128 Tflops capacity, were supplied to the sectoral enterprises.

Forty-nine enterprises were connected to supercomputer resources of the NFRC-VNIIEF ITCP's Shared Use Centre to compute in the remote mode, including via secured lines. Some of the organisations perform calculations on a commercial basis; these include TESIS LLC, N. A. Dollezhal NIKIET, the Baranov Central Institute of Aviation Motors, OKBM Afrikantov (over 2013, the value of rendered services was RUB 6 million).

2.4.4. International projects in science and innovations

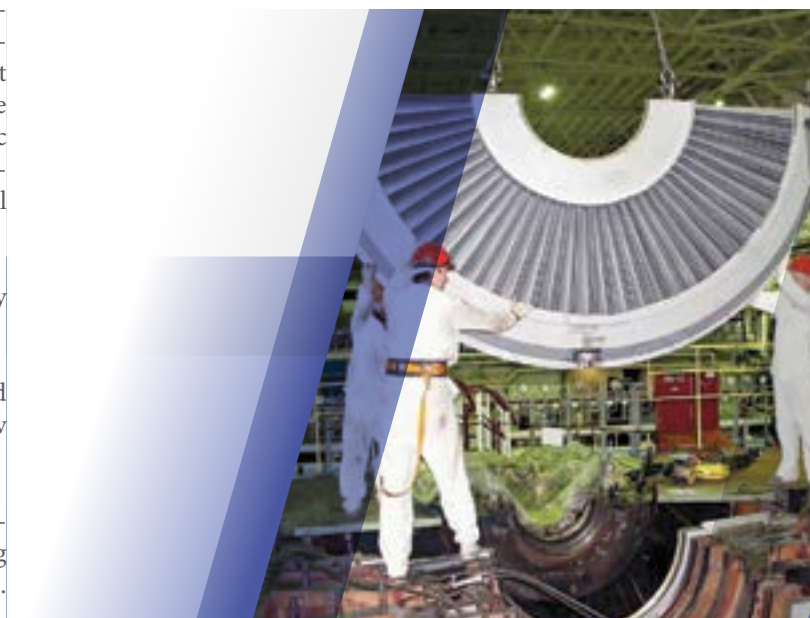
2.4.4.1. Project of International Thermonuclear Experimental Reactor (ITER Project)

In 2013, under Russian commitments within the ITER Project, the following were manufactured and supplied:

- batches of superconducting strands totalling up to 50 tonnes;
- batches of superconducting cables of the poloidal field in up to five specified lengths;
- batches of stainless-steel-jacketed superconductors of the toroidal field in an amount of 10 pieces.

In the framework of R&D in accordance with the refined requirements for the ITER reactor systems:

- a pilot specimen of the ITER gyrotron with increased power and world-class parameters has been developed;
- six know-hows have been developed, which are used in technologies for the manufacture of superconducting strands and gyrotrons for the ITER reactor, and in conditioning of diagnostic systems facing the reactor's plasma.



Strategy implementation

In 2013, a monetary contribution of RUB 782.9 million was transferred to the ITER International Organisation.

All Russian obligations to the ITER Project were fulfilled in 2013.

2.4.4.2. Facility for Antiproton and Ion Research in Europe (FAIR)

ROSATOM assisted in the decision making of the Management Board of FAIR GmbH concerning signing contracts with Russian companies totalling 65 million EUR, with contracts for more than 13 million EUR having been signed.

Forty specialists trained in the management of research; scientist and young specialist exchanges; exchanges of scientific information under the project were supported.

Phase One of the first-level supercomputer centre as the basic Russian segment of the FAIR computer network was completed.

2.4.4.3. Development of the International MBIR reactor-based Research Centre

In late 2011, to further develop bilateral contacts between Russia and the U.S. and between Russia and France, ROSATOM's Innovations Management initiated preparations for the establishment of the International Research Centre, based on the MBIR reactor (IRC MBIR).

Active consultations with the foreign partners and international technical workshops on the perspective cooperation in the framework of the IRC MBIR in 2013 brought about the following outcomes under the IRC MBIR development project:

- the concerted position of ROSATOM, the U.S. Department of Energy and the French Alternative Energies and Atomic Energy Commission (CEA of France) on the organisation of the IRC MBIR was worked out;
- a draft document “Main Areas of IRC MBIR Research” was prepared and preliminary agreement was reached with the foreign partners;
- ROSATOM, the U.S. DOE and the CEA of France signed the trilateral Memorandum of Understanding concerning the establishment of the IRC MBIR.

Plans for 2014:

- to work out and agree upon the principles of organisation of the IRC MBIR, as well as the principles of establishment and operation of the IRC MBIR Coordinating Committee;
- to establish the IRC MBIR Steering Committee, which will include representatives of ROSATOM, the U.S. DOE, the CEA of France and research and governmental bodies of other countries;
- to start the coordination of technical requirements and working out of organisational principles of design, devel-

opment and manufacture of experimental devices for the research in the framework of the IRC MBIR.

2.4.5. Diversification of business (development of the third business core)



Yevgeniya Gorbunova
Director for Development and Restructuring

– *ROSATOM's strategy is aimed at global leadership. What are priorities of the Corporation's new business development?*

– *We are building new businesses for the Corporation to achieve the ambitious goals of our strategy. On the whole, the Corporation has to grow faster than the global nuclear power markets. It is evident that we can raise ROSATOM to the global scale only by undertaking the expense of launching and building up new areas (or “cores”) of business. The selection of such areas becomes critical to success.*

The Corporation has many initiatives, most of which can be attributed to new businesses. All of them have prospects for growth, though a contribution to the strategy will not be apparent in each case. It cannot be said that the work of defining priorities has been completed, but it was in 2013 when we took the first steps to identify several business areas which were oriented to market needs to the maximum extent and, at the same time, which had a potential comparable to that of the traditional business areas.

– *What tools were used for new business development in 2013?*

– *Product strategies were one of the main tools, which helped us focus the divisions' efforts on business development. As we devised, it was they who should explore promising markets and scenarios, following which we will gain substantial shares of*

these markets. At the same time, a product strategy is a document which ties together the strategic goals and project activities. Therefore, we suggested that the divisions, in the framework of the product strategies, put forward the initiatives, whose joint implementation will produce synergy and ensure the achievement of our strategic goals.

We were seeking to build new businesses in the Corporation on the uniform principles, the most essential one being the assignment of responsibility. In 2013, the process was initiated, which resulted in the identification of responsibilities for development of new businesses in the Mining, Fuel, Power Generation and Machine Engineering Divisions, as well as at NIAEP-ASE.

– Will the assessment approach to business development results change following the results of 2013?

– We want to grow and support viable businesses; therefore, in 2013 the assessment approach to their development efficiency was specified. The projects are at different stages: from an idea on creating a business up to a large-scale implementation. Results should be tracked at each stage, but the assessment approach should be different. The projects with market backlogs and already organised sales will be assessed by an integral indicator embracing new products, which would include the proceeds and the total portfolio of orders for a ten-year period. With that, the financial indicators will be determined by the areas indicated in the product strategies by the divisions and approved by the Corporation as priorities. We will assess the success of launching the projects at early stages by the level of achievement of milestones of the project implementation.

2.4.5.1. Development of new business areas (third core of business)

The development of new activity areas of the Corporation and expansion of its presence in the global markets is through the management of the portfolio of new businesses and building up the infrastructure for the creation and support of new businesses of the Corporation. The main tasks are the search for promising market niches, development or acquisition of technologies and competences that are comparable to their scale, as well as the broadening of the sectoral product range (given the global positioning vector).

Following the 2013 results, the proceeds from new businesses were RUB 10.2 billion, or 103.4 % of the target.

In 2013, the JSC UTPC was established as part of the ROSATOM system. The company manages thermal power generation.

Also, in 2013, Rusatom Service, which is the sole operator for promotion of servicing of Russian-design NPPs abroad, continued operating. The company's total portfolio of orders amounted to more than US\$ 150 million.

Main problems and their solution mechanisms

A substantial limiting of the investment resources and, correspondingly, the necessity of selecting the most promising business areas, were the characteristic of 2013. Work was

done to analyse groups of products which were not within the “core” of the business to search for opportunities to form competitive business areas on their basis. A total of more than 350 product groups were analysed and 36 business areas were identified thereof: production of energy accumulators, manufacture of special-purpose products, nuclear medicine and radiation technologies, thermal power generation, etc.

Plans for 2014

In 2014, all divisions will continue building up new areas of business which allow for launching new types of products, entering new markets and increasing sales volumes. For the year, the Corporation plans to gain proceeds from new businesses of RUB 82 billion and the 10-year order portfolio of new businesses of over RUB 246 billion.

2.4.5.2. Radiation technologies

Radiation technology application areas

The main areas where radiation technologies are applied are nuclear medicine and irradiation centres.



*“Radicidation”, “radurisation”, and “radappertisation” are the terms introduced by the IAEA to denote the radiation treatment of foodstuffs. They differ in their treatment doses: radicidation (4–6 kGy), radurisation (6–10 kGy), and radappertisation (10–50 kGy).

Radicidation is radiation treatment to randomly suppress a type of microorganism (for example salmonella, pork worm, etc.).

Radurisation is the radiation treatment of foodstuffs to increase their shelf life, where the doses lead to limited suppression of microorganisms that are pathogenic for humans.

Radappertisation is carried out for the commercial-scale sterilisation of foodstuffs in conditions that exclude re-infection by microorganisms.

Strategy implementation

Nuclear medicine

The goal of this area of development is to increase accessibility to high technology medical services in Russia, as well as to broaden ROSATOM's presence in the global market. The most significant markets for the development of radiation technologies are Asia, Latin America, Africa, Middle East and the Eastern European countries. It is planned to increase proceeds from this area up to US\$ 3.7 billion by 2030.

The activities within the “Nuclear Medicine” area were directed to develop and introduce radioisotope diagnostics and therapy technologies, safe methods of identification and treatment of cancer and cardiac diseases, as well as the production of radiopharmaceuticals for these needs.

The project “Development of the Pilot Radionuclide Diagnostics Centre of ROSATOM” was worked out and shifted to the investment phase to be implemented in Russia's domestic market.

In 2013, the Corporation continued expanding its presence in overseas markets. International agreements at different levels were signed. Implementation of joint projects with large companies started. Business relations with Turkey, Indonesia and Serbia developed in the most active way.

Main problems and their solution mechanisms

The key development problems of the area are:

- high cost of projects associated with the relatively high cost of all components of medical radionuclide technologies (construction, equipment, cost of a single treatment);
- strong competition among the companies offering nuclear medicine services abroad;
- a lack of skilled specialists in the countries where the nuclear medicine services are being promoted.

To solve these problems, the public-private partnership mechanism, as well as the potential and capabilities of the leading research and educational establishments in Russia, are employed. In the foreign market, the projects were implemented through partnerships with companies that had all the required competences.



Plans for 2014 and on the mid-term horizon

In 2014, production of radiopharmaceuticals will be started in the course of implementation of the project “Development of the Pilot Radionuclide Diagnostics Centre”.

The project “Development of the High Technology Nuclear Medicine Centre of ROSATOM” has started at the Far East Federal University. The Centre will become the springboard for the development of this area in the markets of Southeast Asia and for expansion in the Asia Pacific region.

In the framework of international projects, in 2014, it is planned:

- to take the project “Development of the National Production Capabilities of Radiopharmaceuticals Using the Molten Salt Reactor and of Nuclear Medicine Services in Indonesia” to the investment phase. The main tasks include signing of the agreement with an export credit agency to arrange financing, drafting a terms-of-reference document, awarding contracts for design and survey work and construction of the molten salt reactor;
- to carry out design and survey work and produce the project documentation;
- to sign an investment agreement for the project “Development of the Radiopharmaceutical Production Capabilities in Turkey”;
- to supply, install and commission two sets of long-lead equipment, to conclude service agreements with potential clients for 2015, to train personnel to use the equipment in the framework of development of an international diagnostic centre network;
- to take the project “Regional Radionuclide Diagnostic Centre” to the investment phase and to start the design and survey work.

Irradiation centres

The goal in this area is to increase the volume of services being rendered, including sterilisation of medical items, pest control, improvement of agricultural crop productivity, radiation treatment of foodstuffs, etc. By 2030, it is planned to increase proceeds from the “Irradiation Centres” area up to US\$ 3.2 billion.

In the reporting year, in the area of commercial-scale irradiation centres, irradiation technologies for industrial goods and foods – sterilisation of medical items, polymeric material irradiation, crop pest control, irradiation (sterilisation) of meat, fish, vegetables and fruit – were developed and implemented.

In the Russian market, the project “Pilot Irradiation Centre” was launched. The project was approved by the ROSATOM Investment Committee. An agreement was reached to arrange financing with the leading Russian banks. Memoranda of intent regarding the project's implementation were signed.

In the foreign markets in 2013, partners were sought, international agreements were signed and the development of joint projects was started. Business relations were developed with Indonesia, Vietnam and Slovakia.

Main problems and their solution mechanisms

In spite of the fact that irradiation of foodstuffs is a practice that is widely used in the world to preserve and ensure the cleanliness of products, this sector is poorly developed in Russia. The use of technologies is hindered by the lack of a legal regulatory framework. At the present time, there are regulatory documents issued by Rospotrebnadzor and Rosselkhoz nadzor which prohibit the treatment of foodstuffs with ionising radiation.

In 2013, the Corporation interacted with the UN FAO for the purposes of analysing the world experience in the assessment of radiation effects on foodstuffs and the consequences of their consumption for humans, as well as the legal regulatory frameworks existing in different countries. Results of this work were used as the basis for a petition to Rospotrebnadzor containing an initiative to permit the consumption of foodstuffs subjected to irradiation.

Plans for 2014 and on the mid-term horizon

In 2014 in the framework of the project “Pilot Irradiation Centre,” two sets of long-lead equipment (sterilisation installation) will be supplied, installed and commissioned. It is planned to conclude service contracts with potential clients for 2015, conduct the construction acceptance procedure and commission the Centre.

In the framework of international projects in 2014, it is planned:

- › to establish a joint venture to implement the project “Commercial-scale Irradiation Centre in Indonesia” , raise the authorised capital and start pre-project work. Memoranda of intent will be signed with potential clients of sterilisation services to ensure a workload of at least 30-50 % of the installed capacity. The project financing pattern will be defined;
- › to move the project “Commercial-scale Irradiation Centre in Vietnam” to the investment phase.

2.5. Efficient supply of nuclear electricity to Russia’s economy

ROSATOM has a unique technological chain representing the full cycle in the field of nuclear power. The chain is built of basic production divisions of the Corporation and includes uranium mining and enrichment, fabrication of nuclear fuel and construction and operation of NPPs. As the result, ROSATOM substantially contributes to electricity generation in Russia (in its European part; its share of the total electricity generation exceeds 20 %).

2.5.1. Mining Division

2.5.1.1. Strategic goals of the division

The Uranium Holding (JSC ARMZ) is the management company of ROSATOM’s Mining Division. Until 2013, the Mining Division incorporated Russian and foreign uranium mining assets. In 2013, the decision was made to reform it, which resulted in the establishment of Uranium One Holding N.V., which will consolidate foreign front-end NFC assets. In future, JSC Atomredmetzoloto will develop assets in the territory of Russia, including new mining projects. In this regard, the uranium production indicators of 2013 will be disclosed in this section only for the assets in Russia (information about the assets abroad is disclosed in Section “International Business”).

The Uranium Holding’s positions are backed by the guaranteed demand for its products from the companies of the Russian nuclear industry, geographically diversified production and feedstock base, which includes effective recovery cost reserves and implemented sustainability measures at existing enterprises and promising projects.

The strategic goal is to maximise the value of the business for the shareholders through:

- › a high level of uranium production efficiency;
- › increasing the scale and diversification of the business by the development of new mining and metallurgical areas.

The Division’s business model is provided in [the annual report of JSC Atomredmetzoloto for 2013](#).

2.5.1.2. Results of 2013

Main production results

In JSC ARMZ, labour productivity was 115.1 % of the planned value for the reporting period (KPI for 2013).

In 2013, the Russian companies of the Mining Division produced 3,135 tonnes of uranium. JSC PIMCU (Transbaikalia Territory, Krasnokamensk) produced 2,133 tonnes, JSC Dalur (Kurgan Region, Uksyanskoye village) 562 tonnes, and JSC Khiagda (Republic of Buryatia, Bagdarin village) 440 tonnes.

Spending for new projects in 2013 was RUB 253.5 million, of which RUB 101.98 million was for R&D.

For details, see [the annual report of JSC Atomredmetzoloto for 2013](#).

Nuclear and radiation safety

In the framework of ROSATOM’s programme “Enhancement of Physical Protection of Nuclear Material, Nuclear Installations and Nuclear Material Storage Facilities in the period until 2015,” the following activities were completed: a complex

Strategy implementation

of the physical protection engineering features (CPPEF) was put into commercial operation at JSC PIMCU’s hydrometallurgical plant, and CPPEF construction, installation and start-up activities were completed on the main production site of JSC Khiagda.

Improvement of operating efficiency

In 2013, the activities in the framework of the ROSATOM Production System in the Mining Division were focused on extending the RPS culture and ideology at the enterprises and identifying and promoting the production system leaders.

The RPS application results in 2013:

- › for the first time in over 25 years, the tunnelling indicator of 160 running metres (RM) per month was reached (up more than three times from 48.7 RM as of December 2012) in the course of the project on improvement of labour efficiency in tunnelling operations at Mine No. 8 of JSC PIMCU;
- › the use of BelAZ heavy trucks for the transportation of coal resulted in the number of trips by nearly 8,000, with an increase in load of 8.5 tonnes, a total of 57,800 tonnes of coal more than planned being transported and an annual economic gain of RUB 17.3 billion through the implementation of the project on optimisation of coal mining operations and coal mine logistics at JSC PIMCU;
- › the system of identification and promotion of RPS leaders “The Leaders of Changes” was successfully implemented (54 leaders as compared to 19 leaders in 2012).

Following the results of the year, the total actual effect of the implemented measures amounted to RUB 108 million.

2.5.1.3. Plans for 2014 and on the mid-term horizon:

- › to produce 2,963 tonnes of uranium at the Division’s enterprises in Russia;
- › to continue exploration and pilot commercial uranium mining at the Khokhlovskoye Deposit;
- › to submit the project documents of the pilot commercial heap leaching project at the Berezovoye Deposit for the state expert review;
- › to carry out field exploration operations at the Pavlovskoye Deposit;
- › to develop, jointly with external investors, the basic terms and conditions for establishing pilot commercial production of rare-earth elements at the JSC PIMCU site;
- › to develop a project to set up a pilot commercial facility for scandium concentrate production at JSC Dalur.

2.5.2. Fuel Division

2.5.2.1. Strategic goals of the Division

JSC TVEL is the leading company of the Fuel Division. The Division’s strategy is aimed at the global leadership in the front end of the nuclear fuel cycle (FE NFC) and achieving the global competitive advantage in NFC in conditions of social acceptability.

The labour productivity in JSC TVEL was 104.9 % of the value planned for the reporting period (KPI for 2013).

The Division’s proceeds from sales of joint products totalled RUB 9,325.64 million, exceeding the target value of the indicator by 10.82 % (KPI for 2013).

The strategic goals of the Fuel Division are:

- › to expand in the NFC markets;
- › to develop a second core of business;
- › to improve the efficiency of production processes;
- › to ensure social and ecological acceptance.

The Division’s business model is provided in [the annual report of JSC TVEL for 2013](#).

2.5.2.2. Results of 2013

The main production results:

- › 6,866 FAs (6,579 in 2012) were produced, and the first batch of experimental fuel rods with dense fuel was set up at JSC SCC;
- › the initial core charge for the BN-800 reactor under construction at Beloyarsk NPP was delivered;
- › TVS-KVADRAT fuel assemblies intended for loading in a foreign PWR reactor in 2014 were fabricated;
- › the fabrication technology was tested, and experimental fuel rods of the BN-1200 and BREST types (KETVS-2 and KETVS-3 with nitride fuel) were produced;
- › 50 tonnes of the superconducting strands for the ITER Project were fabricated;
- › a memorandum was signed between JSC Techsnabexport and JSC TVEL concerning interaction in the framework of the project to establish the Centre for Servicing Foreign-made Transportation Packages at JSC UECC;
- › Phase Two of the process line to produce lithium hydroxide enriched with lithium-7 was commissioned at JSC NCCP.

For details, see [the annual report of JSC TVEL for 2013](#).

Nuclear and radiation safety

In 2013, at the enterprises of the Fuel Division, the safe and permissible parameters established by the federal regulatory documents on nuclear and radiation safety were not exceeded. There were also no events in handling nuclear material reported that could be rated Level 2 or higher on the INES scale.

Table. Implementation of projects on improvement of operating efficiency

Indicator	2011	2012	2013	2013/2012, %
Improvement proposals submitted	9,564	16,329	40,248	146
Improvement proposals accepted	7,210	13,961	36,146	159
Improvement proposals implemented	4,394	10,807	32,501	201
Economic effect of implementation of improvement proposals, mln RUB	–	237.9	340.3	43

Improvement of energy efficiency

Table. Energy savings at the Division's enterprises (hJ)

Year	2011	2012	2013
Energy savings	5.6	7.3	8.4

In 2013, electricity consumption at the Fuel Division's enterprises was reduced by 20.2 % (787 million kWh or 2.8 million GJ) and heat consumption was reduced by 32.7 % (1.339 million GCal or 5.6 million GJ) compared to the reference year 2009 in comparable conditions. In terms of percentage, energy consumption (in conditions comparable to 2009) was 24.4 % (RUB 1951 million), with the target indicator being 20 %.

In 2013, the work to establish the corporate Integrated Management System (IMS) in the fields of quality, ecology, health protection, and labour safety compliant to the requirements of ISO 9001, ISO 14001, and OHSAS 18001 was completed. The corporate IMS passed an extended certification audit, which also covered some subsidiaries of the Corporation.

2.5.2.3. Plans for 2014 and on the mid-term horizon:

- to complete licensing of the TVSA-12PLUS fuel assembly with 12 spacing grids, three mixing grids and a unified nozzle;
- to supply a complete make-up fuel batch to Unit 3 of Kalinin NPP;
- to develop an engineering design of the TVS-2M with two design options: with spacing grids and with profiled TVEG fuel rods. To begin fabrication and to start a pilot operation

Improvement of operating efficiency of the Fuel Division

Implementation of projects of the ROSATOM Production System

In 2013, the economic effect of implementation of projects of the ROSATOM Production System grew by 43 % compared to 2012 and amounted to RUB 340 million (RUB 237.9 million in 2012).

of a batch of fuel assemblies for the TVS-2M with mixing grids at Unit 4 of Balakovo NPP;

- to continue the engineering design process of the core 14-15-1 with highly enriched intermetallic nuclear fuel for the RITM-200 reactor of the universal nuclear-powered ice-breaker LK-60.

2.5.3. Machine Engineering Division

2.5.3.1. Strategic goals of the division

JSC Atomenergomash (JSC AEM) is the leading organisation of the Division. JSC AEM is a supplier of the key equipment for ROSATOM used for construction of nuclear generation facilities, thus supporting its plans of achieving the leading position in the global nuclear technology market.

In 2013, JSC AEM updated its strategy for the period up to 2030, which provides for transforming the Division into a high-technology diversified holding which is competitive in the global market and robust in the long term.

The strategic vision of the Machine Engineering Division involves being:

- a guaranteeing package supplier of the essential equipment for NPPs;
- a key player with sound positions in the non-nuclear power machine engineering markets;
- an efficient producer and vendor of competitive solutions.

Strategy implementation

The Division is charged with strategic tasks whose solution will facilitate the growth of ROSATOM's competitiveness, such as:

- expansion of its footprint in allied sectors;
- international cooperation and collaboration with world leaders;
- globalisation of operations;
- expansion of the list of services offered before, during and after sales of products;
- improvement of operating efficiency at the expense of cost reduction programmes, technological development and R&D aimed at deployment of advanced and high-efficiency design and production processes;
- implementation of the product quality improvement and personnel advancement programmes.

Table. Long-term target indicators of JSC

Atomenergomash's strategy

Indicator	Value by 2030 (%)
Share of the Russian power machine engineering industry	50
Share of proceeds from non-nuclear sectors	50
Share of proceeds from overseas operations	25

The Division's business model is provided in [the annual report of JSC Atomenergomash for 2013](#).

2.5.3.2. Results of 2013

The main production results are:

- equipment supplies to Leningrad NPP Phase II (Units 1 and 2), Belarus NPP (Unit 1), Rostov NPP (Unit 3), Novovoronezh NPP Phase II (Units 1 and 2);
- JV Alstom-Atomenergomash's decision to site capabilities for manufacture of the turbine hall equipment to the French technology Arabelle at Volgodonsk Branch of AEM-Technology, Atom mash. This has made the Machine Engineering Division one of a few package suppliers in the world capable of making equipment for both nuclear and turbine islands;
- in the framework of the project to develop the VVER-TOI reactor Energomashspetsstal, produced for the first time a unique 415-tonne ingot for fabrication of an elongated barrel or a VVER-TOI reactor pressure vessel;
- completion of modernisation at Energomashspetsstal; this has allowed the creation of a company capable of fabricating the entire list of key blanks for NPPs;

- completion of modernisation at JSC Petrozavodskmash, which resulted in setting up new production capabilities for steam generator shells (full cycle) and casings of reactor coolant pumps for NPPs. The company has mastered the manufacture of a new product, i.e. the transportation package TUK-146, intended for the transportation and storage of the spent nuclear fuel of VVER-1000/1200 reactors;
- JSC SPA TsNIITMASH has launched a centre of modern automated welding technologies;
- 25 results of intellectual activity (RIA) protected as know-how (including licensing agreements) has been introduced in the commerce stream.

In 2013, the Division fulfilled 97.4 % of its production plans. For details, see [the annual report of JSC Atomenergomash for 2013](#).

At JSC AEM, labour productivity was 98.3 % of the planned value for the reporting period (KPI for 2013).

Safe use of atomic energy and safe handling of nuclear material

JSC OKB GIDROPRESS made a decision to decommission its low-pressure 7-assembly test bench due to a lack of experimental work. The integrated engineering and radiation survey of the bench is under way, along with work to develop a bench decommissioning programme. Also, measures were taken to transfer the company's radwaste to FSUE Radon's facility for shipment, reprocessing, conditioning and interim storage (and subsequent transfer to the National Operator).

In 2013, JSC OKBM Afrikantov, in the framework of preparation of the test bench modernisation project, started developing a system to organise monitoring of the engineering systems of the critical assemblies complex. An expert review statement, "Regarding Availability of Unclaimed Nuclear Material," was submitted to ROSATOM's Central Commission for Consolidation and Conversion of Nuclear Material. The statement review resulted in the decision to hand over the cited material to FSUE SRI SIA "LUCH". In addition, FSUE RosRAO received from JSC OKBM Afrikantov two sealed radionuclide sources and accepted them for long-term storage.

Improvement of operating efficiency

The Division's main development areas, which support the improvement of ROSATOM operating efficiency and global competitiveness, are the implementations of the Integrated Efficiency Improvement Programme and the ROSATOM Production System.

Results of ROSATOM Production System

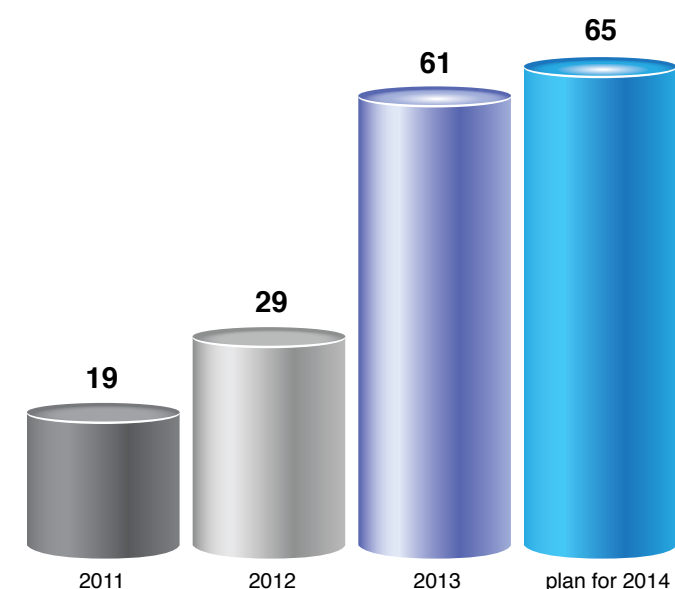
Key results of RPS in 2013:

- the manufacture time of shrouds for pitch electromagnetic drives (of the control and protection system rods) at JSC OKB GIDROPRESS was shortened by 22 %;
- the realignment time of the equipment at OJSC Arako was shortened by 71 %;
- non-conformities in the welding of nozzles at JSC PZM were reduced by 75 %;
- the time required to produce technical and commercial proposals at JSC EC ZIOMAR was shortened by 57 %.

In 2013, nine RPS projects were implemented to reduce work-in-progress volumes. Their implementation resulted in a reduction of work-in-progress volumes 10 up to 40 % in some production areas.

The economic effect of RPS projects' implementation in 2013 was RUB 26.3 million.

Fig. Number of RPS projects at the Division's companies



Improvement of energy efficiency

The Division has carried out the project "Energy Saving and Improvement of Energy Efficiency".

Table. Energy savings at the Division's enterprises, hJ

Indicator	Plan, 2013	Actual, 2013	2012	2011	Plan, 2014
Energy savings	712,752	772,099	787,302	584,581	819,665

As per the project, the 2013 goal was to reduce energy consumption by 20 % compared to 2009. The companies achieved an energy consumption reduction of 22.9 %, mainly through low-cost organisational measures, as well as measures undertaken under the retrofitting and major overhaul programmes. In 2014, it is planned to save energy resources amounting to 23 % of what was consumed in 2009.

2.5.3.3. Plans for 2014 and on the mid-term horizon:

- to conduct a technical audit of the Machine Engineering Division's companies in 2014;
- to continue implementing the Energy Efficiency Improvement Programme for 2010–2015;
- to conduct, not later than 2015, an energy re-audit to produce the Energy Efficiency Improvement Programme for 2016–2020;
- to implement RPS in the Division's companies;
- to increase by 2020 proceeds nearly two times in the traditional markets and three times in new markets; by 2030, EBITDA profitability is projected to grow exponentially and efficiency is to grow three times;

- by 2020, the planned share of the proceeds for R&D is 4.48 %.

2.5.4. Power Generation Division

2.5.4.1. Strategic goals and business model of the Division

JSC Rosenergoatom Concern is the leading company of the Division. It performs functions of the operating organisations with regard to all NPPs operated in Russia. It is also the principal customer of all NPPs under construction in the Russian Federation.

Strategic goals of the Power Generation Division:

- safe, efficient and reliable functioning of existing NPPs, ensuring nuclear and radiation safety at the nuclear facilities, ensuring physical protection of nuclear installations and nuclear material and protection of personnel, the general public and the environment;
- increasing electricity production while ensuring the required level of safety;
- closing the nuclear fuel cycle based on power units for BN-1200 and VVER-TOI reactors, along with MOX-fuel;

Strategy implementation

- implementation of small and medium NPP construction projects;
- increasing the share of nuclear generation through a growth of NPP installed capacity and nuclear generation while ensuring the required safety level;
- development of international activities;
- improvement of NPP operating efficiency;
- improvement of the efficiency of civil engineering designs for NPPs.

The business model of the Division is provided in [the annual report of JSC Rosenergoatom Concern for 2013](#).

2.5.4.2. Results of 2013

Main production results:

- the share of electricity produced by NPPs of the total electricity generation in Russia reached 16.8 %;
- 172.22 billion kWh of electricity was produced. The nuclear electricity production target set forth in the Federal Tariff Service of Russia was 169.54 billion kWh. The total additional nuclear electricity produced was 2.67 billion kWh (1.6 %);
- a set of measures to reduce the cumulative outage duration was implemented, resulting in a reduction of 27 days;
- a set of measures was implemented to restore the lifetime performance of the graphite stack of RBMK-1000 reactor;

Interaction with the Moscow Centre of the World Association of Nuclear Operators (WANO MC)

In 2013, WANO MC had under its jurisdiction 70 power units from 24 nuclear power plants in 10 countries. The total installed capacity of operating power units was 53,659 MW.

Results of 2013:

- 20 technical support missions (TSM) were conducted at the Corporation's organizations, which involved 18 experts from ROSATOM's entities;
- an experience exchange visit took place at JSC VNII-AES;
- 454 representatives of the Corporation's organisations took part in events under the programme "Professional and Technical Development"; and
- peer reviews missions (PRM) were carried out:
 - at JSC Rosenergoatom Concern: three PRM, three follow-up PRM, and one follow-up corporate PRM; and
 - at JSC Atomenergoremont: one corporate PRM.

this resulted in Rostekhnadzor issuing a permit to operate Unit 1 of Leningrad NPP;

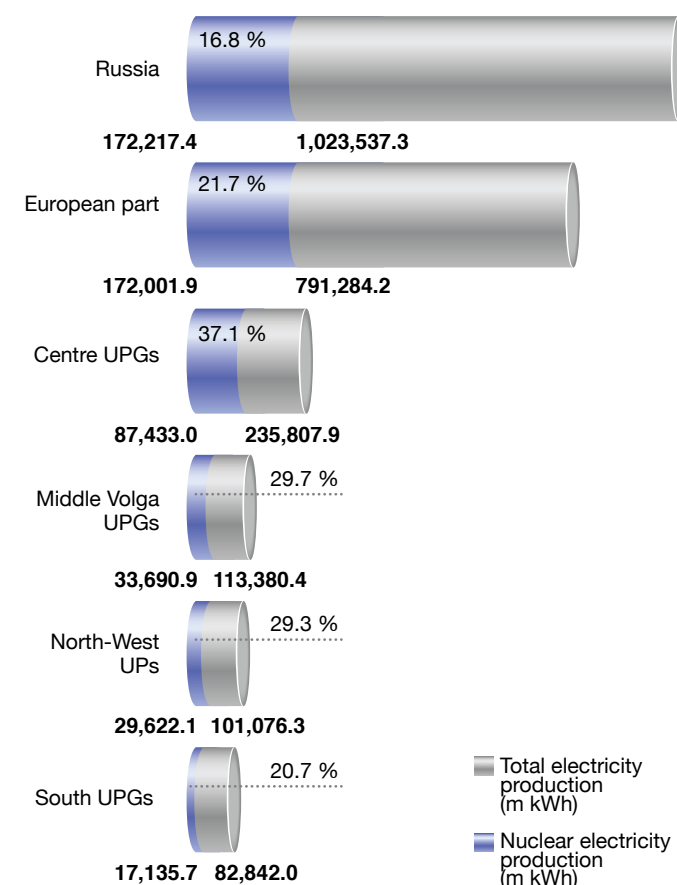
- an output increasing programme was implemented at operating NPP power units;
- a modernisation programme of operating NPP power units was implemented. In the framework of the lifetime performance extension programme at operating NPP power units, the life extension investments project was implemented in the scope planned at Units 1-3 of Balakovo NPP, Unit 4 of Kursk NPP, Unit 4 of Kola NPP, Unit 2 of Smolensk NPP and Units 1 and 2 of Kalinin NPP; for Unit 3 of Kursk NPP, the investment project was completed and a licence to operate the unit for another 15 years was obtained from Ros-technadzor.

For details, see [the annual report of JSC Rosenergoatom Concern for 2013](#).

Contribution to the energy security of regions of Russia

Of the total electricity generation in Russia, the share of nuclear electricity was 16.8 %. Nuclear generation significantly contributes to the united power grids of Russia (in the European part of the country, the nuclear share is 21.7 %).

Fig. Share of nuclear electricity in total generation by region of Russia



Restoration of lifetime performance of RBMK-1000 reactor at Leningrad NPP

Today, RBMK uranium-graphite reactors (from the Russian “large power pressure tube-type reactor”) constitute half of the installed nuclear capacity in Russia. They were the first power reactors made in series in the country. Eleven reactors of this type account for more than one third of output of the Power Generation Division. Operating experience of pilot power units with RBMK-1000s demonstrated that, in the final stage of their service life, radiation and thermal impact leads to changes in graphite properties, changing the shape of the graphite bricks and the stack as a whole. Since part of a graphite brick shrinks and some of it swells, inner stress arises in the brick, leading to longitudinal cracks in the central region of the core. The width of the crack grows and bricks start pushing apart from each other. The general trend is distortion of the graphite columns from the centre of the reactor core towards the periphery that could lead to the situation where the safe operation conditions of the core would be exceeded.

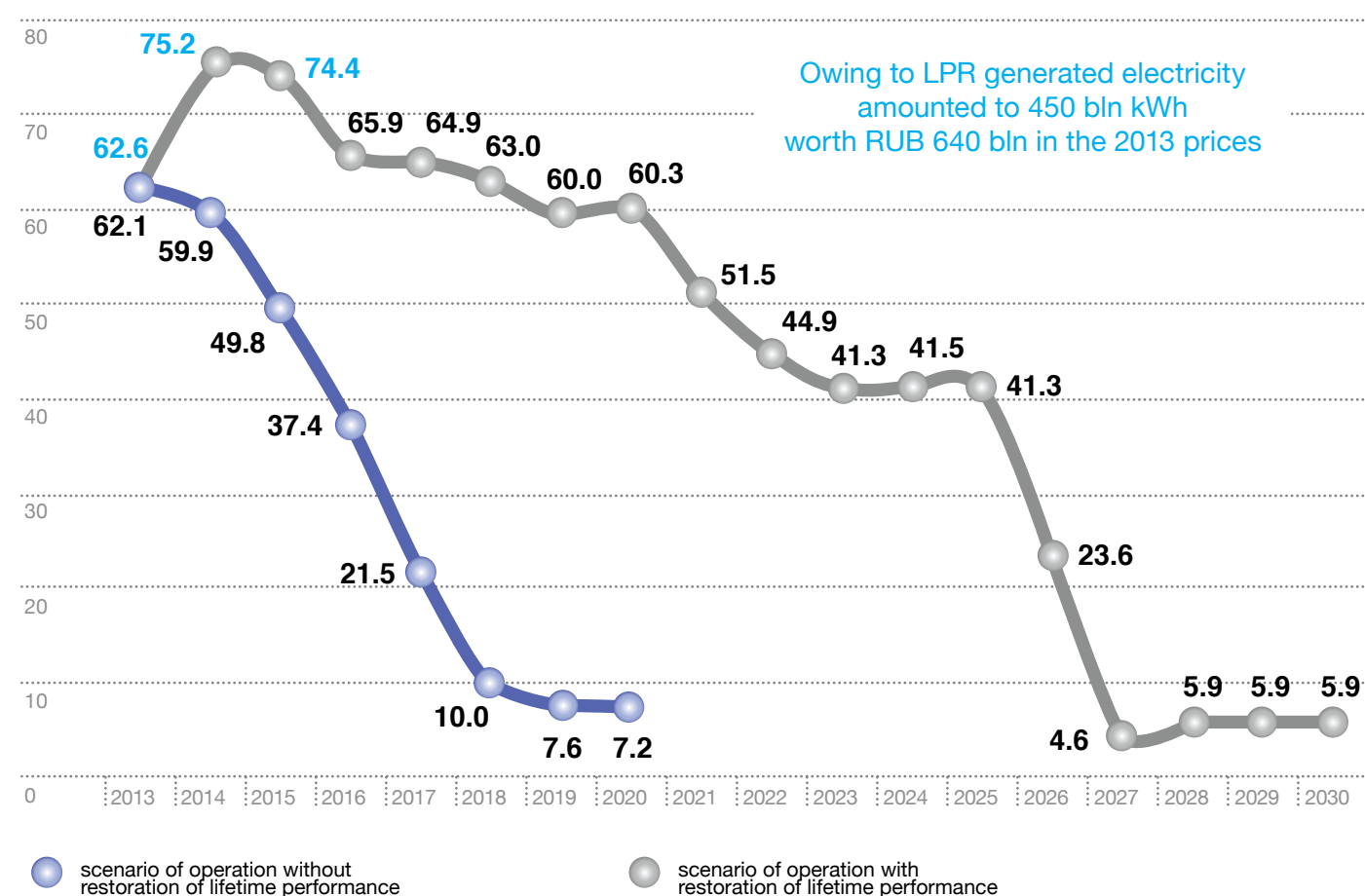
In 2012–2013, a technology was developed to restore the lifetime performance (RLP) of RBMK reactors. The technology is to make vertical longitudinal cuts in the graphite columns, which form local voids required to compensate (straighten) the graphite column of the stack by applying force to them with the use of special tension devices. With that, a substan-

tial margin of the deflection value that is well below the permissible limit is achieved. To implement the technology in the framework of R&D, pilot specimens of the process equipment and tooling were designed. In parallel, a set of calculations and experiments were carried out to justify the possibility and safety of further operation of the reactor after the restoration operations.

As the result of the work done, the lifetime performance of the graphite stack of the reactor was restored at Unit 1 of Leningrad NPP, and the regulatory authorities granted a permit for its further operation. The power unit was connected to the grid on 25 November 2013. The experience obtained at the pilot power unit and the restoration technology confirmed the possibility of reusing the technology at the remaining ten power units with RBMK-1000 reactors to ensure their safe operation in the final stage of their service life. Based on the RLP experience gained at the RBMK-1000 reactor, the RLP Roadmap was developed for other RBMK-1000 power units operated by JSC Rosenergoatom Concern. By early 2014, the RLP activities were completed at Unit 2 of Kursk NPP and planned for Unit 2 of Leningrad NPP in 2014 and for Unit 1 of Kursk NPP in 2015.

According to the available estimates, the power units with RBMK reactors where the RLP technology was used will produce more than 450 billion kWh and yield RUB 640 billion of proceeds for ROSATOM in the coming years.

Fig. Power generation by units with RBMK-1000 reactors, kWh



Improvement of operating efficiency

Results of ROSATOM Production System

Tools of the RPS were applied at the centralised storage facility for spent nuclear fuel (CSF SNF) of Leningrad NPP. By November 2013, the CSF SNF's team exceeded the target indicators for cutting rate of spent fuel assemblies (SFAs) and achieved the rate of 12 SFAs a day. In future, this will allow the facility to shorten the time required for SNF shipping and obtain a sizeable economic effect.

The experience of Leningrad NPP is also reflected in the growing SFA cutting rate values achieved at SNF SF of Kursk NPP. At the time of the facility's commissioning, the cutting rate was 4 SFAs a day, and by the end of 2013, its production output reached 10 SFAs a day.

Improvement of energy efficiency

In 2013, the energy saving measures aimed at reducing consumption of energy resources resulted in savings of RUB 1.526 million in monetary terms that is 19.69 % of the reference amount for 2009 in comparable conditions. In addition, savings of RUB 15 million was achieved through the reduction in volume of discharges. Thus, the total savings of funds owing to the reduction of consumption of resources in 2013, under comparable conditions against the reference amount for 2009, was RUB 1.541 million, or 20.08 % of the 2009 amount.

Safe use of nuclear facilities and safe handling of nuclear material

Based on the defence-in-depth concept, the safety ensuring system of Russian NPPs is the basis of the Division's technical policy and is regulated by federal NPP safety standards that take into account the IAEA recommendations. All NPPs are equipped with RAW reprocessing facilities; the existing storage facilities are refurbished and new facilities are built on the sites of NPPs, which ensure environmental safety of nuclear power plants during the entire period of their operation.

For details, see the Report sections “Integrated solution to accumulated nuclear legacy problems” and “Ensuring nuclear and radiation safety”.

2.5.4.3. Planned KPIs for 2014 and on the mid-term horizon

- › provision of own and raised investment resources in the required volume;
- › increasing labour productivity;
- › fulfilment of JSC Rosenergoatom Concern's investment programme;
- › fulfilment of the nuclear electricity generation plan;
- › fulfilment of plans for development of new activity areas;

- › improvement of operating efficiency with the achievement of the target level of specific semi-fixed costs;
- › achievement of the target level of the specific total levelised cost of NPP construction;
- › retaining the achieved low occupational injury level;
- › absence of INES Level 2 operational events across the sector and personnel exposure cases.

2.5.5. Capital projects and engineering

ROSATOM's activities in the field capital projects and engineering associated with NPPs are aimed at achieving the strategic goals of the Corporation, which are to ensure energy independence and a secure power supply for the population and economy of Russia, as well as competitiveness of projects in series construction of nuclear power units.

A competitive advantage of Russian engineering is the expansion of the best practices to all participants in the nuclear facility design and construction market, which is reflected in the establishing of a standard contract for the full cycle of pre-project and project works and a standard EPCM contract (Engineering Procurement Construction Management).

2.5.5.1. Results of 2013

As of 31 December 2013, nine power units on five sites in the Russian Federation were at the stage of design and construction. In 2013, nine power units were under construction, and construction completion activities were carried out at Unit 4 of Beloyarsk NPP.

In the upcoming five years, ROSATOM plans to build and commission nine nuclear power units, including three power units which are to be completed and commissioned in 2014.

Financing of NPP construction

JSC Rosenergoatom Concern (hereinafter referred to as the Concern) carries out the nuclear construction activities within ROSATOM. The investments are financed by the Concern's own funds and funds from the federal budget (property contribution of JSC Atomenergoprom), as well as loans drawn as necessary. The actual amount of financial resources used as capital investments was RUB 205.1 billion, or 100.8 % of the target value, including the amount of the property contribution of JSC Atomenergoprom: RUB 58.1 billion, or 100 % of the planned value. Also, the pre-financing for 2014 was arranged in a timely manner.

Improvement of capital project efficiency

- › for the first time, a consolidated plan of ROSATOM capital investments was drawn up for 2014 - RUB 239 billion, VAT exclusive;
- › the Uniform Sectoral Policy of Capital Investment Management in the Corporation's Entities was approved;
- › the sectoral programme for encouraging cost reductions and

shortening the implementation time of investment civil engineering projects was launched;

- the Sectoral Costing Standard Base of ROSATOM of about 127,000 headings was approved.

Implementation of state-of-the-art information technologies in NPP construction

In 2013, to advance competences in the segment of nuclear and thermal power facilities construction, the implementation of a project to adapt the project management system Multi-D was launched.

The Multi-D technology is based on a 3D model of the facility and allows for detailed modelling of construction and installation processes, optimising the NPP construction process at the commissioning stage, analysing various scenarios for the use of resources and introducing changes in the 3D model as necessary to optimise it. The Multi-D model consists of a spatial intellectual model of the facility, which includes drawings and 3D visualisation; the work execution schedule based on output targets; information about physical volumes. The Multi-D detalisation limit corresponds to Level 4 activity progress schedules. Based on this schedule, the C&I planning technology is applied to elevations, premises and the assembly zone on a stage-by-stage basis.

Consolidated construction schedule

In 2013, work was started to produce a consolidated construction schedule. A local standard was developed which defines the procedure for drawing up and maintaining consolidated activity progress schedules of complex engineering facilities. The consolidated schedule's objective is to ease access to information about any stage (design, supply, construction) for the project manager.

The consolidated activity progress schedule merges schedules of design, completing units of the plant and construction. A detailed schedule working out the project cost estimates, procurements and supplies is not explicitly shown in the consolidated schedule. Information on an implementation stage of these schedule headings comes to the activity progress schedule from the design management information system and the management system for procurement and purchases of equipment and materials.

2.5.5.2. Plans for 2014 and on the mid-term horizon

- to deploy an information system which will help to computerise the long-term investment programme of JSC Rosenergoatom Concern and its branches, and an information system to manage the fulfilment of the federal target investment programme;
- to establish a sectoral corporate engineering centre;
- to launch a project aimed at building up a knowledge base in the field of capital investment management;
- to establish a corporate system for the training of specialists in nuclear industry capital projects;

- to liberalise the entry of external contractors into the nuclear construction market.

2.6. Strengthening as a global player in the world market for nuclear services

2.6.1. International cooperation



Nikolay Spasskiy
Deputy CEO for International Relations

– How efficient, do you think, was ROSATOM's international cooperation in the reporting year?

– For me, the past year was one of most difficult ones in terms of challenges met and, at the same time, one of the productive in all my years with ROSATOM.

First of all, last year, we and the IAEA jointly held the St. Petersburg Ministerial Conference on nuclear power prospects in the 21st century. My experience says conferences and other similar events are rarely substantial. This case was an exception. This was the most representative and most substantive international conference in all the decades of the existence of nuclear power. It drew more than 500 participants from 87 countries, including over 60 ministerial level guests, and seven international organisations. The conference allowed drawing the line under the Fukushima chapter and defining concrete perspectives and priorities. And the main thing was to fix the leading role of Russia in nuclear power development in the world.

Strategy implementation

The past year also saw the opening of a number of new markets. The entire Corporation worked on that, and our structural unit contributed to that as well. The results of this work were made public and formal already this year. First of all, there was the conclusion of governmental agreements with Hungary and Finland. But the major effort to prepare them was made in 2013.

Then, there was substantial and interesting work with India to solve the issue of civil liability for nuclear damage. This was work where the result was not guaranteed. Its success has become apparent this year.

– Can the current political situation (including the Ukraine crisis) affect somehow the implementation of ROSATOM's international goals and objectives?

– In brief, it can, of course. Speaking in more detail, I think crises help rather than hinder. I would have a reservation; certainly, if it does result in a collapse and chaos. Crises help set priorities in a clearer way and consolidate efforts in a more efficient manner. Therefore, I am confident that the Corporation will emerge from the current international complications stronger and more self-assured, having consolidated its positions in the global markets.

– What are ROSATOM's near- and mid-term international cooperation plans?

– In terms of geography, there are strongholds in all promising regional markets. In other words, plans to build at least one NPP of Russian design in each of the large regions, i.e. Middle East, North Africa, in the south of Africa, South America, etc.

In terms of economy, it is to transfer our international cooperation to the modern market principles to the maximum degree.

In terms of internal logic (maybe it is the main thing), it is to restructure all our work with the account taken of fulfilment of the internal order. This task has to be completed in the next two or three years.



In 2013, ROSATOM's international activities focused on creating favourable international legal and political conditions for the Corporation's global expansion and becoming a leader in the world market of nuclear technologies, on strengthening the nuclear security and nuclear non-proliferation regimes as well as promoting the interests of the Corporation with regard to international organisations and forums.

Conclusion of intergovernmental and interagency agreements

In 2013, work continued to broaden the international legal framework for the promotion of the Russia nuclear power technologies across the world. Over the reporting period, 11 intergovernmental agreements and seven interagency arrangements were concluded (compared to 8 and 14 in 2012 and 4 and 8 in 2011, respectively). The number of countries with which there are existing or signed intergovernmental agreements concerning the peaceful use of atomic energy reached 60.

Table. Cooperation with principal partners in strengthening the international legal framework

Partner-countries	Results
Hungary	A draft agreement was prepared for signing concerning cooperation in the peaceful use of atomic energy, which also provides for construction of new nuclear power units at Paks NPP.
Finland	A draft agreement was prepared for signing concerning cooperation in the peaceful use of atomic energy, which will substitute the framework agreement expired in 2004.
Republic of South Africa	A draft agreement on the strategic partnership in the field of the nuclear power and industry was prepared for signing.
Mexico	The framework intergovernmental agreement on cooperation in the peaceful use of atomic energy was signed.
U.S.	The intergovernmental agreement on cooperation in nuclear- and energy-related scientific research and development, which defined specific areas of science and technology cooperation in line with the innovative development tasks of the Russian economy, was signed. In the framework of implementation of the umbrella agreement on the Multilateral Nuclear Environmental Programme in the Russian Federation of 21 May 2003 (MNEPR), the U.S.-Russia intergovernmental Protocol and Agreement to the MNEPR Framework Agreement were signed. The Protocol was signed to substitute the U.S.-Russia International Agreement Concerning the Safe and Secure Transportation, Storage and Destruction of Weapons of 17 June 1992 (Nunn-Lugar

Partner-countries	Results
	Programme). For the purposes of implementation of the protocol and the agreement, memoranda were drafted and adopted to stipulate control and information exchange mechanisms. The protocol is subject to ratification and was submitted to the Government of Russia for submission to the State Duma of Russia.
Belarus	The intergovernmental agreement on early notification of a nuclear accident and nuclear safety information exchange, aimed at fulfilling the IAEA recommendations regarding the conclusion of bilateral or multilateral arrangements in relation to the subject matter of the Convention on Early Notification of a Nuclear Accident, was signed. The intergovernmental agreement on cooperation in the field of nuclear safety was signed. The agreement reflects the significance, which Russia, as the contractor country, attaches to the array of issues of ensuring safety, and is evidence of our ability and readiness to render assistance in building the nuclear safety infrastructure in a new nuclear country.
Ukraine	The intergovernmental agreement on early notification of a nuclear accident and nuclear safety information exchange, aimed at fulfilling the IAEA recommendations regarding the conclusion of bilateral or multilateral arrangements in relation to the subject matter of the Convention on Early Notification of a Nuclear Accident, was signed.
Armenia	The intergovernmental agreement on cooperation in the field of nuclear safety was signed. The signing of this agreement shows the progressive development of relations with Armenia in the field of nuclear power, including strengthening the nuclear safety of Metzamor NPP.
France	At the XVIII meeting of the intergovernmental commission chaired by the heads of government of France and Russia, the French-Russian declaration on bilateral nuclear power cooperation was adopted.
Sri Lanka	The memorandum of cooperation in the field of the use of atomic energy for peaceful purposes was signed.
Israel	The memorandum of cooperation in nuclear medicine was signed.
Cuba	The memorandum of cooperation in nuclear medicine was signed.
United Kingdom	The memorandum of understanding regarding economic cooperation in the field of the peaceful use of atomic energy was signed with the UK Department of Energy and Climate Change.

Support of long-term projects on building up the international cooperation infrastructure in 2013

In the reporting year, political support was rendered to the implementation of large-scale projects with traditional partners of ROSATOM, in particular those related to the first power programme of Unit 1 of Kudankulam NPP in India and the first concrete at Unit 4 of Tianwan NPP in China.

The process of establishing a Russian-Kazakh joint venture - the Uranium Enrichment Centre (UEC) – was completed. The project was implemented in the framework of agreements reached by the Presidents of Russia and Kazakhstan and laid down in the Integrated Programme of the Russian-Kazakh Co-operation in the Peaceful Use of Atomic Energy. The joint venture purchased 25 % plus 1 share of JSC UECC. The JSC UEC will have access to uranium enrichment services amounting to 5 million SWU per year.

Interaction with related agencies and organisations of Belarus was carried out on a continuous basis. The first concrete was poured for the foundation plate of the safety system building of Unit 1 of Belarus NPP.

Work has been started on the site of Ruppur NPP in Bangladesh. An Atomic Energy Information Centre has been opened in the capital of Bangladesh based on the framework of the Memorandum signed in 2012 to this end.

Practical and infrastructural issues of implementation of the Akkuyu NPP construction project in Turkey were being solved.

In 2013, political and legal support was rendered to ROSATOM’s Mining Division with the aim of broadening the global uranium mining base in the interests of Russian nuclear industry companies. In particular, a deal was made to consolidate 100 % of the shares of ROSATOM’s affiliate, Uranium One Inc.

Support was rendered to the construction projects of Ninh Thu-an-1 and the Nuclear Science and Technology Centre, as well as to the training of specialists for the nuclear sector of Vietnam, which is a ROSATOM’s strategic partner in Southeast Asia.

ROSATOM won the tender for construction of the first NPP in Jordan.

Political support was rendered for the signing of the contracts for construction of NPP and fuel supplied to the future NPP Hanhikivi-1 in Finland.

ROSATOM initiated drafting changes to the Decree of the President of Russia No. 556 “On Restructuring of the Nuclear Power and Industry Complex of the Russian Federation”, which regulates in particular the issue of nuclear material transfer to the territory of a foreign state for fabrication of nuclear fuel for research reactors.

In pursuance of the Decree of the President of Russia No. 603, ROSATOM continues developing its system of overseas rep-

Strategy implementation

representatives. In November 2013, the first off-site meeting of ROSATOM’s representatives in Russian embassies in China, India, Iran, Japan, Kazakhstan and Turkey and Russian trade missions to Argentina, the Czech Republic, Germany, Hungary, the United Kingdom, the U.S. and Vietnam was organised in Moscow.

See also the Section “International Business”.

Main problems that hindered the building and broadening of international cooperation in 2013:

- political instability in some regions of the world;

- post-Fukushima syndrome persisting in some countries;

- unfair competition of certain foreign players in the international market.

To mitigate these problems, ROSATOM timely reported the country’s leadership, appropriately built up its negotiating capacity as agreed on with the MFA of Russia, the Ministry of Economic Development of Russia and other agencies, carried out awareness-raising activities making public its approaches at international conferences and forums. As a result, all key projects of ROSATOM were continued or completed in the past year.

Table. Participation of ROSATOM in activities of international organisations

International organisation	Interaction results
International Atomic Energy Agency (IAEA)	<p>ROSATOM jointly with the IAEA held the Ministerial Conference on Nuclear Power in the 21st Century in St. Petersburg (Russia) on 27–29 June 2013. The conference became the largest event in the history of the world nuclear power: the forum was attended by over 500 delegates from 87 countries and seven international organisations; more than 60 guests held the rank of minister or were officials of equal rank. The conference set the general direction of nuclear power development for many years ahead. It explicitly demonstrated that the post-Fukushima syndrome was going away and that nuclear power remains an important constituent of the world energy mix. The final document emphasised that “nuclear power remains an important option” which can “substantially contribute to covering the growing energy demand, to improve energy security, reduce the impact of volatile fossil fuels prices and mitigate the effects of climate change.”</p> <p>ROSATOM CEO Sergey Kirienko took part in the work of the WANO General Assembly on 16-20 May 2013.</p> <p>During this period, a visit to Russia by IAEA Director General Y. Amano to participate in the WANO events was organised.</p> <p>Two Russian projects – on nuclear medicine and land rehabilitation – were included in the IAEA Technical Cooperation Programme for 2014-2015.</p> <p>On 5-6 February 2013 a familiarisation visit by a group of permanent representatives of the IAEA Member States in Vienna to Kalinin NPP was organised.</p> <p>ROSATOM took an active part in the International Conference on Nuclear Security: Enhancing Global Efforts, which was held in Vienna, Austria, on 1-5 July 2013.</p>
Nuclear Energy Agency of the Organisation for Economic Cooperation and Development (OECD/NEA)	<p>The Russian Federation ascended the OECD/NEA on 1 January 2013. Russia’s ascension to the OECD/NEA provides additional conditions for the promotion of Russian nuclear power technologies in the world markets, for full-fledged participation in decision-making on future parameters of nuclear power development and for effective protection of Russia’s interests.</p> <p>The participation in the NEA Data Bank allows ROSATOM to use in full its extensive and useful information, including on properties of reactor materials, and computer codes.</p> <p>A group working on the Russian VVER-TOI reactor design was established in the framework of the Multinational Design Evaluation Programme (MDEP). This will help bring the reactor technology certification requirements existing in Russia in compliance with the international practices. Finland, India and Turkey have become members of this MDEP working group.</p> <p>Russia joined two international post-Fukushima projects of OECD/NEA aimed at solving tasks of safety enhancement of Russia’s NPPs.</p>
Council for Cooperation on the Peaceful Use of Atomic Energy under the Integration Committee of the Eurasian Economic Community (EurAsEC)	<p>On 1 January 2013, implementation of the interstate target programme “Rehabilitation of Territories of the EurAsEC Member States Affected by Uranium Mining” was started.</p>
CIS Member States Commission on the Peaceful Use of Atomic Energy	<p>The Council of the CIS Heads of Government on 31 May 2013 approved the following intergovernmental-level documents:</p> <ul style="list-style-type: none">- Agreement on coordination of the interstate relations of the CIS Member States in the field of the peaceful use of atomic energy; - Protocol on amendments to the Agreement of the main principles of cooperation in the peaceful use of atomic energy of 26 June 1992; - Provision on the Base Organisation of the CIS Member States for the information exchange regarding the operation and safety improvement of research nuclear installations (according to this Provision, Russian NIIAR has become such organisation). <p>Work is under way to draft the concept of nuclear and radiation safety of CIS Member States in the field of the peaceful use of atomic energy (the document is under review by concerned CIS Member States’ agencies).</p>

In 2013, all financial commitments of the Russian Federation with regard to international activities were fulfilled.

Strengthening the nuclear non-proliferation regime

In 2013, highly enriched nuclear fuel totalling 128.9 kgU was repatriated from the Czech Republic, Hungary and Vietnam.

The intergovernmental agreement with Uzbekistan concerning repatriation of irradiated nuclear fuel of the research reactor was prepared for signing.

The intergovernmental agreement was signed with the U.S. in the format of diplomatic note exchanges for 10 years (until 27 May 2024). The agreement concerns cooperation in repatriation of Russia-flagged nuclear fuel of research reactors. The notion of “liquid nuclear fuel” was introduced to this document to ensure repatriation of highly enriched nuclear fuel from Uzbekistan.

In the discharge of the obligations regarding national contributions to organisation of summits on nuclear security, in preparation for the 2014 Hague Summit, the international workshop on nuclear safety culture was organised at ROSATOM-CICE&T in December 2013. The workshop was attended by representatives of 14 countries and the IAEA.

Fulfilment of international obligations and Russian legislation on export control in 2013

In the framework of the Nuclear Suppliers Group (NSG), the work on updating control lists of nuclear and dual-use commodities was completed. Sectoral technical experts participated in this work. The work to introduce agreed changes to the Russian legislation nears completion.

The Export Board of ROSATOM reviewed 166 draft contracts (agreements, deals) without appeals and in a timely manner. The review statements, based on the review findings and taking account of the experts’ comments, were sent to the relevant organisations and sectoral enterprises.

In the reporting year, there were no violations in the area of export control by ROSATOM’s organisations.

Plans and objectives of expanding international cooperation and influence for 2014 and on the mid-term horizon

In 2014:

- the contractual documents with India will be finalised to allow starting construction of Units 3 and 4 at Kudankulam NPP;
- the following intergovernmental agreements are to be signed:
 - with Hungary on construction of two new power units at Paks NPP;
 - with Finland on cooperation in the peaceful uses of atomic energy;

- with Uzbekistan on cooperation in importing irradiated nuclear fuel of the IIN-3M research reactor to Russia;
- work will continue with South Africa regarding the broadening of the legal contractual framework;
- the intergovernmental agreement on construction of a NPP in Jordan will be drafted;
- preparation for diplomatic note exchanges with Japan on nuclear material which will be in Russian installations under the intergovernmental agreement on the peaceful uses of atomic energy will be completed;
- a new intergovernmental agreement on the peaceful uses of atomic energy with Argentina will be drafted;
- the 25th Fusion Energy Conference (FEC 2014) will be held in St. Petersburg under the auspices of the IAEA;
- ROSATOM will participate in the Nuclear Security Summit in The Hague;
- representatives of ROSATOM will be sent to Bangladesh and Belarus to further broaden ROSATOM’s overseas representation network.

The main tasks of the international activities of ROSATOM in mid-term are further work with foreign states and international organisations to promote ROSATOM’s offer of integrated services in building and maintaining NPPs abroad, further expansion of the international legal framework of cooperation, the fulfilment of Russia’s international obligations and strengthening the nuclear non-proliferation and nuclear security regimes.

2.6.2. International business



Kirill Komarov

Deputy CEO for Corporate Development and International Business

– How successful was 2013 for the Corporation’s international business?

– It was a very successful year for the Corporation in the international arena. The main achievement of the year was the enlargement of the overseas order portfolio; we brought it up to nearly US\$ 73 billion. With that, we had about US\$ 66 billion as of the beginning of the year, and during the year, the volume of implementation of contracts, with the respective reduction of the order portfolio, was about US\$ 5 billion. Therefore, the growth from US\$ 61 billion up to US\$ 73 billion is a good result, given the fact that the markets did not demonstrate explosive development. It is important that that we are well ahead of our competitors in this indicator. This, no doubt, is a guarantee that in the next 10 years, the sector’s enterprises will have a stable source for development and investments.

– What are the targets for the future then?

– We will continue building up the portfolio. In spite of the uneasy conditions, the world nuclear industry lives in now. For 2014, we have set a target of building up the order portfolio from US\$ 73 billion to 98 billion. This is an ambitious target, a very difficult one, but in my view it is absolutely realistic, since this would be a result of not only 2014 efforts, but also of the large-scale and complex work we have been doing over recent years.

At the beginning of the year, we signed an intergovernmental agreement with Hungary concerning construction of two new power units at Paks NPP. The contract to build two power units in Vietnam is also at a very advanced stage. Bangladesh is in the same situation. There are substantial developments in the contracts for NPP construction in a number of other countries as well. We also hope for additional contracting in the markets for the nuclear fuel cycle front end, servicing and a number of other products and services.

All these in combination give us grounds to believe that we have a great chance to build up the orders portfolio to this serious amount.

– How will ROSATOM’s integrated offer develop, and what makes it unique?

– Our advantage is that we are the only company in the world which can offer the full list of products in the entire technological chain of nuclear power, i.e. from uranium mining through the decommissioning of nuclear power plants. ROSATOM has no peer in the world. For example, our serious competitor, the French company AREVA group, can do many things, but it does not have the operation, the unique experience our Rosenergoatom utility has gained. This experience is essential for nuclear newcomers.

A project parameter such as the cost of a kWh has become a new demand in the market recently. Any customer, irrespectively of what relations it wants to establish with us – to hire us as the contractor or invite us to become a partner – ultimately asks us the same question: how many kWh of electricity will be produced by the plant? In this sense, why is the project we are implementing in Finland now so important? Because we have worked out the logic of costing the kWh together with the customer. Our Finnish partners are industrial companies, municipalities and other electricity consumers who link their development and investment plans to receiving electricity at a stable and predictable price.

– How will ROSATOM’s global presence expand in the coming years?

– As before, we will still try to expand the sales of products and services of ROSATOM. Communicating with each specific customer, we should be able not just to respond to its one-time request, but to offer the entire list of our products and services.

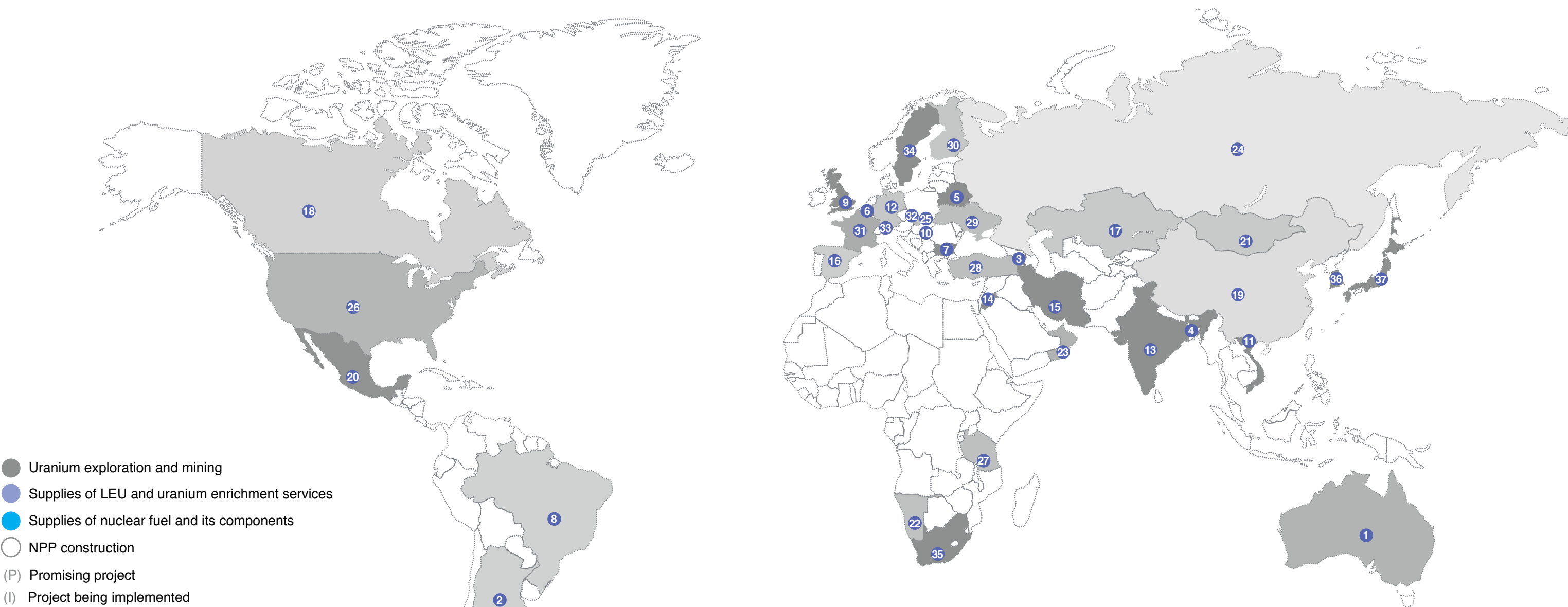
In the reporting year, we established the company Rusatom-International Network to strengthen our presence in specific markets. The regional offices, which were set up by this company in all the key regions where we have a presence, will be charged with offering the most complete list of goods, products and services to our clients.

JSC Rusatom Overseas is a ROSATOM entity established in 2011 to promote Russian nuclear technologies in the global market. Rusatom Overseas acts as an integrator of ROSATOM’s integrated solutions in nuclear power, leads the promotion of integrated offers, and leads the development of Russian nuclear business abroad. The company also plays the role of developer for ROSATOM’s overseas BOO (build-own-operate) projects.

2.6.2.1. Transformation of ROSATOM into the global nuclear technology leader

ROSATOM is a leader in the global market of nuclear technology and services. The goal of ROSATOM’s strategy is to achieve global nuclear technology leadership. In the long term, it is planned to substantially expand the scale of the international business as reflected in the target values of the Corporation and its organisations by 2030 (see Chapter “Activity strategy”).

Fig. ROSATOM global presence



- 1 Australia** (I) Development of Honeymoon Deposit
- 2 Argentina** (P, I) Study of possibilities to implement Atucha-3 project
- 3 Armenia** (I, I, I) Nuclear fuel supplies. Preparation of the Metamor-3 construction project for implementation
- 4 Bangladesh** (P, I) Preparation of the Ruppur-1,2 project for implementation
- 5 Belarus** (P, I) Pre-construction activities at Ostrovets-1, 2
- 6 Belgium** (I) Uranium product supplies
- 7 Bulgaria** (I) Nuclear fuel supplies for Kozloduy-5, 6
- 8 Brazil** (P) Cooperation with Brazilian companies under IGA on cooperation in the peaceful uses of atomic energy
- 9 United Kingdom** (I) Supplies of recovered uranium fuel to Sizewell NPP
- 10 Hungary** (I) Supplies of nuclear fuel for Paks-1, 2
- 11 Vietnam** (P, I) Preparation of the Ninh Thuan-1 construction project for implementation
- 12 Germany** (I, I) Uranium product supplies
- 13 India** (I, P, I) Construction of Kudankulam-1, 2. Preparations for construction of Kudankulam-3, 4. Nuclear fuel supplies for Kudankulam-1, 2
- 14 Jordan** (P) Bidding for construction of an NPP
- 15 Iran** (I) Uranium product supplies
- 16 Spain** (I) Uranium product supplies
- 17 Kazakhstan** (I, P, P) Development of joint ventures AO JV Zarechnoye, AO JV Akbastau, TOO Karatau, TOO JV Betlak Dala, TOO Kyzyl Kum. Implementation of the project to set up the Uranium Enrichment Centre (Russian-Kazakh JV – JSC UEC) following the Alternative Option
- 18 Canada** (P) Operation of Uranium One Inc. Headquarters (Toronto)
- 19 China** (I, P, I, I, I) Supply of six reloadings of TVS-2M for Tianwan-1, 2. Fuel supplies to the experimental fast neutron reactor. Uranium product supplies. Construction of Tianwan-3, 4
- 20 Mexico** (I) Uranium product supplies
- 21 Mongolia** (P) Implementation of the Russian-Mongolian intergovernmental agreement on cooperation in natural uranium mining

- 22 Namibia** (P) Uranium product supplies
- 23 UAE** (I) Uranium product supplies
- 24 Russia** (I, I, I, I, I) Uranium exploration and mining, conversion and enrichment of uranium products, fabrication of fuel, design and construction of NPPs, machine engineering, generation of heat and electricity, nuclear facility decommissioning, RAW and SNF management
- 25 Slovakia** (I) Nuclear fuel supplies to Mohovce-1, 2 and Bohunice-3, 4
- 26 U.S.A.** (I, I, P) Development of Willow Creek Deposit (Wyoming). Supplies of low-enriched uranium under the HEU Agreement. Commercial deliveries of uranium products
- 27 Tanzania** (I) Development of the Mkuju River project
- 28 Turkey** (P, I) Pre-construction work for Akkuyu 1-4
- 29 Ukraine** (I, I, I) Nuclear fuel supplies to Rovno 1-4, Khmelnytsky-1, 2, Zaporozhe 1-6, South Ukrainian 1-3. Construction of nuclear fuel fabrication plant. Uranium product supplies. Preparations for implementation of the Khmelnytsky-3, 4 construction project
- 30 Finland** (I, I) Nuclear fuel supplies to Loviisa-1, 2. Uranium product supplies
- 31 France** (I) Uranium product supplies
- 32 Czech Republic** (I, P) Nuclear fuel supplies to Dukovany 1-4, Temelin-1,2. Bidding for construction of Temelin-3, 4
- 33 Switzerland** (I, I) Supplies of recovered uranium fuel to Goesgen and Beznau. Uranium product supplies
- 34 Sweden** (I, I) Supplies of recovered uranium fuel to Oskarshamn. Uranium product supplies
- 35 South Africa** (I) Uranium product supplies
- 36 South Korea** (I) Uranium product supplies
- 37 Japan** (I) Uranium product supplies

ROSATOM's Integrated Offer

The key competitive advantage of the Corporation in the nuclear power markets is the integrated offer of NPP construction, operation and servicing abroad. Being a responsible supplier of nuclear technology, the Corporation provides integrated solutions for NPP construction projects and actively facilitates nuclear power development in nuclear newcomer countries.

Russian NPP construction projects pertain to Generation III+ and include both active and passive safety systems. The defence-in-depth approach is used at power units under construction. They fully meet the post-Fukushima safety requirements. Successes in the external markets confirm the high competitiveness of Russian nuclear technology.

Fig. Integrated offer for foreign customers: competence build-up elements

Goals:

Maximisation of the share of participants from ROSATOM in the project

Maximisation of the cumulative financial result

Engineering solution

- Modern NPP designs (Generation III+)
- NPP construction (equipment, construction and installation, commissioning)
- NFC products (natural uranium, EUP/SWU, fuel)
- Servicing (SPTA, scheduled maintenance, upgrades)
- NPP operation services (O&M)

Back-end NFC services

- SNF management services
- RAW management services
- nuclear facility decommissioning services (RR, NPP)

ROSATOM is a reliable supplier of integrated offers

Industrial solution

- Localisation of products and services
- Certification of foreign national suppliers
- Participation of suppliers in ROSATOM's projects in third countries

Regulation and infrastructure

- Development of the legal regulatory framework
- Support of development of the necessary infrastructure of nuclear power (power grid infrastructure, NFC facilities, etc.)

Financial solution

- Implementation of BOO projects
- State loans
- Support from ECA

Human capital (knowledge, skills)

- Development of the scientific and research base and university education
- Training of specialised personnel, including operating personnel
- Services for the NPP owner (customer) to build up NPP operation competences

Safety is the fundamental concern

2.6.2.2. Results of 2013

In the reporting year, ROSATOM continued actively building up its overseas order portfolio for a ten-year period. As of 2013, it amounted to US\$ 72.7 billion, up 9 % from the total of 2013.

In 2013, ROSATOM's proceeds from international sales was US\$ 5.0 billion, up 2.5 % from the target.

The overseas order portfolio for a 10-year period (without the HEU deal) was US\$ 72.7 billion, up 1 % from the target (KPI for 2013).

Table. Change of ROSATOM overseas order portfolio

	2013	2012	2011
Overseas order portfolio for a ten-year period (including export operations of Russian companies; without the HEU deal) (bln US\$), including:	72.7	66.5	50.9
NPP construction abroad	34.5	28.9	19.5
uranium products	24.2	24.7	17.8
FAs and other activities	14.0	12.9	13.6
Portfolio of orders for NPP construction abroad (number of power units)	19	19	21

Strategy implementation

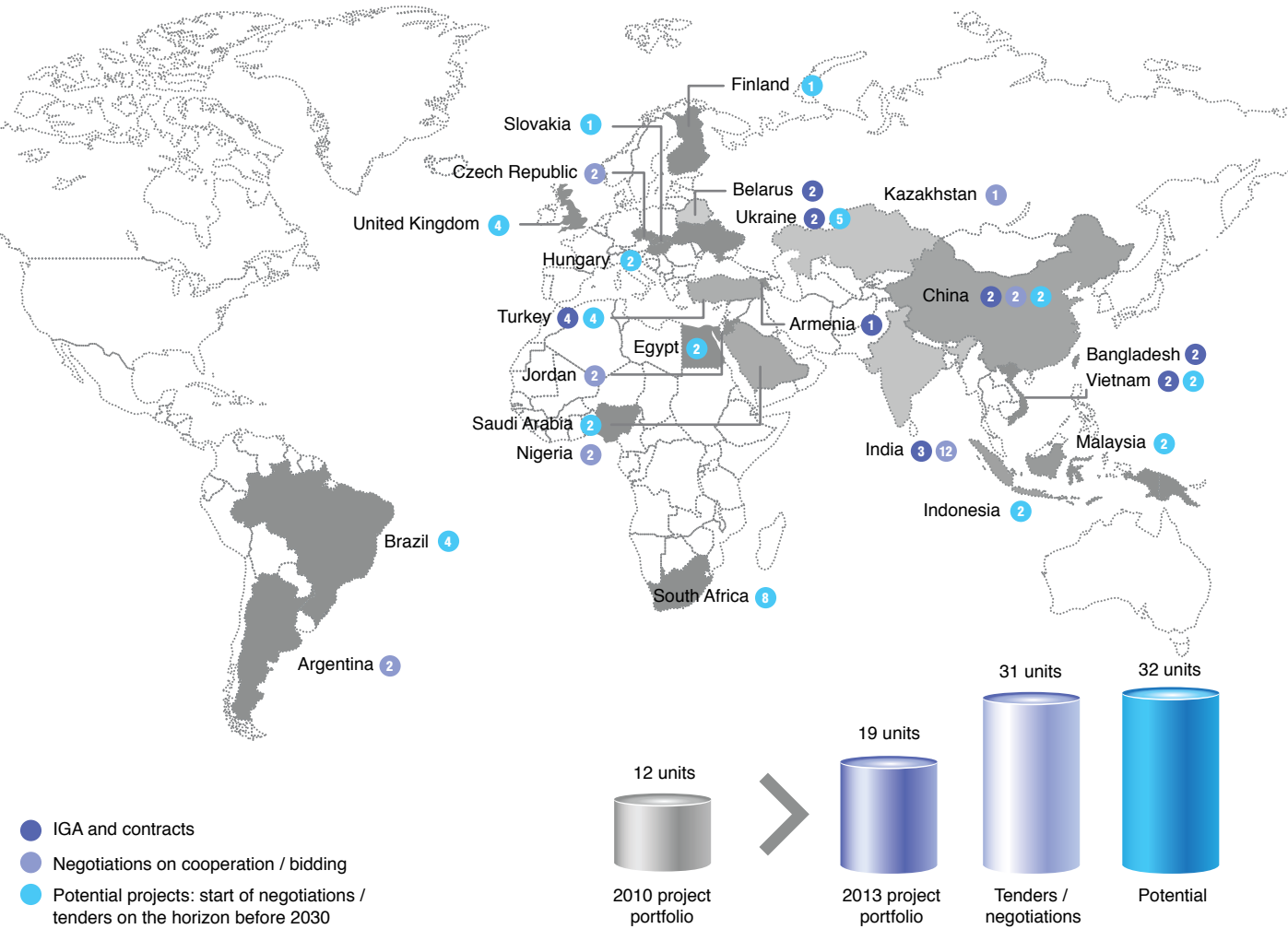
Results of NPP construction abroad

The main increase in the portfolio of nuclear construction abroad was at the expense of new contracts for construction of NPPs. As of the end of the reporting year, the Corporation's portfolio contained 19 nuclear power units.

In 2013, work was carried out on sites in five countries where 11 power units are under construction in total. In addition, documents of entitlement were signed for eight more nuclear power units abroad:

- Kudankulam NPP (India) – Units 3 and 4;
- Ninh Thuan-1 NPP (Vietnam) – two power units;
- Khmelnitsky NPP (Ukraine) – two power units;
- Hanhikivi NPP (Finland) – one power unit;
- Armenian NPP (Armenia) – one power unit.

Fig. ROSATOM's positions in the international nuclear construction market (number of power units)



In the reporting year, ROSATOM entered the international market of servicing for NPPs of Russian designs. To this end, the specialised company JSC Rusatom Service started operation at the end of 2012. Following the results of 2013, JSC Rusatom Service signed contracts for maintenance and repair, modernisation, service life extension as well as uprating and supply of equipment and spares and tooling with NPPs in Armenia, Bulgaria, China, Czech Republic, Hungary, Iran, Slovakia and Ukraine. JSC Rusatom Service has formed a pool of partners – Russian and foreign companies, which provide equipment and services (over 50 companies) – which meets the requirements and wishes of the foreign clients in an integrated manner.

The Corporation's plans of overseas nuclear construction

The Corporation's 2014 plans, in addition to the ongoing NPP construction, include:

- the first power of Kudankulam NPP Unit 2 in India;
- preparation for implementation of the Hanhikivi NPP project in Finland;
- signing of an IGA on cooperation in construction and an IGA on providing an export loan to finance construction of Pals NPP Units 5 and 6 in Hungary;

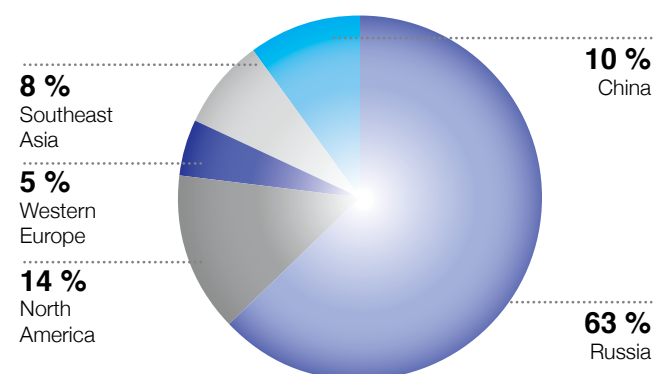
- › signing of an IGA concerning cooperation in construction of an NPP in Jordan;
- › carrying out preliminary activities related to the construction project of Ruppur NPP Units 1 and 2 in Bangladesh;
- › drafting and signing of a contract for development of an engineering design for Ninh Thuan-1 NPP in Vietnam.

In the mid-term, efforts to enter new markets will be continued. This includes plans of cooperation with Argentina, Brazil, Indonesia, Malaysia, Nigeria, Saudi Arabia, and South Africa to promote Russian nuclear technologies. It is planned to develop infrastructure and a network of international representation offices in the priority regions of the Corporation's business development plans to concentrate competences and resources.

The Corporation's results in the NFC front-end markets

Overseas natural uranium mining activities

Fig. Distribution of natural uranium deliveries by ROSATOM over the world's regions, %



In 2013, ROSATOM restructured its uranium mining assets: the company Uranium One Holding N.V. was established to consolidate the foreign assets of ROSATOM in the front-end of the nuclear fuel cycle (JSC Atomredmetzoloto in its future activities will focus on the development of the Corporation's uranium assets in Russia).

In the reporting year, Uranium One's enterprises mined 5,086 tonnes of uranium.

In 2013, the Government of Tanzania granted ROSATOM a special mining licence for the Mkuju River project. Negotiations continue with the Government of Tanzania concerning terms and conditions of the agreement on deposit development and other issues that require regulatory approvals.

In the reporting year, the mine Southern Inkai in Kazakhstan reached its full production capacity of 2,000 tonnes of uranium a year.

On 18 October 2013, the deal to buy back 100 % of Uranium One's shares was closed. All common shares of Uranium One in circulation that were not owned by subsidiaries of the Corporation (which indirectly held 51.4 % of Uranium One's common shares in circulation) were bought by Effective Energy N.V. (later renamed "Uranium One Holding N.V.") for C\$ 2.86 per share.

As a result of the deal, 89.07 % of the shares of Uranium One Inc. were consolidated as the property of Uranium One Holding N.V., which manages the international mining assets and projects of ROSATOM. In December 2013, the controlling block of stock of Uranium One Holding N.V. of 57 % was made the property of JSC AtomCapital, whose sole shareholder is ROSATOM.

In uranium mining outside Russia ROSATOM in 2013 faced problems with access to capital and currency risk in the global financial markets. To mitigate the impacts of these factors, the Corporation refinanced its ruble bonds, entered into currency swap deals, placed primary secured bonds and opened a revolving line of credit. In the framework of the activities to reduce sensitivity to the price of uranium, expenditures were cut, including through the mothballing of the Honeymoon mine (Australia) and suspension of building up mining output at the Willow Creek mine (U.S.).

Nuclear fuel supplies

In 2013, the main results of external economic activities related to supplies of nuclear fuel and fuel assemblies were:

- › signing of a contract for fuel supplies to Dukovany NPP;
- › signing of a contract for supplies of fuel and its components to Tianwan NPP Units 3 and 4;
- › signing of a contract for fuel supplies for the start up and subsequent operation of Hanhikivi NPP;
- › successful completion of qualification of JSC CMP (a JSC TVEL's affiliate) by Candu Energy Inc. as a supplier of zirconium pressure tubes for CANDU reactors.

The export of uranium products

In 2013, ROSATOM completed deliveries to the USA of low-enriched uranium (LEU), produced by the down-blending of 500 tonnes of highly enriched uranium (HEU) extracted from dismantled nuclear warheads (the HEU Agreement). The LEU shipment schedule and obligations related to delivery of the feed component of LEU (FC LEU) to customers were met by JSC Technobexport in full and in a timely manner. In 2013, the volume of deliveries was

Strategy implementation

over US\$ 1 billion. For details, see [the annual report of JSC Technobexport for 2013](#).

The U.S. Secretary of Energy signed a document which stated that the Russian party had fulfilled its obligations under the Agreement between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons.

In the situation of continued high competition in the global market for NFC products due to oversupply, JSC Technobexport, the leading sectoral exporter of NFC front-end products and services, concluded nine new contracts and prolonged two existing contracts, as well as signing five addenda to the uranium product export contracts. JSC Technobexport's deliveries cover about one third of the uranium enrichment needs of NPPs in the U.S., Western Europe and the Asia Pacific Region.

Fig. Uranium product exports, million US\$

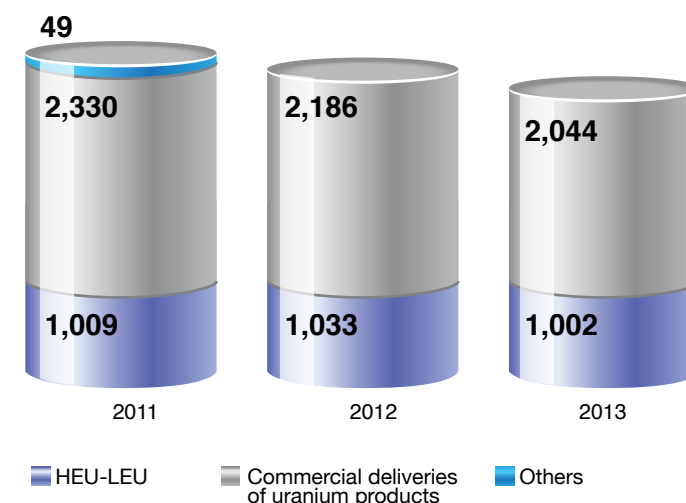
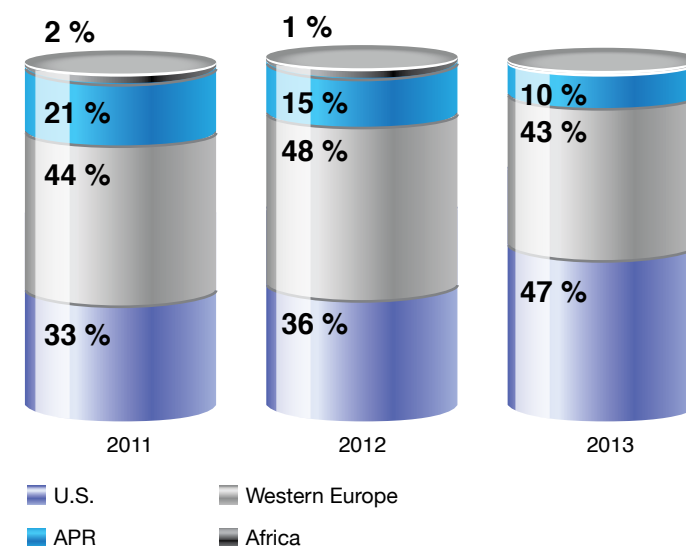


Fig. Uranium product exports by region, %



Plans of the Corporation in the international NFC front-end markets

Natural uranium mining:

- › work to optimise operations of Uranium One, to increase efficiency and to reduce costs on the company scale;
- › to increase mining output at the Akbastau and Kharasan mines in Kazakhstan in accordance with the production plans.

In the mid-term, Uranium One will continue developing the existing portfolio of assets in Kazakhstan and Africa to ensure the growth of mining output during the next 3-5 years. Given the possibilities available to Uranium One, such as an increase in mining output at mines in Kazakhstan and implementation of the Mkuju River Project in Tanzania, the full-scale use of the entire asset portfolio will allow raising mining volumes by 50 % from the 2013 level.

Supplies of nuclear fuel and FAs:

- › signing of contracts for fuel supplies to Slovak NPPs after 2015;
- › supply of a batch of TVS-KVADRAT fuel assemblies to be loaded into a foreign reactor PWR;
- › writing of justification documents for deployment of TVS-2M fuel as first loads for Tianwan NPP Units 3 and 4 (China);
- › approval by Euratom Supply Agency of a contract for nuclear fuel supply to Hanhikivi NPP (Finland).

Supplies of uranium products:

- › consultations with the U.S. Department of Commerce on drafting a new Amendment to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation (Suspension Agreement);
- › further development of the Far East route for transportation of uranium products to APR countries;
- › preparation and exchange of notes with the Japanese party on measures of control of the Japanese nuclear material in the territory of Russia.

2.7. Integrated solution for accumulated nuclear legacy problems and ensuring nuclear and radiation safety

2.7.1. Nuclear and radiation safety



Sergey Raikov
Director of Nuclear Safety and Licensing Department

“In the reporting year, the nuclear and radiation safety ensuring activity was rather productive. The dose burden of ROSATOM’s personnel followed a pronounced downward trend. In 2013, the collective exposure dose of the personnel decreased by 3.3 man-Sv/year (by 2.8 %) compared to 2012.

In 2013, the individual health physics data were processed for 90.4 % of persons subject to individual health physics monitoring at enterprises of ROSATOM. The number of persons who had a higher individual risk decreased by 0.1 % to 1.3 %.”

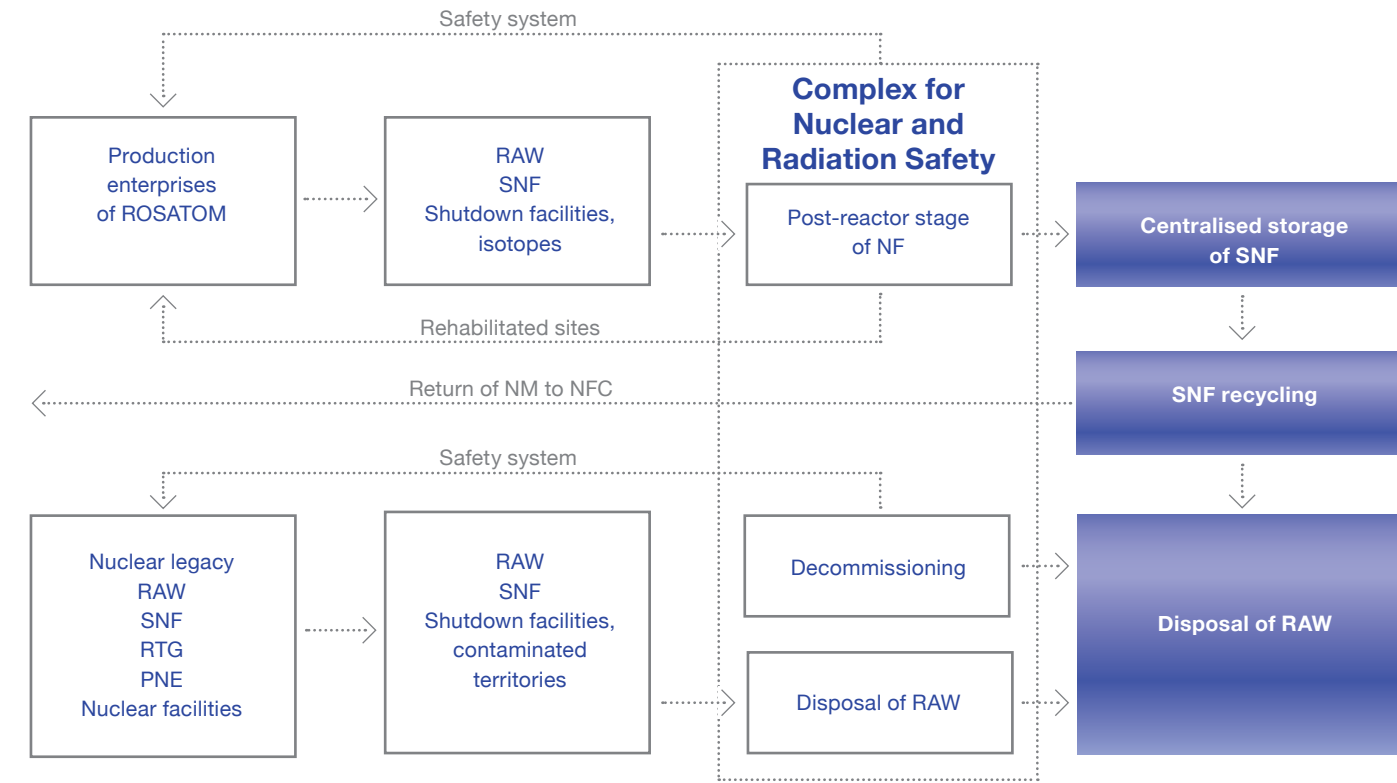
2.7.1.1. NRS management system

The Long-term Activity Programme of ROSATOM regulates the process of solving issues of nuclear and radiation safety of the nuclear facilities, personnel and environment in the mid and long term.

The main activity areas of the Corporation in the field of nuclear safety are safe functioning of nuclear facilities and integrated solution of “nuclear legacy” problems.



Fig. Activities of the nuclear and radiation safety complex



The information about nuclear and radiation safety within ROSATOM and its organisations is also provided in the sectoral [Safety Report](#).

2.7.1.2. Nuclear and radiation safety of nuclear facilities

In 2013, the Corporation’s governing bodies and structural units ensured sustainable and safe functioning of the nuclear industry facilities. There were no radiation accidents or over-exposures.

In 2013, there were no operational events in excess of INES Level 1 at the Corporation’s enterprises. Over the recent 15 years, the national nuclear power industry has not suffered events which are rated as accidents or incidents as per the INES scale.

The safety of nuclear facilities is evaluated by a number and the scale of accountable operational deviations, which are compared to the International Nuclear Events Scale developed (INES) by the IAEA. Within the scale, events are categorised by seven levels: at upper levels (4–7) they are called “accidents”, at lower levels “incidents” (2–3), and “anomalies” (1). Events that are not safety significant are rated as “below scale” (Level 0). Events that are of no safety relevance are rated as “out of scale” events.

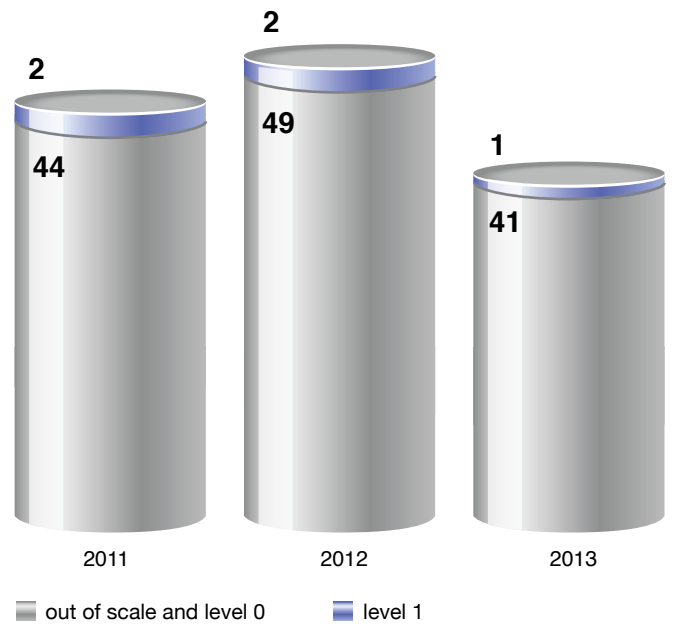
Nuclear power plants

In 2013, there were no event rated above Level 2 as per the INES at Russian nuclear power plants.

In 2013, the operating power units suffered 42 deviations.

There were 41 deviations of Level 0 or “out of scale” (30 Level 0 events and 11 “out of scale” events) reported.

Fig. Number of operational events at NPP as per the INES scale



One event was rated as Level 1 without consequences for the population and the environment. The event occurred at Kalin-in NPP Unit 1 and consisted of decoupling of the half-clutch “generator rotor-exciter rotor”. It did not have radiological consequences for the population and the environment.

The number of deviations associated with failures of electrical equipment decreased compared to the two preceding years (there were 12 cases in 2013, 17 in 2012, and 20 in 2011). The decrease was achieved through implementation of updated sectoral measures for modernisation and replacement of electrical equipment that had exceeded their service lives.

Owing to the modernisation and replacement of obsolete electrical equipment, the number of deviations due to failures of the equipment decreased. In 2013, there were 12 such instances that accounted for 32 % of all operational events (against 17 and 20 instances in 2012 and 2011, respectively).

There were 10 reactor scrams (shutdowns of critical reactors by emergency protective procedures) at Russian NPPs in 2013.

In 2013, there were no incidents at NPPs accompanied by radiation consequences subject to NP-004-08 “Provision for Procedure of Investigation and Accounting of Operational Events at Nuclear Power Plants”. Russia’s NPPs operated safely and reliably; a general trend of safety enhancement of operating NPPs persisted.

NFC facilities

In 2013, at nuclear fuel cycle (NFC) facilities, seven events rated as Level 0/”out of scale” as per the INES scale were reported (at FSUE PA Mayak, JSC SCC, JSC SRC NIIAR); most of them took place during the handling of radioactive materials.

There were no accidents and cases where permissible nuclear safety parameters were exceeded at NFC enterprises.

Research nuclear installations

In 2013, there were four deviations in the operation of RNI: two events in FSUE L. Ya. Karpov NIFKhI at the VVR-Ts reactor, and two at JSC SRC NIIAR at reactors SM-3 and BOR-60. Three RNI operational events were rated as Level 0 and one event was rated as Level 1 as per the INES scale.

2.7.1.3. Physical protection of nuclear radiation hazardous facilities

Main results of 2013

- by a decision of the Ministry of Interior of Russia, all NRHFs of the Corporation, which are guarded by Internal Troops of the MOI of Russia, were inspected by commissions; the inspection findings confirmed a high level of reliability of their security and physical protection;
- 12 integrated and targeted in-house checks (jointly with representatives of the Internal Troops of the MOI of Russia) of the physical protection conditions at the sector’s nuclear facilities were conducted;

- over 37 km of perimeters of the secured areas at NRH-Fs, including 36 personnel and vehicle checkpoints, were upgraded;
- in the secured areas, more than 6,500 equipment items were installed as part of the engineering physical protection complexes;
- the equipment of the automated transportation security system (ATSS) for nuclear and radioactive materials was installed on four special railroad cars and at a newly built dispatch post of JSC MCC; also, ATSS equipment whose service life had expired was replaced on seven railroad cars;
- 17 railroad cars, 47 trucks and ten dispatcher posts at the sectoral organisations were equipped with ATSS-GLONASS shipment tracking systems;
- more than 760 specialists were trained in physical protection matters.

There were no thefts of nuclear materials and unauthorised intrusions into the secured areas for sabotage.

2.7.1.4. Preparedness for emergency response

ROSATOM operates the Emergency Prevention and Elimination System (EPES) to ensure the safe operation of the nuclear industry and to protect the personnel, population and environment against potential consequences of accidents (emergencies). The system is a functional subsystem of the Unified National Emergency Prevention and Elimination System (NEPES).

Results of EPES operations

The level of preparedness of forces and capabilities, completeness and realism of emergency plans is evaluated by exercises and drills. In 2013, the Corporation conducted 271 emergency, targeted tactical and desktop exercises and drills, of which 70 were conducted at nuclear power plants.

The Corporation and its organisations’ qualification commissions regularly hold qualification tests of managers, rescuers and emergency rescue teams (ERTs) for their ability to execute emergency rescue activities. Twenty-seven ERTs (six professional and 21 non-professional ERTs) and 1,398 rescuers were qualified and granted or confirmed for a corresponding qualification grade.

2.7.1.5. Sectoral Automated Radiation Monitoring System (SARMS)

The Sectoral Automated Radiation Monitoring System (SARMS), which functions within the Unified National Automated Radiation Monitoring System for the territory of Russia, is one of the most important elements of the state-level monitoring of the radiation situation in NRHF host regions.

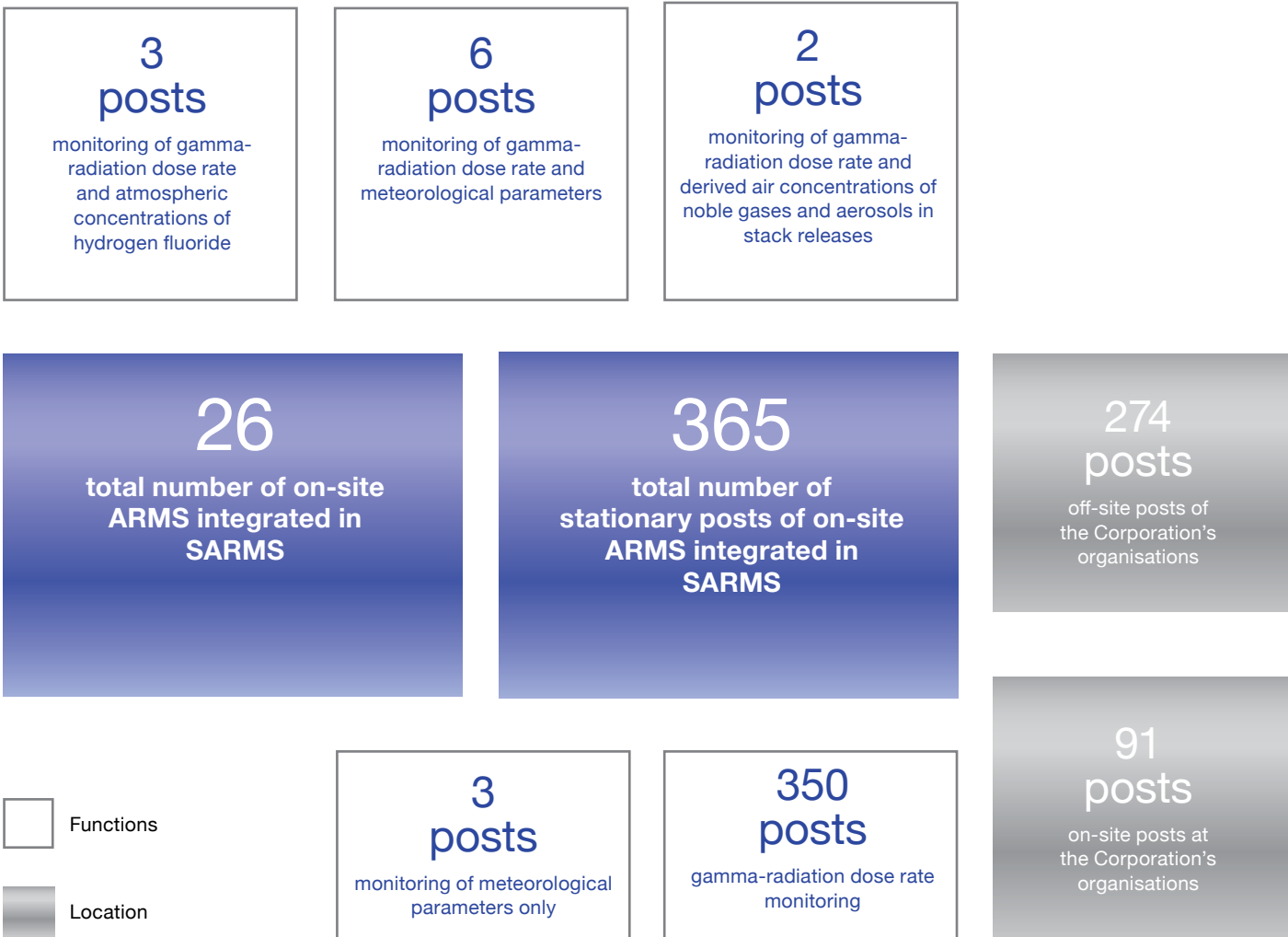
The sectoral ARMS includes 26 on-site ARMS of enterprises and organisations of the nuclear industry, including NPPs. The system has a total of 36 stationary posts. Data of mul-

Strategy implementation

ti-year measurements have shown that, in normal operation, the contribution of NPPs to the measured radiation level is negligibly small and the radiation situation at measurement locations corresponds to the natural background.

Data of SARMS radiation monitoring of ROSATOM are publicly accessible in real time at the website: <http://www.russianatom.ru>.

Fig. Sectoral Automated Radiation Monitoring System, as of 31.12.2013



2.7.1.6 Industrial safety

In the reporting year, the hazardous production facilities operated by the Corporation’s organisations were re-registered by the departmental (sectoral) section of the State Register. As of 31 December 2013, 836 hazardous production facilities in 100 organisations were registered.

In 2013, not a single sectoral facility of ROSATOM experienced events rated as “an accident at the hazardous production facility”; six incidents were investigated and accounted for.

According to the Industry Agreement on Nuclear Power, Industry and Science for 2012–2014, nuclear industry employers shall finance measures to enhance labour conditions and protection for the enterprises in an amount of no less than 0.5 % of the expenditures for the manufacture of products.

2.7.1.7. Ensuring safe labour conditions

Industrial injury rate

ROSATOM and its organisations carry out activities aimed at the reduction of the industry injury rate and impact of harmful occupational factors on its personnel.

In 2013, the Corporation’s organisations spent RUB 8160 million (in 2012 – RUB 8108 million, in 2011 – RUB 7435 million) for labour protection measures.

Fig. Industry injury rate by divisions

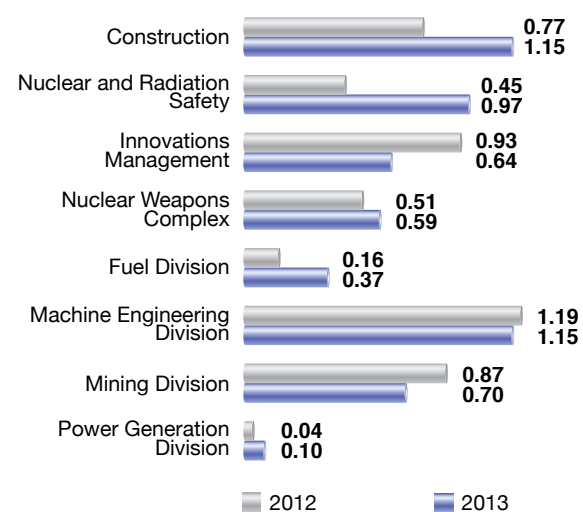
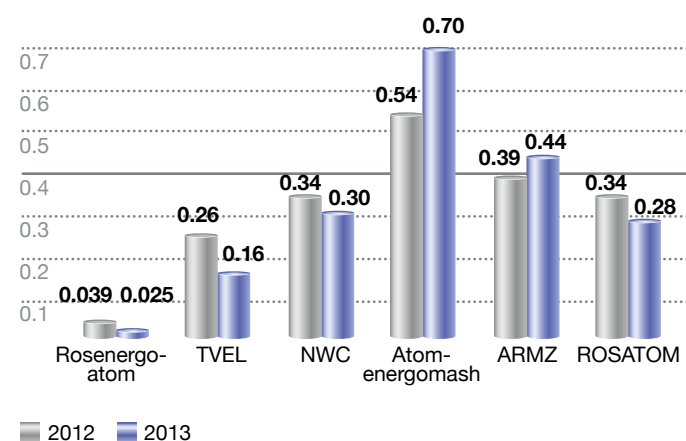
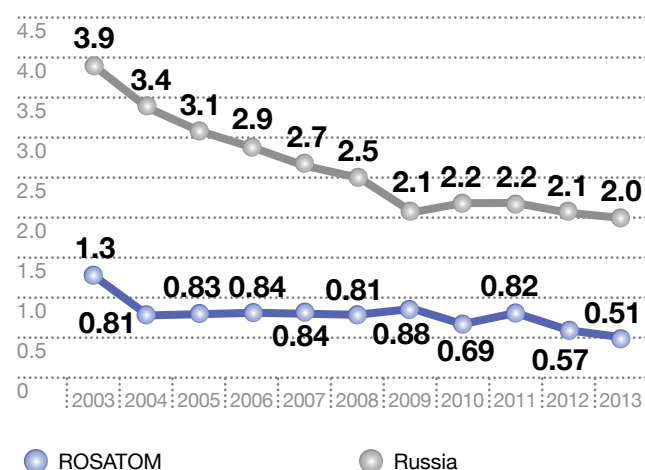


Fig. Comparative data of industry injuries indicator LTIFR



In 2013, the frequency of industry injuries (coefficient Kf – number of industry injuries per 1,000 employees) did not exceed the values of 2012 and was about four times less than the average level across the country.

Fig. Comparative industry injury data for Russia and ROSATOM, kf



In the reporting year, the rate of injury decreased in five divisions and grew in three divisions of the Corporation. There was a substantial drop in JSC SRC NIIAR (one case against five cases of 2012), JSC ZiO-Podolsk (four cases against eight), Production Association Mayak (seven cases against 14), FSUE Atomflot (three cases against seven). In JSC Rosenergoatom Concern, there were injuries reported that confirmed the rather high level of the safety culture at Russian NPPs.

Thirty-three employees of ROSATOM's organisations were awarded the title “The Best Labour Protection Worker of the Nuclear Industry” for their achievement of high professional performance indicators.

In the organisations of the sector, a total of 127 people suffered injuries (against 143 people in 2012). Most frequent causes of injuries are falling from elevations (25 %) and moving object impacts (17 %).

There were four fatalities reported for the sector (two cases at JSC PIMCU, one at PA Electrochemical Plant and one at the Directorate of JSC NIKIMT-Atomstroy in Ozersk).

All four cases were investigated by special commissions, which gave recommendations on prevention of such incidents in future.

Occupational illness

Medical examinations of the personnel are arranged for all enterprises of the Corporation to timely diagnose and prevent occupational illnesses.

Most occupational illnesses are chronic illnesses of the respiratory organs and illnesses caused by vibration and noise. The most frequent factors that affect the number of occupational illness cases are a higher level of noise and vibration in the workplace and high gas and dust content in the air of the work area.

In 2013, for the first time, 99 chronic occupational illnesses were diagnosed. The largest number of occupational illnesses was diagnosed among workers and pensioners of JSC PIMCU: 96 chronic illnesses diagnosed in 41 people.

Safety culture development at nuclear facilities

Work to develop safety culture is carried out at all NPPs of ROSATOM.

Main results of 2013:

- preparatory work to implement the safety culture enhancement process in the management system was completed;
- a safety culture pattern, its continuous improvement strategy, a system of regulations, a set of methodologies for assessment and self-assessment of the safety culture level, a corporate web portal on issues related to the safety culture have been developed.

Strategy implementation

In 2014, it is planned to produce the document “ROSATOM's Policy in the Field of the Safety Culture Improvement at Nuclear Facilities”.

2.7.1.8. Radiation impact on the Corporation's personnel

Ionising radiation is a specific production factor for ROSATOM's enterprises.

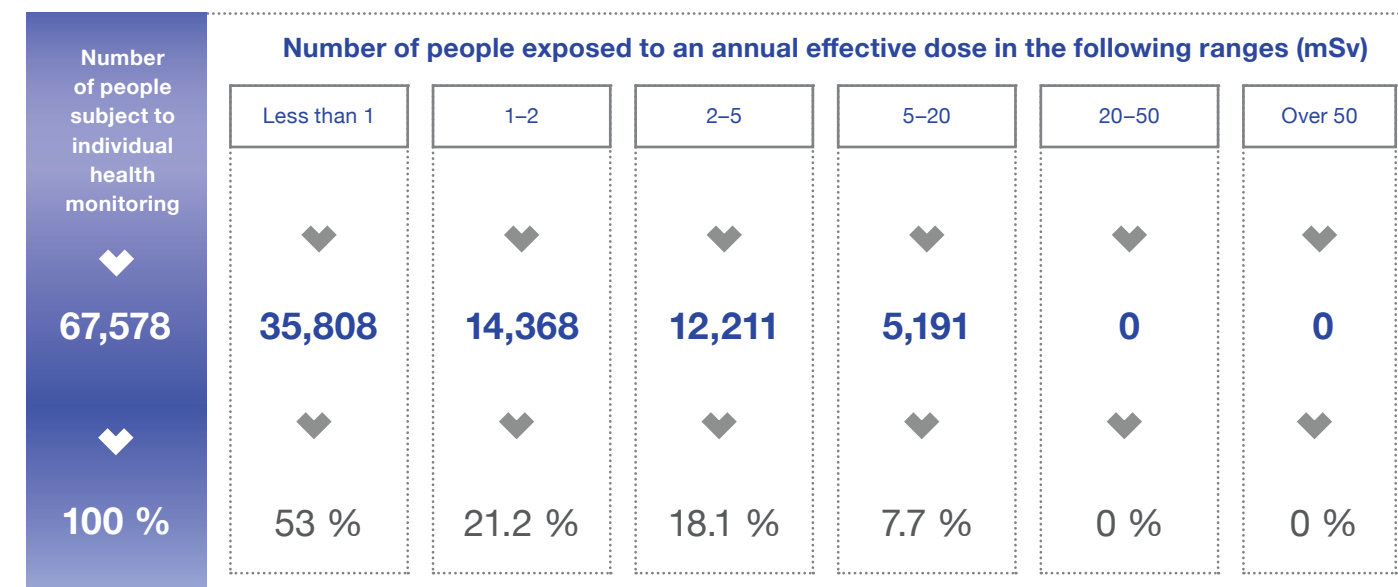
The radiation safety criteria for personnel are stipulated in the existing radiation safety standard (NRB-99/2009), basic

sanitary rules of radiation safety (OSPORB-99/2010) and other regulatory documents. Most of the enterprises meet these requirements.

Personnel exposure doses

In 2013, in the Corporation's organisations, 67,578 people of Group A were subject to individual health physics monitoring.

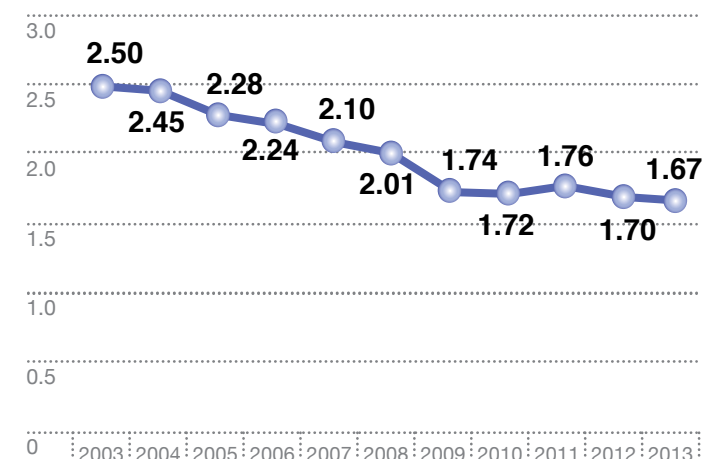
Fig. Distribution of Group A personnel by range of effective dose for a year



The annual average effective exposure dose of the personnel (AAED) was 1.67 mSv; over the past five years, this value has remained nearly unchanged within a range of ± 0.03 mSv.

For 53.0 % of the sector employees' dose burdens did not exceed the main dose limit for the general public of 1 mSv per year.

Fig. Annual average effective exposure dose of the personnel, mSv/year



In 2013, there were no cases where the dose limits established by NRB-99/2009 for personnel were exceeded. Among the personnel, there are still no persons whose total effective dose exceeds 100 mSv over five subsequent years. There is not a single person with the sector's enterprises with a dose exceeding the annual limit of 20 mSv.

Fig. Personnel exposure indicators

Number of people subject to individual health monitoring	2011	2012	2013
AAED ≤ 1 mSv	36,058	35,073	35,808
Σ AAED > 100 mSv over 5 years	0	0	0
20 < AAED < 50 mSv	28	19	0

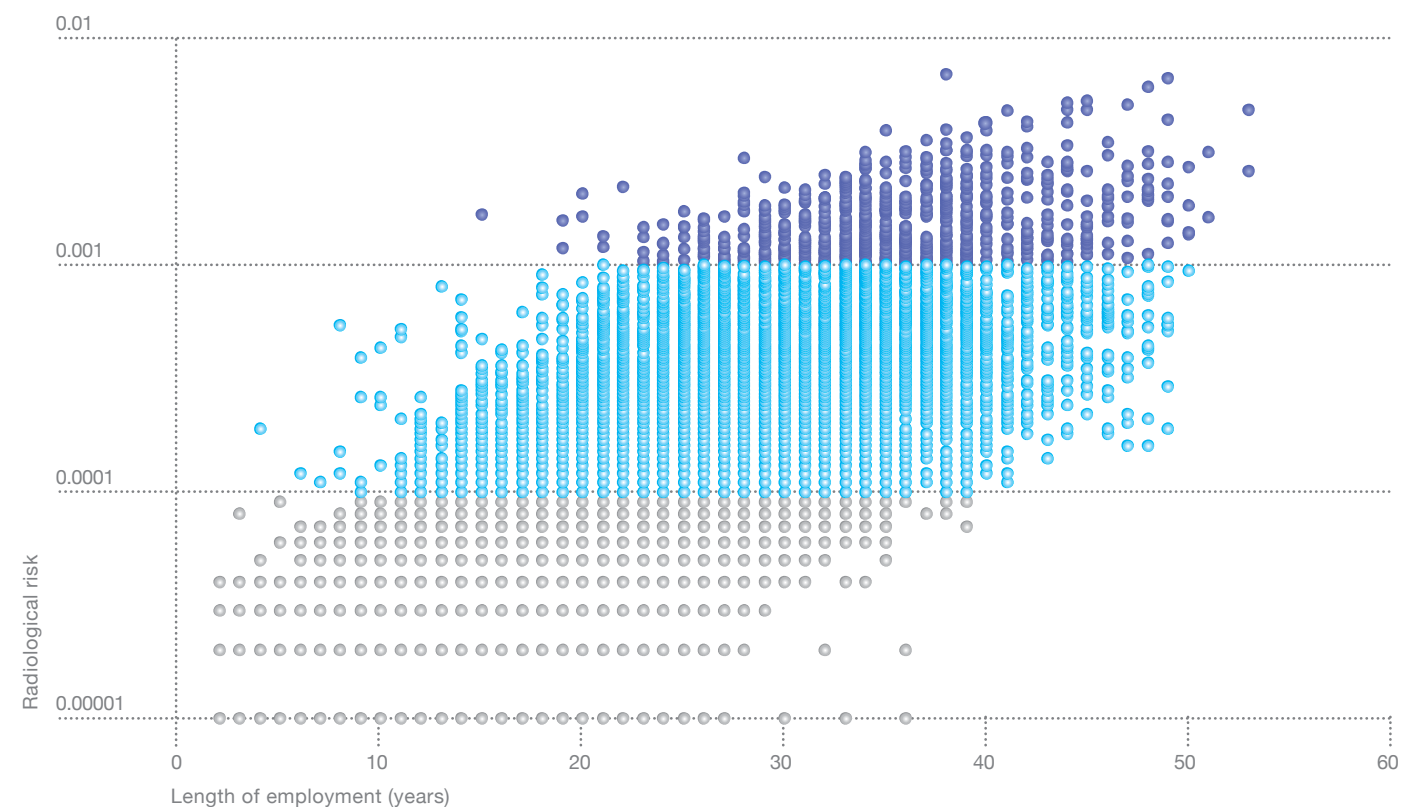
Assessment of individual risk of employees

In 2013, the sectoral enterprises used the ARMIR computer system to assess individual radiation risks. This work was carried out to optimise the radiation protection of the personnel and improve the effectiveness of the medical insurance aimed at rendering aid to the persons within the higher risk group. In 2013, the ARMIR was used to process the in-

dividual data of 90.8 % (91.4 % in 2012 and 90.4 % in 2011) of the total number of employees subject to the individual health monitoring at the Corporation's enterprises. For 772 people, the individual radiation risk exceeded the value of 10^{-3} (in 2012 a higher risk was reported for 865 people and in

2011 for 866 people). They are mainly veterans of the nuclear industry who received most of their doses during their early work years. The percentage of persons with higher individual risk is 1.25 %. (1.3 % in 2012).

Fig. Individual radiological risks of the employees



2.7.2. Solutions to the “nuclear legacy” problems



Oleg Kryukov
Director for Public Policy on Radioactive Waste, Spent Nuclear Fuel and Nuclear Decommissioning

– In recent years, ROSATOM has made serious efforts to solve the “nuclear legacy” problems. How effectively, do you

think, were the “legacy” problems solved in 2013? What are the main results of the year?

– If the situation is assessed in general, the main result of our work is the achievement of economic efficiency in executing works at the “legacy” facilities. We have managed to reduce by three to four times the unit cost of work in the key areas of RAW and SNF management and nuclear decommissioning. For example, in 2009, the cost of rehabilitation of one square metre of radiation-contaminated territory was RUB 8,000; in 2013, the same work was done for RUB 2,000.

In 2013, all plans and obligations related to the “legacy” facilities were fulfilled. Commissioning of Phase One of the RWDF of 20,000 cubic metres capacity at the site of the Urals Electrochemical Combine can be emphasised. 246 SFAs of VVER-1000 reactors and 1,701 SFAs of RBMK-1000 reactors were taken from the Russian NPPs and placed in centralised storage at FSUE MCC. Shipment of SNFs from Russian sites of research reactors for recycling at FSUE PA Mayak was increased: 34 tonnes of fuel were shipped and nearly 32 tonnes were recycled.

– In 2013, the Division of Nuclear Fuel Cycle Back-end was established. What are its main tasks?

– The Division is charged with two global tasks. The first is to ensure the maximum economic and ecological efficiency in

Strategy implementation

solving the “nuclear legacy” problems for the state. To this end, we need to not only create large-scale capabilities and facilities for recycling spent fuel and waste and nuclear decommissioning, but also to implement the production and technological solutions and technologies which will ensure the competitiveness of our services in terms of price and quality as compared to existing foreign rivals. At the present time, we have implemented integrated programmes for efficiency improvement of the Division's enterprises, which are aimed at cost reduction, development of technologies to reduce costs and the launching of new products and services.

The second global task is to develop commercial activities, not only within the country, but also in foreign markets. The Division's strategy includes a programme of building up volumes of commercial proceeds at the expense of entering the international markets.

– What are plans for 2014 and in mid-term?

– The key target of the next year is to prepare a concept of the new target programme on solving the “nuclear legacy” problems for the period up to 2025. This programme will ensure continuity of the works started in 2008-2015, increasing the pace of elimination of shutdown nuclear and radiation hazardous facilities left over from military programmes of the past, ensuring unconditionally environmental, nuclear and radiation safety as a priority of the socioeconomic development of Russia, and ensuring the rights of citizens to favourable environment and environmental safety, which are stipulated in the Constitution of the Russian Federation.

2.7.2.1. Approach to solving the “nuclear legacy” problems

Finding the solution to the problem of the “nuclear legacy” of past economic and defence activities is one of the main areas of NRS efforts. Developing nuclear ammunition and the operation of NPPs in the USSR resulted in large accumulated volumes of radioactive waste and spent nuclear fuel, which were not securely disposed of.

In the mid-2000s, the leadership of the country and the nuclear industry made a decision that it was impossible to further postpone solving the “nuclear legacy” problems. The FTP “Nuclear and Radiation Safety in 2008 and until 2015” adopted in 2007 provides for a set of measures aimed at the consistent elimination of the “nuclear legacy”.

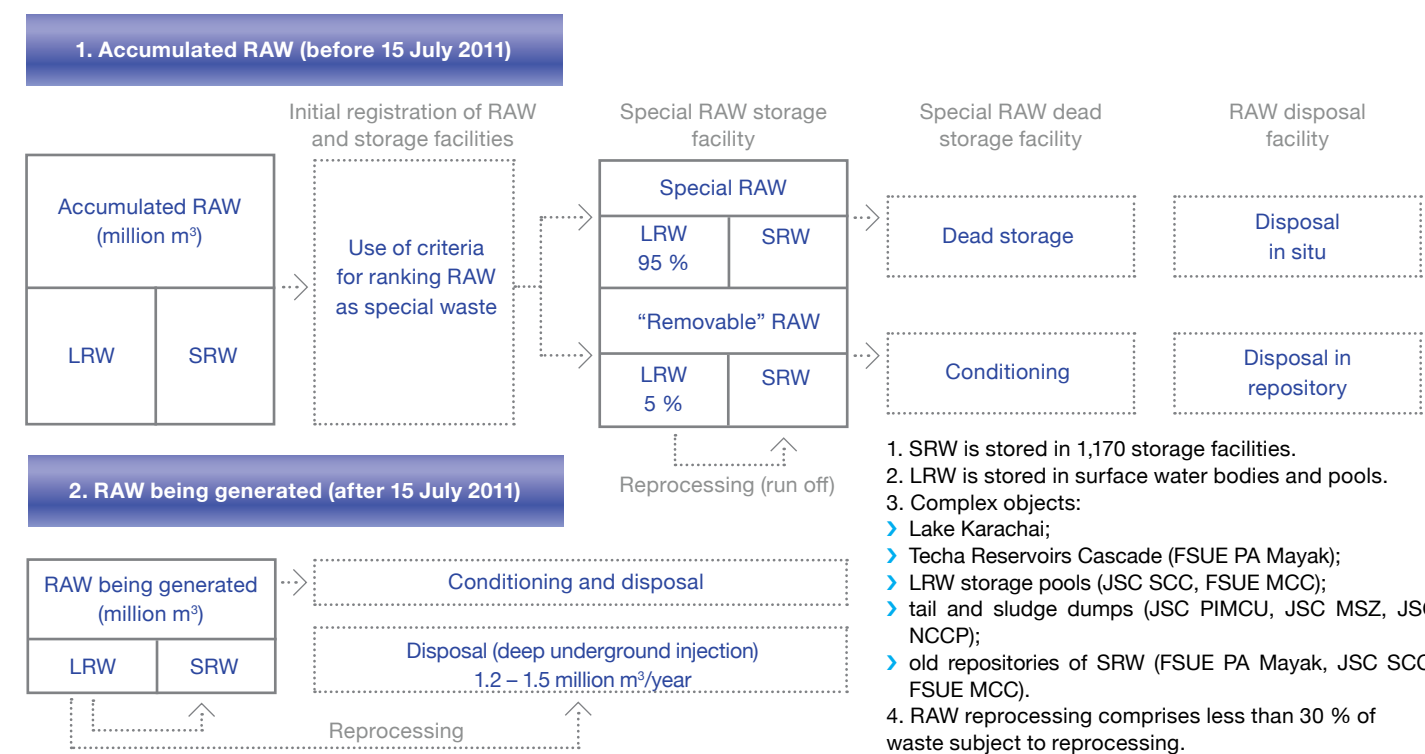
In 2011, Federal Law No. 190-FZ “On the Radioactive Waste Management and on Amendment of Certain Legal Acts of the Russian Federation” was adopted. It allowed building up a legal basis for doing away with the “nuclear legacy” in the long term.

In 2012, the Government of the Russian Federation approved the sub-programme “Nuclear and Radiation Safety in 2016 and until 2020” (FTP NRS-2) within the governmental programme “Development of the Power and Industry Complex of the Russian Federation”.

2.7.2.2. Building up the unified national RAW management system

In the framework of the Federal Law “On the Radioactive Waste Management,” the Unified National System for Radioactive Waste Management (UNS RAW) is being developed in Russia.

Fig. RAW management flow chart



Main results of 2013:

- 17 resolutions of the Government of Russia and other regulatory documents on certain issues of RAW management were drafted;
- FSUE RosRAO completed the work to build civil engineering structures under the governmental defence order worth over RUB 1 billion;
- one of the key milestones of building up the Unified National System RAW Management, i.e. drafting of local RAW management strategies by the sector's enterprises, was completed;
- a safety assessment for conformance to the IAEA safety standard requirements was completed regarding the LRW management practices employing the deep well injection technique. The IAEA experts believe the assessment results are mainly positive;
- the initial registration of RAW was started (to be completed in 2014) in the framework of implementation of the Resolution of the Russian Government No. 767 of 25 July 2012; the initial RAW registration was done in 44 organisations;
- Phase One of the Radioactive Waste Disposal Facility (RWDF) of 20,000 m3 capacity commissioned at JSC Urals Electrochemical Combine;
- special reserve fund No. 5 has been set up in ROSATOM to finance the expenses for RAW disposal in accordance with FZ-190 "On the Radioactive Waste Management and on Amendment of Certain Legal Acts of the Russian Federation";
- implementation of the investment programme of the National Operator for Radioactive Waste Management – design and construction of RAW disposal facilities – has been started.

Table. Accumulated RAW, as of 31.12.2013

RAW category	SRW (million t)	LRW (million m³)
Low-level waste	73.668	426.01
Intermediate-level waste	0.608	2.097
High level waste	0.0137	0.105
Total	74.2897	428.212

Table. RAW generated, as of 31.12.2013

RAW category	SRW (million t)	LRW (million m³)
Low-level waste	1.168	0.59
Intermediate-level waste	0.009	0.057
High level waste	0.0007	0.07
Total	1.1777	0.717

Table. Efficiency of RAW management efforts in 2013

Target indicator	Plan 2013, accrued	Actual 2013
Commissioning of RAW storage capacities (thousand t)	35	101 %
Activity of RAW rendered safe (10 ¹⁸ Bq)	11	226 %

Building up ultimate radioactive waste placement facilities

The work to deploy the UNS RAW includes development of the "Area Planning Scheme for Power Generation as Relates to Siting of Radioactive Waste Disposal Facilities". The scheme provides for siting ultimate disposal facilities in 17 federal subjects of Russia. The capacity of each radioactive waste disposal facility (RWDF) of federal significance is to be not less than 100,000 m³.

In 2013, an analysis of siting the priority facilities was conducted, resulting in a reduction of the number of ultimate isolation facilities of federal significance by nearly three times (initially 30 facilities were planned to be built in 17 federal subjects of Russia).

According to the Directive of the Government of Russia No. 2084-r of 11.11.2013 "On Approval of the Area Planning Scheme for Power Generation", the scheme includes the low- and intermediate-level RAW repository (Sosnovy Bor,

Strategy implementation

Leningrad Region) and the LRW deep disposal site Severny (Zheleznogorsk, Krasnoyarsk Territory).

Public hearings were held on the preliminary environmental impact assessment of the low- and intermediate-level RAW repository to be located near the Leningrad Division of FSUE RosRAO's branch "North West Territorial District". The hearings outcomes were positive.

2.7.2.3. SNF Management

During 2013, the world's nuclear reactor fleet produced additional spent nuclear fuel amounting to 10,000 tonnes of heavy metal (tHM). As the result, the total volume of spent nuclear fuel unloaded from the reactors was approximately 370,500 tHM.

As of 01 January 2014, the amount of accumulated SNF in Russia was about 24.2 t. At-reactor SNF storage facilities hold 16,454 t SNF, including 14,259 t SNF of RBMK reactors.

Main results of 2013:

- 264 SFAs of VVER-1000 reactors were removed from Russian NPPs and placed in the centralised wet storage facility at FSUE MCC;
- work continued to build and commission in 2015 the dry compartment-type storage facility for SNF of VVER-1000 and RBMK-1000 reactors (full growth). 1,701 RBMK SFAs were shipped from Leningrad NPP and placed in the start-up complex of the centralised dry storage facility commissioned in 2011 at FSUE MCC;

179,247 t of SNF (including that of NPPs, RRs and propulsion reactors) was shipped for recycling to FSUE PA Mayak, including 102.96 t from Russian sites; 155.4 t SNF was recycled. The amount of SNF removed from Russian sites hosting research reactors to FSUE PA Mayak for recycling was increased (34.06 t SNF of RRs was shipped; 31.715 t was recycled);

pre-project work was carried out to develop an SNF treatment facility for the spent fuel of EGP-6 reactors of Bilibino NPP, which is to prepare SNF for shipment for recycling. The "Programme of Bilibino NPP SNF Shipment and Recycling at FSUE PA Mayak" was produced and approved by an Order of ROSATOM;

114 kg of RR SNF was taken from the Czech Republic, Hungary and Vietnam under the U.S.-Russia agreement concerning repatriation of highly enriched uranium SNF.

Fig. Number of SFAs shipped to centralised SNF management facilities, items

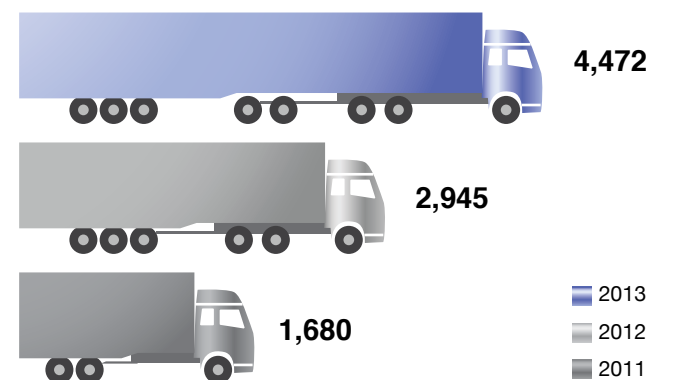


Fig. VVER-1000 + RBMK-1000 reactors SNF accumulation rate

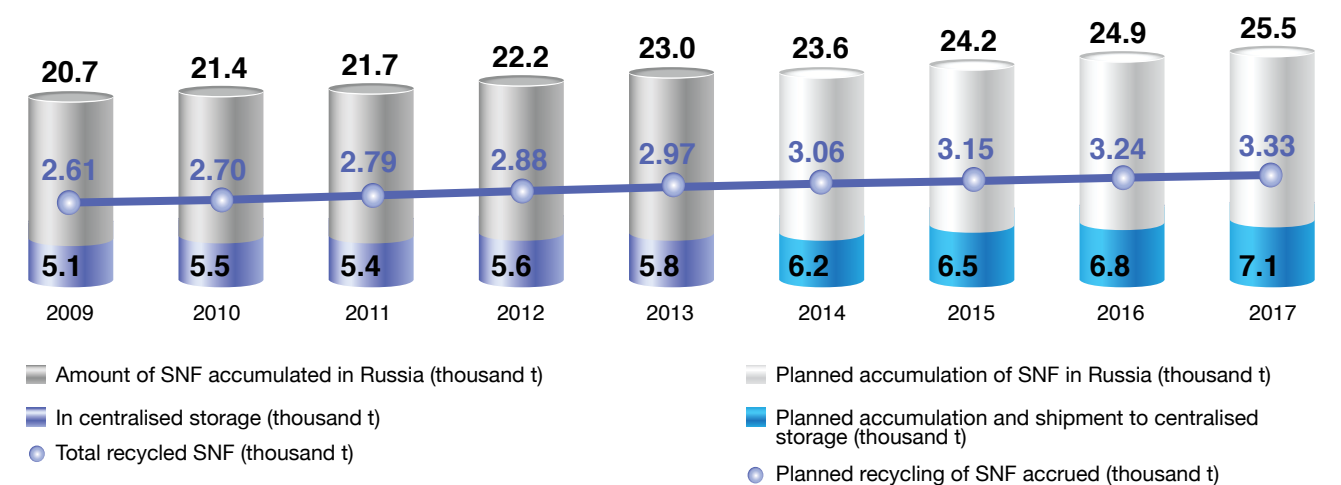


Table. Results of building up the SNF management infrastructure in 2013

Target indicator	Plan for 2013, accrued	Factual for 2013
Commissioning of SNF storage capacities (thousand t)	16.7	16.7
Vacating SNF storage space to improve safety of interim storage facilities (number of SFAs)	13,374	13,775

2.7.2.4. Development of the NRHF decommissioning system and solving “nuclear legacy” problems associated with NRHF decommissioning

Results of 2013:

- the NRHF decommissioning cost estimation was carried out as of the end of 2013;
- in the framework of implementation of the project P-BS1-1 “Development of the Corporate Level of the Sectoral Information System for NRHF Decommissioning,” the conceptual and engineering designs have been developed;
- a methodology for ranking NRHFs being decommissioned by their potential hazard was developed;
- two sector-wide workshops on the development of the sectoral decommissioning system, as well as round-table sessions on NRHF decommissioning project cost estimates and the legal regulatory issues of NRHF decommissioning, were carried out;
- proposals on the setting up and maintaining a state register of ultimately shutdown nuclear facilities were submitted to the Government of Russia.

In the period from 2008 to 2013, a total of 22 nuclear and radiation hazardous facilities were decommissioned, including one facility in 2013.

2.7.2.5. Disposal of nuclear submarines

In 2013, work continued to improve the safety of coastal maintenance bases where the SNF and RAW of nuclear submarines and nuclear-propelled surface vessels were temporarily stored, of which:

- 415 m³ of LRW was reprocessed;
- 1,032.6 m³ of SRW was placed for temporary storage;
- ~ 240 m³ SRW was removed from the former coastal maintenance base at Andreeva Bay to the accumulation pad at Saida Bay;
- two railway trains with SNF were sent to FSUE PA Mayak for recycling, including one train from Murmansk Region which was sent using the funds provided in the framework of international technical assistance;
- 11 one-compartment units with reactors of disposed nuclear submarines were placed in long-term storage;
- construction of the Long-Term Storage Facility for Reactor Compartments of Disposed Nuclear Submarines was continued at Cape Ustrichniy (Maritime Territory);
- construction of a LRW reprocessing facility, as phase one of the refurbishment of the coastal maintenance base at Sysoeva Bay (Maritime Territory), aimed at environmental safety improvement, was completed.

2.7.2.6. Dismantling and disposal of radioisotope thermoelectric generators

Dismantling and disposal of radioisotope thermoelectric generators (RTGs) is a priority activity to reduce the potential radiological threat.

By 31 December 2013, using the funds allocated from Russia's federal budget, as well as technical assistance rendered by the U.S., Norway, Finland, Canada and France, 988 RTGs were decommissioned, of which 56 RTGs were decommissioned in 2013.





Efficiency

We always find the best solutions to problems. We are efficient in all we do; when achieving the set targets, we make efficient use of the company's resources and are continuously improving our working processes. There are no obstacles that can hinder our finding out the most efficient solutions.

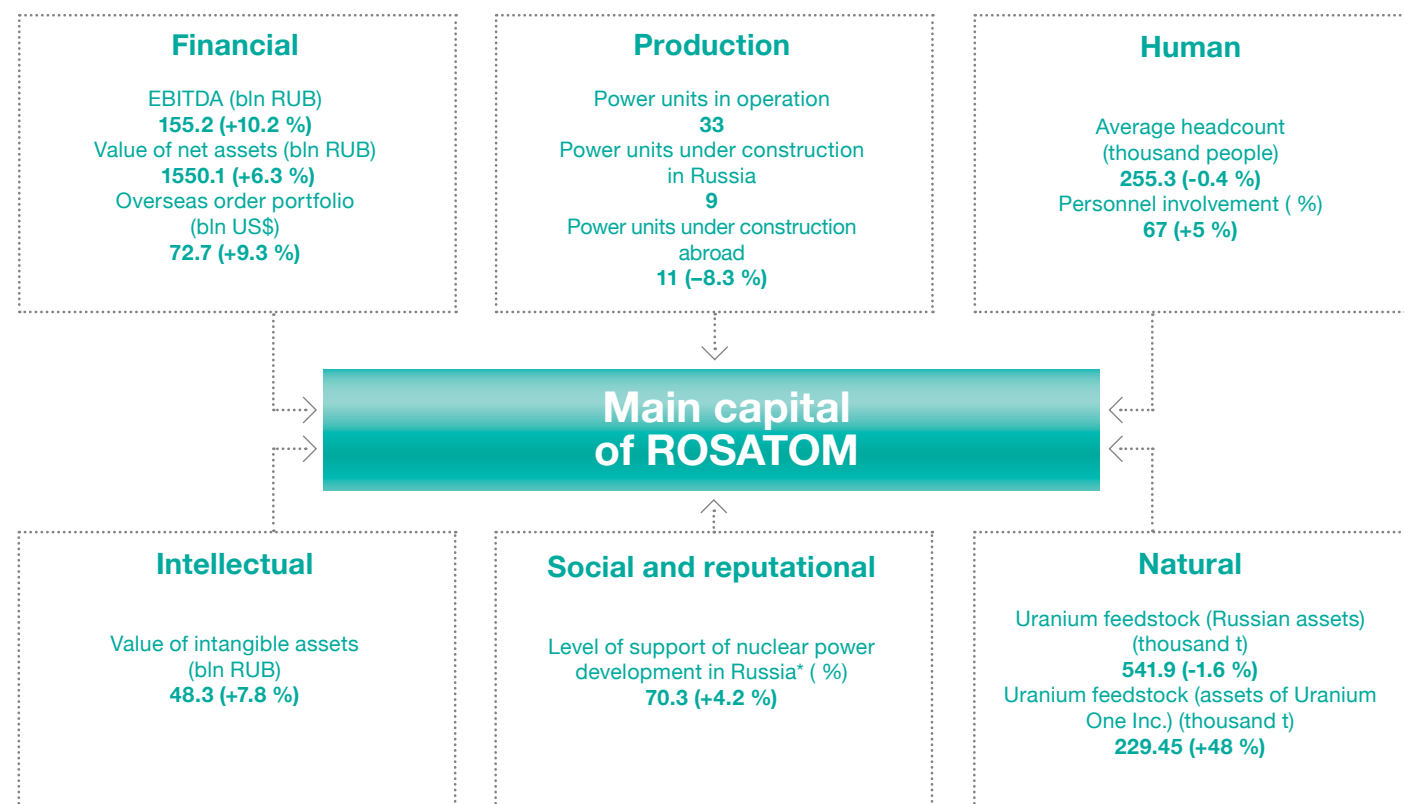
One Team

We all are ROSATOM. We have common goals. Working in a team of like-minded fellows allows for unique results. Together we are stronger and can achieve most ambitious goals. The successes of our employees are the successes of the team.

Chapter 3.

Capital management efficiency

90	3.1. Capital of the Corporation
90	3.2. Management of the financial capital
95	3.3. Management of the production capital
103	3.4. Human capital management
110	3.5. Management of the intellectual capital and information technologies
114	3.6. Management of social and reputational capital
126	3.7. Management of natural capital, environmental safety, and environmental protection



* Based on data of polls conducted by the Levada Analytical Centre. For details, see Section 3.6."Management of social and reputational capital".

3.1. Capital of the Corporation

The capital of ROSATOM is one of the key elements of the business model (see Section "Business Model"). They change (increase, decrease, transform etc.) in the course of commercial and other activities to lead to creation of value in the mid and long term.

The Corporation understands that capital is a certain resource (reserve) of tangible and intangible assets it uses in its activities. The Corporation admits that part of the capital available to it is in joint ownership with other stakeholders (for instance, natural resources or public infrastructure); therefore, it employs a responsible approach to handling it. A set of measures to minimise the possibility of negative impact is continuously implemented.

ROSATOM distinguishes six types of capital in use: financial, production, human, intellectual, social and reputational, and natural.

An integral increment or decrease in capital leads to a growth or drop in the value being created by ROSATOM; therefore, the Corporation pays great attention to the management and raising the efficiency of the use of the capital available to it.

3.2. Management of the financial capital

Management of the financial capital includes implementation of the financial strategy, management of investment activities and work to improve the efficiency of ROSATOM's economic and financial state.

3.2.1. Management of the financial strategy



Nikolay Solomon
First Deputy CEO for Corporate Functions and Chief Financial Officer

– *How effective was ROSATOM's financial strategy in 2013, do you think?*

– *The financial strategy is an inseparable part of the overall development strategy of the Corporation, but essentially being more down to earth, it is designed until 2020 and is further defined by general principles. Finances are the basis on which the business rests when planning its key mid- and long-term indicators, the measure of success of projects and an indicator of the company's health.*

Given the scale of ROSATOM's business and its influence on the country's GDP and Russia's social commitments and image/competitiveness in the international market, the issues of financial soundness always receive higher attention. For each

Capital management efficiency

year, specific priorities are set, along with tasks for each of the activity areas that concern financial matters; plans for financing instrument development are set, etc., but always the cornerstone is the principle of economic reason and financial soundness. This means that it is not important whether you managed a public issue of bonds last year or it was a loan; the main thing is that those funds were raised at the best market terms.

Now, in 2014, given its political stress tests and turbulence in the financial market, 2013 appears a year of stability and planned development. In particular, over the past year, the sectoral loan portfolio grew by 13.5 %, while remaining within the acceptable debt burden indicators approved by the federal executive bodies. Much attention was paid to gradual maturity periods, while retaining interest rates. For instance, at the end of the year, we took RUB 30 billion of five-year loans that raised the average weighted credit portfolio maturity.

Last year, we tested cash pooling bank instruments (both tangible and virtual) and built up a plan for further development of these instruments to improve the efficiency of financing inside the group. Not all of the instruments are applicable to the nuclear industry because of its features and risk portfolio. However, the total amount of the in-group financing was RUB 4.47 billion in 2013. This is three times what it was in 2010, when the centralisation of treasury operations had just begun and the difference between passive rates of different sectoral companies was at the critical point. Now, owing to the centralisation, the external loan impact has been smoothed out for the sectoral companies, and the efficiency of a division's operations can be compared using performance indicators without reducing to uniform financial terms.

Also in 2013, JSC Atomenergoprom, a key affiliate of ROSATOM and the management company of all civil assets of the nuclear industry, was given, in addition to the earlier Russia sovereign rating given by Standard & Poor's, credit ratings by two international rating agencies: the maximum sovereign level BBB by Fitch Ratings and Baa2 by Moody's Investor Service. The ratings are an extremely important milestone of the financial strategy implementation in terms of increasing the investment attractiveness of the sector and a necessary condition for using a number of financial instruments in future, for instance bonds and Eurobonds, attracting investors to projects, guarantees to international customers, etc.

In the framework of the rating process, our objective is to convince analysts of the rating agencies that JSC Atomenergoprom receives an unprecedented level of support from the Government, has sustainable business perspectives and is capable of maintaining an acceptable balance of debt/EBITDA in the mid-term. In my view, we coped perfectly with this task.

Now ROSATOM spends about US\$ 10 billion annually for investments, and plans to invest over US\$ 350 billion before 2030. I am absolutely sure that we cannot do without diversification of financial instruments, including entry into international markets, to ensure the full and timely financing of such large-scale investment plans on acceptable terms. All these are part of the financial strategy, which is consistently implemented and regularly adjusted to meet the external conditions and business needs.

– *What mechanisms are envisioned to ensure the financial soundness of ROSATOM in the mid and long term?*

– *The Corporation and its organisations' financial soundness in the mid and long term is ensured by the strategic and operative target-setting system, a balance of the Corporation's financing needs and sources of financing on the five-year horizon, and monitoring of its companies within the budgeting process. The tasks of integrated ensuring the financial soundness of companies are solved at each level of planning. At the level of strategic planning, the key development areas and assessments of needed resources and capabilities are selected. The task of maintaining the credit rating of the Corporation and efficient allocation of resources for the ambitious strategy of the Corporation is addressed on a five-year planning basis, while the task of efficiency and competitiveness growth of the sector's operations and of increasing the financial soundness of individual entities of ROSATOM is considered on a one-year planning basis.*

The main objective of ROSATOM's financial strategy is to ensure the financial soundness of the Corporation and its organisations under changing conditions and to arrange for the most efficient financing and management of financial risks.

In 2013, work continued to improve the efficiency of the treasury functions and KPIs in the following areas:

- › consolidation of temporary redundant cash in the pool leader accounts;
- › increasing payment planning accuracy (rolling forecast of liquidity);
- › securing the cost of servicing the consolidated debt portfolio at a competitive level;
- › centralisation of treasury operations (meeting the financial policy requirements).

Improvement of financial capital management efficiency

Priorities of 2013 included improving the efficiency of cash management of ROSATOM's entities and their security through:

- › accuracy of managerial solutions,
- › higher speed of managerial decision-making,
- › decreasing labour intensity of provision of information.

In 2013, the treasury information system the "Corporation's Processing Centre" was put into commercial-scale operation. The system encompasses the 127 largest entities of the Corporation. The use of the information system reduced by two times the labour required to produce the treasury management reports. The task of de-bureaucratisation of the process of collection and consolidation of reports from subordinate entities was fulfilled, and the organisations that use the information system were relieved of having to submit five types of reports.

The use of integrating solutions with captive banks ensured unconditional fulfilment of stringent requirements for the information security of payment settlements, that in turn ensured

the security of cash, quality and timeliness of bank services and control and accounting of treasury operations, as well substantially improving the efficiency of satisfying the uniform corporate rules of the treasury operations management.

In 2014, work will continue to optimise business processes to identify opportunities of reducing labour costs for treasury operations and reporting, including expense automatisisation and the use of the RPS (process mapping, charting methodology of all process interlinks).

In the reporting period, work started in 2009-2010 to centralise treasury operations and intra-group financing development was continued to ensure liquidity for timely and full financing of the investment programme of the nuclear industry entities on optimal terms. Over the period of 2011–2013, the economic effect of the use of the intra-group financing was about RUB 9.8 billion in the sector as a whole, including RUB 3.7 billion in 2013.

To reduce the costs of trade finance transactions and loans, the Corporation continued using guarantees as a means of both ensuring advance repayment and contractual obligation fulfilment in purchases at own and extra-budgetary funds and a measure of reduction of expenditures to attract financing. In 2013, this allowed a saving on commissions for bank guarantees and loan interest of RUB 1.6 billion.

Establishment of JSC AtomCapital (a 100 % affiliate of ROSATOM which functions as the pool leader for intra-group financing of FSUEs) helped to optimise the debt burden among JSC Atomenergoprom and companies and organisations outside its system in 2013. As of 31 December 2013, a cash pool of about RUB 9.15 billion was transferred to JSC AtomCapital.

In 2013, JSC Atomenergoprom was rated by two international rating agencies:

- › Moody's Investors Service gave the long-term international rating Baa2 with a "Stable" outlook and the national rating Aaa.ru;
- › Fitch Ratings gave JSC Atomenergoprom the long-term international maximum possible sovereign rating BBB with a "Stable" outlook and the long-term national rating AAA(rus).

Given the volume of the sectoral investment programme, the ratings are essential for attracting drawings for longer terms at lower market rates.

Improvement of investment attractiveness of the Russian nuclear industry

ROSATOM continued working to improve the investment attractiveness of the Russian nuclear industry, attracting strategic investors to NPP construction projects in Russia and abroad, maintaining relations with current investors and creditors, as well as establishing relations with and limits in new banks:

- › in April 2013, bilateral meetings with the Chinese investment community were held in Beijing and Hong Kong;

- › in June 2013, at the 17th St. Petersburg International Economic Forum, ROSATOM and JSC Sberbank of Russia signed a cooperation agreement, which stipulated the priority areas of the cooperation and interaction procedure of the parties on new projects;

- › in December 2013, in the framework of the International Nuclear Suppliers' Forum ATOMEX-2013, a round-table session "Financial Instruments to Support Suppliers" was held;

- › in July and September 2013, visits were organised of representatives of Russian and foreign banks to Novovoronezh NPP.

Main finance management problems of the reporting period and solutions

The main problem of finance management in 2013 was a shortage of investment resources. As the cost of drawn financing grows, the optimal terms may be gained through the centralised attracting of loans and by maintaining the high credit ratings of JSC Atomenergoprom. In 2013:

- › work was carried out towards obtaining credit ratings for JSC Atomenergoprom from international rating agencies Fitch Ratings and Moody's Investors Service, as well as affirming the credit rating at the achieved sovereign level given by Standard & Poor's;
- › work on the project to set up JSC AtomCapital and transfer FSUE's cash pool to JSC AtomCapital continued.

Plans for 2014 and on the mid-term horizon

Given the existing risks of growing the debt burden under external factors, in 2014 it is planned to:

- › maintain strict repayment discipline as related to intra-group financing;
- › improve planning accuracy of cash flows in the mid-term;
- › avoid internal competition over credit resources between entities;
- › continue centralising cash management;
- › focus on relations with the core banks as the most reliable partners in terms of availability of funding both in volume of funds and cost;
- › strictly fulfil obligations, including covenants, with existing creditors (including consortium loans) and rating agencies.

Also in 2014, it is planned to broaden the array of financial instruments used to reduce the debt servicing cost and ensure timely and full-scale financing of the sectoral organisations' investment programme on acceptable terms.

3.2.2. Management of investment activities



Ekaterina Lyakhova

Director for Investment Management and Operational Excellence

– What is ROSATOM guided by in building up and optimising its investment project portfolio?

– The nuclear industry is now in a period of a large-scale renovation of production capacities, bringing new products to allied markets and scientific infrastructure development as the basis of future technological solutions. All these determine the current structure of the investment project portfolio and possible ways to optimise it.

In 2013, the budget portfolio consisted 56 % of commercial projects ("profitable"), with the reminder being "unprofitable". The share of commercial projects was 9 % greater than in 2012. It is a very good result for us. It should be understood that the main part of the "unprofitable" projects are the technical retrofitting and modernisation projects at the existing capacities and that of renovation of the scientific infrastructure. In other words, we obtain the main economic benefits of such projects either in the framework of operational activities (through the reduction of the total cost of ownership and, ultimately, through the reduction of the self-cost) or, in the mid- and long-term, through obtaining a new technologically complex product from research. Besides, some "unprofitable" projects are aimed at ensuring the unconditional safety of the sector organisations' operation.

Optimisation is not just a reduction of the share of "unprofitable" projects; this is also the improvement of portfolio quality through review and searching for optimal technological solutions in terms of economics and safety. We carry out technical and economic audits of projects being implemented on pilot sites. In the framework of such audits, we carry out analyses of project budgets and seek engineering and technological solutions, which is necessary to achieve our goals.

– What are the main results of 2013?

– In the reporting year, the integral KPIs on profitability and results of the portfolio were established for managers. Automated processes allow us to control portfolio results and development in a more effective and regular manner.

The regulatory requirements for preparation of project materials are renewed. The de-bureaucratisation process is under way; a list of mandatory documents for review has been shortened, but it is still being given more scrutiny.

The main investment decision-making processes have been regulated. A system of subcommittees has been established to complete the investment decision-making system, specifically to increase the quality of decisions and the speed of making them. A pool of sectoral experts has been formed for analysis of and preparing statements on projects; it includes representatives of related structural units of the Corporation and sectoral organisations who have proved that they have necessary competences.

Lastly, the transition to regular post-investment monitoring of projects is under way; it is a means of verification of actually obtained results for their conformance with plans and a source of information for the analysis of performance and search for potential improvements.

As a result of all these activities, the consolidated profitability of the commercial projects within the portfolio last year grew by 5.6 %. The result speaks for itself.

– What investment areas will be priorities in 2014 and in the mid-term?

– In 2014 and in the coming 3-5 years, the investment priorities will remain the same. These are safety, modernisation of production assets, new businesses and scientific infrastructure and innovations.

Approach to management of ROSATOM's investments

- › collective decision-making on investments by the Investment Committee of ROSATOM and investment committees of entities (the decision-making level depends on the strategic significance of a project);
- › building up the Corporation's annual and mid-term Projects Portfolio as a combination of projects of sectoral entities and its annual updating;
- › control of departures from the project implementation plan in the sectoral entities at the level of the Corporation;
- › decision-making on key milestones of all projects significant to the Corporation and control of their implementation at the level of the Corporation;
- › application of the "gate" approach in implementing and controlling projects;
- › collection and analysis of expert statements to improve the quality of investment decision-making on projects.

Main results of 2013:

- › ROSATOM's Projects Portfolio has been updated to 2018;
- › an efficiency assessment of the Corporation's Projects Portfolio was carried out to set forth the required yield of the projects and increase the transparency of the investment decision-making;

- › a system of incentives that motivates improving performance indicators of the Corporation's Projects Portfolio was developed; target KPIs of the investment activity were set forth for the top sectoral managers;
- › a mechanism for the comprehensive audit of projects that enables producing recommendations for better planning and implementation of projects was defined; a random technical and economic audit of the progress of ten projects was conducted, and a post-investment audit of 106 projects of ROSATOM and its entities completed in 2011-2013 was carried out;
- › the Uniform Sectoral Investment Policy of ROSATOM was introduced;
- › the Uniform Sectoral Regulations for the "Corporation and its Entities' Projects Portfolio Management", which set forth the stages and procedures for investment planning, monitoring and controlling procedures for this process was introduced, along with a list of ROSATOM's experts with defined functions and areas of responsibility;
- › the Uniform Sectoral Interaction Procedure for decision-making on a project of ROSATOM and its entities, which regulates, among other things, the procedure and timing of reviews of functioning and which provides for mandatory consideration of expert opinions and that of the parties concerned with the project.

Table. Financing of the investment activities of the Corporation's entities

Main activity areas	Actual volume of project funding VAT inclusive* (bln RUB)
Nuclear Weapons Complex	2.1
Mining Division	9.1
Uranium One Holding	46.4
Fuel Division	27.8
Sales and trading	0.2
Nuclear Power Complex	
Machine Engineering Division	4.8
Power Generation Division	236.6
Overseas construction	1.8
Construction in Russia	1.2
JSC VNIPIET	0.5
Back-end of lifecycle	12.4
JSC Rusatom Overseas**	14.6
Innovations Management	6.8

* Civil projects.

** Including "Radiation Technologies".

Capital management efficiency

Main problems of investment management

Table. Main problems of investment management and solutions

Problems	Solutions
A deficit in investment resources, which limits opportunities for the Corporation's Projects Portfolio and forces the financing of liabilities first of all.	Incentives to attract external funding. Optimisation of the Corporation's Projects Portfolio. Optimisation of budgets of ongoing projects.
A lack of automation for investment activity management.	Implementation of the information system for management of the Projects Portfolio in the sectoral organisations.
Project implementation outcomes do not meet the customer's expectations.	Improvement of project managers' skills. Changes in the project incentive system. Formalisation of roles in and responsibilities for project implementation.

Plans for 2014 and on the mid-term horizon

In the short- and mid-term, it is planned to carry out activities aimed at improving the efficiency of the Corporation's Projects Portfolio through development of the management system and enhancement of project documentation quality, including:

- › development (detailisation and specialisation) of the regulatory and methodological documentation of project management processes, formalising responsibilities within the project activities;
- › standardisation of the investment decision-making process on a project at its different stages and for different types of projects;
- › improvement of the system of control over the targeted and efficient use of funds invested in projects;
- › preparation of proposals and initiating changes to ROSATOM's incentive system as related to motivation in project-related activity, duplication of the solution for automating the reporting system in the field of investing;
- › establishment of a consolidated storage of knowledge in the field of investment and project management and providing access to it to the Corporation and its organisations' employees;
- › advancement of competences of investment project activity participants;
- › adjustment of the current processes and refinement of the existing framework of the regulatory and methodological documents with account taken of the above said changes in ROSATOM.

3.3. Management of the production capital

Management of the production capital includes management of the increment of production capacities, production efficiency, NFC and NPP lifecycles, etc.

3.3.1. ROSATOM Production System

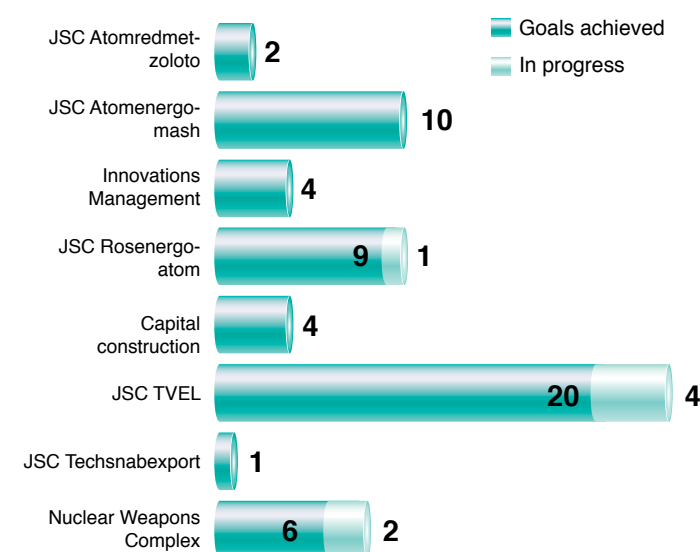
The main goal of the RPS is to reduce all types of losses in the production and business processes and to increase the efficiency of ROSATOM operations.

In 2013, work to develop the RPS focused on specific sectoral projects aimed at reducing stocks, increasing labour efficiency, shortening process times and decreasing the self-cost of products.

Results of 2013

Over the year, 84 sectoral projects were implemented at 54 entities of the nuclear industry. In particular, 24 RPS projects succeeded in reducing the work-in-progress (WIP) by up to 80 %, eight projects reduced the amount of rejects by 41 %, 44 projects reduced the process duration time by 80 %, and eight projects increased labour efficiency by up to 88 %.

Fig. Number of sectoral projects by division

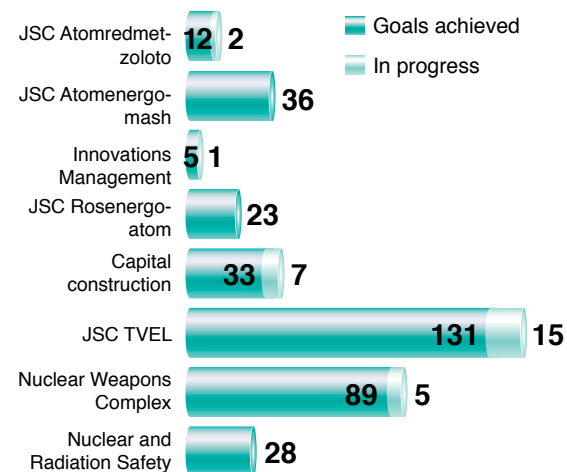


For more details of the RPS results in the Corporation's divisions, see Section "Efficient supply of nuclear electricity to Russia's economy".

Plant-wide RPS projects

In 2013, 82 sectoral enterprises implemented more than 380 plant-wide projects aimed at the optimisation of their internal processes.

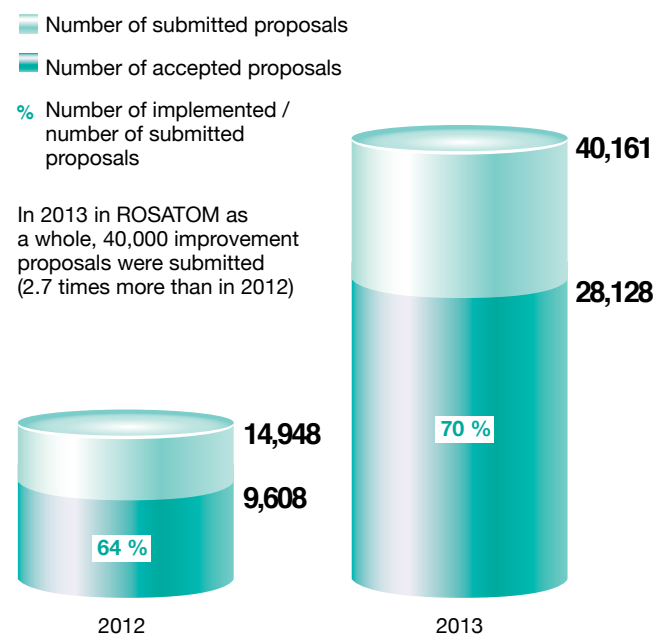
Fig. Number of plant-wide projects by division



Implementation of improvement proposals

In the reporting year, the active implementation of improvement proposals (IP) received from employees of ROSATOM continued. The number IPs substantially grew compared to 2012.

Fig. Implementation of improvement proposals



Sectoral contest of RPS and IP projects

Since 2011, the nuclear industry has run a contest to solicit improvement proposals and ideas for projects related to the implementation of the production system. Its main goal is to involve the Corporation's employees in the RPS development and to exchange best practices. 2013 saw the introduction of new categories, which allowed the identification of the most active

entity with respect to the submission and implementation of improvement proposals, and the most active employee was given a ROSATOM award. In 2013, over 100 applications (two times that of 2012) were submitted in the second stage of the contest.



JSC NCCP was the leader in submitting and implementing improvement proposals. The company demonstrated the best results in the sectoral contest. In 2013, JSC NCCP employees submitted 2,156 proposals.

The contest identified the most active worker in the nuclear industry in terms of proposal submitting: Boris Zabelin, the small group leader at JSC SCC's RCP, who submitted 47 IPs.



Sergey Obozov
Director for ROSATOM Production System

«I do not expect crucial changes in implementation of the RPS projects in 2014, but new priorities are that we will go not only "bottom to top" but "top to bottom" as well. We also sustained losses in the inter-division space where machines and long process links are not seen. Now, we have to build a pull system starting from ore mining through fuel supply to our plants. It is important, basing on the RPS principles, to view the entire nuclear fuel cycle. Moreover, it is necessary to carry out a thorough analysis of production which would help even and optimise the flows.»

Capital management efficiency

On the whole, the past year demonstrated a substantial growth in achieving the set goals of the projects where over 600 RPS leaders could show their worth. However, the motivation of leaders trained in the framework of the sectoral projects failed to increase as making the "critical mass" of the RPS leaders; in turn, this did not crucially change the attitudes to RPS in the sector on the whole.

Plans for 2014 and on the mid-term horizon:

- organisation of megaflores at the inter-division level;
- organisation of production planning based on the RPS principles in all spheres of ROSATOM;
- organisation of RPC enterprises;
- implementation of RPS training and methodology programmes;
- implementation of leader development programmes;
- implementation of a lean production corporate culture;
- expansion of the RPS to subcontractor companies and design and survey and construction companies of the sector.

3.3.2. Improvement of energy efficiency

Energy savings and energy efficiency is a priority area, which helps increase the competitiveness of nuclear industry entities against strong rivals in ROSATOM's markets; this can be achieved through the reduction of the self-cost of manufactured products and rendered services. The Corporation has produced a set of regulatory documents which provide a uniform methodological framework to its enterprises that helps to determine mechanisms and algorithms for the calculation of the value of energy cost reduction. The uniform target values for the five-year period 2010-2015 and mechanisms for achieving the pre-set parameters have been developed.

Energy efficiency improvement approaches in ROSATOM and its entities

In 2010-2013, given the requirements of the Federal Law No. 261-FZ, energy surveys were carried out in all organisations of the nuclear industry to identify potential key areas for energy savings. The "Programme of Energy Saving and Improvement of Energy Efficiency of the Nuclear Industry for the Period of 2012-2016" was developed from their findings.

Since 2011, an automated energy efficiency control system (AEECS) has been introduced in the organisations of the Corporation. It was designed to increase the reliability of data being received from the Corporation's organisations about the saving of energy resources, monitoring of the energy saving programmes and assessment of the efficiency of implemented measures.

Fig. AEECS implementation at ROSATOM's facilities, number of organisations

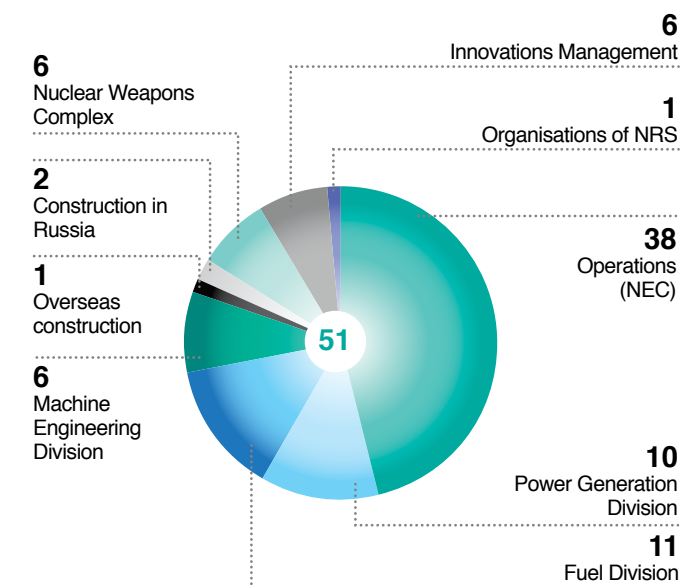


Fig. Main consumers of energy resources

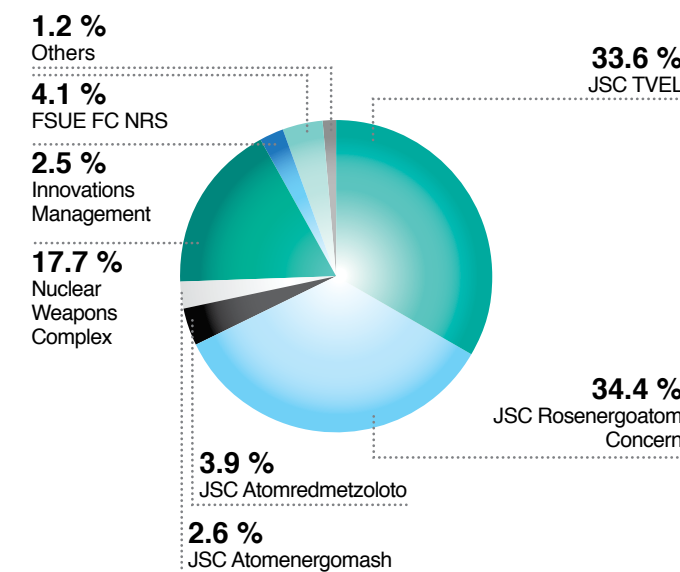
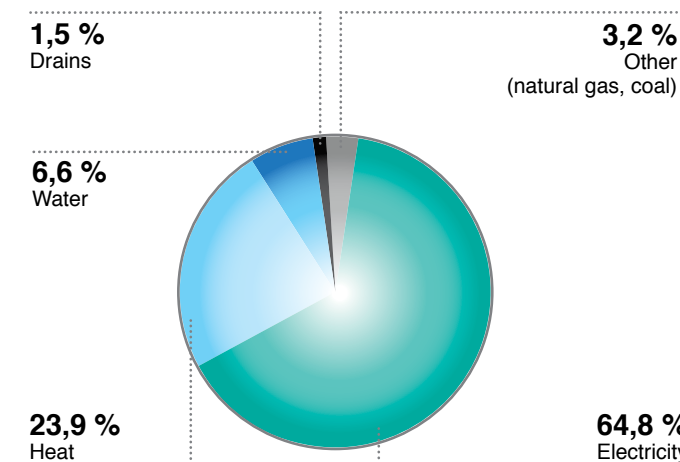


Fig. Distribution of costs by type of energy resources, %



Implementation of the energy management system in organisations

Since 2012, the system of energy management based of the requirements of the International Standard ISO 50001:2011 has been introduced in ROSATOM's organisations to increase the quality of management of energy resource cost management and to improve energy efficiency. Following the results of this activity, in 2013, JSC Rosenergoatom Concern passed a certification procedure of the international body DQS.

Results of 2013

In 2013, the reduction of the cost of energy resource consumption by 22.2 % in comparable values against the reference year 2009 was achieved through implementation of investment-type measures. The total amount saved over the period 2010–2013 was RUB 13.9 billion, with the investment in implementation of energy saving measures and improvement of energy efficiency amounting to RUB 9.2 billion.

Table. Rate of energy resource cost reduction in comparable conditions in monetary terms against 2009 as accrued in 2010

Year	2010	2011	2012	2013	2015
Planned/Actual	actual	actual	actual	planned	actual
Saving against 2009 (%)	6.5	12.3	17.6	20	22.2
Accrued saving, (m RUB)	1,632	4,643	8,826	13,272	19,552

Fig. Indicators of energy resource cost reduction in 2013 in comparable conditions in monetary terms against 2009 by key division of ROSATOM

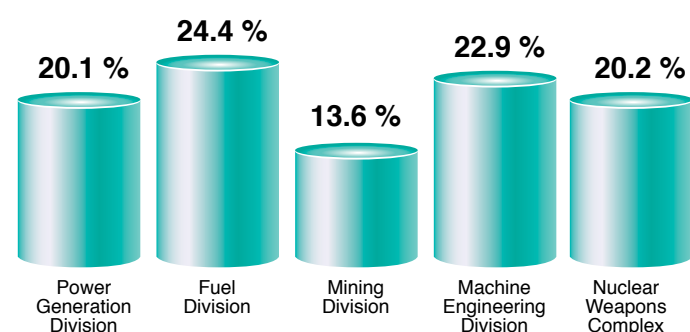
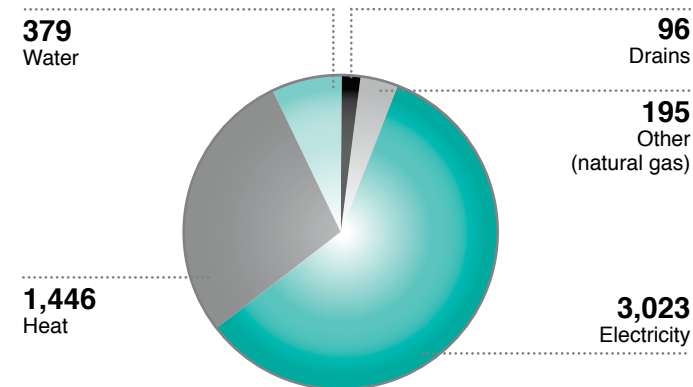


Fig. Saving of energy resources in comparable values in 2013, mln RUB



The results of activities in energy saving and reduction of electricity consumption in the Corporation's divisions are provided in Section "Efficient supply of nuclear electricity to Russia's economy".

Plans for 2014 and on the mid-term horizon

In 2010–2013, the first energy audit was conducted in 113 organisations of ROSATOM. In 2015–2016, it is planned to conduct the secondary audit and to undertake the following tasks:

- to develop a new energy performance certificate for FER consumers;
- to obtain objective data on the amount of energy resources being used; to assess the FER consumption rate;
- to control implementation of measures and update the existing energy saving and energy efficiency improvement programme, taking into account the reorganisation of enterprises, as well as to refurbish essential process equipment;
- to identify changes in the indicators over the time period since the previous energy survey; to assess work carried out to reduce FER spending over the given period;
- to carry out an in-depth audit of individual processes and energy consumers, to implement new energy efficiency-improving technologies;
- to determine the energy savings and energy efficiency improvement potential;
- to develop individual target indicators of energy efficiency for each enterprise for a five-year period;
- to compile a list of energy savings and energy efficiency improvement measures, to assess their cost, to calculate turnover periods of these measures;

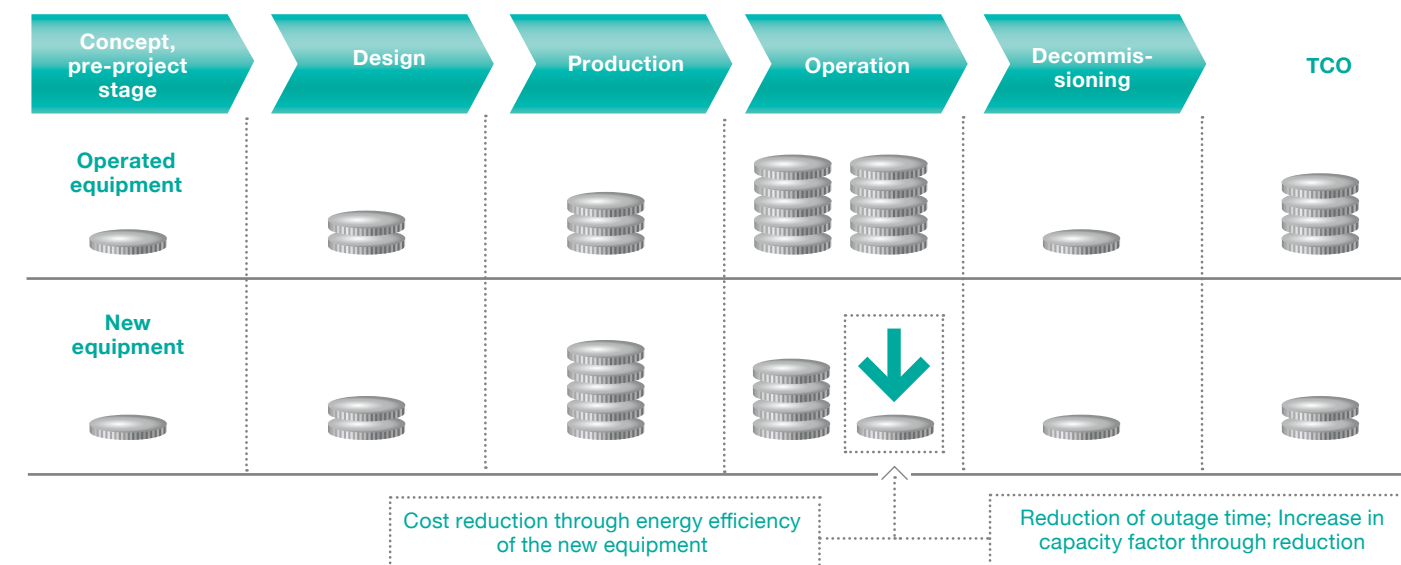
Capital management efficiency

- to determine the degree of correctness of putting actual data into ROSATOM's AEECS and to analyse calculation methodologies for target indicator achievement approved by the organisations.

3.3.3. NFC and NPP lifecycle management

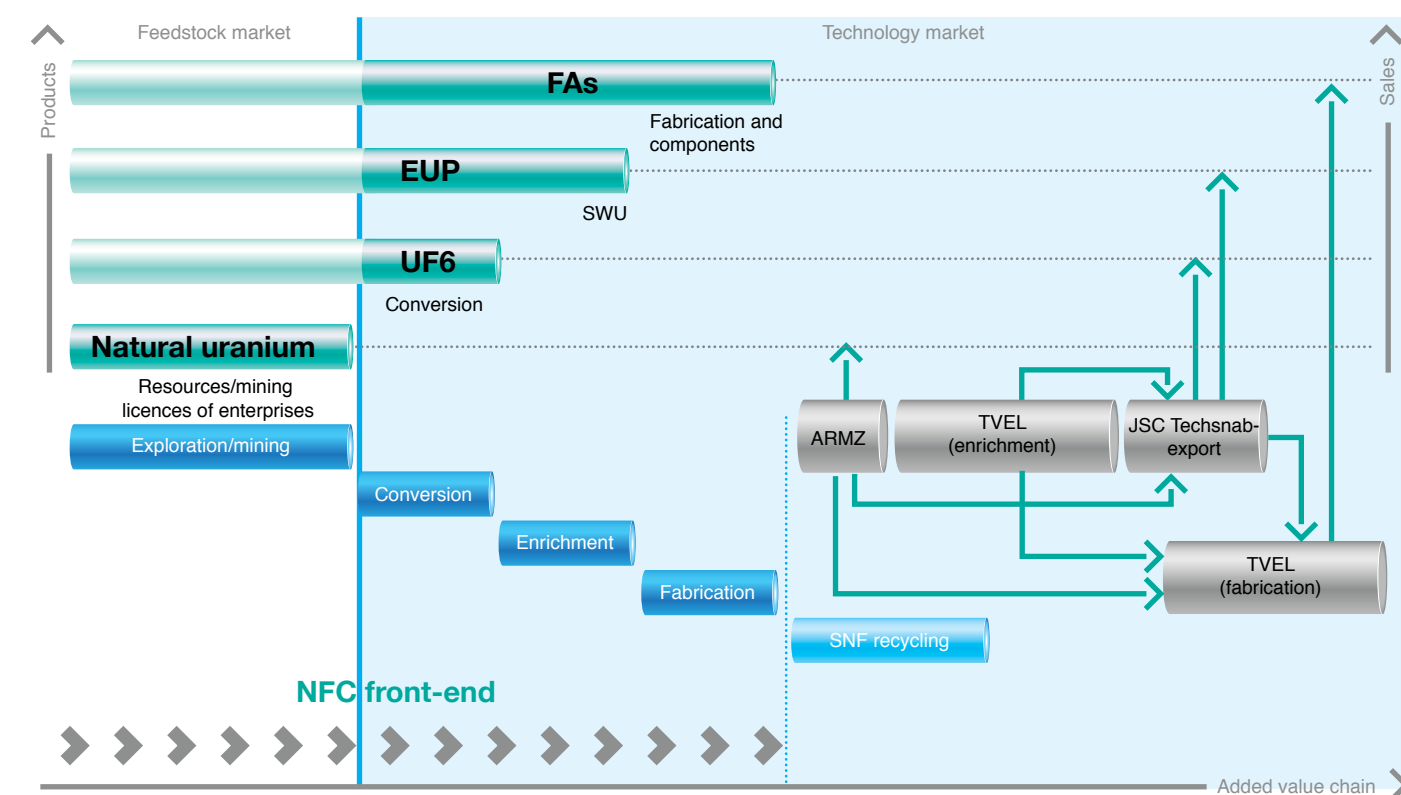
The goal of NFC and LPP LC management projects is to support the achievement of the strategic goals of ROSATOM through an approach that ensures decision-making based on the assessment of revenues and expenditures over the total lifecycle and under NFC and NPP lifecycle project management, as well as through the organising interactions of all NFC and NPP LC participants.

Fig. Model of total cost of ownership management of means of production over the NPP and NFC facility lifecycle



Principle: Reduction of the total cost of ownership (TCO) of the equipment (subsystems of the facility) and facility as a whole;
Tool: The system of decision-making for raising competitiveness of facilities (increase in capacity factor, shortening of construction time, growth of sale costs, improvement of reliability and safety);
Effect: An increase in company value owing to the reduction of TCO and growth of competitiveness.

Fig. Model of total cost of ownership management of means of production over the NPP and NFC facility lifecycle



In 2013, the following was necessary to launch the Lifecycle Management System (LMS):

- › to identify main activity areas;
- › to determine selection criteria of pilot projects for LMS implementation;
- › to define goals, objectives, requirements for results and implementation timeframes of the pilot projects;
- › to generate proposals on the system for the management of the LMS approaches implementation;
- › to generate proposals of IT solutions in support and ensuring a project implementation.

The pilot projects were selected basing on principles of maximum preparedness, topicality, potential economic efficiency and possibility of duplication (introduction in the decision-making system and organisation of information interaction). The technological and economic frameworks of the pilot projects were worked out: product lifecycle management (PLM) and minimisation of the total cost of ownership (TCO).

Implementation of the LMS of projects is based on an analysis of real-world experience proceeding from identified “breaks” with the existing organisational and business models and from the necessity of adjustment of the existing rules and procedures, creating an incentive system, setting requirements for altering the system of interaction of divisions and functions of the Corporation, building up competences and dissemination of the pilot project results.

Main results of 2013

Results of implementation of the following pilot projects were approved:

- › Pilot Project No. 1 “Equipment TCO management. Introduction of RCP 1753 and implementation of its supply, installation and maintenance contract for Kursk NPP II”;
- › Pilot Project No. 2 “Optimisation of VVER fuel TCO” as two sub-projects:
 - › “Justification of the optimal isotopics, fuel cycles and burnup of VVER NF”;
 - › “Justification of the use of REMIX fuel in VVERs”;
- › Pilot Project No. 3 “Selection of NPP subsystems to improve competitiveness through the use of cost management tools over the NPP lifecycle”.

In the framework of the IT programme for implementation of the lifecycle management system in the nuclear industry, a decision was made to establish a NPP lifecycle information support competence centre in a nuclear industry entity.

Plans of NFC and NPP LC management for 2014 and on the mid-term horizon:

- › completion in 2014 of Pilot Project No. 2 “Optimisation of VVER fuel TCO”: an assessment of options for the utilisation of SNF recycling products in nuclear generation at thermal neutron plants, integration of the nuclear fuel cost management model in the NPP dynamic cost model;
- › completion of formulation of the dynamic cost model of nuclear power plants, which allows the evaluation of the total cost of ownership of NPP, operation cycle performance parameters depending on electricity rate, and financing costs;
- › finalisation and scaling over the sector of the decision-making logic using the assessment of the total cost of ownership and specific costs per unit of product in the total lifecycle.

3.3.4. Procurement management



Roman Zimonas
Director of Procurement Department

– *The procurement system of ROSATOM has been highly praised several times by both the Government of Russia and the expert community. What are the procurement system elements responsible for this success, do you think? What role does implementation of the transparency principle to this activity play?*

– *In our work, we are guided by six basic principles: compliance with the legislation and basic principles of business organisation, the strict requirements for product quality and optimality of cost, transparency of activity and the use of anti-corruption mechanisms. All these principles are interrelated elements of the procurement system, which in combination allow the achieving of optimal consumption of resources and maximum economic effect. For example, the information openness of the procurement activities allowed suppliers to become controllers of nuclear industry procurements and to take an active part in improving the system.*

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We pay special attention to the issues of the product quality control that is dictated by the sectoral features. In case of especially important procurements, we require our suppliers to have permits, materiel and human resources as well as asking for information about experience with similar works or supplies.

– *According to the roadmap of giving a greater access to small and medium businesses to procurements of the infrastructural monopolies and state-owned companies, 18 % of procurements of state-owned companies in 2015 should come from small and medium businesses. How would this affect procurement, given the fact that many goods necessary for the Corporation, such as complex equipment, require large investments, while these often are not available to small and medium businesses?*

– *The needs of nuclear industry enterprises include both complex, capital-intensive equipment and the products to support their economic activities. The Corporation has already started implementing the measures of the roadmap, taking into account the sector's features. We have made a number of decisions which will enable us to painlessly develop relationships with small companies. For example, a list of products to be purchased only from small and medium businesses has been compiled based on data provided by ROSATOM's companies, which already now prefer to buy certain goods and services from small companies. Today it has about 900 headings, but it is not final and will be updated depending on the needs of our companies. To satisfy the governmental resolution, which establishes the rules of participation of the small and medium businesses in the state-owned companies' procurement process, it will become mandatory to purchase from representatives of the small and medium businesses.*

– *In what direction will ROSATOM's procurement system develop in 2014 and in the mid-term?*

– *We have started implementing a project on the management of the consolidated needs of the nuclear industry enterprises. I consider it the main task of 2014. We have started enlarging orders for complex, frequently purchased equipment and materials for the nuclear industry, as well as starting the transition to signing long-term contracts. This will help fix prices for the long term, unify specifications of purchased products, carry out more stringent quality control directly in the manufacturing process, ensure “just-in-time” deliveries and reduce inefficient stocks at our enterprises. The order enlargement will help reduce substantially their number and this, in turn, will reduce the cost of the procurement organisation and risks of appeals against procurement procedures.*

Procurement openness and transparency enhancement mechanisms

The nuclear industry procurement system is developed in accordance with three main principles: compliance with the law, increasing the quality of the procured products, as well as openness and information transparency of the procurement process.

The main document that regulates the procurement activities of ROSATOM is the Uniform Nuclear Industry Procurement Standard (UNIPS) (Provision on Procurement).

Management and control bodies:

- › Central Procurement Commission of ROSATOM,
- › Department of Internal Control and Audit of ROSATOM,
- › Central Arbitration Committee of ROSATOM and arbitration committees of divisions,
- › Controlling Committee.

ROSATOM's procurement website:
www.zakupki.rosatom.ru

Main results of 2013

Fulfilment of the Procurement Programme

In 2013, according to the Annual Procurement Programme, ROSATOM and its organisations planned from their own funds to hold 37,366 competitive bidding processes; 36,156 competitive bidding processes were held for an overall amount of RUB 379 billion with an economy of RUB 20.3 billion (6.7% of the amount of the competitive biddings).

In 2013, ROSATOM, with federal budget funds allocated to it and in accordance with the Annual Procurement Programme, planned to hold 906 competitive procurements totalling RUB 130.5 billion; procurement savings were RUB 1.7 billion (3.4 % of the competitive procurement amount).

In 2013, a 10 % reduction of expenses in the purchase of products (works, services) as calculated per unit of product was achieved in pursuance of the Resolution of the Government of Russia No. ISH-P13-58089 of 15.08.2011. The actual value of the cost reduction indicator was 11.29 %.



Table. Amount of competitive procurements of ROSATOM and total savings*, RUB bln

Type of procurement	2011	2012	2013
Total amount of public placement of competitive procurement requests, including:	454.5	389.0	509.5
using ROSATOM's own funds	418.3	313.0	379.0
using federal budget funds	36.2	76.0	130.5
Total saving of funds, including:	31.5 (6.9 %)	20.0 (5.1 %)	22.0 (6.2 %)
saving of own funds (% of the total amount of competitive procurement)	27.92 (6.7 %)	18.0 (5.8 %)	20.3 (6.7 %)
efficiency of placement of an order using federal budget funds (% of the total amount of competitive procurement)	3.58 (10.1 %)	2.0 (2.6 %)	1.7 (3.4 %)

The percentage of public procurements across the Corporation and its organisations was 93.3 % (KPI for 2013).

The procurement programme as related to governmental targets was 100 % fulfilled (KPI for 2013).

Transition to the Federal Contracting System

In the framework of the transition to the Federal Law No. 44-FZ of 05.04.2013 “On the Contracting System of Procurement of Products, Works and Services for the Public and Municipal Needs” the following was carried out:

- › a joint pilot project of ROSATOM and RNU HSE was implemented on testing tools of the contracting system using the case of the actual procurement procedures of nuclear industry enterprises. Following its outcomes, proposals for the relevant by-laws of No. 44-FZ were drafted and 12 proposals for draft resolutions were submitted;

Roman Zimonas, the Director of Procurement at ROSATOM, won the Annual Compliance-2013 Award in the category “The Best Anti-Corruption Compliance Manager” “for building up an efficient system of internal control to prevent breaches of the anticorruption legislation with the consideration of the best practices.” The award organiser is ICS.

- › schedules of procurements using federal budget funds, prepared in accordance with the new rules of three-year planning. were posted on the freely accessible page of the website www.zakupki.rosatom.ru;
- › the function of formulation and concurrence of procurement plans and procurement schedules, as well as the function of preparation and holding procurement procedures as per Federal Law No. 44-FZ “On the Contracting System...,” were computerised and deployed.

Providing greater access to small and medium businesses in procurement procedures

The provisions of the Roadmap “Providing greater access of small and medium businesses to procurement procedures of infrastructure monopolies and state-owned companies” approved by Resolution of the Government of Russia No. 876-r of 29 May 2013 were fulfilled, specifically:

- › information about counterparties who are subject of small and medium businesses and supply nuclear industry enterprises, was consolidated. In 2013, the share of small and medium businesses (SMBs) of the total procurement volume for nuclear industry enterprises was ~ 11 %;
- › to ease SMB representatives’ access to procurement, changes were introduced to the Uniform Nuclear Industry Procurement Standard (Provision on Procurement) as regards giving preference to an SMB subject, which provide for sections on performance security, security

ROSATOM’s procurement management activity has gained the acceptance of the expert community:

- › ROSATOM topped the 2012 procurement management quality rating of public corporations and publicly-owned companies given by the rating agency Expert-RA ordered by the National Association of Procurement Institutions,
- › ROSATOM took a leading position in the rating “Procurement Transparency” developed by the Centre for Anti-Corruption Research and Initiatives of the Transparency International- Russia,
- › ROSATOM took the second place in the “National Procurement Transparency Rating-2013”.

* The percentage of savings, which demonstrates actual savings on the competitive procurements which led to contract signing, is provided.

Capital management efficiency

payment maturity period, contract term and factoring opportunities;

- › the function of collecting procurement information from SMB subjects by the Uniform Nuclear Industry Procurement Management System has been implemented, along with the function of accreditation of participants on ETPs who are SMB subjects.

Purchases from local vendors

A simplified contract-awarding procedure exists for intra-sectoral suppliers and producers who manufacture products of strategic importance for nuclear industry development. It has been in effect since 2011. A list of such products and their producers and suppliers is posted on the publicly accessible website of ROSATOM. A share of purchases from local vendors in regions of substantial activity of nuclear industry organisations exceeds 50 % of the total volume of purchased products. The volume of purchases from domestic producers and suppliers exceeds 80 % across the sector as a whole.

Local (domestic) vendors are legal entities and physical persons who are most closely located to the customer (to minimise costs of product delivery and relocation of machinery and resources) and who provide the customercompany with material resources required for the manufacture of specific products and rendering of specific services

Based on the results of fulfilment of the annual procurement programme, contracts were signed with 17,874 counterparts, of which 99.2 % were registered in the territory of Russia and located predominantly in the European part of the country.

Plans for 2014 and on the mid-term horizon

- › meeting requirements of the Plan of Measures on limiting the end cost of the products and services of the infrastructural companies while retaining their financial soundness and investment attractiveness (Government of Russia, resolution of 11 November 2013);
- › implementation of provisions of the Plan of Measures (Roadmap) “Providing greater access of small and medium businesses to procurement procedures of infrastructure monopolies and state-owned companies” approved by the Resolution of the Government of Russia of 29 September 2013, including:
 - › achievement of a share of purchases from SMBs of 10 % (of signed contracts);
 - › setting up a consulting body;
 - › setting up a “front-end” system for the implementation of innovative products;
 - › allocation of not less than 20 % of the annual total amount of purchases for innovative product procurements;

- › development of a methodology for determining a product’s lifecycle and lifecycle cost assessment criteria;

- › implementation of category-based materiel management in 48 organisations of ROSATOM, whose volume of materiel and equipment purchases (M&E) is not less than 80 % of the total annual M&E procurement programme of enterprises joined the UNIPS, including:

- › identification of M&E categories, development of strategies to benefit from cost reduction (reduction of the price growth rate);
- › implementation of long-term strategies to work with suppliers of each category;
- › reduction of the number of procurement procedures through consolidation of lots, procurement orders and signing of long-term contracts;
- › standardisation of consumed products (standardisation of stock item catalogues, standardisation of off-series products).

3.4. Human capital management



Tatiana Terentieva
Director for Human Resources

– What objectives of the human resource policy and human capital development does ROSATOM face in midterm?

– There are three main objectives. These are the development of the corporate culture aimed at the result and construction of abilities for self-improvement and innovations, which is extremely important for business efficiency improvement. This is to ensure that the succession pool meets the strategic goals of the nuclear industry, and to ensure the possibility of attracting and keeping the best specialists.

To meet these objectives, in 2013, we formulated three key priorities for the coming years. The first is to introduce sectoral values for the

employees to accept them and demonstrate by their behaviour. I would like to point out that we have adopted six corporate values: One Step Ahead, Safety, Responsibility for the Result, Efficiency, Concerted Team, and Respect.

The second priority is the protectiveness of the essential positions achieved through building up a succession pool, which has a high potential and accelerated development to fit these positions.

The final priority is to build up an attractive brand for ROSATOM. In 2014, the Corporation took 10th place in the international rating Universum (the opinion of students specialising in engineering and natural sciences). We have set the goal to make the top three of this rating in 2016.

– How would you judge, on a level of professional skills, the young staff who start working in the Corporation? What young specialists are in demand in the nuclear industry?

– Annually, over 1,500 graduates of nearly 130 universities enter the nuclear industry. More than 90 % of them are young engineers. We monitor their quality based on several indicators. In 2013, 64 % of newcomers were graduates of the core universities for the nuclear industry with a grade point average of 4.18, and 55 % of the young specialists had already completed an internship in sectoral enterprises.

One of the main mechanisms for screening the best university graduates is the Tournament of Young Professionals: TeMP. Last year there were over 2,000 contestants from more than 280 universities located in 450 cities of Russia and other countries.

Before 2021, the nuclear industry plans to recruit more than 14,500 young specialists. In the coming years, the most demanded specialists will be those educated in nuclear physics, engineering and technology support for machine engineering productions, power generation, informatics and computing technology.

– ROSATOM has a sizeable portfolio of overseas projects. Does it plan to enlarge the staff abroad?

– Yes, it does. The number of ROSATOM's employees working abroad will increase as new projects develop and new contracts are concluded. The programmes of the leader potential development and building up necessary competences are implemented for the future "global" personnel.

ROSATOM strategic goals in human capital management are:

- to raise the attractiveness of the Corporation as an employer for both university graduates and experienced specialists and managers;
- sector-wide implementation of uniform corporate policies of efficiency management, career management and manager training;
- training of successors for managers at various levels;
- raising the level of employee involvement.

The main processes aimed at the improvement of human resource management efficiency are: automation of human resource processes, setting up KPIs for human resource management unit heads, unification of organisational structures of the human resource management units, and moving human resource transaction management to the common servicing centre (CSC). Implementation of these moves will help increase the performance of the human resource units by more than 20 % by 2015.

3.4.1. Human capital description

Fig. Average headcount of ROSATOM employees

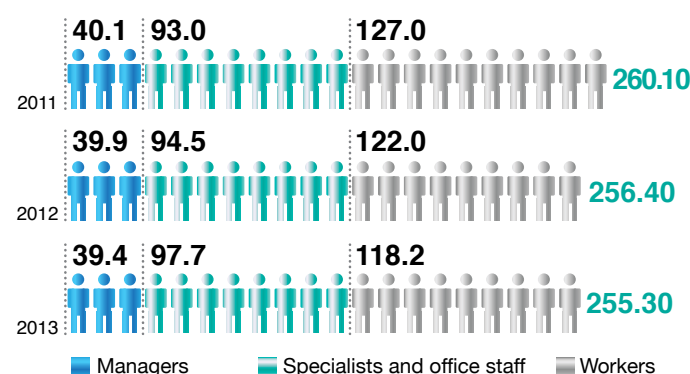


Fig. Percentage of ROSATOM's specialists under 35 years of age, %

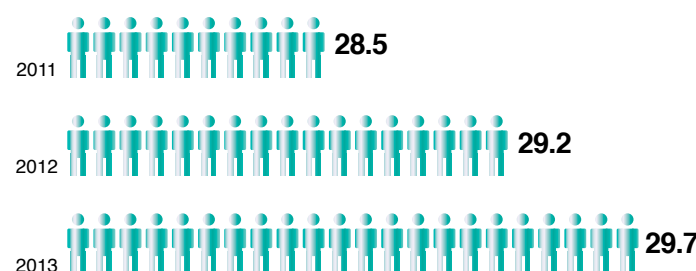
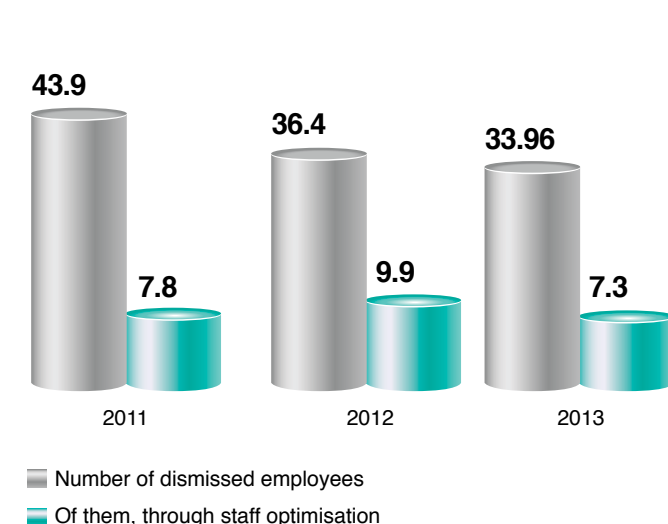


Fig. Dismissals and staff turnover, thousand people



Capital management efficiency

Fig. Percentage of industrial group employees, %

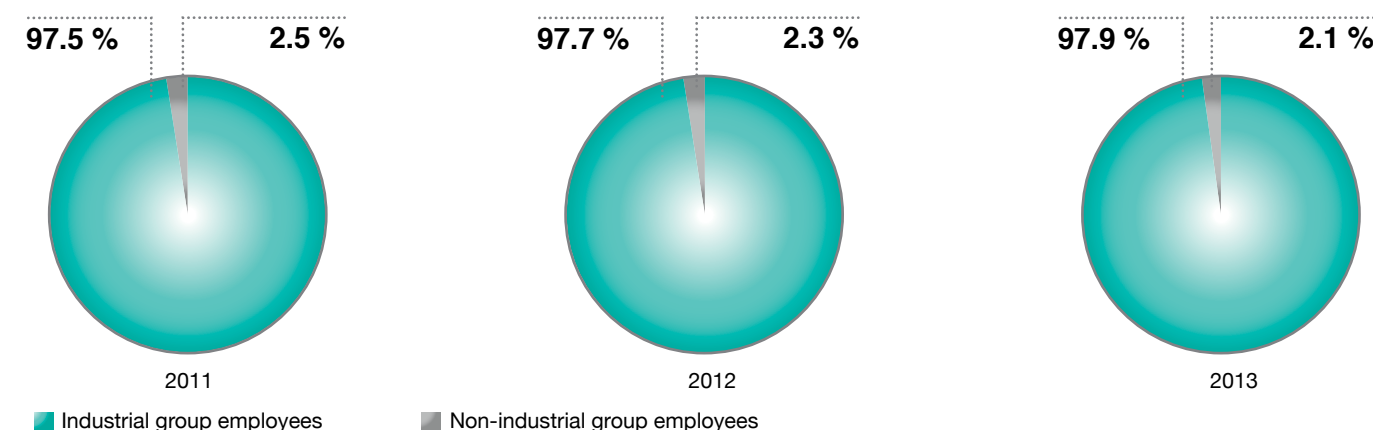


Fig. Average headcount of ROSATOM by activity area in 2011–2013, %

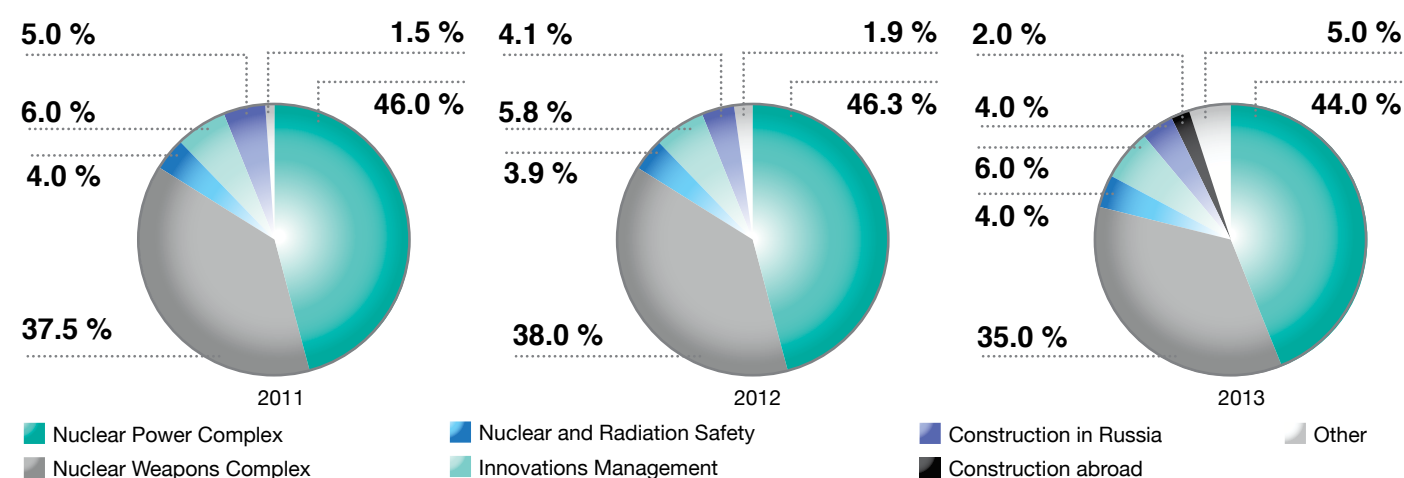


Fig. Average age of personnel, ages

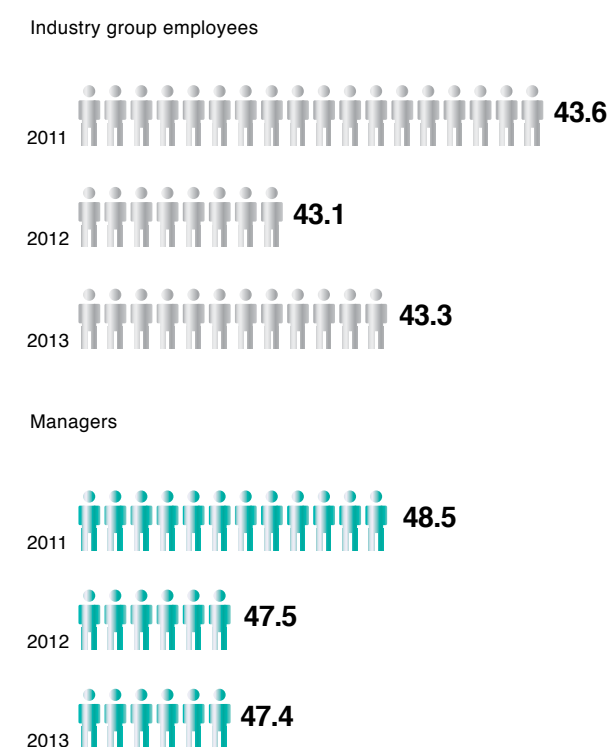
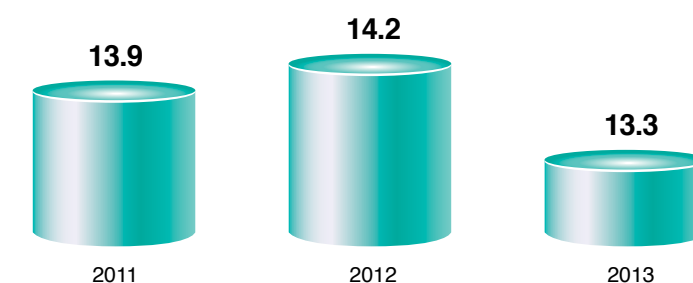


Fig. Staff turnover at ROSATOM, %



3.4.2. Human resource management efficiency

To meet KPIs of human resource management in 2013:

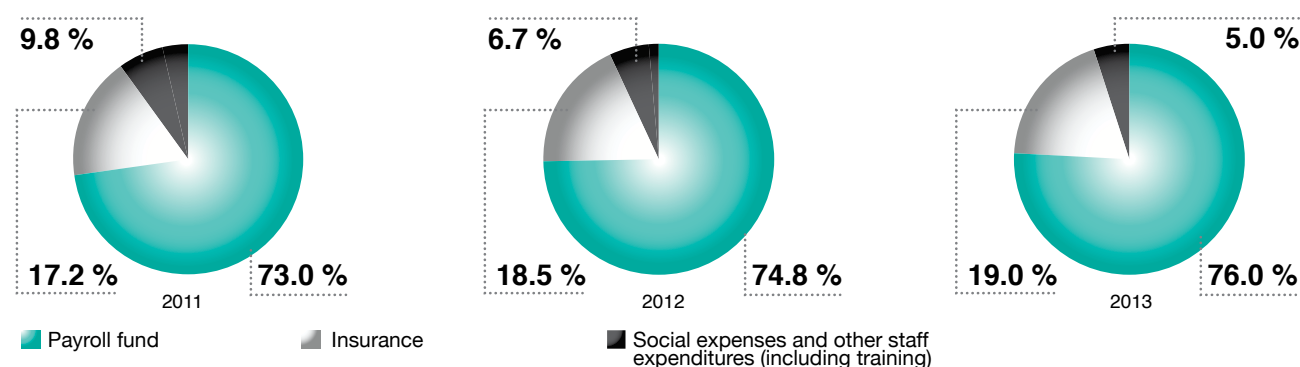
- the percentage of appointments from the succession pool grew from 20.2 % to 28.8 %;
- the organisation structure standard was implemented in the sectoral organisations;
- organisational structures were flattened: their management tiers were decreased to 7-4 tiers depending on the business area and headcount of the organisation;

- managerial labour efficiency was increased (the span of control increased from 5.4 subordinates per manager to 7.75);
- functional verticals were built up and inter-tier interaction efficiency was improved in the sector;
- nine entities totalling 23,000 staff members were turned to use the target IT system (SAP HR);
- ROSATOM won 6th place in the rating of the best employers among students and graduates of nuclear-related universities (Universum);
- over 2013 individual KPIs were set for 19,000 managers;
- 3,000 sectoral workers trained in programmes for the advancement of their managerial competences (2,000 people in 2012);
- operational expenditures for human resource management was reduced by RUB 200 million in 2013 through automation, standardisation and centralisation of human resource management processes and shifting the transaction processes to CSC.

3.4.3. Remuneration system and social policy

In 2013, the total amount of staff costs was RUB 227 billion, up 7 % from 2012. The cost of one employee per year grew from RUB 826,800 in 2012 to RUB 879,600 in 2013 (up 6.4 %).

Fig. ROSATOM staff cost structure in 2011-2013



3.4.3.1. Uniform remuneration system

The corporate (sectoral) remuneration system provides:

- an incentive fee: strengthening of the link between the financial gain of the employee and performance and meeting key performance indicators. KPIs of managers of ROSATOM are formulated towards achievement of the strategic goals and KPIs established for the Corporation by the Supervisory Board, while the strategic tasks set for the organisations and enterprises are transformed in the KPI charts of specific managers and cascaded down to structural divisions and employees. Individual KPI charts that follow the uniform corporate standard have been developed for 11,000 top managers of organisations;
- worthy remuneration for labour.

In 2013, the average monthly wage per employee of ROSATOM grew by 10.6 % against 2012 to RUB 55,300. The average wage in the Corporation is higher by 39 % than the average in Russia (according to the data of the Federal State Statistics Service, the average accrued wage in Russia for December 2013 was RUB 39,700 a month).

Non-material incentives

The uniform sectoral award policy of ROSATOM is the most important element of the non-material incentive system.

In 2013, 152 employees were given state and government awards for their contributions to nuclear industry development, strengthening of the defence capabilities of the country, improvement of nuclear and radiation safety, increasing generation of nuclear electricity and ensuring technological leadership on a global scale.

In 2013, the sectoral nominations programme “ROSATOM’s Person of the Year” was developed and introduced. The programme is aimed at acknowledging employees’ merits. The nominations list includes 53 headings, of which 35 are professions within the divisions, 13 corporation-wide nominations and five special nominations by the Chief Executive Officer.

In 2013, the contest finalists were 177 employees from 65 enterprises in the nuclear industry. The awards ceremony, attended by the top management, was held in Moscow on 27 February. The participants, contest winners and top managers of the sector, highly praised the organization and format of the ceremony.

In 2013, 13,700 people were given ROSATOM awards for high professionalism, great personal contributions to solving priority objectives of the nuclear industry and longstanding commitment to work.

Capital management efficiency

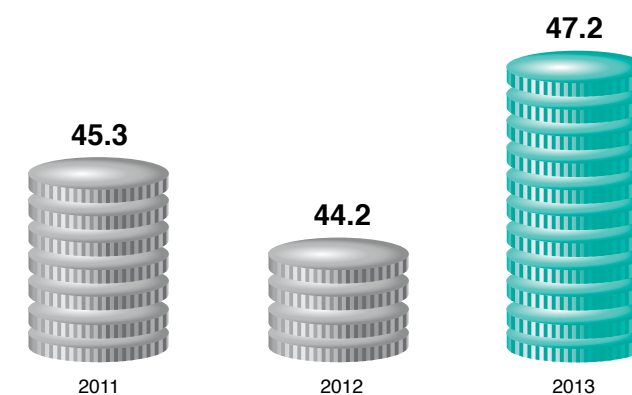
3.4.3.2. Implementation of the social policy

The social policy is aimed at achieving the following goals of the Corporation:

- improvement of attractiveness as an employer;
- engagement and retaining of young and high-skilled specialists;
- improvement of employee involvement;
- enhancement of expenditure efficiency.

The total amount of social expenditures in 2013 was RUB 12.0 billion.

Fig. An amount of social expenditures per worker of ROSATOM, thousand RUB



To ensure the unity of command of the nuclear industry, in 2013, the Uniform Sectoral Methodological Recommendations for Expert Review of Draft Collective Labour Agreements of ROSATOM’s Organisations were put into effect. The collective labour agreements cover 89.6 % of employees working in the Corporation’s entities. Collective labour agreements of all entities provide for a minimal period of two months for notifying employees of substantial changes in the activities of the Corporation. If a situation arises that may lead to a large-scale dismissal, this period is three months.

Interaction with the Interregional Non-Governmental Movement of Nuclear Power and Industry Veterans (INGM NPIV)

INGM NPIV unites 127 veterans’ organisations totalling 325,171 people as of 31 December 2013, of which 81 veterans’ organisations (157,262 participants) are within ROSATOM.

During 2013, welfare assistance to veterans of organisations amounted to RUB 842,000. 1950 veterans’ petitions were addressed. 800 pensioners were awarded the badge “Veteran of Nuclear Power and Industry” by requests of INGM NPIV.

The Executive Directorate of INGM NPIV rendered assistance to serious patients and veterans in sore need to the amount of RUB 358,000. As a rule, the veterans’ organisations monitor the health of veterans, and in JSC Rosenergoatom Concern, visiting nurse care services have been established at seven NPPs. The Praesid-

The Badge of Honour “For Active Work in Patriotic Upbringing of Citizens of the Russian Federation” and the Commemorative Medals “Patriot of Russia” were awarded to the veterans’ organization of FSUE PA Mayak and leaders of veterans’ organisations:

- Levitshev A. N., JSC Sverdlovsk Research Institute of Chemical Machine Engineering, Yekaterinburg;
- Orlov V. E., JSC SCC, Seversk;
- Saraev O. M., JSC Rosenergoatom Concern;
- Khimchenko V. I., Lermontov;
- Chudinovsky A. V., Zababakhin RFNC-VNIITE, Snezhinsk.

ium of the INGM NPIV Board initiated a reduction of 10 % of the voucher costs for visiting health resorts of the Russian Nuclear Workers’ Trade Union and the health rehabilitation centre for nuclear industry veterans in Hungary.

Tasks for 2014:

- to participate in the Corporate Social Programme of Unemployed Pensioners Support;
- to establish the International Consultative and Expert Board of Nuclear Power and Industry Veterans;
- to take part in the preparations and conduct of events to be held on the occasion of the 60th anniversary of the start-up of the first nuclear power plant and the 25th anniversary of the Nuclear Society of Russia.

3.4.4. Training of the personnel

3.4.4.1. Staff training and retraining, advanced training

Education and advancement of skills

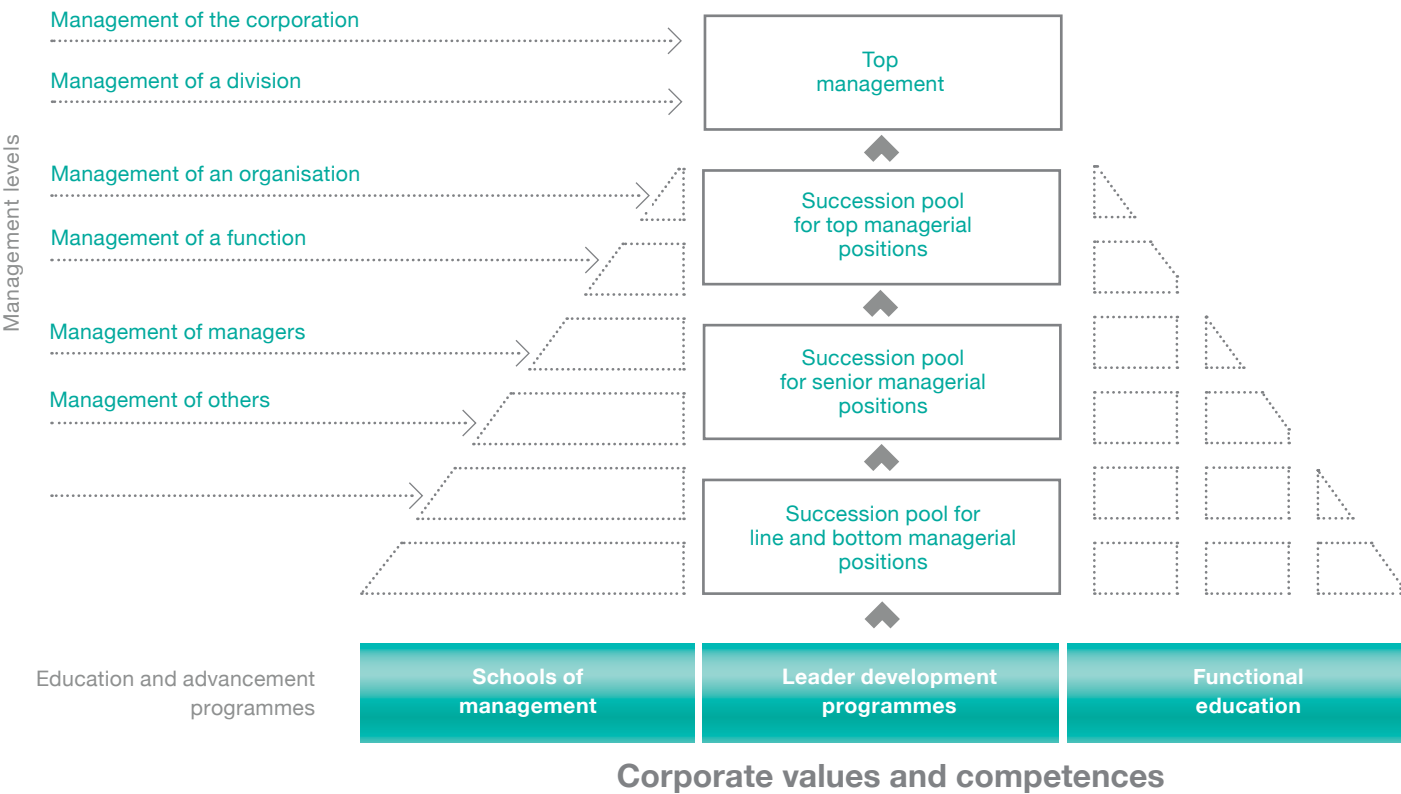
ROSATOM and its entity employees’ competences are built up in the framework of integrated programmes of development of the managerial succession pool and training of managers of various tiers, functional education, skill advancement programmes and mentoring systems, as well as various seminars and training conducted by external training services.

Training and advancement programmes have been worked out for different tiers of management and activity areas of nuclear industry employees

Full-time attendance is organised in sectoral (nuclear-related) educational establishments: ANO Corporate Academy of ROSATOM, ROSATOM-CICE&T, NRNU MEPHI, as well as leading consulting and training companies of Russia. In 2013, the sectoral general education institutions trained 26,410 nuclear industry workers.

The average cost of training for one employee in 2013 was RUB 3,820. This indicator has been growing annually by 13 %, commencing 2011. On average, a sectoral worker receives from 29 to 64 hours of training a year, depending on managerial level.

Fig. Architecture of the training and advancement programmes



Tournament of young professionals TeMP-2013

The tournament of young professionals (TeMP) is one of the large-scale ROSATOM projects designed to attract young specialists. It has been held since 2011. In 2013, it was organised by ANO Corporate Academy of ROSATOM. In 2013, 22 entities of the nuclear industry took part in the tournament. They were represented by 1,500 young specialists from different countries (e.g. Turkey, Vietnam). Following the tournament, 140 graduates and young specialists were given the opportunity to become nuclear workers. The tournament was held based on the social platform Witology, which employs crowdsourcing with project work and case studies. The tournament of young professionals TeMP won the Eventiada-2013 award for “The Youth-Targeted Corporate Project”.

3.4.4.2. Building up and development of the managerial succession pool

Building up the managerial succession pool is a priority area of the nuclear industry personnel development system. The succession pool ensures continuity of sectoral values and knowledge, development of the managerial system and facilitates staff sustainability at ROSATOM. In late 2013, the total managerial succession pool consisted of 1,014 employees.



Table. Number of the managerial succession pool participants

Levels of managerial succession pool	Integrated development programme	Number of participants, as of 31 December 2012	Number of participants, as of 31 December 2013
Senior management	ROSATOM's Assets	118	106
Line management	ROSATOM's Capital	74	323
Bottom management	ROSATOM's Talents	0	518
Total		192	947

Capital management efficiency

The integrated programmes for the advancement of the succession pool participants are provided at the ANO Corporate Academy of ROSATOM. 33 % of the succession pool participants were appointed to fill 28.8 % of the senior managerial positions in 2013. In 2012, this figure was 20.2 %.

3.4.4.3. Interaction with universities

Interaction with NRNU MEPHI

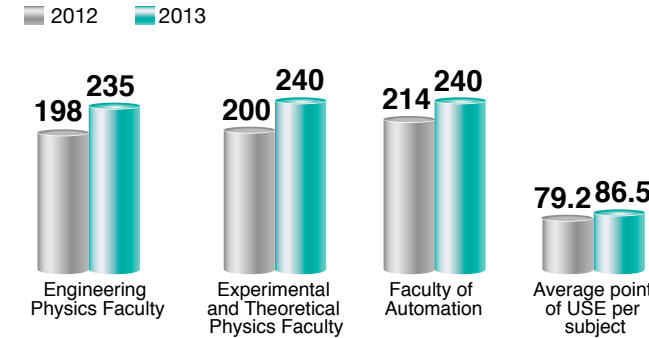
Results of 2013:

- following an open contest, NRNU MEPHI was ranked among 15 leading higher educational establishments of Russia, which are the winners of the Competitive Growth Programme among the world's leading scientific and educational centres;
- to meet the requirements of the Government of Russia and indicators established by the Ministry of Science and Education of Russia, as well as decisions made by the Supervisory Board, the university has started restructuring its branch network of higher and intermediate vocational education taking into account the need for specialist training in ROSATOM's divisions;
- ROSATOM, jointly with NRNU MEPHI, has modernised the pattern of certification of qualifications in the nuclear industry. A pilot certification was carried out for 225 graduates of NRNU MEPHI and higher educational establishments of the Association “Consortium of Core Universities of ROSATOM,” as well as sectoral workers for their conformance with the requirements of professional standards;
- in total, the amount of R&D carried out by NRNU MEPHI in 2013 was RUB 2.051 billion (RUB 2.079 billion in 2012), including the work done in the interests of ROSATOM, worth RUB 576.8 million;
- NRNU MEPHI hosted the Career Days of ROSATOM, which included the Vacancies Fair. The Career Days drew over 90 organisations of the nuclear industry and more than 6,000 students and graduates of NRNU MEPHI and other related universities in the country.

In “The World University Rankings 2013–2014” for the world's top 100 leading universities in the discipline of the physical sciences, NRNU MEPHI took 74th place, scoring 52.5 points and demonstrating positive dynamics of key parameters as compared to the previous year. In the “Round University Ranking” (RUR), NRNU MEPHI placed 454th among 665 leading universities of the world and third place among Russian higher education establishments.

In 2013, about 1,600 university graduates were hired by the nuclear industry, including more than 400 specialists who graduated from NRNU MEPHI and its regional branches. According to the outlook of needs for specialists with a university degree, until 2021, it is projected that the sectoral organisations will annually hire up to 600 graduates of NRNU MEPHI. The average point of hired graduates was 4.2.

Fig. Changes in the “pass” grade for engineering faculties of NRNU MEPHI and the average point of USE per subject

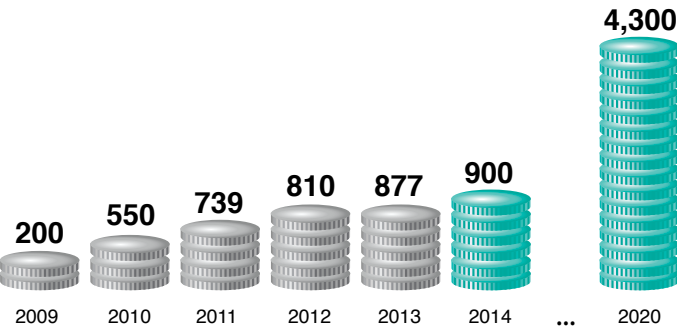


Interaction with related universities

The Association “Consortium of Core Universities of ROSATOM” (the Consortium) continued its work in the reporting year. The Consortium unites 14 nuclear-related higher education establishments which educate staff for the nuclear industry. The core universities meet over 60 % of the need for young specialists in the sector.

ROSATOM's innovative development programme provides for sizeable scaling of joint research with associated universities. The share of financing R&D in universities of the total amount of R&D financing in the Corporation should be 10 % by 2020 or RUB 4.3 billion. Since 2009, a positive growth trend has been observed for the Corporation's orders for R&D placed with the associated universities.

Fig. Spending for R&D carried out jointly with universities, mln RUB



Supply of young specialists to sectoral organisations

In the reporting year, work continued to arrange for internships of students from the associated universities in nuclear industry organisations. In 2013, 5,475 university students took internships (5,431 in 2012). 215 postgraduates and university teachers received practical training in sectoral enterprises (107 in 2012).

The target admittance to educational establishments was arranged for in the implementation of the government plan for the education of scientists and specialists for organisations of the

defence industry complex. Based on the existing need of nuclear industry organisations for related specialists, 770 people were admitted to more than 80 universities in 2013 (860 in 2012). The sectoral order for target education of specialists in universities for 2014 was formulated by sectoral organisations. In 64 universities, 932 state-funded places were arranged as the set target for admittance. The total number of students in 2013 who studied according to the wishes of nuclear industry organisations was over 2,250 people (1,872 in 2012). Organisations paid for the education of 402 people (264 in 2012). The total amount of funds spent by organisations for the targeted education of students in universities in 2013 was RUB 65 million (RUB 66 million in 2012).

Nuclear industry organisations actively make use of opportunities offered by the additional vocational training system provided

3.5. Management of intellectual capital and information technologies

Knowledge and intellectual property are the foundation and launching ground for innovative processes, a powerful tool which ensures the technological leadership of large companies in advanced sectors of the economy. Intellectual capital, along with the other resources of an organisation, is called for to add value to products and services, transforming knowledge into a measurable benefit to a company's activities.

by universities. In 2013, 4,547 employees of sectoral enterprises received retraining and advanced training in the universities (3,869 in 2012). About RUB 83.74 million was spent for these purposes in 2013 (153.55 in 2012).

ROSATOM has initiated annual contests to award scholarships to attract and retain gifted young people in the nuclear industry and to improve and promote nuclear-related education. These awards consist of 150 scholarships (RUB 5,000 per month each) for students who study nuclear-related specialties and 100 awards (RUB 100,000 each) for gifted and promising young scientists working in nuclear industry organisations.

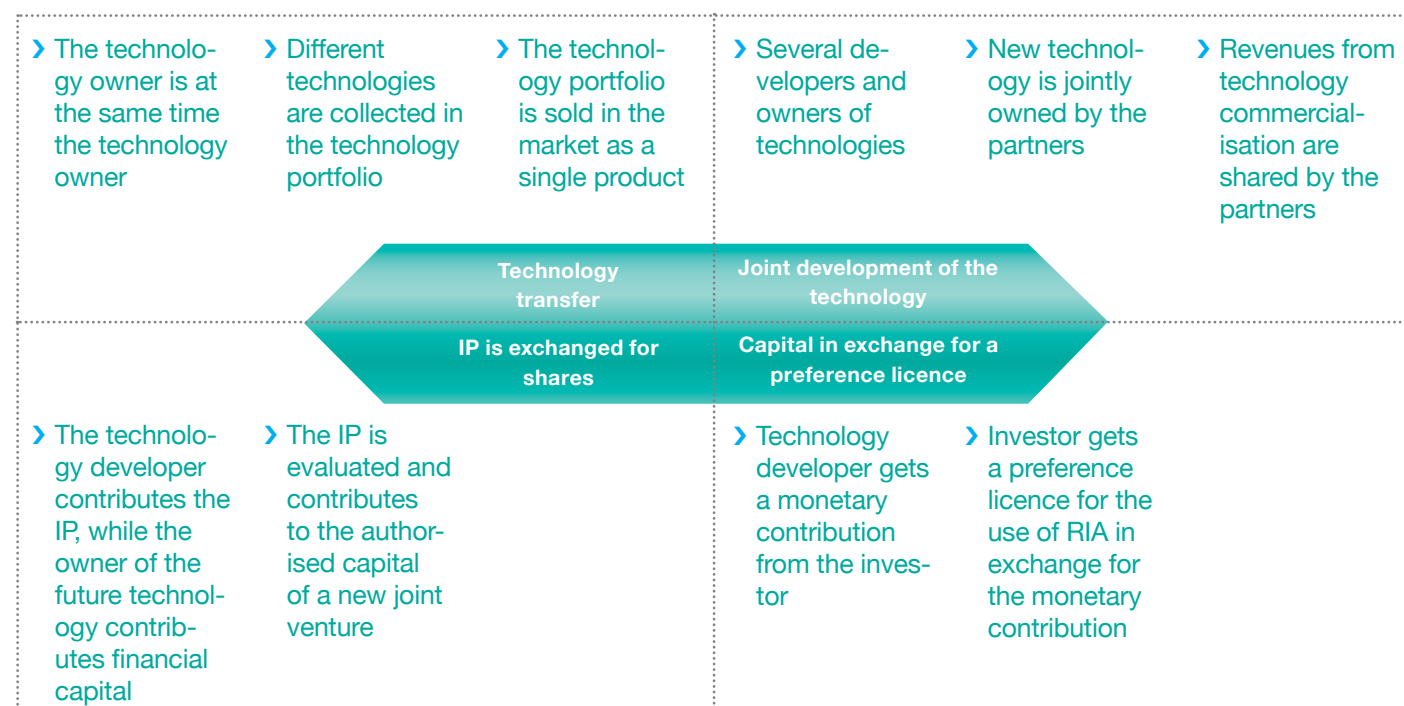
3.5.1. Intellectual capital management patterns

One of key objectives of ROSATOM is to work out sectoral standards and approaches to monitor intellectual property management as well as performance management in this sphere of activity.

The intellectual capital (RIA) management patterns employed by ROSATOM can be conditionally divided into two groups. The first group contains patterns of management of RIA rights, which assume the transfer of the technology as a result of the collaboration. The second group of RIA management patterns assume the use of RIA as an investment instrument in technological projects executed by partners who are not part of ROSATOM's system.

Proceeds from disposition of RIA rights based on licensing and other agreements was RUB 65 million (KPI for 2013), which corresponds to 216.6 % of the target value.

Fig. Involvement of IP in the commodity turnover

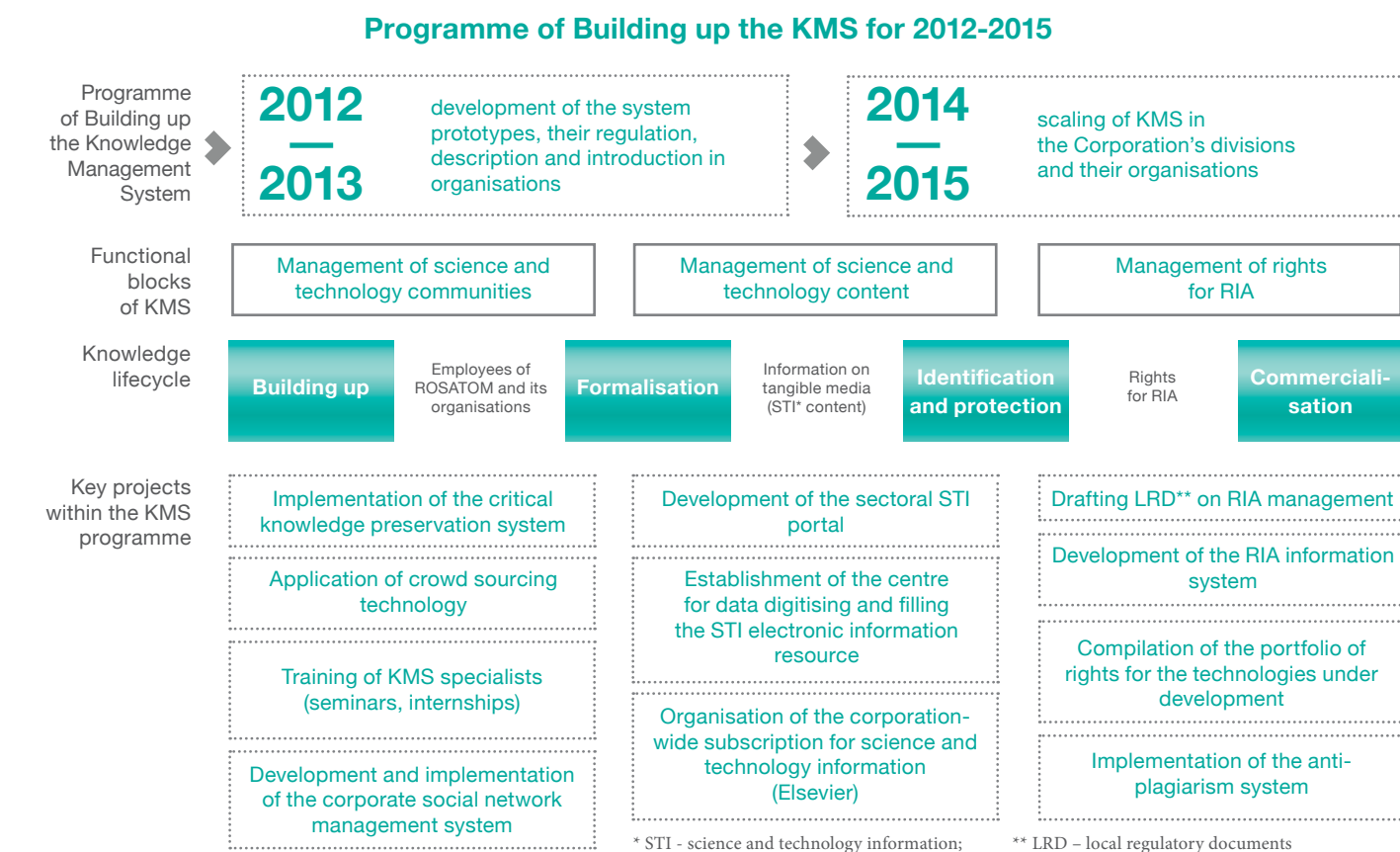


3.5.2. Knowledge Management System

In 2012, the Governing Board of ROSATOM approved the Programme of Building up the Knowledge Management System (KMS) for 2012-2015 to ensure infrastructural support to the nuclear industry innovative development programme. The KMS goal is to create conditions facilitating the growth of innovative activity. The first consumers of the KMS will be federal ministries and development institutions, as well as Russian high-technology companies.

The Project "ROSATOM's Corporate Knowledge Management System" won the award "Time of Innovations-2013" (an award of the fund "Social Projects and Programmes" with the support of the Ministry of Economic Development of Russia, Ministry of Communications and Mass Media of Russia, RVK) in the category "The Best Project to Incite and Develop Innovative Activities".

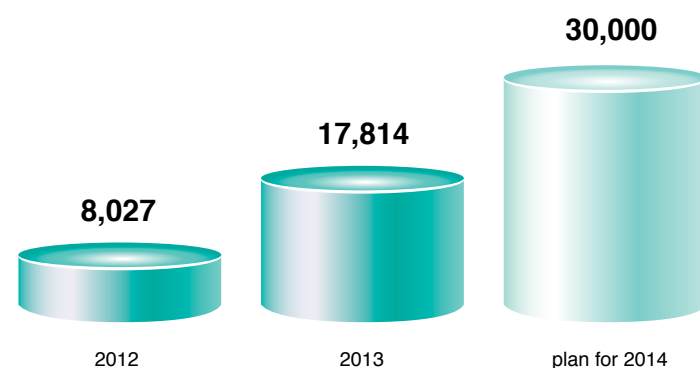
Fig. Programme of Building up the Knowledge Management System



Results of 2013:

- › the united sectoral information resource has been developed. It unites the corporate electronic library (STI portal), the social network of scientific experts (community of practice) and the information system for RIA rights management (IS RIARM), as well as the multi-media library of critical knowledge and information portal of ROSATOM's Science and Technology Board;
- › in the sectoral scientific organisations, more than 280 expert bearers of critical knowledge and about 300 topics have been identified; 125 people have been involved in the project;
- › the Corporation and the Ministry of Education and Science of Russia signed an agreement for the transfer of rights to use KMS in educational establishments, which will facilitate the identifying and preserving of knowledge, ensure collection and storage of documented knowledge and create comfortable access to the accumulated mass of knowledge for teachers and students.

Fig. Filling rate of the STI portal, number of documents accrued



Involvement in the knowledge management system

In 2013, the Programme of Training in Nuclear Industry Knowledge Management was prepared for implementation. A course of educational seminars on knowledge management issues, including joint seminars with the IAEA and the Russian State Academy of Intellectual Property, was organised.

Fig. Number of specialists educated in KMS aspects, persons per year

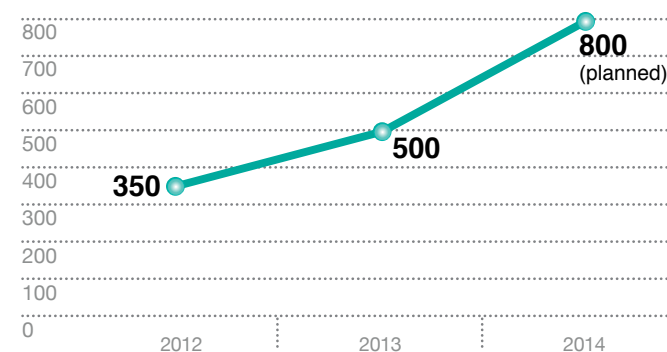
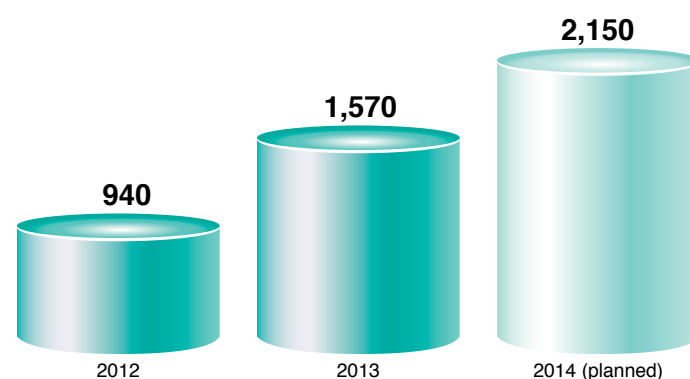


Fig. Number of nuclear specialists involved in KMS, persons per year



Plans for 2014:

- broadening of KMS licensing practices for transfer of knowledge management tools to federal authorities, development institutions and large technological companies of Russia and CIS countries;
- commissioning of the pilot commercial operation of the information system for the management of scientific expert communities;
- commissioning of the pilot commercial operation of the information system for the management of the results of information activity rights;

Table. Intellectual property management results

Indicator	2011	2012	2013
Number of patents obtained for inventions, utility models and designs, certificates for computer codes and databases and number of registered know-how (per year)	660	806	1,076
Number of applications submitted for state registration of protectable RIA (per year)	357	466	593

- development of:
 - the common user support centre on issues related to the use of the knowledge management system tools;
 - the common centre for advanced training in knowledge management;
 - the common sectoral centre of competence in the management of RIA rights;
- implementation of the sectoral education programme on knowledge management; joint seminars with the IAEA, the Ministry of Education and Science of Russia and the Consortium of Nuclear Industry Universities.

3.5.3. Management of intellectual property. Intellectual property protection

One of key objectives of ROSATOM is the development of sectoral standards and monitoring of intellectual property management, as well as the management of performance in this area.

The Corporation expands practices of the use of intellectual capital in innovative projects and commercialisation of intellectual property rights through licensing agreements.

Results of 2013:

- the information system of RIA rights management was developed and started in the test mode;
- a concept of ROSATOM's Intellectual Property Policy was developed;
- in the reporting year, the patent activity of nuclear sector organisations increased by more than 20 %;
- the number legally protected RIA grew by more than 15 %.

Capital management efficiency

Results of 2013 as related to protection and registration of the trademark and intellectual property objects of ROSATOM:

- in 2013, legal protection abroad of the Corporation's trademark was ensured in Vietnam, Iran and South Korea; the Corporation's trademark registration was completed in the U.S.;
- 225 applications for the issue of title documents (patents, certificates) were submitted to cover the results of intellectual activity created in the course of work executed using budget funds and which titles are owned by Russia; 177 title documents (patents, certificates) were received to cover the results of intellectual activity created in the course of the work executed using budget funds and which titles are owned by Russia (these indicators are the highest over the last five years).

3.5.4. Management of information technologies and information security

Since 2009, ROSATOM has implemented a programme to transform the corporate IT platform (IT Transformation Programme). The IT Transformation Programme includes over 150 projects and is designed to run to 2016.

Results of 2013

The IT Transformation Programme implementation facilitates improving ROSATOM's economic efficiency. So the design and implementation of the uniform automated procurement management system based on SAP SRM led to, among other things, an economy of more than RUB 30 billion a year over 2013. The volume of electronic procurements made using this system grew up to 99 % in 2013 from 5 % in 2008.

The development and implementation of ROSATOM's settlement centre brought about an economic effect on intra-group financing operations of more than RUB 3 billion owing to information transparency and the promptness of managerial decision-making in 2013.

The active use of the uniform sectoral electronic document flow system (USEDf) reduced the average time of reaching agreements on protocols and orders by six times and prevented the missing of documents.

In 2013, unified resource management systems for enterprises were put into commercial operation as follows:

- a SAP ERP-based system was deployed at five large enterprises of the Fuel Division; it embraces a total of 13 enterprises;
- a 1C ERP-based system was deployed at 20 enterprises within the sector; it embraces a total of 60 enterprises.

In 2013 ROSATOM continued duplicating the Documentum-based USEDf, which allows for computerising management of organisational and administrative documentation and contracting. By the end of the reporting year, the system was deployed at 47 enterprises, with users totalling about

6,640 people; the system operates at a total of 105 enterprises with a total number of users of about 33,550 people.

Plans for 2014 and on the mid-term horizon:

Activities planned for 2014 and on the mid-term horizon include the duplication and development of the following key unified, sector-wide systems:

- a unified sectoral document flow system;
- enterprise management systems based on SAP ERP 1C;
- a human resource management system based on SAP HCM and ETWEB;
- a vendor relations management system based on SAP SRM;
- an information system for order portfolio management;
- a computer-based system for energy efficiency management;
- corporate systems for knowledge management and asset protection systems;
- supporting infrastructural projects will be developed along with the sectoral systems.

It is planned to pay special attention to the implementation and duplication of the industrial automation systems - operative production management and management of product lifecycle elements - at enterprises of the Fuel, Machine Engineering and Mining Divisions.



3.6. Management of social and reputational capital

Management of social and reputational capital includes organising affirmative interactions with the stakeholders, contributions to building up public acceptance of nuclear technology development, brand management, development of territories of ROSATOM presence, charity and other aspects.

3.6.1. Stakeholder engagement



Sergey Novikov
Director of the Communications Department

– The national polls say that in Russia the support of nuclear power has been stably growing in the recent several years. How have you managed this in such a short time after the Japanese events of 2011?

– In fact, we see a good trend. The number of opponents is dropping, while neutrality respondents come to ranks of nuclear development proponents or, at least, those who are for retaining its current share in the energy mix (and this means building of new NPPs, which would replace the plants being decommissioned). We tried to find formats of interacting with different audiences. Today, the information space is that you have to understand that TV is not watched by everyone. Most of young people draw information from the Internet only. You have to find an optimal format to inform them. Blogosphere, social networks have played a great role in terms of public

awareness from year to year. They have certain rules and secrets of information dissemination.

– How would you assess the level of public support of nuclear in the western countries where ROSATOM runs its projects? What does ROSATOM do to raise this level?

– We are ready to share our public relations methodologies with our partners. The most effective way is to demonstrate the best real thing. When we take foreign reporters to the fresh made nuclear plants, this turns down their perception, in the good sense of the word. They start to understand that bogeyman stories have nothing to do with the cutting-edge industrial facility where housekeeping is the outmost and high professionals are doing the things. We approach schoolchildren and university students through the information centres similar to those we launch in this country. We translate documentaries, which we make jointly with the VGTRK TV holding, into national languages and Russia-Science and Russia-24 broadcast them. Every country is different. It's normal. Nuclear power started developing in different time and in different conditions in different countries. The trend is what is important. I can say that as we start calm, quiet promotion campaign, the public reacts positively nearly straight at once. We don't rush. It is a strategic deal to build a NPP. We have to explain soundly to the people the project advantages and goals.

– ROSATOM is working hard within the sector to build up effective communications employees and stakeholders (media, radio, TV, Internet, Information Days, involvement studies etc.). What are goals and objectives here? How well does it go?

– In fact, we have built a media complex to communicate with the employees. It is to enable every person to get information on the situation in the sector in the format he or she likes. It can be video screen at the sites and city-wide TV broadcasts in the public transport (it exists). The goal is to cover 255,000 employees by one information space. To achieve the situation where everyone equally knows what is happening, what are the strategic tasks, and what are the near-term issues. What is the industry's strategy and what specific place the specific company, where a specific person works, does have therein. If everybody understands the goal the same way, they will work to attain it more effectively.

– In the recent years the nuclear sector has paid much attention to the public reporting. How effectively, do you think, this system has been shaped and what are the Corporation's benefits?

– The Corporation gears up and becomes more aggressive in entering the world markets. The reputation is the key asset. The transparent and clear business, the company's standards and rules are important for our partners. They need to know that we come to them as a civilized producer and vendor who offer high quality. The public reporting is one of the tools to ensure transparency. Therefore, the system of the sectoral public reporting is the valuable achievement that shapes the positive look of ROSATOM both in Russia and abroad.

Capital management efficiency

3.6.1.1. Approaches to stakeholder engagement

Given the scale and features of activities (simultaneous carrying out the diversified state and business tasks), ROSATOM has a broad range of stakeholders, both in Russia and outside. The focused work with stakeholders is governed primarily by the aim to achieve strategic goals and to ensure public acceptance of nuclear power development.

The fundamental principles of the interaction are respect and consideration for the interests of all participants; open, productive cooperation; timely and exhaustive information provided to the stakeholders on the Corporation's activities; striving to achieve specific benefits for all participants; and the fulfilment of undertaken commitments.

Given the multiplicity of core businesses (uranium production, construction of NPPs, electricity generation, fuel fabrication, nuclear decommissioning, SNF and RAW management, power machine engineering, etc.), as well as supporting activities (international legal cooperation, law-making, etc.), each area has its own stakeholders, and ROSATOM structures systemic and planned interaction with them (for interaction with stakeholders as regards individual activity areas, please refer to the relevant sections of the Report). With that, some of ROSATOM's work is aimed at the interaction with all stakeholders and the general public.

In 2013, the balance of positive and negative attitudes to the nuclear power development programmes of the Russian public was 53.6 % (KPI for 2013).

Fig. Ranking map of stakeholders

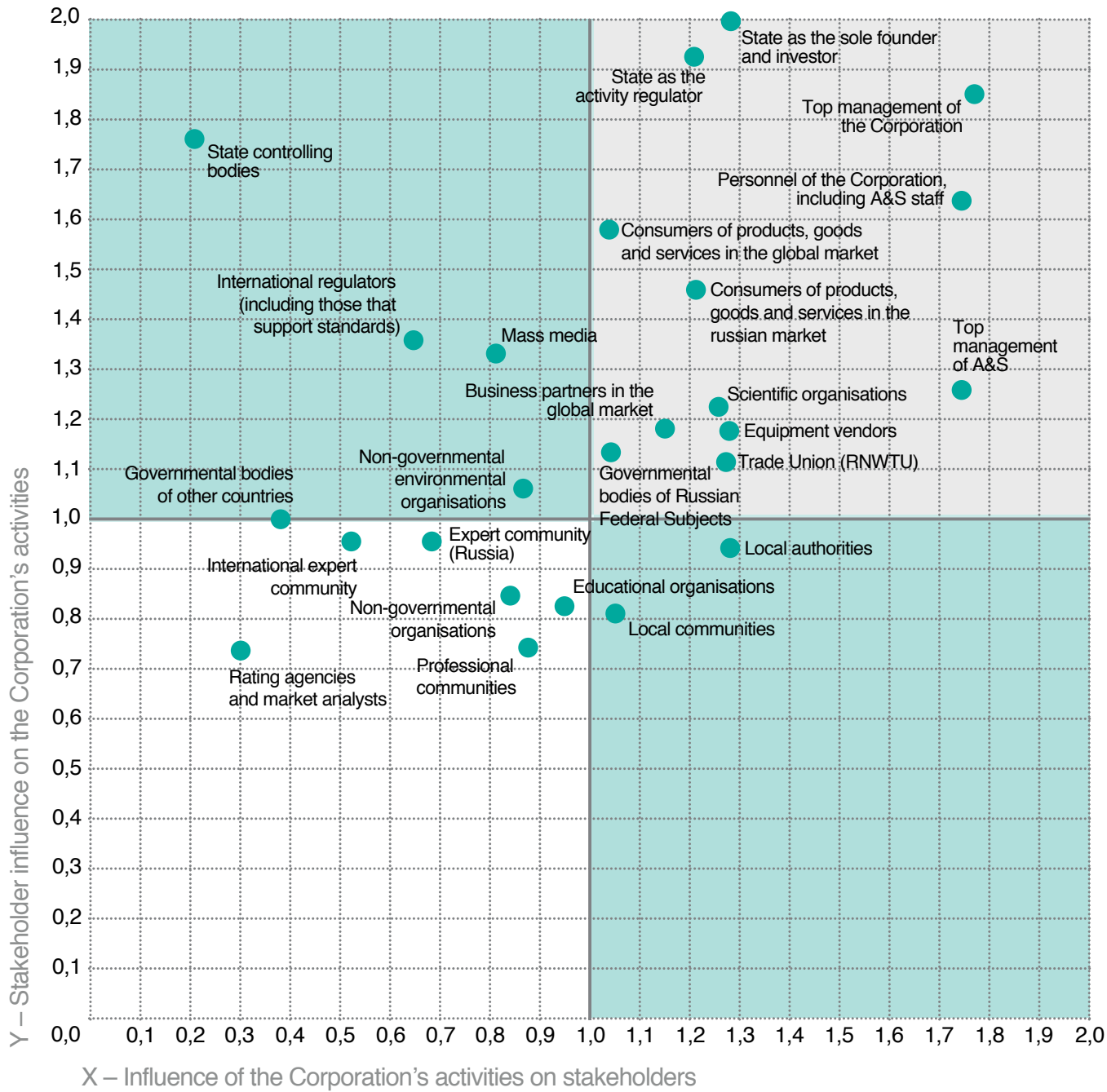


Fig. Stakeholder engagement



Interests of stakeholders

- 1 Support of a nuclear material and technology non-proliferation regime
- 2 Nuclear, radiation and environmental safety
- 3 Technological modernisation of the nuclear industry
- 4 Efficient spending of budget funds
- 5 Economic efficiency of ROSATOM's organisations
- 6 Observance of international and Russian law
- 7 Fair competition and responsible behaviour in the markets
- 8 Competitiveness in the global markets
- 9 Improvement of product and service quality
- 10 Transparency of ROSATOM's activities, including transparency of procurement
- 11 Solution of the problem of the "legacy" of past economic and defence activities in the sector

- 12 Reliable electricity supply
- 13 Adaptation of international norms and standards of management
- 14 Decent remuneration of personnel, professional advancement of employees, safe labour conditions
- 15 Improvement of the quality of living in the territories in which ROSATOM has a presence
- 16 Development of ROSATOM and its organisations' human resources

Types of stakeholder engagement

- A Cooperation with related international organisations, participation in international programmes and projects
- B Participation in law-making
- C Holding of public hearings and public environmental reviews on nuclear power unit construction projects
- D Personnel training and skill advancement programmes
- E Social programmes and projects
- F Participation in the development of territories in which ROSATOM has a presence
- G Charity
- H Sociological studies, consumer satisfaction research
- I Hotlines
- J Cooperation programmes with associated universities
- K Dialogues, presentations, forums, conferences
- L Open and competitive procurement procedures
- M Cooperation programmes with other companies
- N Cooperation programmes with state control (supervisory) authorities and law enforcement agencies
- O Public governance and control bodies
- P Information and communication
- Q Public reporting

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3.6.1.2. ROSATOM's Public Council activities

The Public Council of ROSATOM was established in 2006 to involve citizens of Russia, non-governmental and professional associations, scientific organisations and local authorities in giving recommendations for the Corporation's decision-making in the field of nuclear power development.

Adoption of two resolutions of the Government of Russia in autumn 2012 was a significant development in the work of Russian public councils, namely, "On the procedure of disclosure by the federal executive bodies of information on drafting legal regulatory acts and results of their public discussion" and "On approval of the composition of legal regulatory acts and other documents, including programmatic ones, which are worked out by the federal executive bodies, which cannot be adopted without a preliminary discussion at meetings of public councils of these federal executive bodies".

The Public Council of ROSATOM started fulfilling the newly assigned functions involving the participation of public councils in the public administration system, which are defined by the concept of the "Russian non-government initiative", which is in line with the international non-government initiative, i.e. the trend of active involvement of the general public and structural organisations of the civil society in the governance processes. During 2013, the Public Council reviewed 25 drafts of sectoral local regulatory documents and 18 draft resolutions of the Government of Russia and decrees of the President of Russia.

In 2013, which was declared the Year of Environmental Protection, the Public Council undertook additional activities associated with ecological and nature protection, including safe uses of atomic energy.

In the reporting year, under the project the "Public Council's Library", six reference and factual books and brochures were published, including the IAEA's brochure "Communication with the Public in a Nuclear or Radiological Emergency".

Plans for 2014:

- to highlight priority short-, mid- and long-term goals and objectives in the plans of the Public Council aimed at optimal solutions to the "termless" safety problem (the foremost being: safety culture, public health, socio-demographic and environmental conditions, environment quality, improvement of sectoral public reporting, dialogues and public consultations with the stakeholders, RAW management and long-term isolation of high-level RAW and SNF in deep geological repositories);
- to submit a proposal to JSC Rosenergoatom Concern regarding greater openness and better organisational measures for public hearings on siting, construction and operation of nuclear hazardous facilities;
- to highlight as a priority the project "Utilisation of Waste Heat of NPP in Regional Heat Supply and Bio-product Production", which was worked out by JSC Rosenergoatom Concern. To ensure its public, scientific and expert follow-up;

- to work out a plan of intensifying activities of already existing and being established regional Public Councils, Community Liaison Offices or other formats of interaction of the Public Council of ROSATOM with the civil society structures in the host regions of nuclear power and NWC facilities.

3.6.1.3. Communications and informing

Atomic Energy Information Centres



Since 2008, ROSATOM has implemented the project of establishing atomic energy information centres (AEIC) in the regions in which the Corporation has a presence (www.myatom.ru).

The main objectives of the centres are to disseminate basic knowledge of the nuclear industry, education of the population and promotion of science, innovative technologies and engineering education among schoolchildren.

The first centre was opened in Tomsk. As of the end of 2013, the AEIC network included 20 centres.

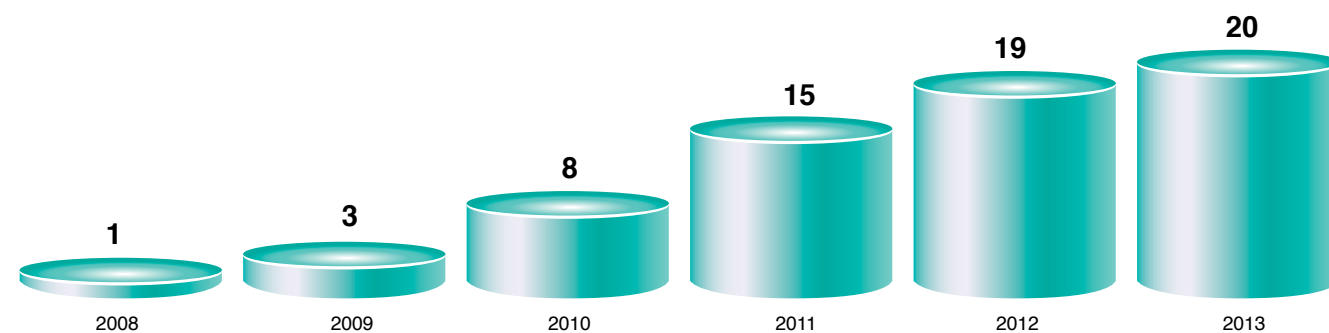
In December 2012, the first centres started operating abroad: in Hanoi (Vietnam) and Mersin (Turkey). In 2013, an information centre was opened in Dhaka (Bangladesh). In 2014, it is planned to open information centres in Minsk (Belarus) and Istanbul (Turkey).

Fig. Map of AEIC locations



Over five years, the centres were visited by more than one million people, including more than 344,000 people in 2013. The visitors watched multi-media programmes on nuclear power,

Fig. AEIC launching rate, accrued



Forums and exhibitions

In 2013, ROSATOM took active part in the information and exhibition activities in Russia and abroad.

The V International Forum ATOMEXPO-2013 (26–28 June 2013, St. Petersburg, Russia) was held simultaneously with the International Ministerial Conference on Nuclear Power in the XXI Century; the forum's topic was "Nuclear Power Industry in the XXI Century: Responsible Partnership for Sustainable Development". The forum participants were delegations from 42 states and 153 companies. A number of international agreements were signed during the forum.

astronomy and country studies and took part in creative and educational projects.

The main topic of the VII International Forum AtomEco-2013 (30–31 October 2013, Moscow, Russia) was the "Nuclear Energy Sector – Zero Damage Strategy". The forum drew about 1,000 representatives from 18 states.

The International Forum of Nuclear Industry Suppliers ATOM-EX-2013 (2–4 December 2013, Moscow, Russia) discussed the issues of nuclear industry procurement, expansion of the number of suppliers, including through participation of small and medium businesses in the procurement, improvement of procurement efficiency. For the first time at the forum, the business meetings of the customers and suppliers were organised in a B2B format. The forum was attended by more than 630 del-

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egates who represented 322 companies from Russia, Belarus, Germany, Spain, Ukraine, Finland, France, the Czech Republic and Japan.



Mass communications, mass media, the Internet

TV listings and sectoral media

Gorizonty atoma

ROSATOM, jointly with the TV channel Rossiya, broadcasted the TV programme Gorizonty atoma (Horizons of atom) on various aspects of activities and innovative developments of nuclear industry enterprises. The TV programme objectives are to make transparent the sector's plans and activities, build up the psychological perception of the public that the peaceful utilisation of atomic energy is safe, and attract young people to the sector.

The programme is regularly broadcasted on the channel Rossiya-24. In 2013, a total of 23 releases took place. In December 2013, the documentary "The Encyclopaedia of the Atom. Volume 11. The Deal of the Century" Megatonnes to Megawatts" was broadcasted.

TV game show "What? Where? When?"



ROSATOM has implemented a joint project with the TV game show "What? Where? When?" The Corporation's team reached the game's final round. The TV programme includes image-building video clips about "The Corporation of Knowledge".

Sectoral periodicals

In 2013, publication of the sectoral newspaper Strana Rosatom (ROSATOM Country, circulation 55,000 copies) continued. The confidence index of the newspaper as an information source about the enterprise and the sector as a whole is measured annually in involvement-level studies. In 2013, the newspaper confidence index grew by 14 % to 64 %.

In the reporting year, publication of the sectoral magazine Vestnik Atomproma (circulation 3,600 copies) continued. The magazine is intended predominantly for nuclear industry specialists.

The magazine Atomny ekspert is a supplement to the scientific publication Atomnaya energiya; it has been published since 2011 (information and analytical magazine for nuclear professionals; distributed address-specific, circulation 1,500 copies).

There are 27 periodicals covering the sector. The largest are the newspaper Novoye vremya (Seversk, JSC SCC; 15,700 copies) and Impuls (Zelenogorsk, JSC PA ECP, 10,000 copies), which have the status of community periodicals.

Sectoral TV

In 2013, the information and analytical TV programme Strana Rosatom went on the air in 17 regions of Russia which host 22 "nuclear" cities (closed administrative territorial formations, or "closed" cities, which are satellite cities of NPPs and the cities where nuclear facilities are major employers). The TV programme is broadcasted at 27 enterprises of the Corporation. The signal also transmitted to the YAMAL-201 satellite. The total audience of terrestrial and cable channels broadcasting Strana Rosatom is about 6.2 million people.

In 2014, the project plans to organise broadcasting in the cities where JSC Atomenergomash's enterprises have a presence.

Sectoral radio broadcasting



The radio programme Strana Rosatom airs three times a week. It is broadcasted at 50 enterprises by wire or the Internet and also posted on the official website of ROSATOM.

In 2013, the radio programme started working with social networks. The sites announcing events and interactive communication with the audience are: [Facebook](#), [VKontakte](#), [Twitter](#), [YouTube](#).

In 2013, the radio programme Strana Rosatom was awarded a certificate of the national contest of corporate media resources “The Silver Threads” in the category “Best Corporate Radio”. Also, the radio programme was awarded a laureate certificate by the XIX International Journalism Contest, organised by the Russian Public Academy of Energy Journalism PEGAZ.

The Internet

The project “Ring of Websites”

In 2013, ROSATOM continued consistently building up its presence on the Internet, informing the general public of its activities and news of sectoral enterprises. Work continued on upgrading existing websites of the Corporation’s enterprises. Optimisation of the English language version of ROSATOM’s website (www.rosatom.ru) was completed. During 2013, the Corporation’s website published 2,247 press releases (187 a month on average). The newsreel of the section “Nuclear Industry in the Media” contains 871 items describing activities of sectoral enterprises.

Blogsphere, social networks and mobile applications

In 2013, activity growth was noted in ROSATOM and its organisations’ blogosphere at the expense of new sites and users, whose number substantially grew, following the results of the year. One of the causes was the improvement of monitoring tools owing to the disclosure of data for searching in the social network Facebook and in Mail.ru. The average ratio of opinions is as follows: positive – 25 %, negative – 42 %, and neutral – 33 %.

In 2013, work continued to promote nuclear power in the official communities of ROSATOM in social networks, which was actively supported by holding contests. The sector-related content was successfully integrated into the scenarios of games which are the most popular in the social networks (“Megapolis” for VKontakte and “NPP Protection” for QS). Quiz questions were answered by more than five million users.

In the reporting year, work was carried out to improve official ROSATOM apps for the iPhone and Android. Users received operative information about the radiation situation and nuclear industry news via these modern communication formats.

3.6.1.4. Studies of involvement and opinion surveys

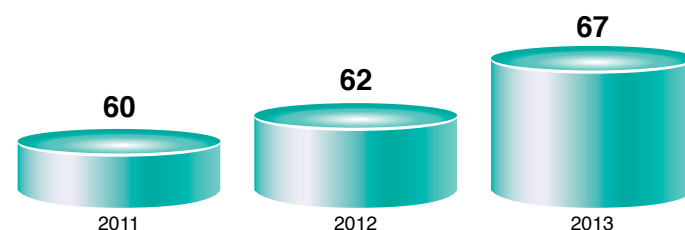
Studies of involvement

The study of involvement has been carried out by the nuclear enterprises since 2011. Over the three years of the study, the number of participating organisations has grown from 45 to 57 (these enterprises employ more than 200,000 workers; each year, more than 42,000 people take part in the polls).

Key results of 2013:

- visits of the Corporation’s top management to key enterprises in the sector (more than 170 visits to 50 enterprises);
- the contest “ROSATOM’s Person of the Year-2013”, in which about 1,000 employees participated;
- an audit of the remuneration system at the sites of JSC S&I, JSC TVEL and NWC.

Fig. Involvement level of ROSATOM’s employees, %



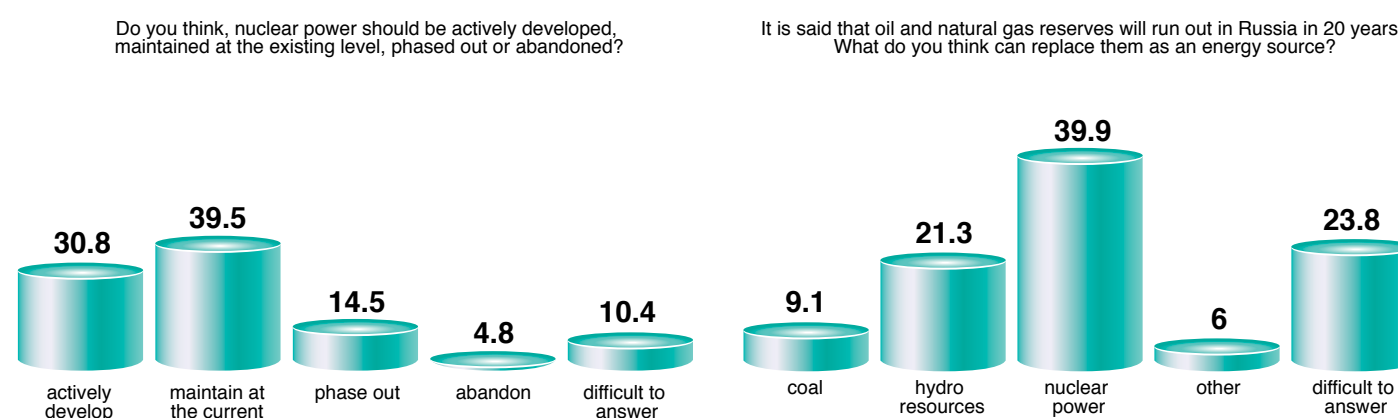
According to data of the international company Aon Hewitt, which studies involvement across the world, ROSATOM’s results in 2013 exceed by 8 % the staff involvement indicator of Russian production companies and corresponds to the staff involvement level of effective employers across the world. The objective is to achieve the level of staff involvement of the world leaders of technological sectors, which is not less than 70 %, within 3-5 years.



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Public opinion surveys

Fig. Public opinion on nuclear power development in Russia*

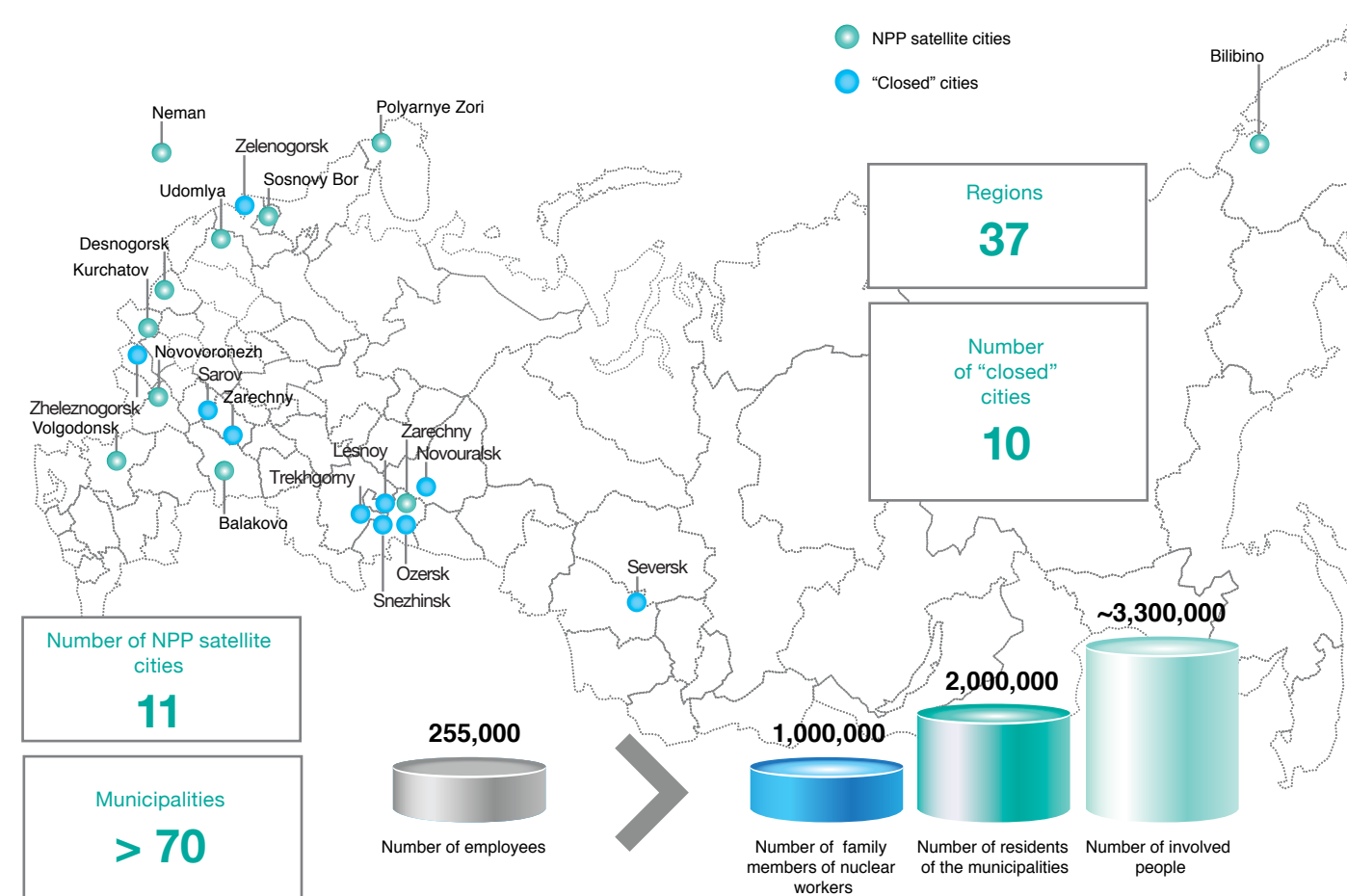


3.6.2. Activities in the territories in which ROSATOM has a presence

The socioeconomic influence of ROSATOM on the development of territories in which it has a presence is of an integrated nature. The Corporation substantially contributes to the energy

security of a number of regions. ROSATOM is a large taxpayer at all tiers of government. The Corporation’s activities produce a significant economic effect through the creation of a large number of jobs in the nuclear and allied industries, thus providing not only employment but also decent labour conditions and remuneration.

Fig. Territories in which ROSATOM has a presence



* The poll was carried out by the Russian non-governmental research organization Levada Analytical Center (Levada Center) with a representative sampling of the Russian population (1,601 people 18 years of age and older) in September 2013.

In the reporting year, the Nuclear Closed Cities Association (hereinafter referred to as the Association):

- ▶ prepared proposals on main areas of development of the closed cities in the near term, which were taken into account by ROSATOM in drafting the Concept of the Closed Cities Development and the corresponding report to the Government of Russia;
- ▶ prepared proposals on introducing changes and additions to the legislation that regulates the functioning of closed cities (the proposals were reviewed by an ad hoc working group, with the participation of the Association's representatives, established within the State Duma of Russia; a decision is expected to be reached in 2014);
- ▶ due to a sharp reduction (approximately 40 %) of the budget funding of the FMBA's medical establishments in the closed cities commencing 2014, in December 2013, petitions were sent to the Chairman of the Government of Russia, the Speaker of the State Duma of Russia and Council of the Federation of Russia, the Minister of Healthcare and head of the FMBA demanding that the reduction of the level of medical services to the public in the closed cities be cancelled (owing to the support of the top management of ROSATOM, it succeeded in getting federal executive bodies to take the necessary actions and avoided unrest in the closed cities);
- ▶ two projects dealing with the development of international contacts were implemented; an Association delegation paid visits of friendship to Belarus and France;
- ▶ affirmative interaction was established with colleagues from the Association of NPP Host Territories; the first joint conference of nuclear city mayors (closed cities and NPP host territories) was held in Desnogorsk (Smolensk NPP);

3.6.2.2. Development of territorial clusters of the nuclear industry

In 2013, ROSATOM continued to support the development of territorial innovative clusters of the nuclear industry (Zheleznogorsk, Sarov, Dimitrovgrad, and the agglomeration St. Petersburg-Sosnovy Bor-Gatchina). All four clusters were put on the list of territorial innovative clusters approved by the Government of Russia, which will receive governmental support for five years commencing 2013.

Three clusters (Zheleznogorsk, Sarov, Dimitrovgrad) were provided governmental support in an amount of RUB 90 million along with co-financing from regional budgets in an amount of RUB 86.5 million. The total amount of funding raised for the cluster development projects is RUB 920 million.

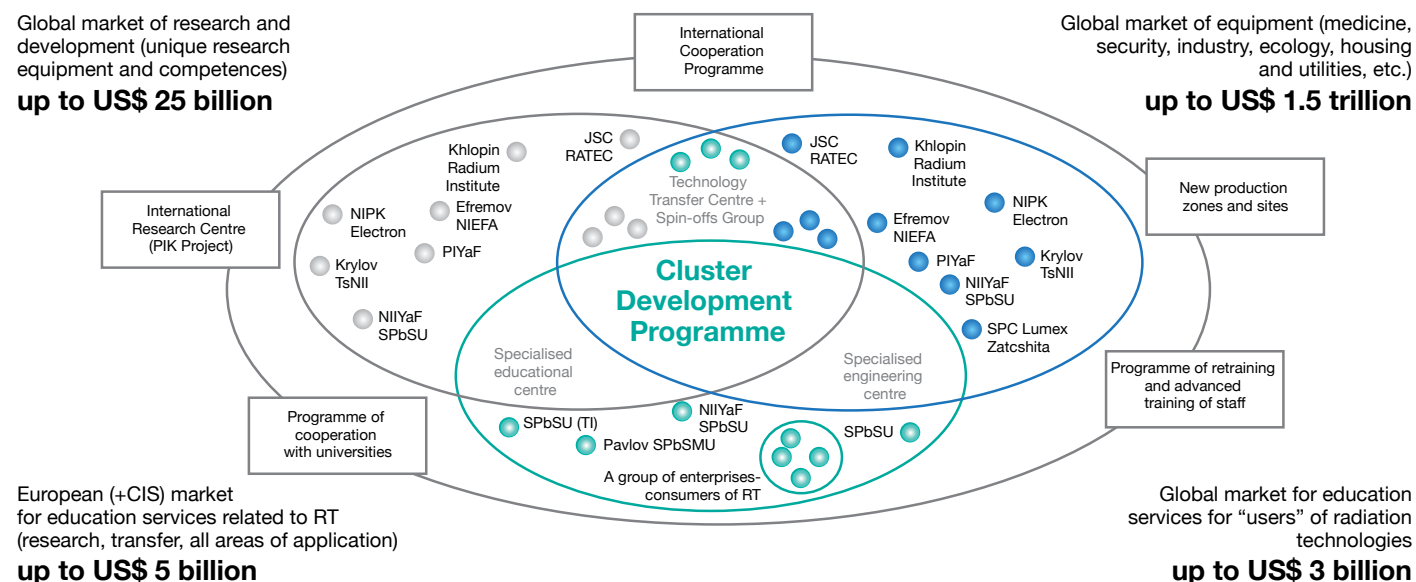
The cluster of pharmacology and medical industry, radiation technologies in St. Petersburg and Leningrad Region

In 2013, the strategic and project sessions of the cluster were carried out. They became a driver for cooperation activities of the organisation participants. The Government of Leningrad Region, with the participation of ROSATOM, initiated working out a regional programme of support for the cluster development, which assumed the implementation of a set of measures to create a full-scale cluster infrastructure in the region.

The cluster development goal in 2014 is to complete the organisational stage (establishment of the cluster management bodies) and to move to the project stage. The key objective of 2014 is to test mechanisms for attracting funds to the cluster's projects.

The long-term strategic scheme of the cluster development assumes the entry of the key players into the global market by 2020.

Global market of research and development (unique research equipment and competences)
up to US\$ 25 billion



3.6.2.3. Contribution to creation and distribution of economic value

A general picture of the economic performance of ROSATOM in the reporting year is reflected in the table of creation of economic value and its distribution among the stakeholders. The created value is distributed among the suppliers and contractors (in the framework of operational costs), providers

of capital (as interests paid to creditors), the personnel of the Corporation and its organisations (remuneration and social payments), the state (as taxes), local communities and regional and municipal powers (as social investments, charity expenses and taxes). Some of the created value remains with the Corporation (non-distributed value, which includes funds spent for business development).

Table. Creation and distribution of value, mln RUB

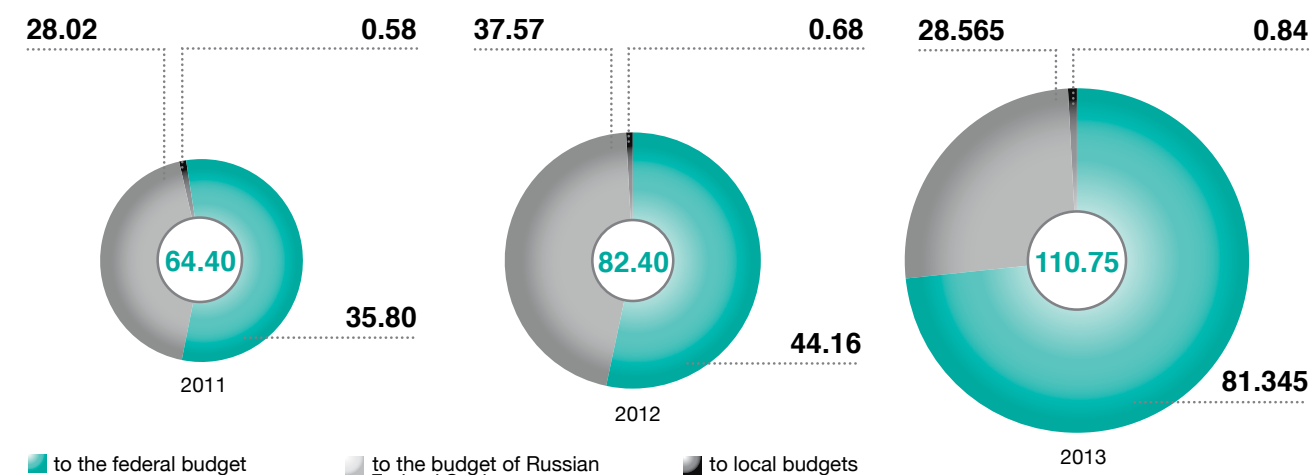
Indicator	2011	2012	2013
Created economic value	481,748	486,416	535,056
Revenues (proceeds from sales, as well as revenues from financial investments and sales of assets)	481,748	486,416	535,056
Distributed economic value	330,073	374,061	431,590
Operational costs (payments to suppliers and contractors, expenses for purchasing materials)	(177,732)	(199,722)	(234,748)
Remuneration and other payments to and benefits for employees	(107,830)	(124,394)	(133,807)
Payment to providers of capital	(1,446)	(570)	(7,645)
Gross tax payments (PIT, VAT exclusive)	(37,072)	(42,296)	(47,932)
Investments in communities, including charity	(5,993)	(7,079)	(7,458)
Non-distributed economic value	151,675	112,355	103,466

3.6.2.4. Tax payments to budgets of different tiers

Organisations and enterprises of ROSATOM substantially influence the generation of budget revenues of the territories

in which they have a presence. In 2013, the budgets of all tiers (including contributions to extra-budgetary funds) received RUB 110.75 billion, up 34 % from 2012 and up 72 % from 2011.

Fig. Taxes paid by ROSATOM and its organisations, bln RUB



3.6.2.5 Development of relations with suppliers, consumers and partners. Creation of new jobs and engagement of contractors

Construction and commissioning of nuclear facilities, including nuclear power units, creates new jobs: some employees are hired from local people residing within a radius of

100 km of the constructed facility. Also, each job in NPP construction in fact creates 10-12 more jobs in allied industries (metallurgy, machine engineering etc.). In 2013, 2,782 high technology jobs were created, up 21.6 % from 2012. Thus, the Corporation sizably contributes to the employment of the population, including locals, in the territory in which it has a presence.

Table. Number of organisations engaged and employees hired at NPPs under construction in 2013

NPP	Number of main organisations engaged	Number of employees engaged	including:	
			engineers	workers
Baltic NPP: Units 1 and 2	11	213	32	181
Beloyarsk NPP: Unit 4	53	4,880	597	4,283
Novovoronezh NPP II: Units 1 and 2	21	5,887	1,242	4,645
Leningrad NPP II: Units 1 and 2, temporary buildings and structures	44	3,997	452	3,545
Rostov NPP: Units 3 and 4	32	6,479	498	5,981
Total:	161	21,456	2,821	18,635

3.6.2.6. Implementation of social and charity programmes in the territories of presence

In following the traditions that have developed in the nuclear industry, ROSATOM and its organisation are guided in their activities by the principles of socially responsible behaviour. Adopting the priorities of social and economic development of Russia, its regions and cities, including the nuclear closed cities, as basic landmarks, the Corporation consistently implements a number of sector-wide social programmes.

ROSATOM's School

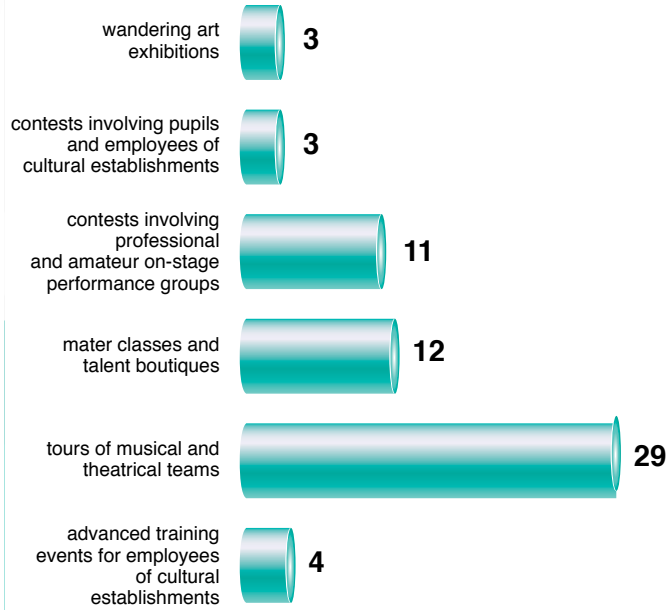
The sector-wide educational initiative ROSATOM's School has existed for three years and is implemented in the host cities of the Corporation's enterprises.

The city of Sarov hosted the final of the contest programme of ROSATOM's School. The contest programme included master classes and interactive educational events. All contest winners (27 people) were awarded cash and prepaid internships in Singapore in February 2014. The winners of the ROSATOM's School Cup of the previous year will also go to Singapore. A total of 38 people will have overseas internships.

In 2013, the programme "Atom-classes" continued. The programme's goal is to guide schoolchildren in choosing a career; they are also provided with the opportunity to get higher quality education and implement research projects.

Programme "ROSATOM's Territory of Culture"

In 2013, the programme "ROSATOM's Territory of Culture" included**:



ROSATOM is a partner in special rare animal protection projects of the President of Russia. In the reporting year, the Corporation and JSC Technobexport supported the charity in the following:

- the programme on the preservation and study of animals in "The Red Book" and other especially important representatives of fauna within Russia;
- the project "Rare and declining species of large mammals: study and preservation strategy" (Federal Wildlife Resort Khakasskiy);
- the project "Beluga: the white whale of Gulf of Anadyr of the Bering Sea" (Pacific Research Fisheries Centre);
- the project "Preservation of the manul cat in Transbaikalia" (Federal Wildlife Resort Dauriyskiy);
- the project "Model project of recruitment of the snow leopard population in Western Sayan" (Federal Wildlife Biosphere Resort Sayano-Shushenskiy);
- the project "Identification and mapping of habitats important for maintaining populations of rare marine mammals and white bears in the Frantz Josef Land Archipelago" ("Russian Arctic" national park);
- the project "Study of the Beluga whale and white bear in the Russian Arctic" (Marine Mammal Council);
- the project "Study and population monitoring of the Far East leopard" (Federal Wildlife Biosphere Resort Kedrovaya Pad, Leopards Land National Park);
- the project "Outfitting and support of the leopard rehabilitation centre" (Wildlife Resort Ussuriyskiy of FEB RAS).

Expenses for the support of environmental programmes in 2013 amounted to RUB 215 million.

In 2013, in the framework of the wandering art exhibitions, the project "Open Air Museum" continued. Ten Russian musical and theatrical teams performed in the closed cities. The festival of improvisatory skills "Jazz-territoriya" was held for the first time. In

the closed city of Zarechny, the IV Russian Theatre Festival and Creative Workshop "Theatre Window Panes" (140 young performers) was held. The closed city of Sarov hosted the IX Russian Contest of Folk Instruments Players from children's supplementary education establishments of the closed cities (over 60 contestants). For the first time, the programme "Territory of Culture" held the socio-patriotic project "Fatherland-2013" in Sebastopol; its goal is to motivate building up the patriotism of the youth of the closed cities.

Charity activities

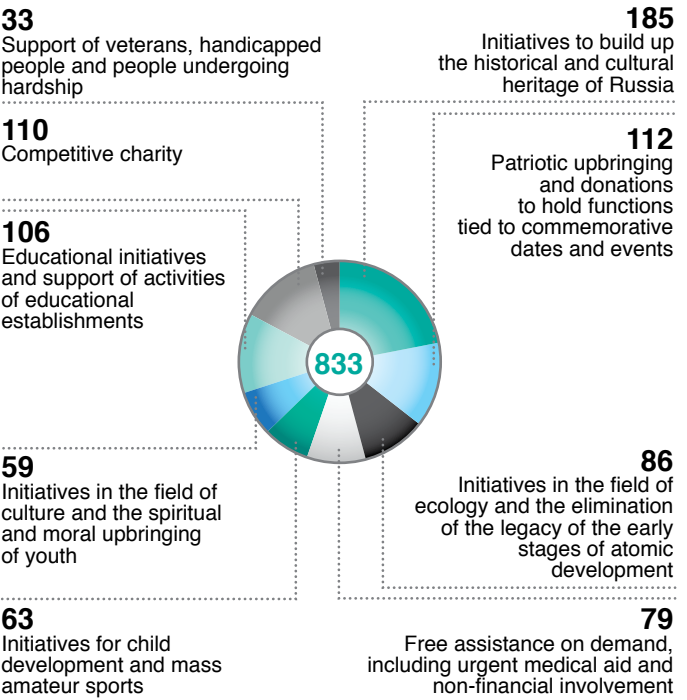
The charity activities of the Corporation's organisations are targeted in nature and are aimed at solving most acute social problems in the Corporation enterprises' host territories.

In 2010, the ROSATOM's Concept of Charity Activities and Interaction with Local Communities was adopted (for details, see the Public Annual Report of the Corporation for 2012).

In 2013, the Corporation's enterprises implemented over 570 charity initiatives in the territories in which they had a presence and outside. Charity spending amounted to RUB 833 million.

In the reporting year, the sectoral organisations held more than 30 local contests of charity initiatives. The total amount distributed through the contests was about RUB 110 million in 32 Russian cities.

Fig. Funds spent for charity, mln RUB



* <http://rosatomschool.ru>
** <http://www.terkult.ru/>



The International Children Creativity Project “Nuclear kids” has been in operation since 2009. The joint creative work unites gifted children of nuclear workers from different countries who have passed a rigorous, competitive selection. In 2013, there were 82 project participants from 36 cities of Russia, Ukraine, India, Bulgaria, Hungary, Turkey, South Africa, South Korea, France and Estonia.

Guided by professionals, the young performers took part in staging the musical “We”. The musical’s premiere was on 30 July 2013 in Keszthely (Hungary). On 1 August, the musical was performed in the Hungarian nuclear city of Paks, on 4 August in Prague, on 7 August, it debuted in Russia in Tomsk, and on 11 August in the satellite city of Leningrad NPP, Sosnovy Bor. And on the 14th of August, it was performed on a grand night in Moscow’s Et cetera theatre.

Pal Kovac
the State Secretary for Energy of the Ministry of National Development of Hungary:
“I was stricken by what I saw. These children are real energy generators. Just small NPPs! So we see that owing to atomic energy and the cooperation of ROSATOM, MVM utility and Paks NPP this great performance became possible.”

3.7. Management of natural capital, environmental safety and environmental protection



Vladimir Grachev
Advisor to the CEO

Capital management efficiency

– **Last year, ROSATOM’s Environmental Policy was updated. What is new about it?**

– The environmental policy has been in effect in ROSATOM since 2008, and in 2013, it was updated in accordance with the Basics of the State Policy in the Field of Ecological Development of the Russian Federation for the Period until 2030, which was approved by the President of Russia in April 2012. The Basics of the State Policy define the tasks of the state in the field of ecology and mechanisms of solving problems in that field. The document reflects the main global and national environmental problems, establishes strategic goals, which take into account the national and international experience in environmental protection and ensuring environmental safety. The Basics of the State Policy provide for improvement of the system of control and legal support in the field of environmental protection, development of a new system for the regulation of the operations of industrial enterprises and a system of economic incentives to modernise them.

The Corporation was directly involved in drafting this document. And, naturally, its approval required bringing the existing Environmental Policy of ROSATOM in accordance with the new provisions of the Basics of the State Policy. All environmentally significant organisations in the sector have updated their environmental policies as well.

– **What areas of environmental protection are less developed, in your opinion? What mechanisms are provided to solve these problems?**

– In the immediate future, serious changes are expected to be introduced to the Russian regulatory framework, and the Corporation has to foresee their effects. In particular, the new developments will deal with the introduction of changes to the Federal Law “On the Environmental Protection”, in part related to the improvement of the standard-setting process in the field of environmental protection and to the introduction of measures to economically motivate economic subjects to implement the best technologies, as well as to harmonise the Russian legislation with the requirements of the Espoo Convention and the Protocol on the Strategic Environmental Assessment (SEA).

The issue of obtaining permits for radioactive releases and discharges by the Corporation’s organisations is very acute. The methodology for calculating atmospheric radioactive release guidelines was approved by Rostekhnadzor, but it is merely of a declarative nature, and its practical application requires special activities, for example, it will be necessary to produce Methodological Recommendations on the application of these methodologies in our organisations. As regards discharges of radioactive substances to water bodies, there is not yet an approved document which sets the guidelines for radioactive substance discharges; this is one of the problems the Corporation faces in its environmental protection activities.

– **ROSATOM spends serious significant amount of money on environmental protection. In the reporting year, these expenses amounted to nearly RUB 20 billion. Do you think it is much or not?**

– Compared to other nuclear companies, for example, in terms of investments in the authorised capital spent for environmen-

tal protection, the Corporation’s indicator is sufficiently high. It is RUB 6.03 billion. For the sake of comparison, KHNP (Korea Hydro & Nuclear Power), which operates 23 nuclear reactors totalling 20,716 MW and which generates in total 26.4 % of the electricity in South Korea (the total capacity of 28 Russian operating reactors is 20,230 MW), it is approximately, as recalculated, RUB 0.22 billion.

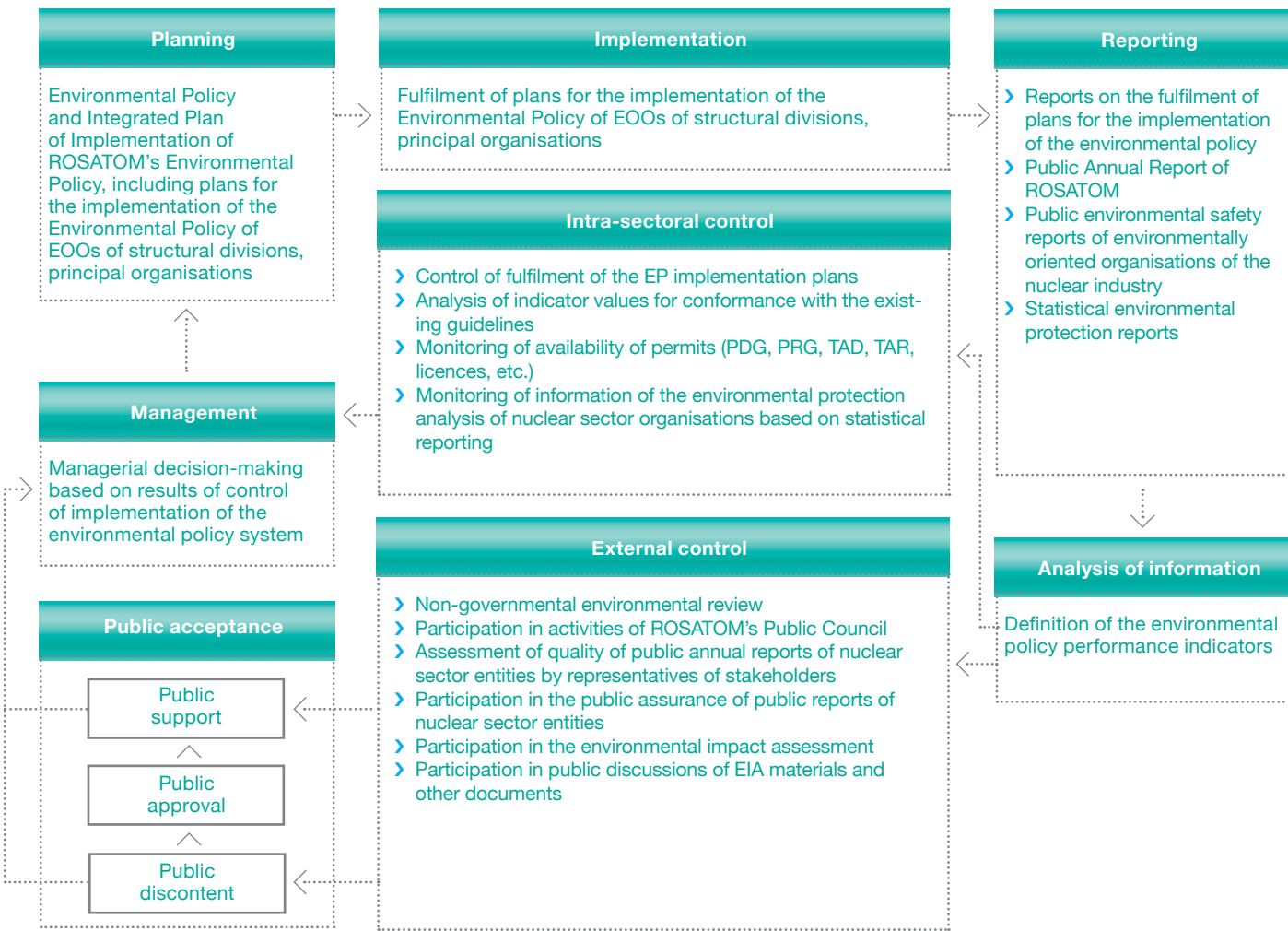
On the whole, in 2013, ROSATOM spent for environmental protection 4.54 % of the total spending for environmental protection in the Russian Federation. ROSATOM’s share of the total (Russia-wide) volume of releases of pollutants to the atmosphere, discharges of sewage water and generation of production and consumption waste is 0.16, 0.59 and 0.49 %, respectively. In other words, the negative impact on the environment produced by ROSATOM is ten times less than the amount of funds it spent for environmental protection and the mindful use of natural resources. This illustrates that the Corporation pays great attention to environmental protection and ensuring ecological safety, including in terms of finances.

3.7.1. Environmental safety and environmental protection management system

ROSATOM and its organisations implement a responsible environmental policy whose strategic goal is to ensure environment-focused development of the nuclear industry, taking into account nuclear and radiation safety. Since 2008, [the Basics of Environmental Policy of ROSATOM and its Organisations \(Environmental Policy\)](#) has been the main regulatory document in the field of environmental safety and environmental protection.

The system of environmental protection management and the implementation of the environmental policy of ROSATOM has continuously been improved. In the reporting year, one of the key events was the updating of the Environmental Policy in accordance with the approved Basics of the State Environmental Development Policy of the Russian Federation until 2030 and due to the necessity of improving the environmental safety of nuclear facilities. The environmental policies of nuclear sector organisations will be updated, taking into account the introduced changes.

Fig. Implementation of ROSATOM's environmental policy



The systemic solution of environmental problems inherited from the past operations of enterprises under nuclear programmes and ensuring the safety of the environment and the population during ongoing activities is an important aspect of the Corporation's activities.

In 2013, the nuclear industry's organisations operated sustainably; there were no accidents and incidents which negatively affected the environment. Compared to the preceding year, the man-made burden on the environment decreased. Production activities were carried out with unconditional observance of the standards and regulations of the environmental law.

Information on environmental safety and protection by ROSATOM and its organisations is also provided in [the sectoral Environmental Report](#).

Introduction of international standards of environmental management and quality management

In 2013, work in the framework of environmental and quality management continued. The key organisations have introduced international standards which provide for the transition to the integrated management system.

JSC Rosenergoatom Concern

JSC Rosenergoatom Concern developed programmatic measures in key activity areas, including environmental protection, and corporate standards which reflect near-term goals and are in line with Rosenergoatom's concept of environmental management system (EMS) improvement.

In 2013, compliance and/or re-certification audits of certified EMSs were carried out in Rosenergoatom's headquarters and operating NPPs. The compliance and/or re-certification audits were carried out by highly competent specialists accredited on both national and international levels. In the course of the certification, the auditors noted a high level of work done to build up and develop EMS of JSC Rosenergoatom Concern and each of the operating NPPs.

JSC TVEL

JSC TVEL has developed and implemented an Integrated Management System (IMS) covering quality, environment, health protection and labour safety. In 2013, the work was completed to include all of the fuel company's enterprises in the IMS. The corporate IMS passed an expanded certification audit and was granted a Certificate of Conformance for the management system for satisfying the requirements

Capital management efficiency

of standards ISO 9001:2008, ISO14001:2004 and BS OHSAS 18001:2007.

JSC Atomredmetzoloto

With the introduction of international standards in 2013, JSC Khiagda signed an agreement with the Urals Interregional Certification Centre to render consultancy services in relation to the development, introduction and preparation of a management system for certification for conformance to the requirements of international certificates ISO 9001:2008 and ISO 14001:2004. The work under this agreement moves into 2014. In the reporting year, an exploratory audit of the conformance to the requirements of the standards was carried out and the documents that met the requirements of the international standards were put in force; employees received relevant training. In future, it is planned to train internal auditors of JSC Khiagda and carry out subsequent internal audits. Also, it is planned to complete development of all necessary documentation for certification and carry out such certification of the enterprise.

3.7.2. The Environmental Protection Year

By Presidential Decree, 2013 was declared the Environmental Protection Year. The Corporation adopted a plan of events to celebrate the Environmental Protection Year, which included 1,135 events in various formats. The goal of the work was to consolidate environmental protection efforts, including the

reduction of negative impacts on the environment, improvement of the environmental culture both of the nuclear facility personnel and of the general population, ensuring the openness of and publicity for the Corporation organisations' activities and building up objective attitudes of the public towards nuclear power development.

One of the key events was the contest "The Environment Model Organisation of the Nuclear Industry". It aim was to improve the efficiency of the Environmental Policy of ROSATOM as a whole and environmental policies of EEOs and to identify the most responsible organisation in the sphere of environmental protection and safety. Fifty-one organisations took part in the contest. The winners were branches of JSC Rosenergoatom Concern – Kursk NPP and Balakovo NPP, and JSC Siberian Chemical Combine.

3.7.3. Financing of environmental protection measures

Annually, ROSATOM's organisations carry out a large number of environmental protection measures. In 2013, the total expenditure for environmental protection was RUB 19.63 billion, including current costs of RUB 13.60 billion and investments in fixed capital of RUB 6.03 billion. Compared to the preceding period, total expenditures grew by 24.8 %, current costs grew by 16.7 %, and investments in fixed capital grew by 47.8 %.



Fig. Distribution of expenditures for environmental protection in 2012-2013, bln RUB

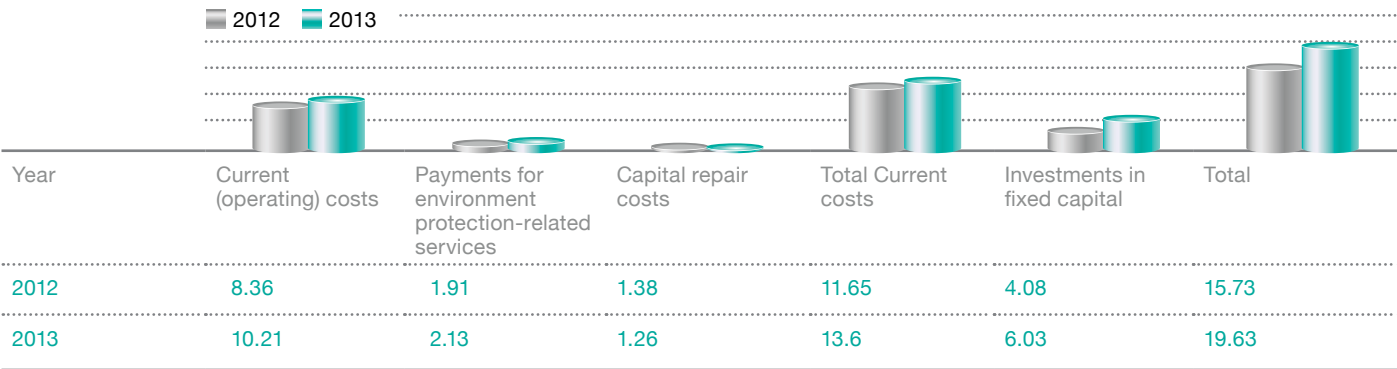
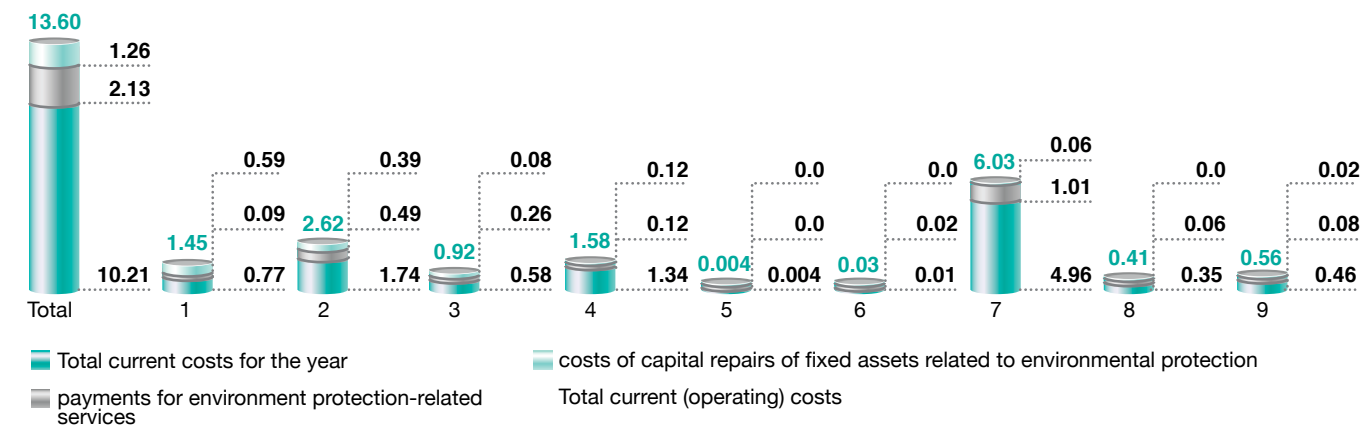


Fig. Current costs of environmental protection activities, bln RUB



1 – protection of the atmosphere and prevention of climate change; 2 – collection and clean-up of sewage water; 3 – waste management; 4 – protection and reclamation of land, surface and groundwater; 5 – protection of the environment against noise, vibration and other physical impacts; 6 – preservation of bio-diversity and protection of wildlife territories; 7 – radiation safety of the environment; 8 – research and development to reduce negative man-induced impacts on the environment; 9 – other environmental protection activity areas

Ecology-related payments

In 2013, ecology-related payments for permissible contaminant releases and discharges and those in excess of guidelines, placement of production and consumption waste amounted to RUB 104.2 million, of which RUB 48.9 million (46.9 %) was for releases and discharges in excess of guidelines.

The largest payments were made for the placement of waste (RUB 61.9 million [59.4 %]) and discharges into water bodies (RUB 33.2 million [31.9 %]). Compared to the preceding year, the total amount of ecology-related payments decreased by RUB 10.4 million. The payments for excessive impacts decreased by RUB 14.1 million.

Over the reporting year, nine organisations paid fines in an amount of RUB 657,000 to compensate for damage caused by breaches of the environmental protection law; these included JSC Khiagda (RUB 370,000), JSC SCC (RUB 190,000), JSC MPP (RUB 20,000), JSC MSZ (RUB 10,000), JSC CMP (RUB

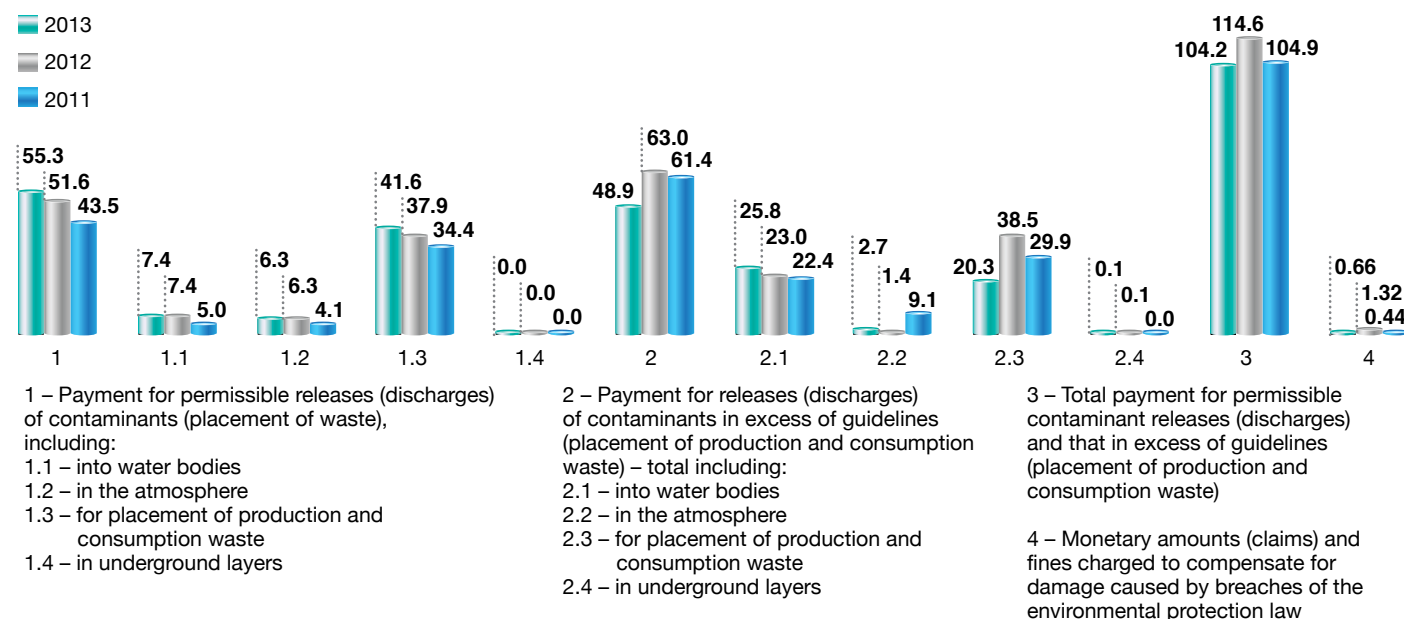
10,000), JSC OKTBIS (RUB 6,000), FSUE ERC IPPE (RUB 10,000), FSUE PSZ (RUB 11,000), and FSUE Atomflot (RUB 30,000). On the whole, the payments of sectoral organisations for violations of the environmental protection law which caused damage were small.

The reduction of environmental impact parameters that are in excess of guidelines remains an important environmental objective of ROSATOM's organisations. In 2013, these payments were RUB 48.9 million, or 46.9 % of the total payments for contamination of the environment.

3.7.4. Important initiatives of ROSATOM to mitigate environmental impact

The initiatives to mitigate environmental impacts in mid-term are reflected in the Integrated Plan of the ROSATOM's Environmental Policy Implementation in 2012 and until 2015 (hereinafter referred to as the Plan). According to the Methodological Recommendations for Implementation of the RO-

Fig. Ecology-related payments for negative impact on the environment, mln RUB



1 – Payment for permissible releases (discharges) of contaminants (placement of waste), including:
 1.1 – into water bodies
 1.2 – in the atmosphere
 1.3 – for placement of production and consumption waste
 1.4 – in underground layers
 2 – Payment for releases (discharges) of contaminants in excess of guidelines (placement of production and consumption waste) – total including:
 2.1 – into water bodies
 2.2 – in the atmosphere
 2.3 – for placement of production and consumption waste
 2.4 – in underground layers
 3 – Total payment for permissible contaminant releases (discharges) and that in excess of guidelines (placement of production and consumption waste)
 4 – Monetary amounts (claims) and fines charged to compensate for damage caused by breaches of the environmental protection law

Capital management efficiency

SATOM's Environmental Policy, the Plan is annually updated and contains organisational and engineering nature aimed at reducing negative impacts of the environment.

Results of 2013

JSC Rosenergoatom Concern:

- at Balakovo NPP, the traditional lighting sources of the plant area and premises were replaced with new generation lighting sources based on light-emitting diodes, and a heavy oil-contaminated drain pumping system was upgraded;
- at Smolensk NPP, the scheduled preventive maintenance of the water treatment equipment was carried out along with that of service storm and storm sewage systems; the water chemistry system was upgraded;
- at Kalinin NPP, a filter for the clean-up of dielectric fluids was installed to reduce the amount of generated draining of turbine oil. The fish protection system Pirs and sonar system Peskarik were installed in the pilot commercial operation at the plant's water intakes.

FSUE PA Mayak:

- during tests of the membrane sorption technology of LRW clean-up at the radioisotope plant, radionuclide clean-up factors of 105 were achieved;
- tests of the new system of local gas clean-up of caesium-137 were continued at the radiochemical plant; the system is based on ceramic cartridges with high-temperature heating. Implementation of this system will allow for local trapping of caesium-137 and reduce its atmospheric release by two orders.

FSUE Aleksandrov NITI:

- the local system for extra drain water clean-up from petrochemicals of 0.3 m3/h capacity was modernised;
- the pilot operation of the pilot system to test its capability to clean-up from petrochemicals to achieve the permissible content of 0.03 mg/l was started;

- the operation of the modular membrane sorption system for LRW conditioning was resumed after a prolonged outage; the system is capable of minimising the radioactive waste volume and reprocessing 30 m3 of LRW to the level permitting its discharge into the natural environment.

JSC SCC:

- the work was carried out to replace low-efficiency electric ash traps at Boilers Nos. 2 and 6 with high-efficiency wet ash traps; this reduced ash discharges to 6,221 t from 7,743 t in 2012.

JSC Khiagda:

- the coal-fired boiler house of the in-situ leaching section was refurbished with the replacement of the critical equipment (boilers, fume exhausts, cyclones) with more advanced ones and the replacement of the gas clean-up equipment with the one having higher efficiency in terms of exhaust gas clean-up; this reduced pollutant releases into the atmosphere. In 2013, the total release of solid substances into the atmosphere during operation of the coal-fired boiler house amounted to 23.807 t, down 4.366 t from 2012 (28.173 t). In 2013, the total amount of liquid and gaseous releases amounted to 74.348 t, down 10.948 t from 2012 (85.296 t).

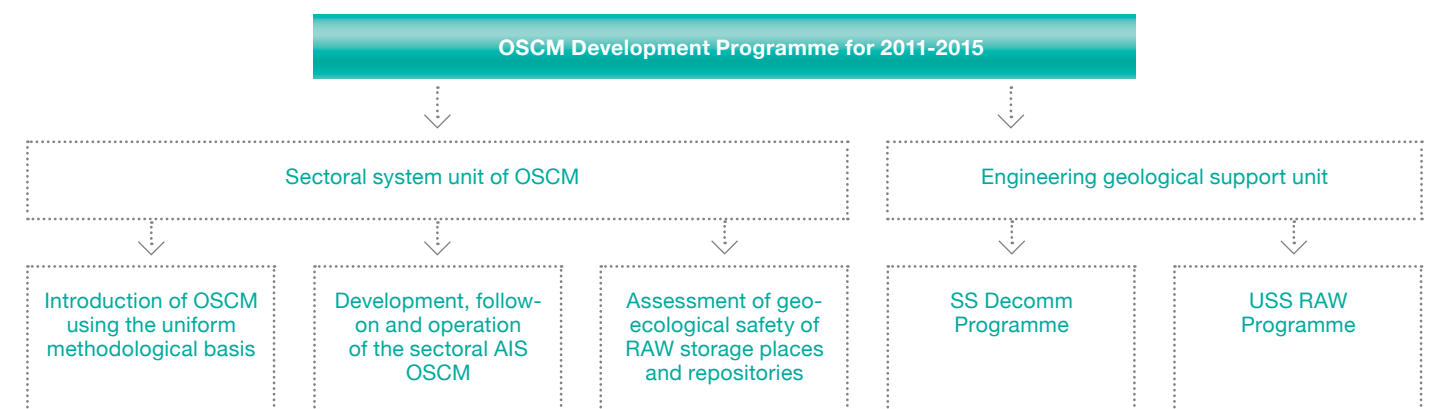
3.7.5. On-site subsoil condition monitoring

On-site Subsoil Condition Monitoring (OSCM) is a system of monitoring and regular observations of changes in the subsoil environment and surface hydrosphere condition indicators caused by the operations of ROSATOM's organisations, assessment and projection of these changes and management thereof.

In 2010, the Federal Agency for Mineral Resources and ROSATOM signed a Cooperation Agreement to deploy OSCM at ROSATOM's enterprises. The agreement defined FSUE Gidrospektgeologiya as the executive contractor on behalf of the Agency.

Over the past five years, the Centre of Subsoil Condition Monitoring (SCM Centre) established in FSUE Gidrospektgeologiya executed all necessary work for targeted units of the sectoral system. The OSCM development programme defines the main objective as the merging of 55 key enterprises of the sector into the OSCM system by 2015.

Fig. OSCM Development Programme for 2011-2015



By the present time, 46 enterprises have been surveyed. At enterprise, the subsoil conditions and monitoring system were assessed, and recommendations for its improvement given; customer sites of the analytical information system (AIS OSCM) have been established, and monitoring databases for the recent 5-10 years have been compiled. New survey networks have been built at 16 enterprises.

Fig. Deployment of the OSCM system at ROSATOM facilities

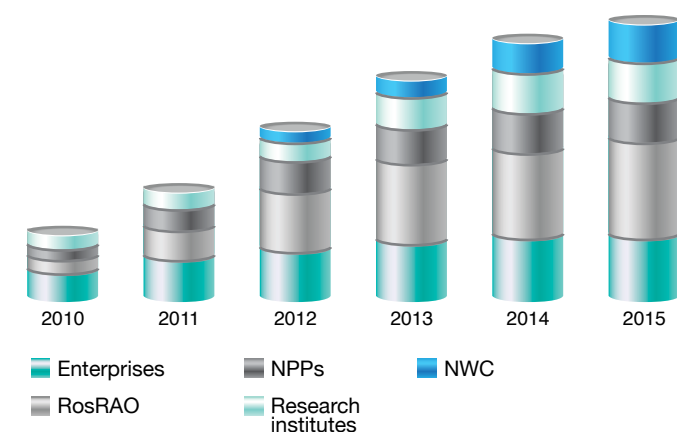
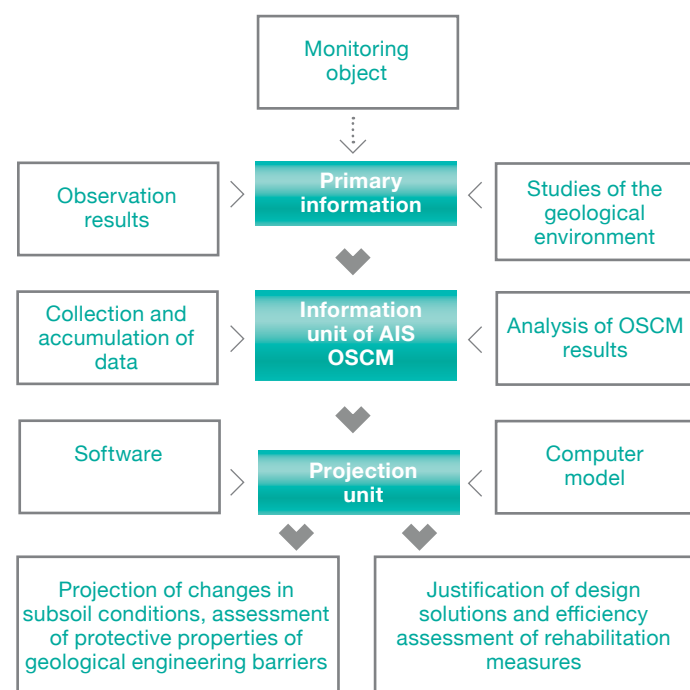


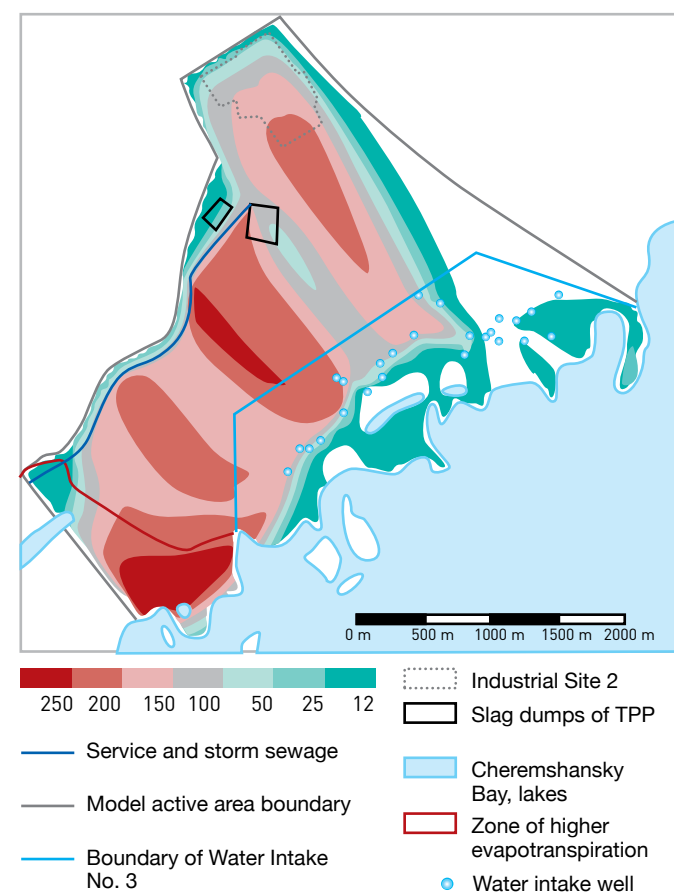
Fig. Structure of on-site subsoil condition monitoring



In 2013, great attention was paid to the improvement of the information and analytical support of radio-ecological monitoring (IAS REM).

By order of the Public Council of ROSATOM, the SCM Centre, using IAS REM as the base, develops proposals for building up an integrated sectoral environmental monitoring system. The key tool is projection computer modelling. In past years, geo-migration models have been produced based on the subsoil and surface ecosystem monitoring data from 22 enterprises.

Fig. Projected propagation of chlorine ions in the operated water-bearing layer with selected source concentrations at JSC SRC NIAR for 2040



Other results of OSCM operation:

- justification of measures to eliminate LRW storage facilities (FSUE PA Mayak) and to reclaim RAW storage facilities of JSC KChCC;
- development of pilot demonstration OSCM systems at FSUE PA Mayak and FSUE SRC IPPE;
- participation in the public hearings on the rehabilitation of facilities of the first atomic project;
- the science and practice conference "Geo-ecological Problems of Protection of Water Bodies at the Nuclear Industry Enterprises" in the framework of the International Conference AtomEco-2013.

3.7.6. Environmental impact

3.7.6.1. Radionuclide releases

In 2013, the radiation burden on the environment did not change much compared to the preceding year. The total activity of radionuclides released to the atmosphere from the Corporation's enterprises was $4.42\text{E}+16$ Bq. The total activity was 98.79 % due to releases of beta-active nuclides ($4.37\text{E}+16$ Bq), where the percentage of inert radioactive gases (IRG) is 98.66 % and 1 % is tritium.

Capital management efficiency

The alpha-active radionuclide releases ($5.34\text{E}+14$ Bq) are 96.88 % due to radon-222 coming from uranium mining operations. Compared to the preceding year, releases of alpha-active nuclides grew by 15.08 % due to an increase in radon releases at JSC PIMCU. For the nuclear industry as a whole, releases of alpha-active nuclides accounted for about 28.79 % and beta-active nuclides for 3.13 % of the permissible guideline.

In 2013, permissible values of radionuclide releases were not exceeded. For the nuclear industry as a whole, the amount of released cobalt-60, strontium-90, zirconium-95, ruthenium-103 and 106, iodine-131, caesium-134, caesium-137 was less than 1 % of the established guideline.

Fig. Structure of radionuclide activity

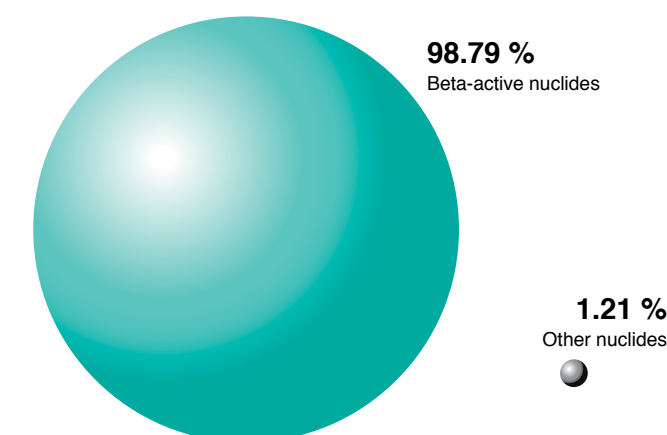


Fig. Type of beta-active radionuclides

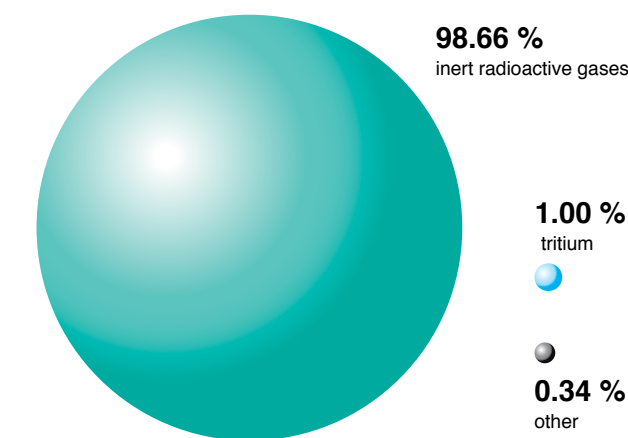
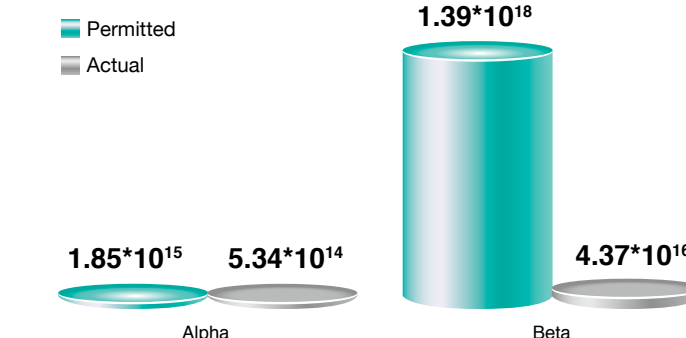


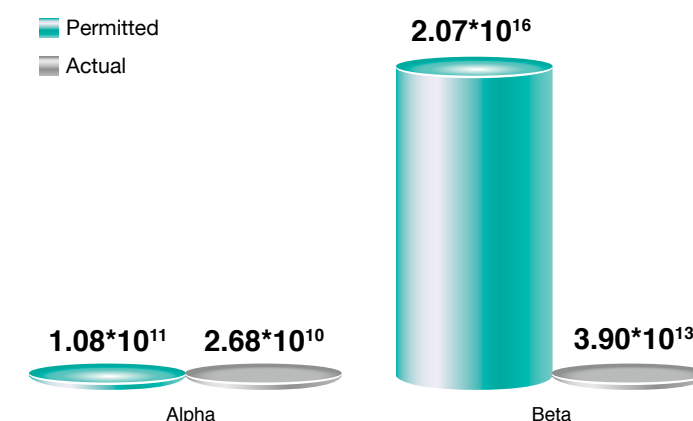
Fig. Actual-to-permitted ratio of radionuclide releases, Bq



3.7.6.2. Radionuclide discharges

In 2013, drain water in an amount of 305.48 mln m³ and activity of $3.90\text{E}+13$ Bq was discharged into surface water bodies by the enterprises. Compared to 2012, the amount of discharge of such water increased by 70.75 % and its activity increased by 15.60 %. This is due to an increase in the discharge of drain water at FSUE Aleksandrov NITI by 38.5 mln m³, JSC AECC by 12.1 mln m³, and JSC PIMCU by 0.8 mln m³.

Fig. Actual-to-permitted ratio of radionuclide discharges, Bq



Incoming of alpha-active radionuclide ($2.68\text{E}+10$ Bq) to the open hydrographical network is by 56.25 % due to natural uranium.

Beta-active radionuclides, which come with drains in the surface water bodies ($3.90\text{E}+13$ Bq) make up 99.20 % due to tritium. The percentage of all remaining radionuclides is about 0.8 %, including strontium-90 (0.72 %) and caesium-137 (0.04 %).

On the whole, incoming of radionuclides with drain water to the open hydrographical network was: in terms of alpha-active radionuclides ~14.58 % and in terms of beta-active radionuclides less than 0.2 % of the established guidelines.

Fig. Discharge rate of drain water containing radionuclides, mln m³

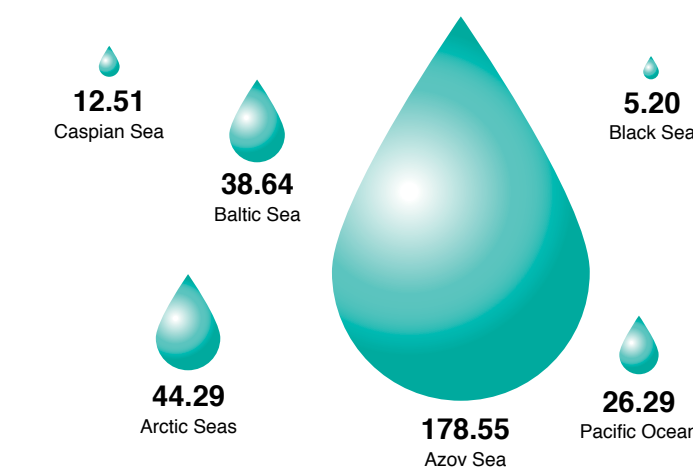


Table. Discharge rate of drain water containing radionuclides

Year	Volume (million m³)	Activity (10 ¹³ Bq)
2011	198.5	4.1
2012	178.9	3.3
2013	305.5	3.9

Fig. Main contributions of alpha-active radionuclides in discharges, Bq

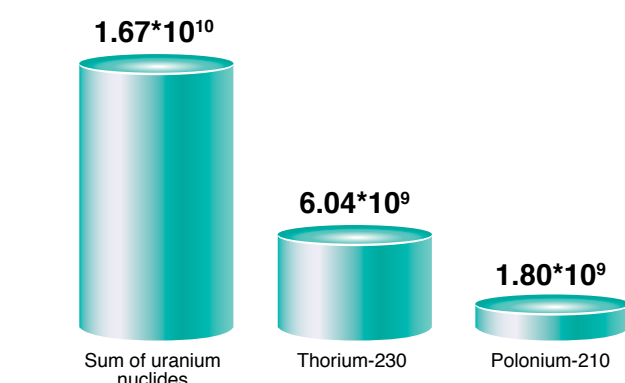
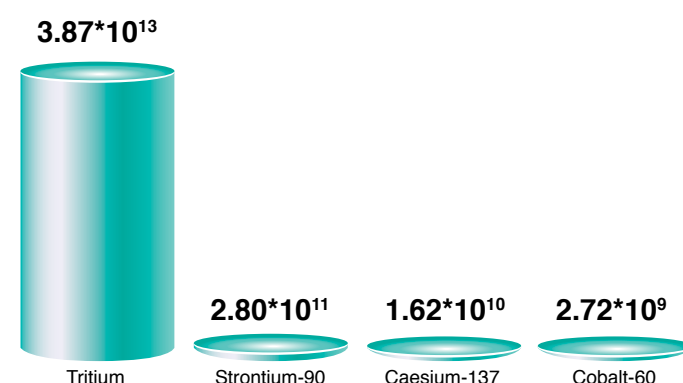


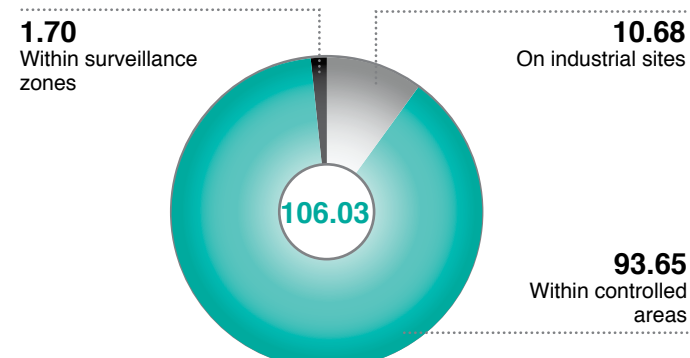
Fig. Main contributions of beta-active radionuclides in discharges, Bq



3.7.6.3. Rehabilitation of contaminated and disturbed territories

As of 31 December 2013, 21 enterprises in the sector had territories contaminated with radionuclides. The total area of contaminated territories was 106.03 m².

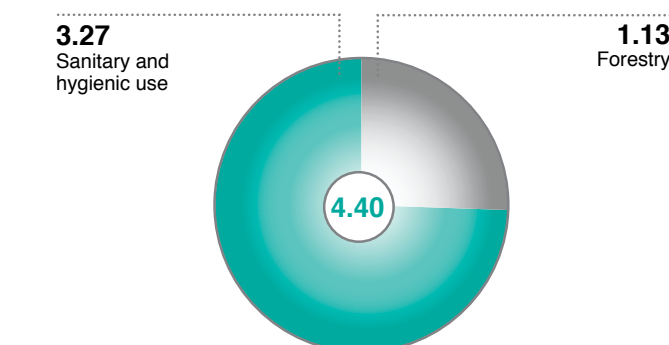
Fig. Area of territories contaminated with radionuclides, as of 31 December 2013, thousand m²



Radioactive contamination is mainly due to the nuclides caesium-137 and strontium-90, as well as natural uranium and its decay products. More than 87 % (93.12 m²) of territories contaminated with radionuclides are situated near FSUE PA Mayak (the consequence of the 1957 accident).

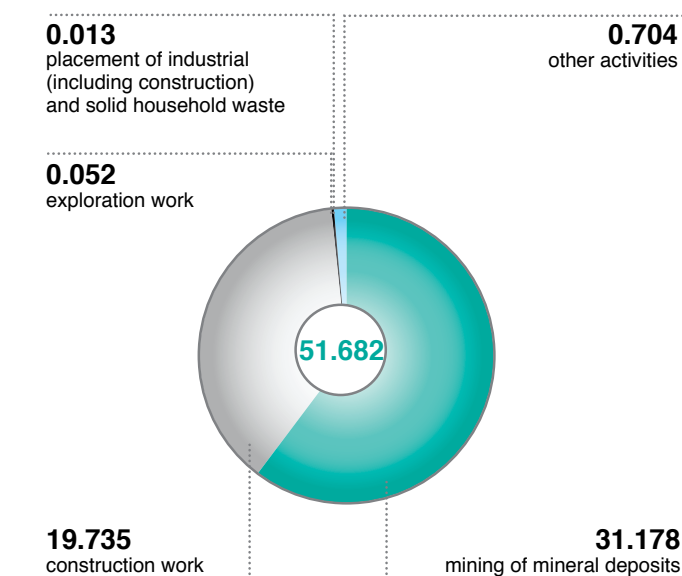
Over the past five years, 70,840 m² of contaminated territories have been rehabilitated, including 4,400 m² in 2013.

Fig. Area of radionuclide-contaminated land rehabilitated in 2013, thousand m²



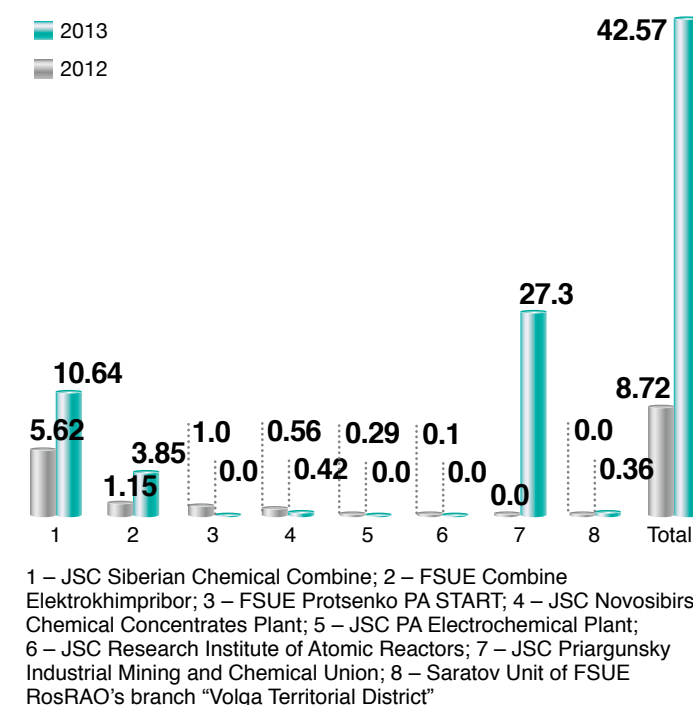
In 2013 at the enterprise, a set of works aimed at restoring the productivity and economic value of disturbed land, as well as the improvement of environmental conditions. The total area of reclaimed land was 42.57 hectares.

Fig. Area of disturbed land, as of 31 December 2013, thousand m²



Capital management efficiency

Fig. Area of reclaimed land by organisations, hectares per year



3.7.6.4. Harmful atmospheric releases

Releases of harmful chemical substances (HCS) into the atmosphere in 2013 amounted to 50,200 t. The trapping rate was 84.0 %, or higher than across Russia by 9.7 % (the Russia-wide trapping rate was 74.3 %*).

Fig. HCS atmospheric releases, thousand tonnes



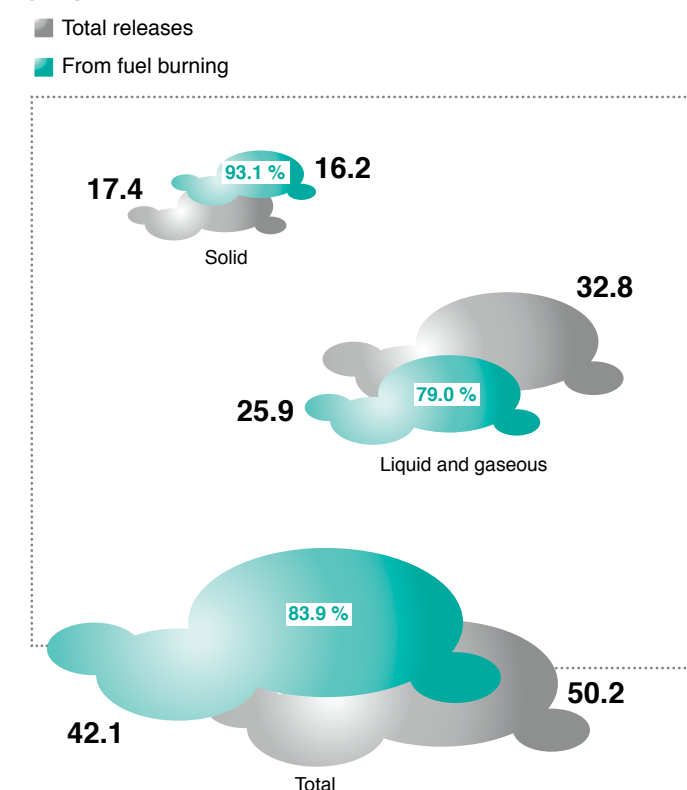
The total reduction of HCS releases was mainly due to their reduction at JSC SCC and JSC MCC (in total by 7,600 t). On the whole in the nuclear industry, the reduction, compared to the 2012 reporting period, of releases into the atmosphere in 2013 was noted for more than 60 organisations of the sector.

While there is a trend of reduction of HCS atmospheric releases across the sector, they have increased in a number of organisations, namely JSC PIMCU, JSC SGC, JSC RUSBURMASH, FSUE Combine EKHP, Kursk NPP, and JSC NCCP.

In 2013, the amount of HCS atmospheric releases by ROSATOM was 38.2 % of the permissible value.

The main contributors (83.9 %) to the sector-wide HCS releases were fossil fuel-fired TPPs and boiler houses. JSC SCC accounted for 44.8 % (7,300 t) of the sector total release, JSC PIMCU 41.1 % (6,700 t), FSUE MCC 12.9 % (2,100 t), JSC SGC 0.7 % (100 t); other organisations in the nuclear industry accounted for 0.5 % of the sector's total releases.

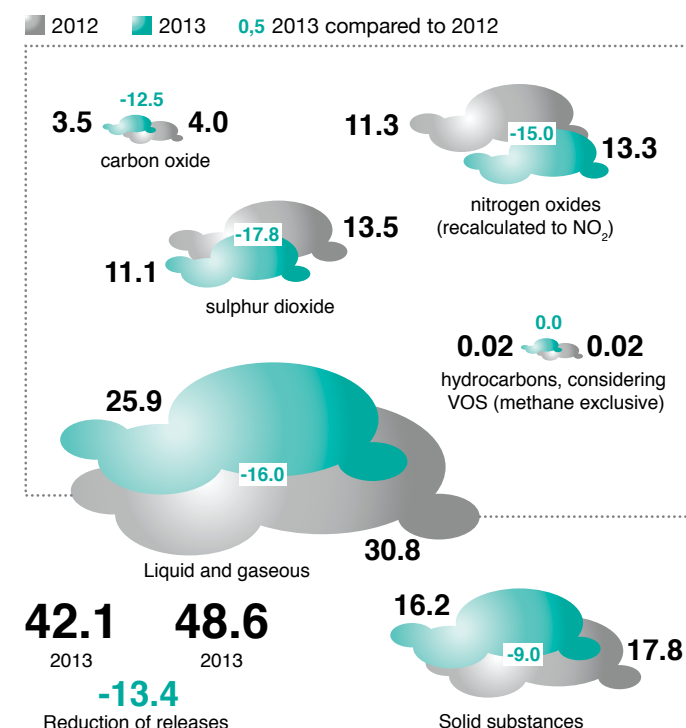
Fig. Percentage of HCS releases resulted from burning of fuel against total amount of releases, thousand tonnes per year



Compared to the previous reporting period, in the reporting year, the amount of HCS atmospheric releases resulting from the burning of fuel was reduced across the Corporation by 6,500 t (by 13.4 %), in terms of solid substances by 1,600 t (by 9.0 %) and liquid and gaseous by 4,900 t (by 16.0 %). Of these, the largest reduction of releases resulting from the burning of fuel was noted for TPP of JSC SCC (by 17.4 %), owing to the amount of burnt coal as well as the result of a refurbishment of ash-trapping systems, and for TPP of FSUE MCC (by 40.1 %) owing to a reduction of burnt fuel.

* As per the data from the governmental report "On the Condition of the Environment and on the Environmental Protection in the Russian Federation in 2012".

Fig. HCS atmospheric releases resulted from burning of fuel, thousand tonnes per year



Compared to 2012, in 2013, a reduction of atmospheric releases of HCS, which are part of the greenhouse gases, by 12.2 % (by 109,300 t), including nitrogen oxide by 40.6 % (by 102,800 t) was reported. This is mainly owing to a reduction of the latter at FSUE MCC (by 55.6 % of the 2012 release).

Fig. HCS atmospheric releases by hazard classes, thousand tonnes

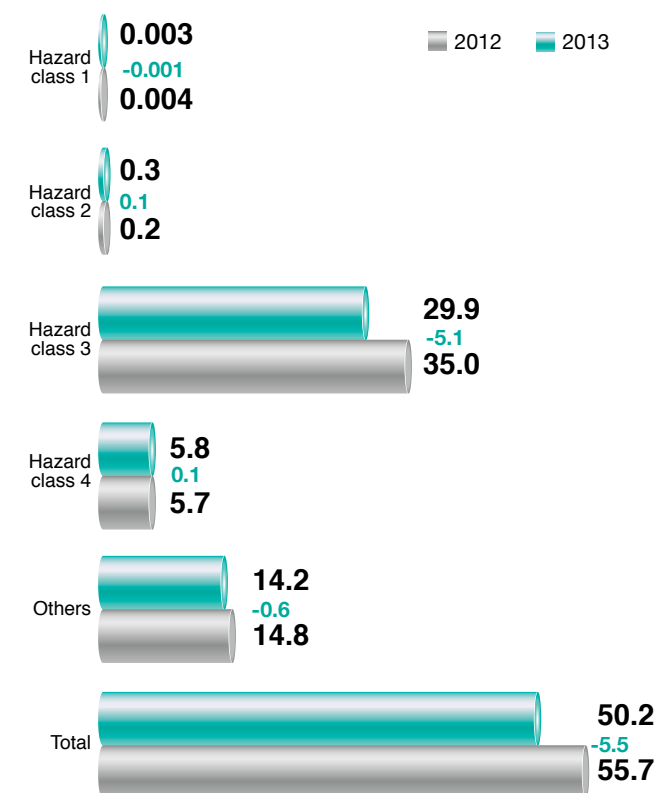
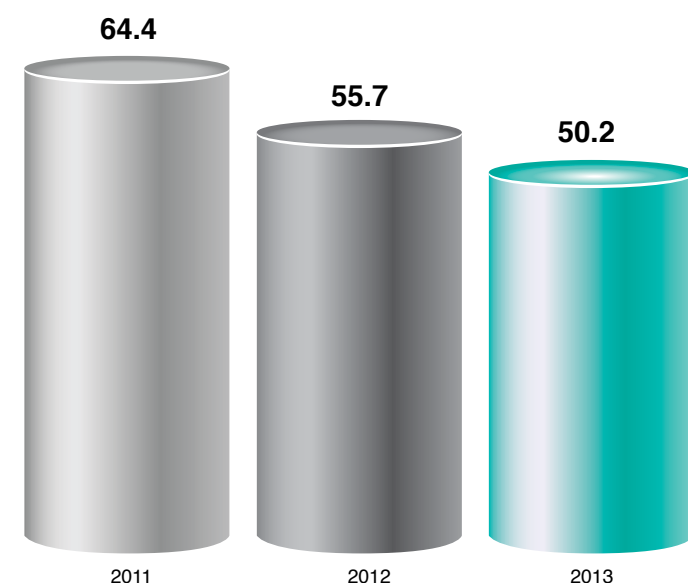


Fig. HCS release rate of changes, thousand tonnes

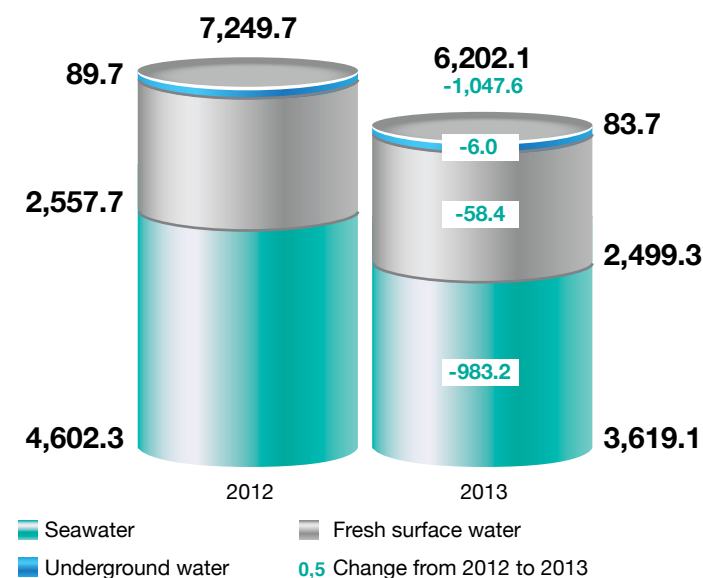


3.7.6.5. Water management

Nuclear power is a major water consumer. In 2013, it accounted for 4.4 % of the total fresh water consumption in the Russian Federation (9.3 % in 2012).

The fresh water intake from natural water sources was 6202.1 million m³. Compared to 2012, the total water intake decreased by 1047.6 million m³. The seawater intake reduction of 983.2 million m³ (93.8 %) accounted for most of the decrease, largely due to a reduction at Leningrad NPP (by 973.9 million m³ because of a decrease in electricity generation in the reporting period) and at FSUE NITI (by 9.6 million m³) in connection with changes in the institute's test bench operating modes.

Fig. Water intake



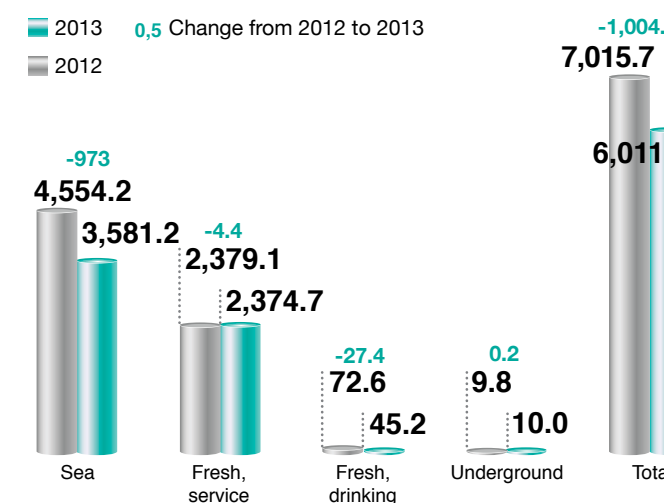
The total amount of water used by the nuclear industry for auxiliary needs was 6073.8 million m³ in 2013. The major consumers were NPPs, enterprises of JSC TVEL and the nuclear weapon complex facilities. Compared to 2012, the total water consumption decreased by 1006.4 million m³.

Capital management efficiency

Fig. Water use for auxiliary needs with a breakdown by categories, mln m³

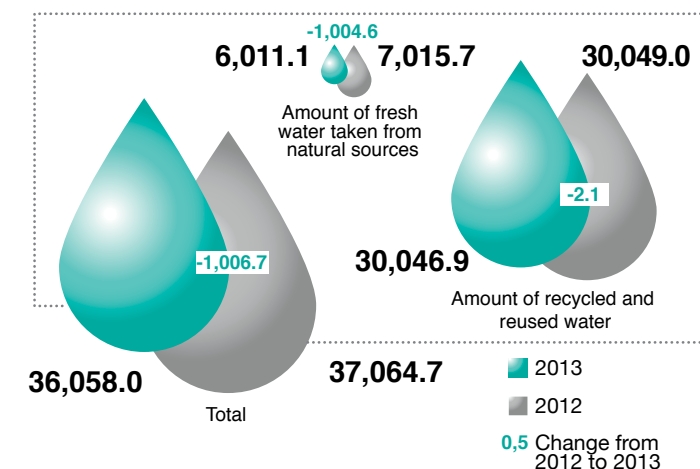


Fig. Water use for production needs with a breakdown by category, mln m³



The amount of water used for production needs has decreased by 1004.6 million m³, largely due to a reduction in water consumption by such organisations as Leningrad NPP (by 963.8 million m³, thanks to a decrease in electricity generation), JSC SCC (by 91 million m³, thanks to changes in the cogeneration programme); Novovoronezh NPP (by 17.5 million m³, due to the operation of upgraded pumps at the onshore pump station and more rational use of artesian water); FSUE MCC (by 11.3 million m³, due to a decrease in production capacity); FSUE NITI (by 9.1 million m³, due to changes in the operating modes of its test benches); and JSC ECC (by 2.1 million m³, thanks to the implementation of an energy saving and energy efficiency programme).

Fig. Use of water from natural sources and recycle water for production needs, million m³

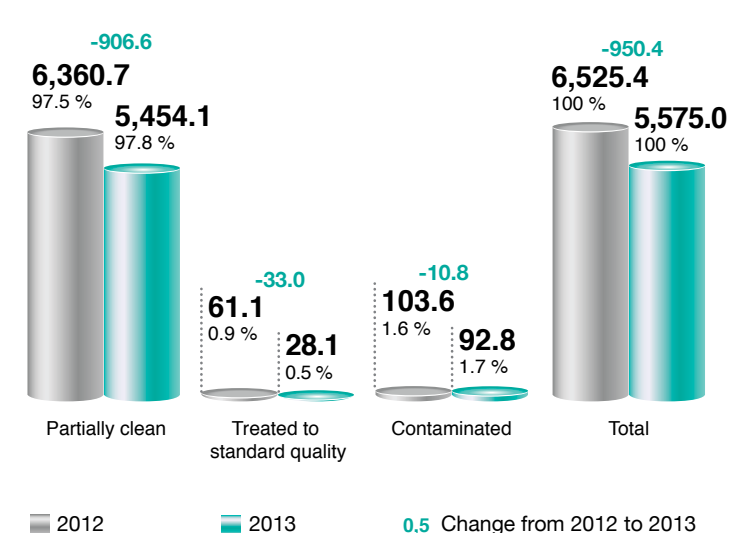


In total, 36058.0 million m³ of water was used, of which 30046.9 million m³ was recycled and reused water. The amount of water recycled and reused make it possible to find out if the measures taken to improve the system for rational use of water for production needs have been efficient. The water savings thanks to recycling and reuse of water amounted to 83.3 % in 2013 (92.5 % if not including seawater), which is much in excess of the Russia-average figure (71.45 %*).

Water discharge

The total wastewater discharge in 2013 was 5575.0 million m³, of which 5454.1 million m³ was partially clean water (97.8 %), 92.8 million m³ was contaminated water (1.7 %), and 28.1 million m³ was water treated to reach the standard quality (0.5 %).

Fig. Wastewater discharges into surface water bodies, mln m³



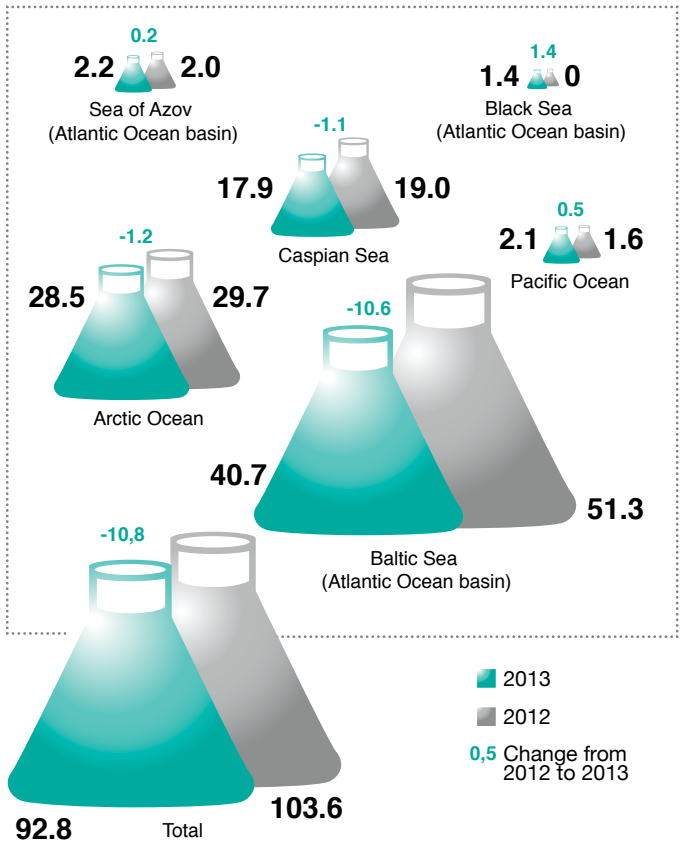
The total wastewater discharge has decreased by 950.4 million m³. The partially clean water discharge has decreased by 906.6 million m³, largely thanks to the discharge decrease at Leningrad NPP (by 954.0 million m³) and JSC SCC (by 69.5 million m³), as the result of a reduction in electricity generation.

* According to data in the government report "About the State and the Protection of the Environment in the Russian Federation in 2012".

The contaminated water discharge has decreased by 10.8 million m³ thanks to such organisations as FSUE NITI (by 9.7 million m³, due to changes in the operating modes of its test benches), and FSUE ECP (by 1.3 million m³, due to a reduction in the wash water and storm water amounts).

In the reporting year, compared to the previous year, the contaminated wastewater dump into the Baltic Sea (the Atlantic Ocean basin) decreased by 10.6 million m³. This was the result of changes in the test bench operating modes at FSUE NITI (a decrease by 9.7 million m³), and by a reduction in electricity generation at Leningrad NPP (a decrease by 0.8 million m³).

Fig. Dynamics of contaminated wastewater discharges, with a breakdown by sea basin, mln m³



Structurally, the major contributors to the contamination discharged with wastewater into natural water bodies are dry residues (43.02 thousand tonnes), sulphates (8.67 thousand tonnes), chlorides (8.69 thousand tonnes), suspended matter (2.36 thousand tonnes), and nitrates (1.07 thousand tonnes).

In the reporting year, compared to 2012, there was a decrease in the entry of the following contaminants into the open hydrographical network:

- hazard class 2 (sodium, fluorides, strontium, aluminium): 176.1 t,
- hazard class 3 (nitrates, zinc, copper): 140.2 t,
- hazard class 4 (sulphates, chlorides): 462 t,

others: 126.7 t.

The major causes for the reduction in the entry of contaminants into surface water bodies are the following: a variation in the content of components in the initial service water (JSC PIMCU); the withdrawal of a fish farm from the company's structure (JSC ECP); a reduction in the annual average rainfall (JSC AECC); a change in the production programme of the sublimate plant (JSC SCC); a reduction in the number of outputs (JSC UEIP); an increase in the operating efficiency of purification works (active silt loading) (JSC KMZ); use of more accurate monitoring techniques with a low detection threshold (FSUE MCC); a reduction in the amount of combusted fuel at cogeneration plant 1 (JSC CMP); an increase in the efficiency of purification works (due to the scheduled filter bed replacement) (JSC St. Petersburg ISOTOPE); a change in the boiler house operating conditions (FSUE RFNC VNIITF); and a reduction in storm water discharge (Beloyarsk NPP).

In 2013, there was an increase in the entry of the following contaminants:

- hazard class 3 (magnesium, molybdenum): 55.3 t,
- hazard class 4 (petroleum products): 1.8 t,
- others: 861.8 t.

The increase in the entry of the major contaminants into surface water bodies was primarily caused by the following: an insufficient capacity and inefficient operation of purification works – additional purification works were built in the reporting period along with the subsequent retrofit of the existing structures (JSC PUMCU); changes in the operating modes and redistribution of the wastewater flows at the cogeneration plant (JSC SCC); purification process abnormalities, namely irregular wastewater input for purification and equipment wear (at ATES-Polyarnye Zori Branch); flushing of the storm water receiver chambers at the purification works (FSUE MCC); an increase in the number of heat-exchanger flushings (JSC AECC); and redistribution of the wastewater flows to be purified.

Further minimisation of the contaminated wastewater discharge is considered by the industry's organisations to be one of the most important objectives in their environmental activities. There is a trend observed towards a reduction in the amount of contaminated wastewater disposal. In the reporting year, as compared to 2008, the discharge of the given wastewater category decreased by a factor of 1.4.

3.7.6.6. Production and consumption waste

During 2013, 24.9 million tonnes of production and consumption waste was formed at the nuclear organisations, which is 3.1 million tonnes as much as in 2012, 24.8 million tonnes (99.6 %) of this being nonhazardous waste (hazard class 5). JSC PIMCU accounts for most of this waste (98 %) which is mostly overburden and enclosing rock resulting from the mining of non-metallic minerals (defined by the mining plan for the coal seam uncovering).

Capital management efficiency

Fig. Management of waste, thousand tonnes

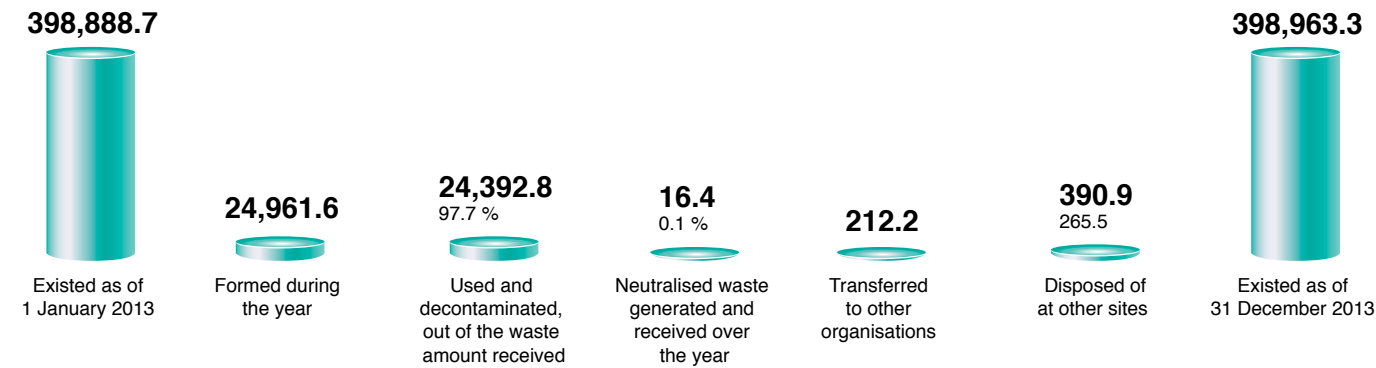


Table. Formation and storage of waste with a breakdown by hazard classes in 2013

Waste hazard class	1	2	3		4		5	6		7
			thousand tonnes	%	thousand tonnes	%		Total	Portion to be buried	
Total	398,888.7	24,961.6	24,392.8	97.7	16.4	0.1	212.2	390.9	265.5	398,963.3
Hazard class I	0.422	0.203	0.0004	0.2	0.01	4.9	0.286	0.011	0.000	0.329
Hazard class II	0.316	19.037	0.002	0.01	8.839	46.4	10.281	0.046	0.042	0.189
Hazard class III	9.464	5.504	0.755	13.7	0.069	1.3	5.054	0.658	0.355	8.734
Hazard class IV	4,654.3	100.4	14.5	14.4	7.4	7.5	102.3	16.8	13.3	4,617.4
Hazard class V	394,224.1	24,836.3	24,377.6	98.2	0.007	0.03	94.3	373.4	251.8	394,336.7

1 – Existed as of 1 January 2013 (thousand tonnes); 2 – Waste formation and receipt in the reporting period (thousand tonnes); 3 – Used, out of the waste amount formed and received in 2013; 4 – Decontaminated, out of the waste amount formed and received in 2013; 5 – Transferred to other organisations (thousand tonnes); 6 – Disposition of waste at operated sites in the reporting year (thousand tonnes); 7 – Existed as of 31 December 2013 (thousand tonnes)

The amount of waste received from other organisations was 10.3 thousand tonnes.

Out of the total waste amount as of 31 December 2013, waste of hazard classes I, II and III account for less than 0.002 % (9.253 thousand tonnes), waste of hazard class IV accounts for 1.157 % and waste of hazard class V (nonhazardous) accounts for 98.841 %.

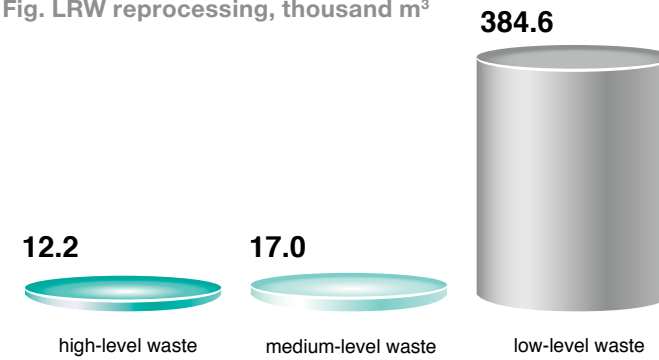
In 2013 (as in the previous years), there were no waste imports by ROSATOM's organisations. No data on waste exports were collected. The amount of waste transferred to other organisations was 212.2 thousand tonnes.

In the reporting year, the used and decontaminated waste accounted for 97.8 % of the total waste formed at sites and received from other organisations, of which 97.7 % was used waste and 0.1 % was contaminated waste. Of the totally available waste amount, as of the beginning of the reporting year, 0.05 % had been transferred to other organisations, and 0.1 % was disposed of at operated sites.

Radioactive waste

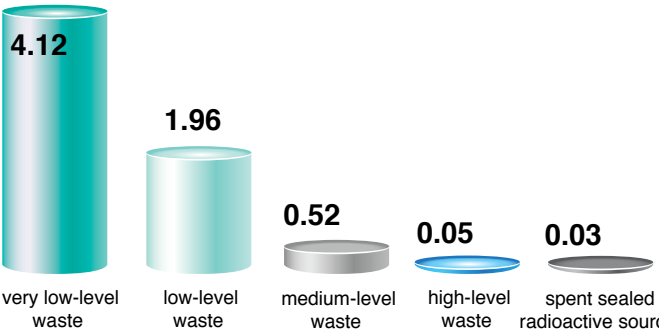
In 2013, 413.8 thousand m³ of LRW (total activity: 1.40E+18 Bq) was processed within the industry, including:

Fig. LRW reprocessing, thousand m³



The SRW processing in 2013 amounted to 6.68 thousand tonnes (total activity: 1.24E+16 Bq), including:

Fig. SRW reprocessing, thousand tonnes



Of the total amount of processed SRW, FSUE RADON accounts for 45 % and JSC Rosenergoatom Concern for 39 %.

As of 31 December 2013, nuclear organisations had 437.2 million m³ of LRW (total activity: 2.5E+19 Bq), and 72.6 million tonnes of SRW (total activity: 4.7E+19 Bq).

Most of the LRW (98.3 %) was low-level waste with activity of 8.4E+15 Bq or 0.03 % of the LRW's total activity. Most of this waste (97.8 %) is at the site of FSUE PA Mayak. The amount of medium-level LRW as of the end of 2013 was 7.5 million m³ (total activity: 9.5E+18 Bq). This waste was concentrated mostly at JSC SCC, JSC SRC NIAR, FSUE MCC and FSUE PA Mayak. The amount of high-level LRW was 83 thousand m³ (less than 0.02 % of the total amount), the total activity being 1.58E+19 Bq (62.6 % of the total activity). Most of the high-level LRW was concentrated at two sites:

- FSUE PA Mayak – 76.8 thousand m³ (92.5 %), with a total beta activity of 1.03E+19 Bq;
- FSUE MCC – 6.2 m³ (7.5 %), with a total beta activity of 5.6E+18 Bq.

Most of the high-level SRW was concentrated at: PDC UGR – 20.1 thousand tonnes, activity 1.83E+18 Bq; FSUE PA Mayak – 18.6 thousand tonnes, activity 2.5E+19 Bq; and JSC SCC – 8.4 thousand tonnes, activity 8.5E+16 Bq. The storage sites not isolated from the environment contained 71.2 million tonnes of SRW (98.1 % of the total amount), of which 95.1 % was very low-level waste, 4.9 % was LLW, and less than 0.1 % was ILW. Most of the SRW in question (64.8 million tonnes) was concentrated at JSC PIMCU, a uranium mining company.

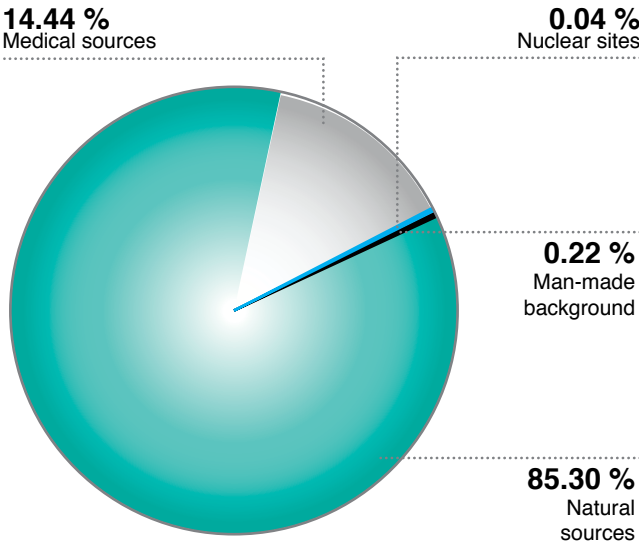
See also the Report section “Integrated solution to accumulated nuclear legacy problems”.

3.7.6.7. Public exposure dose

According to the data of the Russian Federation 2012 radiological and sanitary certification, the additional exposure from nuclear site operations for the public in the nuclear installation deployment localities (2.3 million people) amounted to 0.004 mSv/year per person on the average. With such an exposure level, the risk of negative stochastic effects (malignant tumours) is below $5.7 \cdot 10^{-7}$. This is 150 times as low as the tolerable risk level set by the radiation safety standards ($1.0 \cdot 10^{-5}$).

In Russia, in 2012, the annual average public effective exposure dose from all ionising radiation sources was 3.9 mSv/year per person. The key public exposure factors in the Russian Federation are natural and medical sources of ionising radiation. The contribution of nuclear sites is estimated at hundredths of one percent (0.04 % or 0.002 mSv/year) of the annual average public effective exposure dose from all sources. Such public exposure is representative of all areas with large radiation-hazardous facilities.

Fig. Contribution of different sources to the annual average public exposure in the Russian Federation



3.7.7. Predicted environmental impacts from operations of the Corporation's organisations and plans for changing the environmental impacts and ensuring environmental safety in 2014 and in the medium term

A great deal of conservation work is undertaken annually to mitigate the adverse environmental impacts from operations of ROSATOM's organisations. Each year, there is a growing volume of investments in fixed capital, which is used to fund conservation activities and rational use of natural resources via all funding sources, this being accounted for by an increase in the share of internal sources earmarked by companies for the construction and commissioning of facilities and systems that prevent the contamination of the environment and ensure the



ROSATOM is a partner of special projects of the President of Russia on protection of rare animals



mitigation of radiological impacts, including plants for the entrapment and deactivation of harmful substances contained in exhaust gases, wastewater treatment facilities and recycled water supply systems. It is predicted that the funding volume will grow from year to year.

The dynamics of the contaminated wastewater discharge for the past several years has been approximately at the same level. Still, in 2013, it tended to decrease, largely due to a reduction in electricity generation. The forecast for 2014 is that the discharge volume will also decrease as the result of scheduled NPP unit repairs by JSC Rosenergoatom Concern and, accordingly, of a decrease in electricity generation.

The atmospheric release of contaminants from fixed sources at nuclear sites is expected to decrease thanks to the retrofit and installation of purification systems. The emission of greenhouse gases, regulated by the Kyoto Protocol, will also decrease

due to special measures taken by most of the organisations to reduce the use of ozone-destroying substances and the atmospheric emission of greenhouse gases.

The amount of production and consumption waste formed depends on production cycles and processes, and is expected to be at the same level with minor variations. The amount of the generated waste of hazard class 1 and 2 is expected to decrease gradually. The level of the radiation load on the environment will not increase. In the longer term, the area of lands reclaimed is expected to increase.

The predicted dynamics is the reflection of the scheduled activities of the commissioning of facilities for the entrapment and decontamination of harmful substances contained in emissions and of wastewater treatment plants, which has been largely dictated by the need to improve the quality of wastewater formed at some nuclear organisations.



Respect

We always treat our customers, partners and suppliers with respect. We always attentively listen to and hear each other, regardless of positions and places of work. We respect the history and traditions of the nuclear industry. The achievements of the past inspire us for new victories.

Chapter 4.

Stakeholder Engagement in the Report's preparation

144	4.1. Public reporting system of the Corporation and its organisations
146	4.2. Dialogues with stakeholders
148	4.3. Taking into account stakeholder proposals
151	4.4. Report public assurance statement

4.1. Public Reporting System of the Corporation and its organisations

Approach to corporate reporting

The increased responsibility of major companies towards a broad range of stakeholders is internationally recognised as an important factor of global market development. Transparency and accountability of companies are integral to the implementation of the sustainable development principles by such companies. The orientation of ROSATOM at the establishment of a company to become a key player in the world market of nuclear technologies and services required the formation of an industry-generic public reporting system based on international corporate reporting standards. Such a system has been developed within the Corporation since 2009.

Public Reporting Committee

- 2013 results:
- concepts and drafts of reports by the Corporation and its organisation were reviewed,
 - a bylaw of the Public Reporting Contest of ROSATOM's organisations was actualised, and
 - the report preparation deadlines were brought forward.

In the meantime, a methodology has been developed and is being introduced for preparing reports that integrate financial and non-financial reports, and taking into account Russian and international reporting standards. The selection of such an

integrated format of reporting has been caused by the desire to comply with the best international practices of corporate reporting, as well as to strengthen stakeholder confidence in the operations of the Corporation and its organisations, while providing complete information on their activities. Integrated reports give a clearer notion of the dependencies between the financial and non-financial aspects of a company's activities, which makes it possible for the management to set priorities in a more efficient manner, while combining business tasks and social needs and, sequentially, to make more grounded managerial decisions, which, in turn, contributes to reduced risks and better investment attractiveness. The key body responsible for the control of ROSATOM's reporting quality is the Public Reporting Committee.

Three reports are issued annually by ROSATOM. As required by the amendments made to the Federal Law "On State Atomic Energy Corporation "Rosatom" (dated 01.12.2007, No. 317-FZ), since 2011, the report to the Russian Federation Government has had its **public portion published**. Since 2010, the Corporation has been preparing, on a voluntarily basis, the integrated report intended for the stakeholder community and made out with regard for Russian and international corporate reporting standards. Since 2002, **the safety report** has been issued by ROSATOM jointly with the Russian Academy of Sciences' Institute for the Problems of the Safe Development of Nuclear Power.

All joint-stock companies affiliated with the Corporation issue annual reports on their respective activities. The key organisations (for the purpose of public reporting) in the form of joint-stock companies prepare integrated reports based on corporate reporting requirements. The Corporation's organisations and enterprises listed as environmentally significant issue environmental reports (55 environmental reports were prepared in 2013). All reports are posted on the websites of the organisations.

Fig. Reports of ROSATOM and its organisations



Issue of public reports by the Corporation and its key organisations

In 2013, the quality of reporting information disclosure, including compliance with the GRI Guidelines, Version G3.1, and of stakeholder engagement was greatly improved.

Table. Dynamics of the public report issuing by ROSATOM and its key organisations

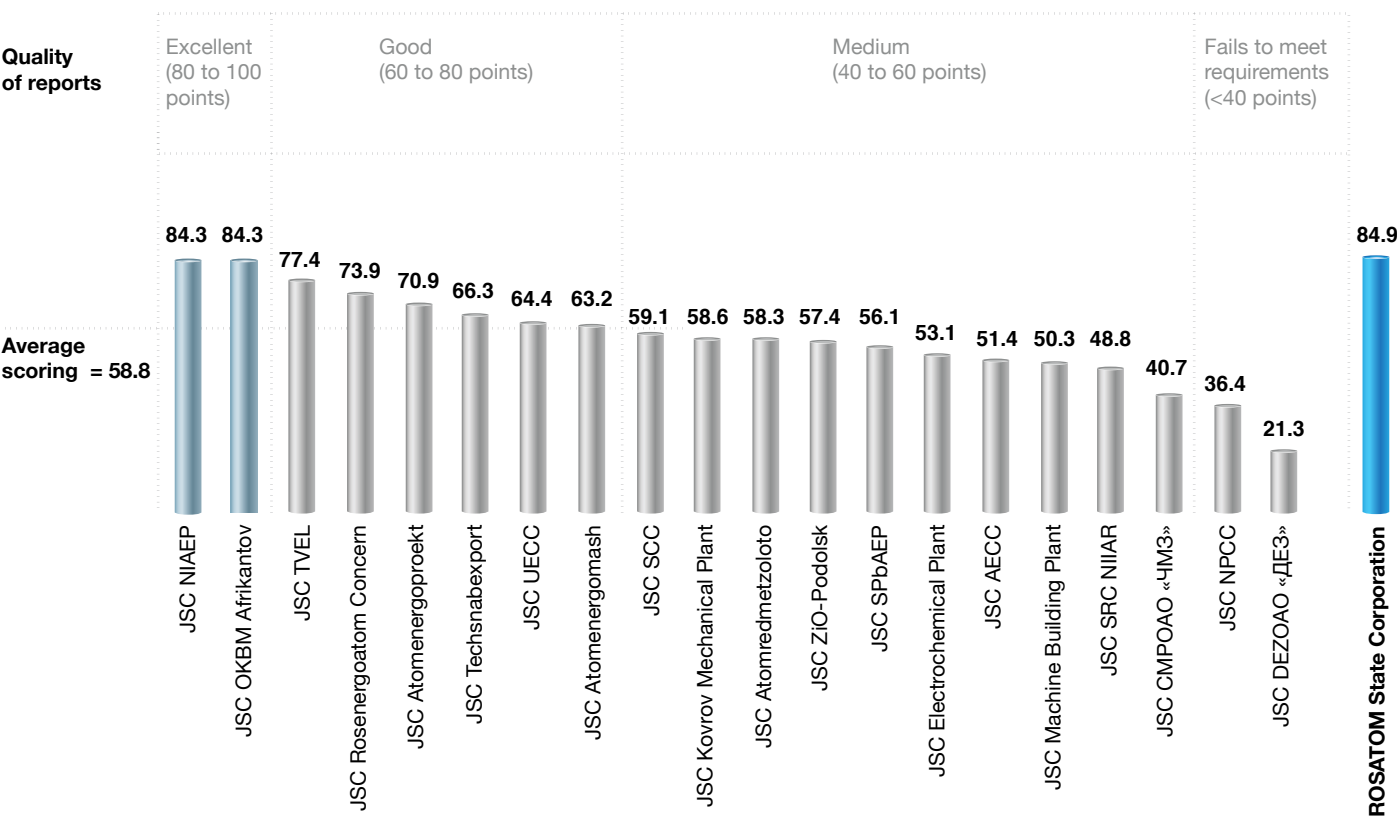
	2009	2010	2011	2012	2013
Number of integrated reports	8, of which 2 are of level C	9, of which 2 are of level C, and 2 are of level C+	9, of which 8 are of level B+	22, of which 2 are of level A+, 9 of level B+, 2 of level C+, and 5 of level C	21, of which 6 are of level A +, 7 of level B+, 2 of level B, 1 of level C+, and 1 of level C
Number of publicly assured reports	–	3	8	19	19
Number of reports in English	1	4	9	9	11
Number of dialogues with stakeholders in the report preparation period	–	8	33	70	75
Number of interactive (electronic) reports	–	–	4	9	13

* The G3.1 version of the GRI Sustainability Reporting Guidelines establishes three compliance levels (A, B, C) which reflect the sustainability of information quality and the extent to which information is disclosed in the report. The mark + means that there is an independent external assurance of the non-financial indformation disclosed in the report.

Industry public reporting contest of ROSATOM's organisations

The fifth industry public reporting contest was held in the autumn of 2013. The contest winners, JSC NIAEP and OKBM Afrikantov, scored 84.3 points each. The annual report of ROSATOM did not take part in the contest, but received a score of 84.9 points from the judges.

Fig. Rating of 2012 annual reports



The improvement in the quality of reporting by the Corporation and its organisations was marked by a number of awards at national annual report contests (altogether, there have been 37 na-

tional awards won since the the public reporting project started, of which 8 were in 2013). Also, the first three awards were won in international contests of reports in the reporting year.

Table. Results of 2013 national annual report contests

Contest	Winner	Category
Expert-RA rating agency 15th annual federal contest of annual reports	ROSATOM	The Best Non-financial Sector Report (nominee's diploma)
	JSC TVEL	Contribution to the Development of Mutual Relations with Stakeholders (winner)
	JSC ARMZ	Innovative Approach to the Integrated Reporting Formation (winner)
	JSC Atomenergomash	Contribution to the Development of Reporting in a Machine Engineering Company (winner)
	JSC SPbAEP	Strategic Orientation of the Annual Report (nominee's diploma)
Rynok tsennykh bumag journal, INVESTOR. RU social network, Federal Financial Markets Service 16th annual federal contest of annual reports and websites	ROSATOM	The Best Annual State Corporation Report (winner)
	JSC Techsnabexport	The Best Annual Report Design, Printing Quality and Idea (2nd place)
MMVB-RTS Moscow exchange 16th annual federal contest of annual reports and websites	JSC TVEL	The Best Annual Report Design and Printing Quality
MarCom Awards 2013	JSC Rosenergoatom Concern	Annual Report/Corporation – Platinum winner
	JSC NIAEP	Photography/Annual Report – Platinum winner
	JSC NIAEP	Annual Report/Corporation – Platinum winner

Plans for 2014

Internationally:

- › participation in the Pilot Programme of the International Integrated Reporting Council, as well as in the activities of the Russian Regional Integrated Reporting Network;
- › participation in the official translation of the International Integrated Reporting Standard into Russian;
- › adaptation of the International Integrated Reporting Standard and GRI (G4) Guidelines requirements.

Sectorally:

- › actualisation of the regulatory and procedural framework with regard for new international standards;
- › actualisation of the Public Reporting Disclosures System;
- › institutionalisation of public reporting institutions;
- › reporting quality control (expert reviews of concepts and draft reports);
- › currently – instructional support for the key organisations (guidance materials, workshops and others).

4.2. Dialogues with stakeholders

To enhance the transparency and accountability of ROSATOM, representatives of major stakeholders are involved in the preparation of the Report through discussions about the significant aspects of the Corporation's activities and the disclosure of these activities in the Report being prepared, as well as for the participation in the public assurance of the Report. The above-mentioned procedures are regulated by the following international standards: AA1000SES Institute of Social and Ethical Accountability, Global Reporting Initiative (GRI, G4 version), <IR> International Framework.

When preparing the previous Report, ROSATOM undertook obligations, most of which were fulfilled in the 2012 Report, with some of the obligations undertaken for 2013.

Stakeholder input in the Report's preparation

Table. Fulfilment of the obligations undertaken in the preparation of the 2012 report

Stakeholder proposals	Obligations of the Corporation	Fulfilment of the obligations
To prepare in 2012 data on the safety aspects in the context of the impact of the human factor and associated corporate safety culture and staffing issues and to give it a priority in the 2013 report.	To be considered during the conceptualisation of the 2013 Report.	The information requested has been entered in the Report sections "Management of human capital" and "Nuclear and radiation safety". Other top-priority issues have been approved by the Committee for the Report.
To disclose in the report information on the approaches used in the design and construction of small NPPs (including as far as safety is concerned).	To be considered during the conceptualisation of the 2013 Report.	The information requested has been entered in the section "Capital construction and engineering" in the draft report submitted for the public consultations on 11.06.2014.
To add efficiency disclosures for the Corporation's scientific and innovation activities to ROSATOM's system of reporting disclosures and to discuss proposals on the introduction of new integral disclosures to cover the intellectual capital management issues.	To be taken into account as part of improving the system of industry performance indicators.	Completed.
To review, when conceptualising the 2013 report, the possibility of disclosing information on the creation of the flowchart roadmap (in 2012, the business plans of the divisions were defended and the technology strategies of divisions were reviewed; still only the strategy of radiation technologies has been adopted, with the basic flowchart components to be developed and discussed with the industry's scientific community until 1 June 2013).	To be considered during the conceptualisation of the 2013 Report.	Due to the absence of standardised reporting information on all divisions, the proposal will be reviewed in the preparation of future reports.
To disclose in the Report the involvement of foreign companies in the activities of ROSATOM in the territory of Russia, specifically in the structure of contractor organisations and procurement.	To be considered during the conceptualisation of the 2013 Report.	As the result of stakeholder questioning, no procurement policy was identified as a major issue to be disclosed in the Report. At the same time, there are many other communications in the respective field within the Corporation.
For promoting the Report, presentations of the Report shall be conducted at the Federal assembly, as well as in regions, including at youth parliaments.	The proposal will be reviewed by the Public Reporting Committee.	The issue will be resolved in August or September 2014 during the development of the 2013 public annual report promotion strategy.
To get students of the Moscow Engineering and Physics Institute involved in the discussion of the draft report.	The proposal will be reviewed by the Public Reporting Committee.	The issue will be resolved in August or September 2014 during the development of the 2013 public annual report promotion strategy.

Fig. Stakeholder engagement in the process of the 2013 report preparation



To enhance the transparency and accountability of ROSATOM, as well as to meet the requirements of the AA1000 series international standards, four dialogues with stakeholders were conducted in the process of Report preparation.

The dialogues were attended by deputy CEOs, directors of departments, project leaders and experts in the field concerned. On behalf of the stakeholders, the participants in the event were representatives of international nuclear organisations and major companies in other industry sectors, the Federal Environmental, Industrial and Nuclear Supervision Service, federal and regional state power bodies, local self-government bodies, ROSATOM's key organisations, public and non-profit organisations, educational establishments, environmental and research organisations, business associations, corporate management experts, members of the Corporation's Public Board, and participants in the Russian Regional Integrated Reporting Network.

As part of determining the content of the Report, the stakeholder representatives were questioned during the first dialogue to identify the material aspects of the Corporation's activities to be disclosed in the Report (see Appendix 5).

In the process of discussion, the stakeholder representatives voiced requests and specific recommendations for any

information to be disclosed in the annual report, as well as proposals with respect to the development of the public reporting system (the minutes of the dialogues are available at the Communications Department upon request).

4.3. Taking into account stakeholder proposals

As part of the dialogues during the report preparation, 70 proposals were brought forward. Most of these concerned the request for any information to be published. As part of the dialogues, for some requests, references were made to the existing sources of information.

Special activities were undertaken by ROSATOM on the recommendations received on the draft report (concerning the information structure, content and representation) and to improve the Public Reporting System. As the result, 48 proposals were taken into account in full or in part (68.6 %), 8 proposals were not taken into account (11.4 %), and 14 more proposals (20 %) will be taken into account or reviewed in the preparation of the 2014 report.

Table. Taking into account the most significant stakeholder proposals

Stakeholder proposals	Consideration of proposals
To disclose in the report the interactions of ROSATOM with international organisations in nuclear and radiation safety issues, in particular with WANO and IAEA.	Taken into account in the sections "International cooperation" and "Power Generation Division".
To disclose in the Corporation's 2013 public report, on the model of the 2011 report, an information block on ROSATOM's interactions with the veteran community.	Taken into account in the section "Remuneration system and social policy".
To disclose in the report the new functions of the Public Board.	Taken into account in the section "Stakeholder involvement".
To disclose in the report information on ROSATOM'S activities in the framework of the Environmental Protection Year.	Taken into account in the section "Environmental Protection Year at ROSATOM".
To disclose in the report information on the subsoil condition monitoring.	Taken into account in the section "On-site Monitoring of Subsoil Condition".
To disclose the dynamics of the energy saving programme's introduction effects.	Taken into account in the section "Improvement of energy efficiency" and in sections on the operations of divisions.
To disclose in the report information on a number of successful employees who implemented efficiency improvement projects in the reporting year.	Taken into account in the section "ROSATOM Production System".
To include in the report, in the form of an insert, a table or an executive summary, all results of transparency enhancement activities (to list all major fields of these activities with references made to more detailed information).	Taken into account.
To identify individual areas in the list of key events.	Taken into account.
To disclose in the report the layout of all major reports prepared by ROSATOM and its organisations. In the electronic version, this layout shall be provided with clickable links.	Taken into account in the section "Public Reporting System of the Corporation and its organisations".
To disclose information on how superior management bodies take part in addressing sustainable development issues.	The Report contains information on the participation of the Corporation's governance boards in addressing sustainable development issues (Public Board, Activity Transparency Enhancement Committee, Public Reporting Committee and others).

Stakeholder input in the Report's preparation

Table. ROSATOM's obligations for taking into account proposals

Stakeholder proposals	Obligations of the Corporation
To disclose ROSATOM'S performance indicators as compared to leading international competitors.	The proposal will be reviewed during the conceptualisation of the 2014 report.
To include the veteran community in the draft report assessment activities.	The proposal will be reviewed by ROSATOM's Public Reporting Committee.
To disclose in the report the approach concerning the precedence of production waste processing over waste disposal.	The proposal will be discussed during the conceptualisation of the 2014 report.
To disclose in the report the comparison of the RPS and the production systems of other companies.	The proposal will be reviewed during the conceptualisation of the 2014 report.
To describe in the report, in one and the same manner, the business models, goals and results for divisions.	The proposal will be taken into account in the preparation of the 2015 reporting campaign.
To disclose, for each division, the implementation efficiency indicator of investment projects and the effects thereof on the business models of the divisions.	The proposal will be reviewed during the conceptualisation of the 2014 report.
To give attention, when preparing the report, to the power industry evolution forecast in the report of British Petroleum (as the best practice model).	The report of British Petroleum will be analysed.
To include in the report a check list as to the fulfilment by the Corporation of the requirements in the newly worded Corporate Conduct Code.	The proposal will be reviewed during the conceptualisation of the 2014 report.



Kirill Komarov, Deputy CEO for Corporate Development and International Business, and Roman Zimonas, Director for Procurement

Stakeholder quotations



Aleksandr Makarenko

Executive Director,
Nuclear Industry CATF
Association

– I would like to note that the reporting activities within ROSATOM are becoming growingly transparent and streamlined from year to year. I am satisfied with the way we have interacted with those who prepare the Report, and we can hear and understand each other. The preparation of the public report shall aim at demonstrating to the public at large that ROSATOM is not only useful to the state (contributing a great deal to the development of the country's economy, energy balance and so on), but also provides much benefit to particular people.



Aleksandr Ageev

Director General, Institute of
Economic Strategies, Russian
Academy of Sciences' Social
Sciences Branch

– In my opinion, everything that has been done by ROSATOM in the field of public reporting deserves much more attention and recognition, both domestic and foreign, since the level of the nuclear industry's accountability and openness is a tremendous accomplishment both for the country and for the world. The new reporting philosophy is concerned with the fact that the stakeholders need brief and highly informative materials. Possibly, it makes sense to issue a super-brief version of the report (in 10 to 15 pages) with answers given to the three questions: "What did we achieve in the reporting year? What did we fail to achieve?" and "What do we plan to achieve next year?" It would be frank and outright.



Vladimir Potsyapun

Chairman, Subcommittee for
the Legislative Support of
the Use of Atomic Energy,
Russian Federation State
Duma

– In my opinion, an important step in the evolution of reporting at ROSATOM is the trend towards increased availability of reporting information, including understandability of the wording to the wide audience. The Report is expected to explain things in such a way that it could be understood what ROSATOM has done for the country and the people by the non-expert community as well. I believe that the usefulness of the Report needs to be assessed: to what extent it has been used by the addressees, how the last year's report was accepted by society, and how it is assessed. And, based on such assessment, the concept of the next report shall be modernised. It is possible to make the report better only if it is understood how those for whom it is intended respond to it. Such analysis is a complex research task but I think ROSATOM will be able to accomplish it.



Sergey Baranovskiy

President, Green Cross
Interregional Environmental
Public Organisation

– Thanks to reports, a mechanism is created that demonstrates to the civil society the unique openness of ROSATOM few people would expect. This gives ROSATOM tremendous advantages in its continued dialogue with civil society. It needs to be baldly said that civil society has never been at 100% in favour of nuclear industry and this is quite natural. Even in developed countries, such as Japan or France, there is a strong opposition to nuclear power. Foreign colleagues face it every day. But it is exactly the openness of ROSATOM and the professionalism with which the annual report is prepared that change social consciousness for the better, making it possible for people to understand what is and will be going on in nuclear power.

Stakeholder input in the Report's preparation

4.4. Report public assurance statement

Introductory information

The State Atomic Energy Corporation "Rosatom" proposed us to assess its Public Report for 2013 (hereinafter referred to as "the Report"). For this purpose we and our representatives were given an opportunity of taking part in the public consultations on the Report, which were held on 11.06.2014, as well as in the dialogues with the stakeholders (19.12.2013: the dialogue "Discussion of ROSATOM's draft 2013 public report concept"; 13.03.2014: the dialogue "Disclosure of information about management of the natural capital as a factor of sustainable development in the Public Annual Report for 2013"; 19.03.2014: the dialogue "Disclosure of information about efficiency of ROSATOM's activities in the Public Annual Report for 2013").

In the course of this public assurance exercise, the subject matter of the analysis and assessment was the materiality and completeness of the information being disclosed therein, as well as the response of the Corporation to comments and proposals of the stakeholders. Our statement is based on the comparative analysis of two revisions of the Report (the draft Report for the public consultations and the final revision of the Report) and the materials reflecting on the held dialogues we were provided (records of the events, tables of accounting of the stakeholders' proposals), as well as comments received from the top management and employees of ROSATOM during the Report public assurance exercise.

Credibility of the factual data provided in the Report is not a subject matter of the public assurance.

We have not received any reward for participation in the public assurance procedure from the Corporation.

Assessments, comments and recommendations

We are unanimous in our positive attitude to the Report, i.e. its format and scope of the information provided. Like previously published reports, the 2013 Report demonstrates a larger number of the international requirements it meets. In our view, this is evidence of a consistent approach to improvement of the level of transparency and accountability on the part of ROSATOM. In the course of the Report drafting process the Corporation demonstrated strive for ensuring public acceptance of the nuclear technology development as well as readiness for an open dialogue with the stakeholders on various aspects of its activities.

In our view, the integrated format of the Report allowed to comprehensively disclose information about all main activity aspects of the Corporation, including those related to the sustainable development of business. The Report was prepared in accordance with the requirements of the standards of the International <IR> Framework published in 2013. In our view this played a substantial part in improving quality, consistency and

completeness of the provided information. The Report reflects in detail the complex and multi-stage value chain, the Corporation's governance system, strategic goals and approaches of the management, indicators of the social, environmental and economic influence, as well as other topics that allow concluding on results of the Corporation's activities in the reporting period.

It should be especially noted that for the first time the Corporation's report has been produced at in accordance level "Core" of the new version of the Guidelines of the Global Reporting Initiative (G4), published in May 2013 and the International <IR> Framework standard published in December 2013. This fact allows speaking about the Corporation as one of the leaders of the corporate reporting among the Russian companies.

We are not aware of any facts, which put under doubt the truthfulness of the information provided in the Report. Noting the Report merits, we draw attention of the Corporation to a number of aspects of materiality and completeness of the information disclosure (please, see herein below) that are material for the stakeholders and recommend taking account of these in the next reporting cycles.

Materiality of the information

To ensure most complete accounting of requests from the stakeholders, ROSATOM, for the first time in the framework of the dialogue on discussion of the Report draft concept, held a questionnaire of the stakeholders' representatives to identify material aspects of the activity to be reflected in the Report (the received data were compared to questionnaires of top management of the Corporation). We highly appraise this initiative and recommend having the closest cooperation on this issue with representatives of stakeholders as reference representatives of target audiences of the Corporation's public reports in future.

Completeness of the information

We are encouraged by the continuing decrease in the Report volume (as compared to previous reports) owing to highlighting most material information, publication of part of the information as an electronic (interactive) version of the Report, and provision of references to other sources of the corporate information. With this, the Report has retained all necessary completeness of material information and has become more convenient for readers.

Response of the Corporation to comments and proposals of the stakeholders

ROSATOM responded to proposals of the stakeholders by updating and providing additional information (or sound grounds on which the requested information can not be disclosed) upon the recommendation of the stakeholders' representatives in the

final revision of the Report.

Besides, the Corporation has expressed its readiness to consider proposals on disclosing certain information in the next reporting period and on improving the public reporting system, in particular:

- on a uniform description of all business models, goals and activity results of all divisions of ROSATOM;
- on introduction of a check list of how the requirements of the Corporate Governance Code are met by the Corporation in the report.

job to take account of comments given in regard to the report for 2012. The report on meeting the commitments is given in Chapter 4 “Stakeholder input in the Report’s preparation”.

Summing up, we note that over the five recent years the Corporation has achieved significant results in public reporting and continues raising the level of its transparency of and confidence in its activities. We hope that in future ROSATOM will consistently implement the principles of responsible corporate conduct in its activity through the development of the public reporting system and interaction with the stakeholders.

It should be highlighted that ROSATOM has done a great



Sergey Baranovsky
President of the Green Cross Interregional Environmental Public Organisation

Leonid Bolshov
Director of Nuclear Safety Institute of the Russian Academy of Sciences

Nikolay Kosarev
Member of the Economic Policy Committee of the Council of Federation of the Russian Federation

Vladimir Ognev
Chairman of the Interregional Non-governmental Movement of Nuclear Power and Industry Veterans

Vladimir Potsyapun
Chairman of the Subcommittee for the Legislative Support of the Use of Atomic Energy of the State Duma of the Russian Federation

Sergey Simak
Chairman of the Central Board of the Interregional Socio-Environmental Non-government Organization “Green Union”

Vladimir Uiba
Head of the Federal Medical Biological Agency of Russia

Elena Feoktistova
Head of the Centre of Corporate Social Responsibility and Non-financial Reporting of RSPP

Igor Fomichev
Chairman of the Russian Trade Union of Nuclear Power and Industry



Business Regatta “ROSATOM Sailing Cup”
in frames of the International Forum
ATOMEXPO 2014



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Abbreviations

A&S	affiliates and subsidiaries
ABA	administrative and business activities
AE ECS	automated energy efficiency control system
ARMIR	automated workplace for assessment of individual risk
ARMS	automated radiation monitoring system
ASTS	automated system of transportation safety
BE NFC	back-end of the nuclear fuel cycle
CATF	closed administrative and territorial formation
CCBF	chief controller of budget funds
CIS	Commonwealth of Independent States
CNFC	closed nuclear fuel cycle
CRMS	corporate risk management system
CSC	common servicing centre
CSF SNF	centralised storage facility for spent nuclear fuel
EBIDTA	Earnings Before Interest Depreciation Tax and Amortisation
ELLE	essential long-lead equipment
EPES	Emergency Prevention and Elimination System
ERT	emergency rescue team
ESS	examination and search system
ETP	electronic trading platform
EUP	enriched uranium product
EurAsEC	Eurasian Economic Community
FA	fuel assembly
FAC	financial accountability centre
FAIR	Facility for Antiproton and Ion Research in Europe
FE NFC	front end of the nuclear fuel cycle
FER	fuel and energy resources
FEU	financial and economic unit
FMBA	Federal Medical and Biological Agency
FSUE	Federal State Unitary Enterprise
FTP	federal target programme
FTS	Federal Tariff Service
GC	gas centrifuge
GDP	gross domestic product
HCS	harmful chemical substances
HEU	highly enriched uranium
HLW	high-level waste
IAEA	International Atomic Energy Agency

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ICUF	installed capacity utilisation factor
IFRS	International Financial Reporting Standards
IGA	intergovernmental agreement
ILW	intermediate-level waste
INES	International Nuclear Event Scale (INES)
INPRO	International Project on Innovative Nuclear Reactors and Fuel Cycles
IRAW	individual risk assessment workstation
IRC	international research centre
IRG	inert radioactive gas
ISL	in-situ leaching (recovery)
ITER	International Thermonuclear Experimental Reactor
IUEC	International Uranium Enrichment Centre
JSC	joint-stock company
JV	joint venture
KPI	key performance indicator
LC	lifecycle
LEU	low-enriched uranium
LLW	low-level waste
LMC	Lifecycle Management System
LRW	liquid radioactive waste
LTAP	Long-term Activity Programme of ROSATOM
MFA	Ministry for Foreign Affairs
MNUP	mixed nitride uranium-plutonium (fuel)
MSSC	multifunction shared servicing centre
NEPES	National Emergency Prevention and Elimination System
NFC	nuclear fuel cycle
NIPC	nuclear icebreaker process complex
NPP	nuclear power plant
NRF	nuclear research facility
NRHF	nuclear and radiation hazardous facility
NRS	nuclear and radiation safety
NSSS	nuclear steam supply system
NWC	nuclear weapons complex
OECD/NEA	Nuclear Energy Agency of the Organisation for Economic Cooperation and Development
PDC	pilot demonstration centre
PI	private institution
PLM	Product Lifecycle Management
R&D	research and development
RAS	Russian Accounting Standards
RAW	radioactive waste

RBMK	high-power channel-type reactor
RCLTSF	reactor compartment long-term storage facility
RF	Russian Federation
RIA	results of intellectual activities
RLP	restoration of lifetime performance
RM	radioactive material
RMS	radiation monitoring system
ROSATOM, Corporation	State Atomic Energy Corporation “Rosatom”
Rostechnadzor	Federal Environmental, Industrial and Nuclear Supervision Service
RPS	ROSATOM Production System
RSTA	results of scientific and technical activities
RTG	radioisotope thermoelectric generator
RUIE	Russian Union of Industrialists and Entrepreneurs
RUNPIW	Russian Union of Nuclear Power and Industry Workers
RWDF	Radioactive Waste Disposal Facility
SARMS	Sectoral Automated Radiation Monitoring System
SF	storage facility
SMB	small and medium business
SNF	spent nuclear fuel
SRS	sealed radiation source
STC	science and technology complex
SWU	separative work unit
TCO	total cost of ownership
tHM	tonnes of heavy metal
UF6	uranium hexafluoride
UNO	United Nations Organisation
UNS RAW	Unified National System for Radioactive Waste Management
UNS SNF	Unified National System for Spent Nuclear Fuel Management
USDMS	unified sectoral document management system
USRS	uniform standardised remuneration system
VVER	water-cooled water-moderated power reactor
WANO	World Association of Nuclear Operators

Glossary

AA1000 Stakeholders Engagement Standard	a generally applicable regulatory framework for the planning, execution, assessment, provision of information and non-financial auditing of the stakeholder engagement quality in the organisational reporting and accountability process in the field of efficient management.
Becquerel (Bq)	the unit of nuclide activity in a radiation source equal to the nuclide activity at which one decay takes place per second.
BOO (Build – Own – Operate) contract	a contract that provides for the obligation of the construction, ownership and operation of a facility.

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Closed nuclear fuel cycle	a nuclear fuel cycle, in which spent nuclear fuel is processed for uranium and plutonium extraction for nuclear fuel re-fabrication.
Contaminated lands	lands that have been contaminated with different, including radioactive, substances. These, for instance, include lands adjoining ROSATOM’s sites or residential areas.
Corporate social accountability	a concept based on an organisation taking into account stakeholder requests. This is a package of obligations generated, on a voluntary basis, by the organisation’s executives with regard for the interests of personnel, shareholders, local communities in the operations areas, state and municipal power bodies, and other stakeholders. These obligations are largely fulfilled at the expense of the organisation’s funds and are aimed at the implementation of significant internal and external social (in the broad sense of the word) programmes, the results of which contribute to the development of the organisation, to the improved reputation and image thereof, as well as to the constructive stakeholder engagement.
Depleted uranium	uranium which contains less isotopes of U-235 than natural uranium (for example, uranium in the spent fuel of reactors fuelled by natural uranium).
Dialogue with stockholders (as part of the annual report preparation)	an arrangement undertaken under the AA100 international standards for the engagement of representatives of the stakeholders during the report preparation to enhance the organisation’s transparency and accountability.
Disturbed lands	lands that have lost their economic value or are the result of adverse environmental impacts due to soil disturbance, regimen disturbance or formation of a man-made relief as the result of industrial activities.
Dump of radioactive material	controlled entry of radionuclides into water bodies with liquid waste of a nuclear facility (e.g. a nuclear plant).
Enrichment (isotopic)	a) the content of atoms of a certain isotope in the isotopic mixture of the same element if this exceeds the share of the given isotope in a naturally occurring mixture (expressed as a percentage); b) a process resulting in an increased content of a certain isotope in the isotopic mixture.
EPC (Engineering – Procurement - Construction) contract	a contract that provides for the obligation of the turnkey construction of a facility, including the facility engineering, supply and construction obligations. Unlike a BOO Contract, it does not provide for the ownership of the facility to be built.
EPCM (Engineering – Procurement – Construction - Management) contract	a contract that provides for the obligation of the turnkey construction (including engineering, supply and construction) and management of a facility. Unlike a BOO Contract, it does not provide for the ownership of the facility to be built.
Fast neutrons	neutrons whose kinetic energy exceeds a particular given magnitude. This magnitude is variable in a broad range and depends on the application (reactor physics, protection or radiation monitoring). In reactor physics, this magnitude is mostly selected as equalling 0.1 MeV.
First criticality	a stage in the nuclear plant commissioning process, including the reactor fuelling, first criticality and required physical experiments conducted at the power level at which heat is removed from the reactor thanks to natural heat losses.
Fuel assembly	a package of fuel elements (rods, bars, plates and others) held together with the aid of spacer grids and other structural members, which are integral during transportation and in-pile irradiation. Assemblies are loaded into the nuclear reactor core.
Fuel pellet	a pellet of compacted uranium dioxide is the basis of nuclear fuel and is contained inside fuel elements.
Global Reporting Initiative (GRI)	an international reporting system concerning economic, environmental and social performance, based on the Sustainability Reporting Guidelines, Technical Protocols and industry applications.
HEU-LEU Agreement	the Agreement between the Government of the Russian Federation and the Government of the United States of America Concerning the Disposition of Highly-Enriched Uranium Extracted from Nuclear Weapons, under which Russia had committed itself to supplying to the U.S. for 20 years (until the end of 2013) low-enriched uranium (LEU) obtained from 500 tons of highly-enriched uranium (HEU) extracted from nuclear warheads and found by the Russian side to be excessive for defensive applications.
IAEA safeguards	a verification system established in the framework of the international nuclear non-proliferation policy, which is applied to the peaceful use of atomic energy; the International Atomic Energy Agency is charged with the implementation of this policy.
Installed capacity utilisation factor (ICUF)	the relation of the actual electricity generation by a reactor facility during the period of operation to the electricity generation during rated-power operations with no shutdowns.
Integrated report	a report that consolidates all material data on the organisation’s strategy, corporate management, performance indicators and prospects such that it would “show” in an integrated way the organisation’s economic, social and environmental status. The report gives a clear and distinct idea about how the organisation carries out reasonable control, as well as on how it creates its value at the present time or will create it in future.
International Integrated Reporting Council (IIRC)	an international organisation engaged in the development of a global integrated reporting standard to allow for managerial, financial, social, environmental and other information to be provided in an understandable, concise, self-consistent and comparable reporting document. The IIRC objective is to develop versatile approaches to the delivery of corporate reports so as to contribute to the sustainable development of a global economy.
ISAE 3000 International Standard on Assurance Engagements	an international standard for a non-financial reporting audit.

Key (for the purpose of public reporting) organisations	organisations whose activities are of a major social and political importance and/or significant for the positioning of ROSATOM in Russian and international markets.
Key performance indicators (KPI)	key efficiency indicators meeting the goals of the Rosatom State Corporation which disclose the efficiency and performance of organisations (and of activities by division) and the individual efficiency of employees.
Natural background	ionising radiation formed by space radiation and ionising radiation of naturally distributed natural radionuclides (on the surface of the Earth, in the air, in food products, water and human body, and so on).
Non-financial reporting	reporting provided by an organisation as to its performance outside the scope of manufacturing and financial activities (and the management of this performance). Non-financial reporting includes sustainability reports, corporate social accountability reports, environmental reports, charity reports and others.
Nuclear fuel	a material containing fissionable nuclides which, being placed in the nuclear reactor, makes it possible to sustain a nuclear chain reaction.
Nuclear fuel cycle	the sequence of manufacturing processes for ensuring the operation of nuclear reactors from uranium production to the disposal of radioactive waste.
Nuclear plant safety	the property of a nuclear power plant to ensure, within the specified limits, the radiological safety of the personnel, the public and the environment during normal operation and in the event of an accident.
Nuclear power	a branch of power engineering that uses atomic energy for electricity and heat generation.
Nuclear safety	a general term that describes the properties of a nuclear facility to keep the radiological impact on the personnel, the public and the environment within the permissible limits during normal operation and in the event of an accident.
Nuclear weapons non-proliferation treaty	an international agreement for arms race limitation intended to avoid the emergence of new states possessing nuclear weapons. The treaty places the states possessing nuclear weapons under the obligation not to disseminate nuclear weapons and control such weapons, while it places non-nuclear states under the obligation not to produce or purchase nuclear weapons or other nuclear explosives.
Operator	an organisation that possesses the regulator permit to operate a nuclear plant or another nuclear facility.
Organisational business model	a model including the key business processes and the resources (capital) employed, with which the organisation creates and maintains its value in the long term.
Phase Gate	the Phase Gate approach to carrying out investment activities, a principle of planning and carrying out investment activities that suggests, when applied, that investment projects are broken down into phases, of which each is preceded by a Gate Review of the results achieved and the further project implementation plans and risk, and a decision is made on the further project implementation phase to be proceeded to.
Pilot operation	a stage in the nuclear plant commissioning from the power start-up to the plant's acceptance for commercial operation.
Power start-up	a stage in the nuclear plant commissioning during which the plant starts to generate energy and the plant's operation is checked at different power levels up to that specified for commercial operations.
Public assurance of the report	the procedure for the assurance of the report by representatives of the major stakeholders to confirm the relevance and completeness of the information disclosed in the report, as well as for the organisation's response to the stakeholders' comments and proposals, as organised in accordance with the AA1000SES international standard. The public certification result is the public assurance statement signed by the stakeholder representatives and entered in the report.
Radiation exposure	the total of individual exposure doses received or planned in the operations to decommission, maintain, repair, replace or dismantle components of a nuclear facility, e.g. of a nuclear plant.
Radiation monitoring	acquisition of information on the radiological conditions in the organisation and in the environment and on human exposure levels (includes dose control and radiometric monitoring).
Radiation safety	a set of arrangements seeking to limit the exposure of personnel and the public to the lowest possible radiation dose values in a socially acceptable way, as well as to avoid the early effects of exposure and keep the delayed radiation effects within tolerable limits.
Radioactive release	atmospheric emission of radionuclides as the result of nuclear plant operation.
Radioactive waste	nuclear materials and radioactive wastes of no further use.
Radioactive waste processing	operations aimed at changing the aggregate state and/or physical and chemical properties of radioactive waste and carried out to convert it into such forms as would be suitable for transportation, storage and/or disposal.
Radioactive waste disposal	safe disposition of radioactive waste in repositories or any places that rule out waste withdrawal or the potential of radioactive releases into the environment.
Recommendations of the Russian Union of Industrialists and Entrepreneurs (RUIE) for Use in the Practice of Management and Corporate Non-financial Reporting (key performance indicators)	a system of economic, social and environmental performance indicators for non-financial reports, as developed by the RUIE for the purpose of contributing to the introduction of responsible business principles. It is based on a number of underlying documents developed by UN structures (including the UN Global Compact), the Global Reporting Initiative, as well as methodological and procedural recommendations of the Russian Federation's Federal State Statistics Service and guidance of the RUIE (Social Charter of Russian Business, Recommendations on the Preparation of Non-financial Reports "Five Steps Towards the Social Sustainability of Companies" and others).



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Recultivated lands	disturbed and exhausted lands on which activities have been conducted for the reestablishment of soil fertility, economic reuse of the plots of land disturbed by operations and so on, which have been brought to the condition where it is fit for the intended use (in farming, forestry, water management and other fields).
Research reactor	a nuclear reactor designed for use as a subject of research for the purpose of obtaining data on reactor physics and technology, which is required for the design and development of a reactor of the same type or of components thereof.
Separative work unit (SWU)	a measure of the efforts applied to separate a given quantity of a material of a certain isotopic composition into two fractions with different isotopic compositions; it does not depend on the separation process used; kilogram is a separative work unit, and the enrichment and energy consumption cost is calculated per kilo of the separative work performed.
Stakeholders	physical and/or legal persons, as well as groups of persons, who affect the organisation's activities through their actions and/or are subject to effects from the organisation. An organisation may have different stakeholders (public and international supervising authorities, shareholders, consumers of goods and services, business partners, suppliers and contractors, civil society organisations, local communities, trade unions and others) with both mutually remote and conflicting interests.
Sustainability Reporting Guidelines (Global Reporting Initiative, GRI)	The Sustainability Reporting Guidelines containing the guidelines that define the content and ensure the quality of reporting information, standard reporting disclosures comprising the performance indicators of the organisation's economic, environmental and social impacts, approaches to the management of said impacts, and other characteristics, as well as recommendations on specific technical aspects of reporting.
Sustainable development	development that covers present-day needs, while not endangering the capability of future generations to cover their needs. In this connection, the organisation's transparency and accountability with respect to its economic, environmental and social impacts are the fundamental requirements applicable to every economic entity.
Uranium conversion	a chemical engineering process of transforming uranium-containing materials into uranium hexafluoride.
Uranium hexafluoride	a chemical compound of uranium and fluorine (UF6). This is the only highly volatile uranium compound (when heated to 53oC, uranium hexafluoride passes directly from solid into gas) and is used as feedstock for the separation of uranium-238 and uranium-235 isotopes using a gas-diffusion technology or a gas-centrifuge technology, and for production of enriched uranium.
Uranium ore enrichment	a combination of processes for the primary treatment of uranium-bearing mineral raw material to separate uranium from other minerals contained in the ore. This does not involve any changes in the content of minerals, but only a mechanical separation thereof with the resultant production of an ore concentrate.
VVER	a water-cooled water-moderated power reactor, in which water is used both as the coolant and the moderator. The most common type of Russian NPP reactors has two modifications: VVER-440 and VVER-1000.
Nuclear plant safety	the property of a nuclear plant to ensure, within the specified limits, the radiation safety of the personnel, the public and the environment during normal operation and in the event of accidents.
Nuclear power	a branch of power engineering that uses atomic energy for electricity and heat generation.

Appendix 1. Tables of GRI (G4) standard reporting disclosures and RUIE’s key performance indicators

General standard disclosures	Report chapter/section or comment
Strategy and analysis	
G4-1. Provide a statement from the most senior decision-maker of the organisation (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organisation and the organisation’s strategy for addressing sustainability	Address from Chairman of the Supervisory Board, Boris Gryzlov Address from CEO of ROSATOM, Sergey Kirienko
Organisation profile	
G4-3. Report the name of the organisation	1.1. General information and description
G4-4. Report the primary brands, products, and services	1.1. General information and description
G4-5. Report the location of the organisation’s headquarters	1.1. General information and description
G4-6. Report the number of countries where the organisation operates, and names of countries where either the organisation has significant operations or that are specifically relevant to the sustainability topics covered in the report	2.6.2. International business
G4-7. Report the nature of ownership and legal form	1.1. General information and description
G4-8. Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	1.2. Markets of presence 2.5. Efficient supply of nuclear electricity to Russia’s economy 2.6. Strengthening as a global player in the world nuclear services market Detailed information is also provided on the official website: http://www.rosatom.ru
G4-9. Report the scale of the organisation	1.1. General information and description 2.2. Financial and economic results 3.4.1. Human capital description
G4-10. Report the total number of employees by employment contract and gender	3.4.1. Human capital description Since the scale of activity is very large and data acquisition is complicated, the breakdown of ROSATOM’s employee data by gender, recruitment contract, region, full time and part-time workers is not carried out. This information is provided in the corporation’s annual reports
G4-11. Report the percentage of total employees covered by collective bargaining agreements	3.4.3. Remuneration system and social policy
G4-12. Describe the organisation’s supply chain	2.5. Efficient supply of nuclear electricity to Russia’s economy
G4-13. Report any significant changes during the reporting period regarding the organisation’s size, structure, ownership, or its supply chain	1.5.1. Governing bodies and controls
G4-14. Report whether and how the precautionary approach or principle is addressed by the organisation	2.7.1. Nuclear and radiation safety
G4-15. List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	2.6.1. International cooperation
G4-16. List membership of associations (such as industry associations) and national or international advocacy organisations	2.6.1. International cooperation
Identified Material Aspects and Boundaries	
G4-17. List all entities included in the organization’s consolidated financial statements or equivalent documents. b. Report whether any entity included in the organization’s consolidated financial statements or equivalent documents is not covered by the report	About the Report
G4-18. Explain the process for defining the report content and the Aspect Boundaries	About the Report Appendix 5. Process of determining the relevance of the information released in the report
G4-19. List all the material Aspects identified in the process for defining report content	Appendix 5. Process of determining the relevance of the information released in the report

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General standard disclosures	Report chapter/section or comment
G4-20. Report the material aspect boundary within the organisation	About the report Appendix 5. Process of determining the relevance of the information released in the report
G4-21. Report the material aspect boundary outside the organisation	About the report Appendix 5. Process of determining the relevance of the information released in the report
G4-22. Report the effect of any restatements of information provided in previous reports and the reasons for such restatements	There were no restatements in the 2013 Report
G4-23. Report significant changes from previous reporting periods in the scope and aspect boundaries	In the reporting year, there were no significant changes from previous reporting periods
Stakeholder engagement	
G4-24. Provide a list of stakeholder groups engaged by the organisation	3.6.1.1. Approaches to stakeholder engagement
G4-25. Report the basis for identification and selection of stakeholders with whom to engage	3.6.1.1. Approaches to stakeholder engagement
G4-26. Report the organisation’s approach to stakeholder engagement	3.6.1. Stakeholder engagement 4.2. Dialogues with stakeholders
G4-27. Report key topics and concerns that have been raised through stakeholder engagement	4.2. Dialogues with stakeholders 4.3. Taking into account stakeholder proposals
Report profile	
G4-28. Reporting period (such as fiscal or calendar year) for information provided	About the report
G4-29. Date of most recent previous report (if any)	The corporation’s previous report was published in 2013
G4-30. Reporting cycle (annual, biennial etc.)	About the report
G4-31. Provide the contact point for questions regarding the report or its contents	Contact information
G4-32. GRI content index	Appendix 1. Tables of GRI (G4) standard reporting disclosures and RSPP’s key performance indicators
G4-33. External assurance	About the Report Appendix 4. Auditor’s statement on ROSATOM’s non-financial reporting for 2013
Governance	
G4-34. Report the governance structure of the organisation	1.5.1. Governing bodies and controls
Ethics and integrity	
G4-56. Describe the organisation’s values, principles, standards, and norms of behaviour such as codes of conduct and codes of ethics	Corporate values adopted by ROSATOM are posted on fly-titles in the report chapters

Table of specific standard disclosures (indicators) of GRI (G4) and their correspondence to basic performance indicators of RSPP

#	Material aspects	Indicator	Correspondence with the RSPP basic indicator number	Degree of disclosure	Report section
Economic dimension					
1.	Financial and economic results	EC1 Direct economic value generated and distributed	1.2. –1.7.	Fully disclosed	3.6.2.3. Contribution to creation and distribution of economic value
2.	Contribution of the Corporation to development of regions	EC7 Development and impact of infrastructure investments and services supported	–	Fully disclosed	3.6.2. Activities in the territories of presence

* Based on the ranking map of material aspects of ROSATOM (see Appendix 5).

#	Material aspects	Indicator	Correspondence with the RSPP basic indicator number	Degree of disclosure	Report section
3.		EC9 Proportion of spending on local suppliers at significant locations of operation	–	Fully disclosed	3.3.4. Procurement management
4.		EU 2 net energy output broken down by primary energy source and by regulatory regime	–	Partially disclosed	Key results
5.		EU 10 Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	–	Partially disclosed	2.1.2. Strategic goals of the Corporation
6.		G4-DMA (Sector specific GRI attachment for Electric Utility Sector) Report on the organisation's policies and requirements for health and safety of its employees, and employees of its contractors and subcontractors	–	Fully disclosed	2.7.1.5. Industrial safety 2.7.1.6. Ensuring safe labour conditions
Ecology dimension					
7.	–	EN6 Reduction of energy consumption	–	Partially disclosed	3.3.2. Improvement of energy efficiency
8.	Water use	EN8 Total water withdrawal by source	2.3.	Partially disclosed	3.7.6.5. Water management
9.	Water use	EN10 Percentage and total volume of water recycled and reused	2.4.	Fully disclosed	3.7.6.5. Water management
10.	Hazardous atmospheric releases	EN20 Emissions of ozone-depleting substances (ODS)	–	Partially disclosed	3.7.6.4. Harmful atmospheric releases
11.	Hazardous atmospheric releases	EN21 NOX, SOX, and other significant air emissions	2.6.	Fully disclosed	3.7.6.4. Harmful atmospheric releases
12.	Industrial waste and sewage	EN22 Total water discharge by quality and destination	2.7.	Partially disclosed	3.7.6.5. Water management
13.		EN23 Total weight of waste by type and disposal method	2.8.	Partially disclosed	3.7.6.6. Production and consumption waste
14.	Industrial waste and sewage	EN25 Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention ² Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	–	Fully disclosed	3.7.6.6. Production and consumption waste
15.	Compliance of the Corporation's organisations with the national and international environmental and technical standards	EN29 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	–	Fully disclosed	3.7.3. Financing of environmental protection measures
16.	Implementation of environmental policy (including environmental protection measures and expenditures)	EN31 Total environmental protection expenditures and investments by type	2.12.	Fully disclosed	3.7.3. Financing of environmental protection measures
Social dimension					
17.	–	LA1 Total number and rates of new employee hires and employee turnover by age group, gender, and region	3.1.2.	Partially disclosed	3.4.1. Human capital description
18.	Personnel career and efficiency management (equal opportunities, advancement, succession pool, evaluation systems)	LA4 Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	–	Fully disclosed	3.4.3.2. Implementation of the social policy

#	Material aspects	Indicator	Correspondence with the RSPP basic indicator number	Degree of disclosure	Report section
19.	–	LA6 Type of injury and rates of injury, occupational diseases, lost days, and absenteeism. Also, total number of work-related fatalities, by region and by gender	3.1.5.–3.1.8.	Partially disclosed	2.7.1.6. Ensuring safe labour conditions
20.	–	LA7 Workers with a high incidence or high risk of diseases related to their occupation	–	Fully disclosed	2.7.1.7. Radiation impact on the Corporation's personnel
	–	LA9 Average hours of training per year per employee, by gender and by employee category	3.1.10.	Partially disclosed	3.4.4.1. Staff training, retraining, and advanced training
21.	Personnel career and efficiency management (equal opportunities, advancement, succession pool, evaluation systems)	LA10 Programmes for skills management and lifelong learning that support the continued employability of staff and assist them in managing career endings	–	Fully disclosed	3.4.3.2. Implementation of the social policy, 3.4.4. Training of the personnel
22.	Remuneration system	LA13 Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	–	Partially disclosed	
23.	Influence on local communities (including social programmes, charity)	SO1 Percentage of operations with implemented local community engagement, impact assessments, and development programmes	–	Partially disclosed	3.6.2.1. Development of the nuclear “closed” cities, 3.6.2.2. Development of territorial clusters of the nuclear industry
24.	Influence on local communities (including social programmes, charity)	SO2 Operations with significant actual and potential negative impacts on local communities	–	Fully disclosed	3.7.6. Environmental impact
25.	–	SO4 Communication and training on anti-corruption policies and procedures	–	Partially disclosed	1.8. Corruption and other law offences countering system
26.	–	PR1 Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	–	Partially disclosed	2.7. Integrated solution to accumulated nuclear legacy problems and ensuring nuclear and radiation safety
27.	–	PR5 Results of surveys measuring customer satisfaction	–	Partially disclosed	3.6.1.4. Studies of involvement and opinion surveys

Appendix 2. An Excerpt of the Audit Commission Statement on the financial and economic activities of the State Atomic Energy Corporation “Rosatom” and its organisations in 2013

An Excerpt of the Audit Commission Statement on the financial and economic activities of the State Atomic Energy Corporation “Rosatom” and its organisations in 2013

Moscow

30 April 2014

The Audit Commission of: Chairman of the Commission R. E. Artyukhin, the Head of the Federal Treasury, and the Commission members: L. F. Buzina, the Deputy Director of the Department for Budget Policy of the State Military and Law Enforcement Services and the Governmental Defence Order of the Ministry of Finance of the Russian Federation; V. S. Katrenko, an Auditor of the Accounts Chamber of the Russian Federation; A. V. Rozhnov, the Deputy Head of the 12 Main Department of the Ministry of Defence of the Russian Federation; and V. K. Utkin, the Office Head of the Department of Defence Industry of the Government of the Russian Federation, has audited the financial and economic activities and credibility of the information contained in the Annual Report of the State Atomic Energy Corporation “Rosatom” (hereinafter referred to as the Corporation or ROSATOM) for the period from January 1st till December 31st, 2013.

In its audit activities the Audit Commission was guided by Article 31 of the Federal Law No. 317-FZ of December 1, 2007 “On the State Atomic Energy Corporation ‘Rosatom’” (hereinafter referred to as the Federal Law No. 317-FZ and the Provision on the Audit Commission of the State Atomic Energy Corporation “Rosatom” approved by the Supervisory Board of the State Atomic Energy Corporation “Rosatom” (Record of Meeting No. 1 of December 26, 2007 with amendments (Record of Meeting No. 18 of May 27, 2010)).

In the course of the audit of the financial and economic activities and credibility of the information contained in the Annual Report of the Corporation for 2013, based on the random inspection of the documents the Audit Commission has found out that this information is credible in all material respects, namely:

- the financial statements of the Corporation give true and fair view of the financial situation of the Corporation and results of its financial and economic activities over the reporting period in all material respects;
- the consolidated financial statement of the Corporation and its organisations give true and fair view of the financial situation of the Corporation and its organisations in all material respects as well as results of their financial and economic activities over the reporting period.

In the course of the audit of the procurement activities and of compliance of the Provision on Procurement existing in the Corporation with the Federal Law No. 223-FZ of July 18, 2011 “On Procurement of Goods, Works and Services by Certain Types of Legal Entities” we have found out that the Uniform Nuclear Industry Procurement Standard complies with the applicable legislation on the whole.

Appendix 3. Opinion of the auditing procedures office of ROSATOM’s Internal Control and Audit Department

STATEMENT

of the Internal Audit Office of the Internal Audit of ROSATOM
regarding results of the internal audit of business processes
“Management of the Public Reporting System of ROSATOM and Its Organisations”
in terms of conformance of the 2013 public reporting process with
the Public Reporting Policy of ROSATOM

The internal audit of the business process “Management of the Public Reporting System of ROSATOM and Its Organisations” was conducted in virtue of the Consolidated Plan of Control Measures of the Specialised Bodies of Internal Control of ROSATOM for the First Half of 2014, as well as taking into account the requirements of the Public Reporting Policy of ROSATOM, the Annual Public Reporting Standard, the Regulation on the Annual Public Reporting as approved by Order of ROSATOM No. 1/403-P of 13.05.2011.

In the course of the audit:

- an assessment of the efficiency of internal controls of the public reporting processes (including an analysis of the regulatory activity and formalisation of key processes associated with public reporting, an analysis of the implementation efficiency of key control procedures which ensure the credibility of public reporting) was conducted;

- an assessment of the conformance of the public reporting procedure with the existing legislation and in-house regulatory requirements that regulate business processes of public reporting was conducted;
- recommendations for the improvement of the internal controls in public reporting were produced.

On the whole, the business process “Management of the Public Reporting System of ROSATOM and Its Organisations” is carried out in accordance with the existing legislation and in-house regulatory documents that regulate the business process of public reporting. At the same time, we note the necessity of updating local regulatory documents, which regulate the public report preparation activity as part of its compliance with the Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI, Version G4) and the Integrated Reporting Standard of the International Integrated Reporting Council.

Head of the Auditors’ Group

Member of the Auditors’ Group



I. S. Savushkina

Z. A. Zhukova

Appendix 4. Auditor's opinion on ROSATOM's non-financial reporting for 2013



INDEPENDENT ASSURANCE REPORT FOR STATE ATOMIC ENERGY CORPORATION ROSATOM ANNUAL REPORT 2013

To the attention of the management of ROSATOM State Atomic Energy Corporation:

We have performed assurance procedures¹ to provide independent assurance on the below-mentioned aspects of the State Atomic Energy Corporation ROSATOM Annual Report 2013.

Subject Matter

Qualitative and quantitative data disclosed in the State Atomic Energy Corporation ROSATOM Annual Report 2013 contained in the Table of the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines for standard disclosures in environmental, workforce, safety and socio-economic areas.

Our assurance procedures are limited to the 2013 data only.

Criteria

- Internal procedures and reporting guidelines according to which the sustainability-related information is gathered, processed and aggregated internally by ROSATOM State Atomic Energy Corporation;
- "Sustainability Reporting Guidelines G4.0", published by the GRI in 2013 ("Guidelines GRI G4.0"), and Electric Utilities Sector Supplement published by the GRI in 2013.

Responsibility and Methodology

The accuracy and completeness of sustainability performance indicators are subject to inherent limitations given their nature and methods for determining, calculating and estimating such data. Our independent assurance report should therefore be read in connection ROSATOM State Atomic Energy Corporation internal sustainability reporting guidelines, definitions and procedures on the reporting of its sustainability-related performance.

The management of ROSATOM State Atomic Energy Corporation is responsible for both the subject matter and application of the criteria.

Our responsibility is to provide a conclusion on the subject matter based on our assurance procedures in accordance with the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information" approved by the International Auditing and Assurance Standards Board (IAASB) and the Accountability Assurance Standard (AA1000AS) published by the Institute of Social and Ethical Accountability.

Main Assurance Procedures

The assurance procedures we performed included the following work:



- Interviewing: Interviewing personnel of ROSATOM State Atomic Energy Corporation who are responsible for internal sustainability reporting and data collection for the State Atomic Energy Corporation ROSATOM Annual Report 2013 in order to assess the understanding and application of internal sustainability reporting guidelines.
- Assessment of key figures: Testing on a sample basis evidence supporting data in the Table of the GRI Sustainability Reporting Guidelines for standard disclosures and performance indicators in the State Atomic Energy Corporation ROSATOM Annual Report 2013 in terms of its completeness, accuracy, adequacy and consistency.
- Review of the documentation and analysis of relevant policies and basic principles: Reviewing the relevant documentation on a sample basis, including ROSATOM State Atomic Energy Corporation internal policies, management and reporting structures and documentation.
- Review of the State Atomic Energy Corporation ROSATOM Annual Report 2013: Reviewing the content of the State Atomic Energy Corporation ROSATOM Annual Report 2013 against the criteria of the Guidelines GRI G4.0 and GRI Electric Utilities Sector Supplement requirements.

Conclusions

Based on the work performed and assessment of the criteria described in this assurance report:

- Nothing has come to our attention that causes us to believe that the performance indicators and data mentioned in the subject matter and disclosed in the State Atomic Energy Corporation ROSATOM Annual Report 2013 (in the Table of the Global Reporting Initiative Sustainability Reporting Guidelines for standard disclosures) do not give a fair representation of ROSATOM State Atomic Energy Corporation activity in the area of sustainable development; and
- Nothing has come to our attention that causes us to believe that the State Atomic Energy Corporation ROSATOM Annual Report 2013 does not meet the "Core" requirements in accordance with the Guidelines GRI G4.0.

ZAO PricewaterhouseCoopers Audit
Moscow, Russian Federation
29 August 2014

¹ The term "assurance" hereafter is not used as defined in Federal Law №307-FZ of 30.12.2008 "On Auditing Activities" (edition of 28.12.2010).

Appendix 5. Process for determining the relevance of the information disclosed in the Report

Traditionally, ROSATOM places a great emphasis on the process of determining the relevance of the information disclosed in its reports. The priority topics to be reported on are determined each year in the dialogue between the top management and the major stakeholders. The 2013 Report was the first one to have been prepared in accordance with the requirements of the new international reporting standards issued in 2013: the GRI (G4) Guidance and Standard <IR>. Determination of essential aspects (topics) to be disclosed in the Report is essential to both standards.

The Corporation used the following phased procedure for determining the relevance of information:

- › preparation by the task team of a list of significant aspects of ROSATOM’s activities;

- › prioritisation of significant aspects (questioning for the purpose of assessing the relevance of each of the aspects proposed) by the Corporation’s top management, including by the Public Reporting Committee and representatives of the major stakeholder groups;

- › formation, based on results of ‘double filtering’, of the final list of significant aspects to be disclosed in the Report.

As the result, the ranking map of significant aspects to be disclosed in the Report was prepared. The decision on which performance indicators under the GRI (G4) Guidance and ROSATOM’S Public Annual Reporting standard should be included in the Report was made with regard for the relevance of the aspects to which these indicators applied. Altogether, X performance indicators have been disclosed in the Report.

Thanks to the identification of significant aspects, the volume of the Report’s printed version has been reduced considerably compared to previous reports. More information is disclosed in the Report’s electronic version posted on the Corporation’s website (see respective references made herein).

Ranking map of significant aspects (topics) to be disclosed in the Report (prepared based on the scores provided by stakeholders and the Corporation’s management)

High relevance (average manager and stakeholder scores equal to or greater than 7.25)	Medium relevance (average manager and stakeholder scores equal to or greater than 6.50)	Marginal relevance (average manager and stakeholder scores equal to or greater than 6.00)	Low relevance (average manager and stakeholder scores below 6.00)
Ensuring nuclear and radiation safety	Anti-corruption activities	Management of the NFC and NPP lifecycle	Corporation's contribution to regional development
Foreign market activities	Implementation of projects involving creation of a new technology platform	Management of sustainability in the strategy context	Innovative evolution and technological modernisation programme
Radiation effects on the environment (including bio-diversity)	Pursuit of environmental policy (including conservation activities and expenditures)	Impacts of operations on local communities (including social programmes and charity)	Internal control and auditing procedures
Investment programme	Implementation of strategic initiatives	Corporate management (including improvement of mechanisms)	Ensuring personnel's process safety
Financial and economic performance*	Operations by divisions	Compliance with legislative rules	Procurement policy
NWC and Atomflot activities	NPP design and construction management	CATF development	Operation of the corporate risk management system
Diversification and development of promising business segments	Presence in nuclear goods and services markets. Outlook for the evolution of these markets	ROSATOM's knowledge management system	Protection of intellectual properties
RAW and SNF handling	Ensuring medium- and long-term solvency	Industrial waste and wastewater	Welfare of employees
Implementation of government powers	Compliance with national and international environmental and technical standards	Adherence to the Russian Federation's international obligations in the field of nuclear power	Staff incentive scheme
Solution for the nuclear legacy problem	Key potentialities for and risks of implementing the strategy	Development of relations with suppliers, consumers and partners	Opposition to unfair competition
Value creation process (including business-model and capitals)	Integrated improvement of enterprise performance (including the RPS and energy efficiency)	Remuneration system	University engagement (relations with human resources)

Appendices

High relevance (average manager and stakeholder scores equal to or greater than 7.25)	Medium relevance (average manager and stakeholder scores equal to or greater than 6.50)	Marginal relevance (average manager and stakeholder scores equal to or greater than 6.00)	Low relevance (average manager and stakeholder scores below 6.00)
	Handling of disturbed and contaminated territories	Regulation of activities by government bodies	Personnel career and efficiency management
	Implementation of the social policy	Water management	Information security
	Implementation of international scientific and innovation projects		
	Product quality requirements		
	Harmful atmospheric emissions		

* Highlighted are the aspects that match the sustained development aspects of the GRI (G4) Guidance.

Feedback form

Dear readers!

You have read the firth public annual report of Rosatom State Corporation intended for a broad range of stakeholders. The opinion of the readers, for whom the report was prepared, is very important to us. We would be grateful to you if you contributed to improving the quality of the Company’s reports by answering the questions below.

The completed form may be mailed to the Communications Department at 24 Bolshaya Ordynka Str., Moscow 119017, Russian Federation, or emailed to the Executive Secretary, of the Public Reporting Committee at EAMamy@rosatom.ru.

1. Rate the report using the following criteria:

Confidence and objectivity levels

☐ Excellent

☐ Good

☐ Satisfactory

☐ Unsatisfactory

Has you rating been influenced by the availability of the independent auditors’ opinion and the public assurance statement in the Report?

☐ Yes

☐ No

Completeness and relevance of information

☐ Excellent

☐ Good

☐ Satisfactory

☐ Unsatisfactory

Structure of the report, ease of reference of the information needed, wording

☐ Excellent

☐ Good

☐ Satisfactory

☐ Unsatisfactory

2. Indicate below the Report section(s) you have found to be significant or useful:

3. What aspects do you think require to be covered in the next report:

4. Your recommendations or additional comments:

5. Indicate which stakeholder category you belong to:

☐ Employee of Rosatom State Corporation

☐ Representative of a client/a consumer of goods and services

☐ Employee of an organisation within Rosatom State Corporation

☐ Business representative

☐ Representative of federal power bodies

☐ Representative of a public organisation

☐ Representative of regional power bodies

☐ Representative of mass media

☐ Representative of local self-government bodies

☐ Representative of the expert community

☐ Representative of contractor/supplier organisation

☐ Other (indicate)

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First and foremost, we would like to thank sincerely ROSATOM's stakeholders. Their requests and recommendations provided during the dialogues in the course of Report preparation helped to substantially improve the level of the information disclosure.

We also would like to thank the companies assisted in producing this Report: DaS-Project LLC and Souvenir-Design LLC.