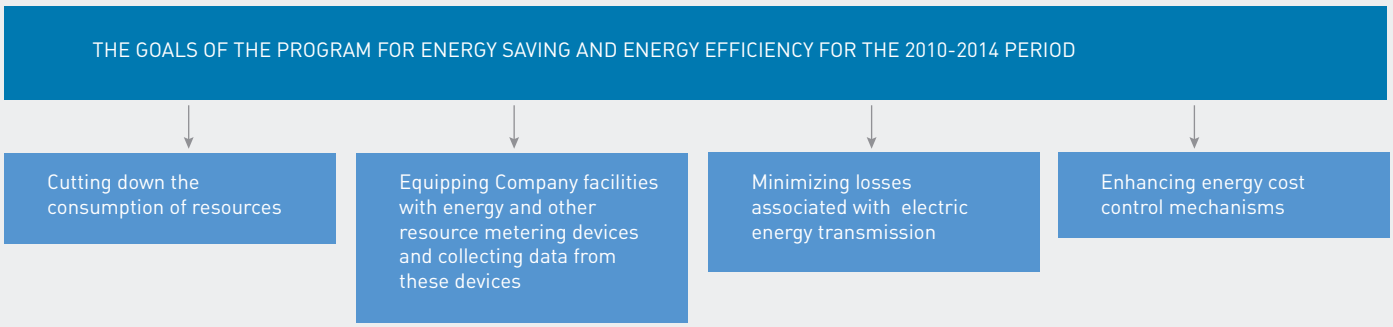
Economic Aspect – Improving Energy Efficiency

Energy efficiency is one of the priorities of Russia's technological development. Pursuant to the Russian Federal law "On Energy Saving and Improving Energy Efficiency," the Company developed a program for energy saving and improving energy efficiency (for the 2010-2014 period). The Program is intended to provide for the economic and rational use of fuel and energy resources by upgrading the energy efficiency of the Company's equipment and facilities.



Data on the Volume of Technological Power Consumption in the UNEG and Fuel and Energy Resources Used by the Company

In 2012, fuel and energy resources used by the Company included: electric and heat power, and fuels and lubricants (petroleum and diesel fuel).

Fuel and Energy Consumption Volumes (as accounted for by the Program)

Index	Volume	Technological Effect of the Company's efforts aimed at the reduction of energy/fuel consumption	Economic Effect of the Company's efforts aimed at the reduction of energy/fuel consumption, RUR thousand, excl. VAT
Technological consumption of electric energy within the UNEG	21,945,800,740 kWh	214,019,110 kWh	199,300.87
Electric energy consumed in buildings	31,470,170 kWh	860,860 kWh	2,666.16
Thermal energy consumed in buildings	46,250 Gcal	2,940 Gcal	2,776.97
Consumption of petroleum	9,044,710 liters	105,740 litres	2,701.27
Consumption of diesel fuel	7,450,120 liters	41,710 litres	1,076.20

Economic Aspect – Import Substitution

The Company strives to minimize its import dependence by developing the manufacture of electro-technical equipment domestically and by increasing the share of Russian equipment in the Company's investment program, as well as in repair and targeted programs.

In pursuit of the above-mentioned goal, the Company has signed 95 cooperation agreements, with 77 agreements concluded with manufacturers of electro-technical equipment.

Seventy-two of these are domestic manufacturers. All agreements are intended to facilitate cooperation in the field of development and the use of the most innovative technologies and equipment.

The Company's cooperation with regional enterprises

THE SVERDLOVSK REGION

Manufacture of components for Siemens equipment

THE KALUGA REGION

Construction of the HVL, substation construction, development of cable manufacturing

THE REPUBLIC OF INGUSHETIA

Development of high precision equipment and component materials manufacture

THE REPUBLIC OF MORDOVIA

Development of manufacturing for new products and widening the range of existing products (high temperature wires, overhead protection with optical cables)

THE REPUBLIC OF DAGESTAN

Construction of a substation, the use of high precision equipment at Company facilities, the establishment of the Electro-technical College

THE CHECHEN REPUBLIC

Construction of a substation, development of production facilities

THE REPUBLIC OF TATARSTAN

Development of wire and cable manufacturing facilities

The results of the Company's import substitution initiatives implemented during the reporting year are as follows:

— JSC Elektrozavod launched the manufacture of 100-500 kV transformer equipment, pursuant to a long-term agreement to supply electrical products to the Company's facilities;

— The 110-500 kV SF6 insulated manufacturing facility was constructed by Hyundai Electrosystems LLC (in the city of Artyom). The supply of SF6 insulated equipment to the Company's facilities will commence in 2013, pursuant to the long-term agreement for the supply of electrical products, which the Company concluded with Hyundai Electrosystems LLC;

— Izhora Transformers LLC, a company engaged in the construction of a transformer manufacturing facility in Kolpino, was established in cooperation with JSC Power Machines. The manufacture and supply of 110-500 kV transformers will start in 2014;

— The first power and distribution transformers were supplied to the Company's facilities, pursuant to a supply agreement concluded with JSC Elektrozavod.

Economic Aspect – Procurement Activities

The Company is actively making purchases in all regions in which the Company operates. The Company's procurement activities are designed to purchase equipment and services on the competitive market. Procurements are made using funds from the Company's investment, repair and targeted programs.

The Principles of the Company's Procurement Activities

THE OPENNESS PRINCIPLE

The rules for the organization of procurement activities are publicly accessible. Information on the violations of said rules can be sent to the Company's Central Tender Committee (CTC). Information on CTC membership is also available on the Company's website. CTC members include: representatives of the Russian Ministry of Energy and the Federal Anti-Monopoly Service. Therefore, the decisions taken are in line with the position of State authorities. The majority of purchases are made using open tenders. Information about tenders is available on the websites of the companies and in the mass media as well.

THE COMPETITIVENESS PRINCIPLE

The regulation system gives preference to open tenders that provide maximum competition. Any limitation of competition, especially procurements from a "last resort" supplier should be well-grounded and decided upon collectively. In critical cases, such decisions are made by the Company's CTC exclusively, subject to follow-up approval by the Company's Management Board.

THE FEASIBILITY PRINCIPLE

The rules require that every decision be verified for feasibility and documented in order to increase purchasing efficiency and to prevent corruption

The Goals of Procurement Activities

1. Reduction in the Company's costs due to savings resulting from product procurement (goods, work and services)
2. Supply of products for the Company:
   — Of required quality
   — At minimal cost
   — On time
3. Optimizarion of the procurement control system on advanced practices

The Procurement System Model

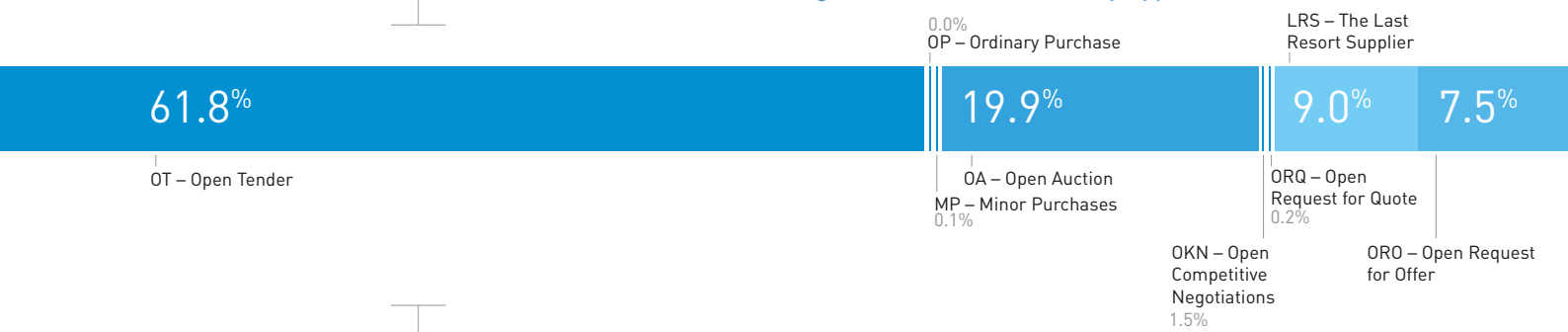
The development of guidelines for procurement activities, the reconciliation of purchases from the "last resort" supplier, the approval of additional agreements to contracts, the approval of the Annual Procurement Program of the executive body, the approval of the Annual Procurement Program in regard to non-tender purchases in excess of RUR100 million, the review of reports on the implementation of the Annual Procurement Program	The Board of Directors of Federal Grid Company	The approval of the Procurement Policy, and the Chairman of Federal Grid Company
	The Chairman of the Management Board	Signing Industrial Guidelines pertaining to purchasing activities and detailing the Procurement Policy. Preparation and review of consolidated reports on procurement activities and the reports on "last resort suppliers". Approval of final protocols, or the delegation of authorities to approve such protocols by the Deputy Chairmen of the Management Board and by the General Directors of corporate branches
	The Company's CTC	
	The Department of Consolidated Planning and Procurement Organization	
The approval of procurement plans involving investments and technical maintenance and repairs within the existing terms of reference	The Permanent Tender Commission on Investments	Methodological and operational control, the preparation of organizational and administrative documents on procurement activities, the organization of the work of the CTC and the Permanent Tender Commission, the organization of procurement planning, the control of procurement activities, reports and analysis. Automating and enhancing the procurement process. Managing JSC ESKK UES
	The Permanent Tender Commission on Production Activities	
Purchaser, preparation of technical documents, assessment of the procurement participants', documents, contracts	Procurement commissions equivalent to Executive Body commissions	Deciding on the selection of an agent of EB Federal Grid Company and major purchases of the Company's branches
Ongoing control over the procurement activities of the Company's branches, and the formation of procurement commissions	JSC ESSK – the organizer of procurement procedures	The performance of procurement procedures, documenting, archiving, and maintaining a price database based on market research, preparing consolidated reports on the Company's procurement activities, the owner of Purchases, the corporate integrated control system, the development of an e-commerce website
	The Engineering and Construction Control Center, ESS, the Company's branches	
	Permanent Tender Commissions of the Company's branches	Demand Planning, the formation of permanent tender commissions, preparation for procurement procedures performed by the Company's branches, reporting
	Procurement Departments	
	Procurement commissions	Selecting winners in regard to purchases in excess of RUR100 million
	Suppliers of products (goods, work and services)	

As early as 2008, long before State and municipal orders for open and competitive procedures went electronic, the Company started to implement procurement procedures using an e-commerce system called TZS Electra. Beginning in October 2012, the Company placed its orders on the official all-Russian website www.zakupki.gov.ru. To encourage competition, the Company also approved the use of two more e-commerce websites, www.etp.roseltorg.ru (owned by JSC EETP) and www.sberbank-ast.ru (owned by Sberbank-AST).

The main document regulating the Company's procurement activities is the Policy on the procedure for the regulated purchases of goods, work and services. The Policy provides for organizing the purchases of goods, work and services based on unified guidelines, using advanced procurement procedures (which are mostly tender-based).

The share of tender-based purchases made by the Company in 2012 was traditionally high, amounting to RUR158,526,746.2 million, or 91% of total corporate procurements.

The Structure of 2011 Regulated Procurements by Type



Economic Aspect — Innovations

The use of innovative technologies in the national economy, including the power industry, is one of the ways to ensure the country's energy security and sustainable development. Innovations used in the power industry directly influence living standards, driving the development of the country and society as a whole. One of the Company's priorities involves implementing innovations, as this process is of paramount importance to the economic growth of Russia and its regions.

During the reporting year, the Company proceeded with implementing the Innovative Development Program for the period till 2016, with a view till 2020. Within the framework of the Program, we have made steps to modernize and develop the UNEG, and to form the conceptual, technological and manufacturing basics and terms of development for the smart energy system based on the active adaptive system (SES AAS), to implement pilot projects, and to enhance business processes and organizational mechanisms of the Company to accomplish innovative development tasks.

The smart energy system – a new era in the electric energy sector:

BEGINNING OF ELECTRIFICATION

COAL ERA

UNSTABLE ENERGY SYSTEM

Local production of electric energy

Electric energy supply in isolated systems with random traffic

Fossil fuel, water resources

WIDESPREAD PRODUCTION OF ELECTRIC ENERGY

FOSSIL FUEL ERA

UNSTABLE ENERGY SYSTEM

Generation corresponds with traffic

Integrated grid, centralized generation of electric energy, forecast traffic, mono-directional energy exchange

Fossil fuel, water, wind, and solar resources and nuclear energy

NEW ERA OF ELECTRIFICATION

ERA OF SMART GRIDS

STABLE ENERGY SYSTEM

Traffic corresponds with generation

Centralized and decentralized generation, management via ICT, two way energy exchange

"Pure" coal, gas, nuclear energy

Excluding the environmental factor

Environmental protection

ICT – information and communications technologies

Smart grid operation scheme

A smart grid (a part of the active-adaptive grid) uses new principles and technologies for electric energy transmission and conversion which leads to:

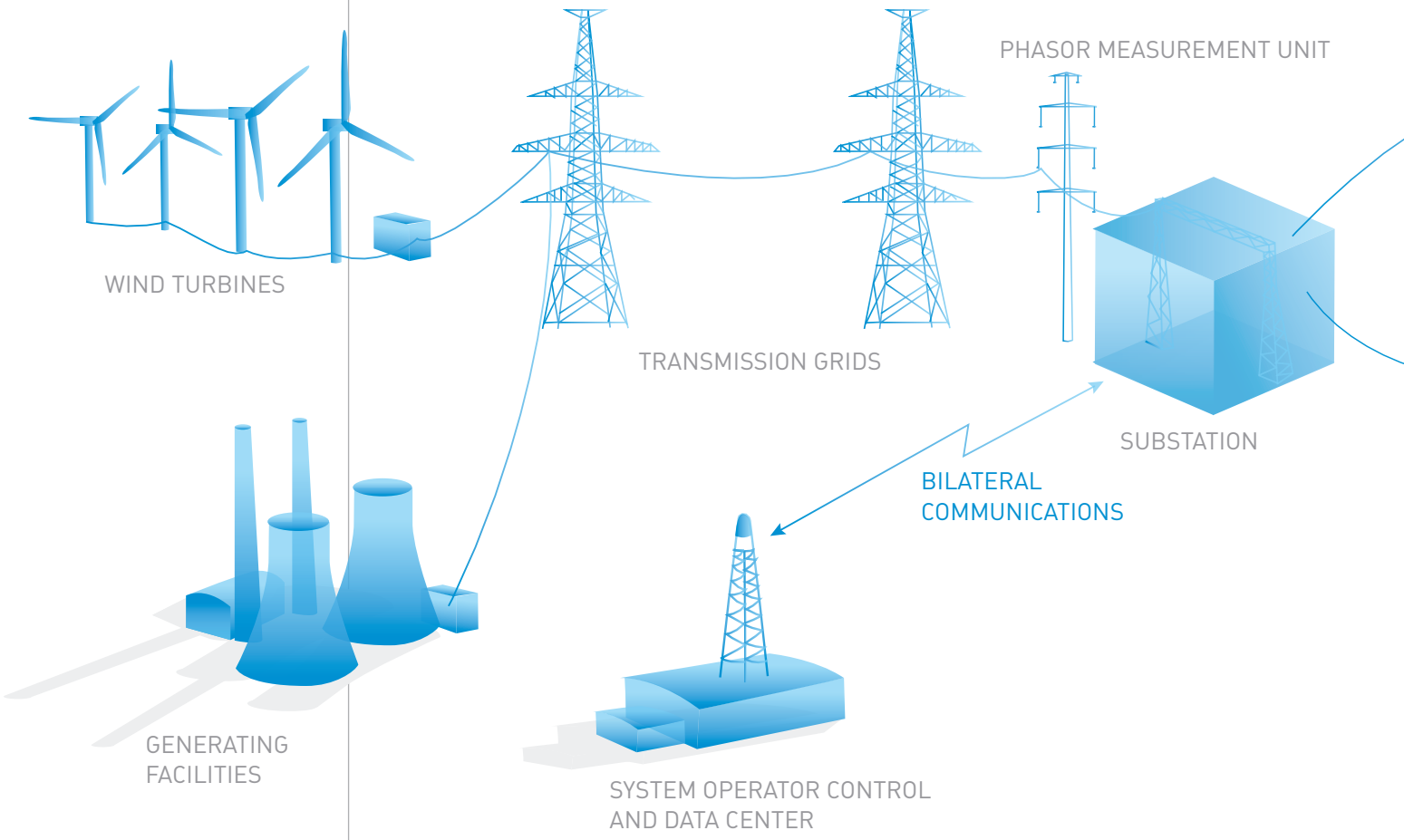
— High rate of active elements in the grid, which changes the topological parameters of the grid;

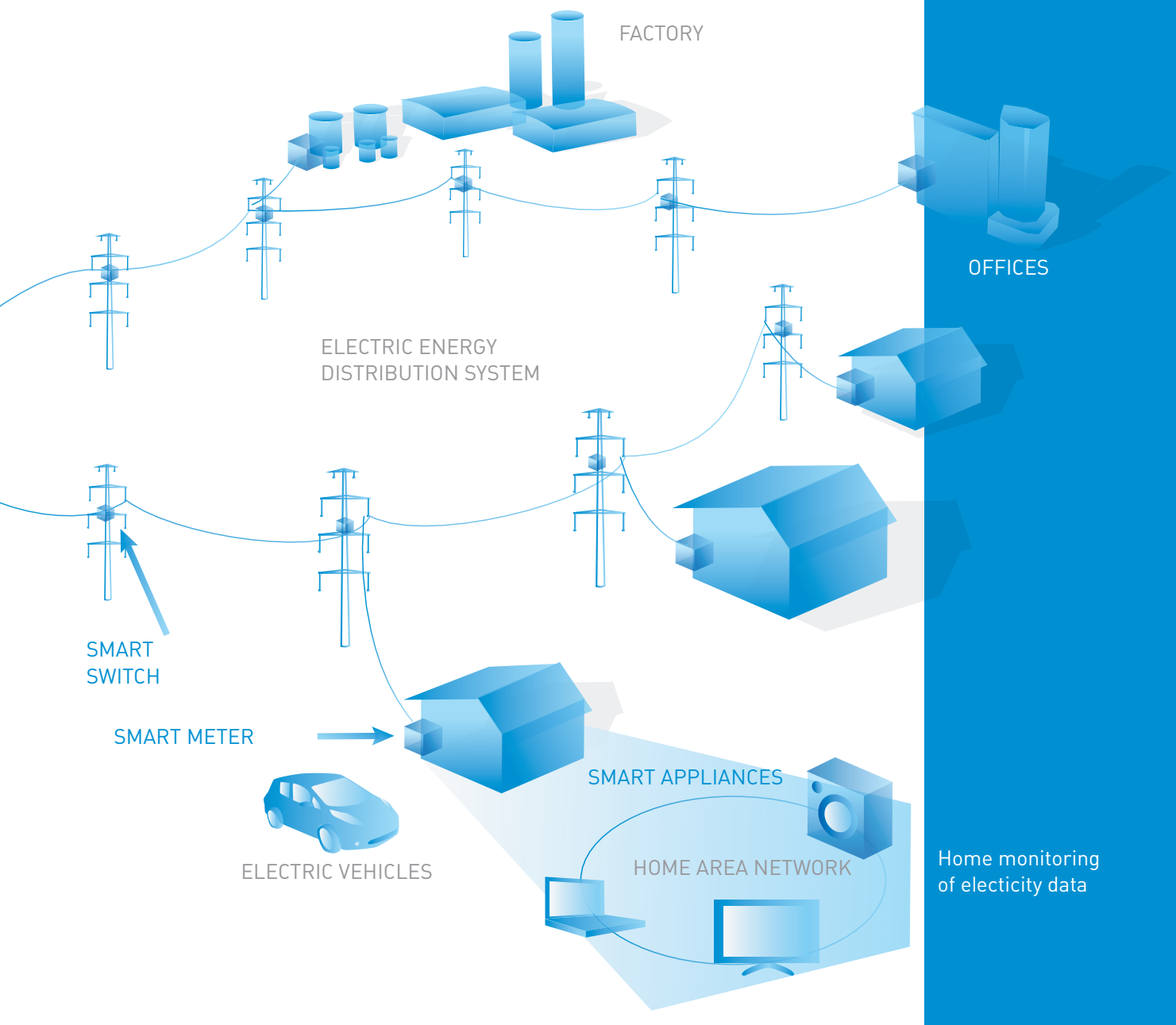
— Large number of sensors measuring current regime parameters to assess the grid's status in various regimes of energy system operations;

— System of data collection and processing (software and hardware) and a system of active grid elements and consumer electric energy devices management;

— Existence of required executive bodies and mechanisms providing for the on-line adjustment of grid topology changes and allowing for interactions with adjoining energy facilities;

— Tools for the automatic evaluation of the current situation and development forecasts of the grid's operations, high processing speed of the management system and information exchange.





Home monitoring
of electicity data

We are confident that the Company's Innovative Development Program will contribute to the more efficient use of Russia's energy potential, providing for the fully-featured integration of UES of Russia into the global energy market, contributing to the development of innovative technologies and ensuring the development of the domestic industry, which will result in all of the positive technological and socio-economic effects listed below:

Program Priorities	Technological Effects
Technologies upgrading the system reliability of UES of Russia	Improving the lightning-surge protection of overhead lines (decreasing the fault rate by 25-30%); Improving the explosion protection of electric equipment; Limiting short-circuit currents in mega-cities (saving on the installation of additional equipment at substations by 1.5-2 times); ncreasing grid throughput capacity while reducing mass and dimension parameters (using high temperature super-conductor technologies, and new types of overhead line wires).
Smart grid technologies (improving grid flexibility and controllability)	Developing electric equipment that have controllable electric characteristics (FACTS, STATKOV, controllable shunt reactors, etc.); Developing equipment and grid infrastructure self-recovery technologies; Developing electric equipment based on power electronics; Using power storage systems (optimizing generation and consumption and saving up to RUR15 billion a year).
Cutting electric energy grid operating costs	Improving grid automation (preventive control and automatic changes in grid characteristics and topology); Cutting down the duration of installation and grid element repair.
Reducing the cost of up-to-date reliable and highly efficient equipment	Reducing equipment cost (including the cost of equipment based on semi-conductor electronics by 2-3% per annum).

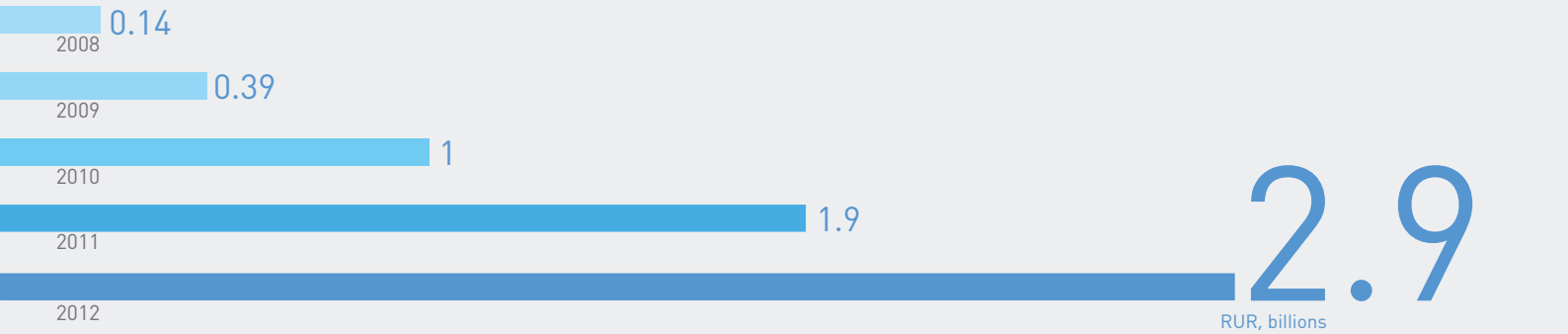
Priorities	Comprehensive Socio-Economic Effect
Environmental protection	Providing for power distribution in excess of 3.5 GW by power plants generating power from renewable sources; Reducing atmospheric CO2 emissions by 2.5 million tons due to minimizing power losses; Freeing more than 2,000 hectares of land from the grid infrastructure in mega-cities.
Efficiency	Cutting down the relative losses of power in main grids from 4.8% to 4%.
Reliability	Implementing new services for consumers; Decreasing consumer under-supply 2 times.
Systemic Effect for the Russian UES	Reducing the number of closed power supply centers from 251 to 43; Equalizing the load schedules through the use of large capacity power storage systems; Lowering the growth rate for grid and generating equipment (saving 3-5% on the growth rate of the installed power of power plants due to reducing the required power reserve starting from 2014).
Socio-economic Effect	Developing new territories by electrification of the country's remote locations (mineral deposits and transportation systems in Siberia and the Far East); Increasing the amount of taxes returned to the country's budget via the launch of new production facilities; Creating some 10,000 new jobs; Developing the domestic industry and adjacent sectors, providing for the development and implementation of new devices that have new characteristics, and establishing a domestic production base; Developing and discovering new R&D, and fundamental research trends.

Research and Development (R&D)

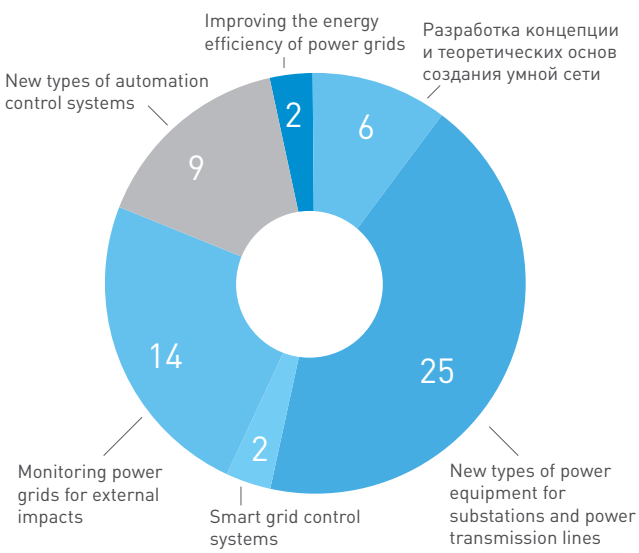
The Company's Innovative Development Program includes performing Research and Development (R&D) work intended to develop, test and implement "breakthrough" and "improving" innovative technologies at UNEG facilities. These technologies include: electric energy storage systems, "digital" substations, high temperature super-conductor technologies and direct current power transmission technologies.

In accordance with the Company's 2013-2017 Investment Program, in 2012, the Company plans to spend RUR2.9 billion to implement the R&D Program; this is 50% more than in 2011.

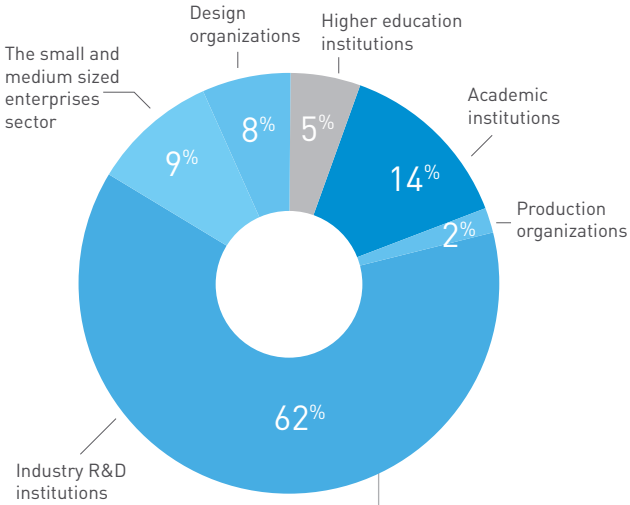
R&D Financing Broken Down by Year, RUR billion.



R&D Priorities



R&D Financing Structure



In 2012, our specialists developed and produced more than 10 prototypes for innovative equipment, including:

— A model of a blast resistant transformer (the technology will allow for safe operations of UNEG facilities, to exclude deformation of the transformer with the leaking and ignition of transformer oil and further damage of substation equipment);

— A new type of quick-operating current-limiting 220kV (which allows to limit short circuit currents in the 220kV electric grids);

— A multi-polar multi-pole valve inverter for ice melting at high voltage overhead transmission lines;

— A high-voltage impulse generator.

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USEFUL MODEL
PATENTS RECIEVED IN 2012

Within the framework of the R&D Program, in 2012, we received 39 useful model patents (including 6 international ones), 6 patents for invention and 19 certificates for software.

As a part of implementing priority pilot projects in UES of the East (territorial energy clusters), we developed a management system project for four substations of the Elgaugol Cluster, as well as a unique program and method for testing.

We also formed Federal Grid Company's Architectural Committee under the support of the Russian Academy of Science. The Committee is responsible for the development of smart grid architecture. Among Committee members are representatives of various energy organizations and industry experts.