

# Russian Power

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## Wind power undeveloped in Russia despite huge potential, support needed

Despite Russia's high wind power potential, the wind power industry development in the country is very weak, which analysts explain by the lack of government support. Experts note that construction of wind power facilities is quite expensive and power output at them is not stable, which are the industry's main disadvantages. While some analysts say the industry could develop in Russia if the necessary regulatory decisions are made and recoupment of projects is ensured, others believe that modernization of existing Russian power facilities is currently more important.

People have been using the wind's energy since ancient times, when they built windmills to grind wheat and other grains. Windmills producing electric power were invented in Denmark, where the first wind power plant was built in 1890. The golden age of the wind power industry was in the 1950s, when the Soviet Union was annually producing 9,000 wind power units. However, in 1960–1980, the country's power sector was oriented on the construction of large thermal, hydropower, and nuclear power plants, and wind power facilities were unable to withstand the competition, with their serial production subsequently closed.

However, driven by goals to increase energy saving and improve the environment, the Russian government recently decided to pay more attention to the use of renewable energy sources, including wind. Under an energy development strategy adopted in late 2009, the share of renewable energy sources in the power sector should increase to 4.5% by 2020 from less than 1% currently.

Russia has the highest wind potential in the world, with its wind power resources estimated at 10.7 gigawatts (GW). As estimated by experts, the potential could allow wind power production in Russia ensuring 30% of the country's total annual power output.

The most favorable areas for wind power development in Russia include northwestern regions, such as the Murmansk and Leningrad regions, the southern part of European Russia, Siberia, and the Far East.

Wind is an infinite and ecologically pure source of power. As wind blows almost everywhere, the wind power industry development is possible practically everywhere. There is also no need to produce and transport the energy source. Armen Markaryan, a partner of R-Energo, a Russian–Norwegian company engaged in project development and consulting in the renewable energy and energy efficiency sectors, believes that the main advantage of wind power plants is the possibility of quick construction and their compactness.

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## Focus

### **Russia has the highest wind potential in the world, with its wind power resources estimated at 10.7 gigawatts**

However, despite vast possibilities for wind power development, Russia is currently falling behind other countries as far as the volume of installed wind power capacities and pace of growth are concerned. At present, the combined capacity of wind power facilities in Russia amounts to around 18 megawatts (MW), the industry is growing around 8% per year, compared to a double-digit annual growth in a number of European countries. In Western Europe the combined capacity of wind power facilities is close to 200 GW.

The development of the wind power industry in Russia is obviously weaker than in Western European countries, but there are still a number of large projects being implemented. Specifically, hydropower company RusHydro announced plans to spend 1.9 billion rubles to build a 23-MW wind power plant in the Primorsky Region and build the 1-GW Nizhnyaya Volga wind power park in the Volgograd Region. Among other projects, Russian company VentRus is expected to spend 250 million euros to build three wind power parks with a combined capacity of 150 MW in the Orenburg Region.

Russian power engineering company Atomenergomash, part of nuclear power corporation Rosatom, is expected to spend 45 billion rubles to build wind power parks in the constituent republic of Adygeya. Also, Atomenergomash reportedly agreed to acquire a 51% stake in Windlife Arctic Power, the Russian unit of Netherlands-based Windlife Energy, which is expected to build a 200-MW wind power park in the Murmansk Region.

The wind power industry is now reviving, but there are not yet any domestically produced wind generators that have proven themselves to be good. Western companies currently dominate the Russian market of wind power equipment, but they are starting to cooperate with Russian companies. Specifically, German engineering company Siemens signed an agreement with Russian industrial conglomerate Rostekhnologii and RusHydro on the production of wind generators in Russia.

The surveyed experts agreed that the wind power industry is largely undeveloped in Russia. "The wind power industry development in Russia is very weak. Despite announcements about the construction of large wind power parks in the Far East and northern Russia (wind power plants on Russky Island and on the Kola Peninsula), there are no serious results," said Markaryan from R-Energo. Markaryan noted that there was almost no interest in the wind power industry shown by investors in Russia – some companies are trying to do something, but there are no serious results, he said.

Experts believe that the high price of wind power plants construction and lack of government support hamper wind power development in Russia.

"Russia has a huge wind power potential because of its large territory, but the construction of wind power plants is very expensive," said Vasily Konuzin, director of an analytical department at A'leamar Investment Group.

**Experts believe that the high price of wind power plants construction and lack of government support hamper wind power development in Russia**

## Focus

Specifically, the cost of building wind power plants amounts to U.S. \$1,100–\$1,800 per kilowatt of installed capacity, compared to \$300–\$600 per kilowatt of installed capacity required to build traditional power plants operating on natural gas and coal, as estimated by Stanislav Chernitsa, general director of AEnergy, a Russian company operating in the alternative energy sector.

However, experts claim expenditures on building wind power plants are lower than those on building facilities operating on other renewable energy sources. For instance, the construction of solar power plants costs \$3,000–\$6,000 per kilowatt of installed capacity, as estimated by Chernitsa.

The surveyed analysts said that government subsidies and stimulus measures were needed for the development of the wind power industry in Russia. “Without support, only isolated wind power plants will be built,” said Konuzin from A’lemar. Irina Filatova, an analyst at investment company BCS, also pointed to the need for government subsidies, saying that investments in wind power projects were not currently being recouped. “Construction of wind power plants is not economically reasonable. Now it is more like venture investing,” she said. Speaking about the development of the wind power industry, Markaryan from R-Energo said that while some projects were economically reasonable, the majority of projects required mark-ups to tariffs. “The wind power industry is not able to develop without government support,” he said.

Outlining the disadvantages of wind power industry, Markaryan said that the main disadvantage was that “power output at wind power plants is not stable and depends on the presence of wind,” which creates difficulties for power grids and Russian dispatching company System Operator. Eliminating this disadvantage requires additional equipment, which further increases the cost of wind power projects, the expert said. Disadvantages also include the short period of operations of wind power plants. For comparison, thermal power plants are able to operate constantly, hydropower plants operate an average of 4,000–5,000 hours per year, and wind power plants operate around 2,000 hours per year, as provided by Markaryan.

The surveyed analysts did not provide favorable prospects for wind power development in Russia. Filatova from BCS noted that the Russian electric power sector currently had more important tasks to do. “The modernization of existing electric power plants is more important now,” she said.

Markaryan from R-Energo also wasn’t very positive. “On the whole, prospects for development are not rosy,” he said. “The share of wind plants is not expected to reach the symbolic 1% in the country’s energy balance in the near future,” he said. But there are prospects for wind power plants on isolated territories, he added. If the necessary regulatory decisions are made and the possibility of projects’ recoupment is provided, then the wind power industry will develop in Russia, Konuzin from A’lemar said. (30.2421 rubles – U.S. \$1)

**The share of wind plants is not expected to reach the symbolic 1% in the country’s energy balance in the near future, an expert said**

**The modernization of existing electric power plants is more important than wind power development now, an analyst said**

## Industry Politics

### Putin backs EdF project to integrate innovations in Russian power

Russian Prime Minister Vladimir Putin on Monday backed a project of French electric power utility Electricite de France (EdF) to create a company in Russia to integrate innovations into the power industry, saying it was promising, RIA Novosti reported.

EdF plans to set up a special company to integrate innovations and modern technologies in the sphere of managing electric power facilities' operations, Putin said at a meeting of the government commission on foreign investments. The company is expected to receive all the assets of Tomsk Distribution Company into management, Putin said.

In mid-June, Russian power utility IDGC Holding signed the final agreement to transfer the management of Tomsk Distribution Company to Electricite Reseau Distribution France (ERDF), 100%-owned by EdF.

Russia is interested in large foreign companies entering the Russian electric power sector and bringing their advanced technologies, modern management systems, education and research programs, Putin said.

### Russian government may include funds for green energy development in tariffs

The Russian government has decided not to finance the development of "green energy" from the budget, but to include investments in power tariffs for consumers, RBC Daily reported Tuesday citing a source close to a working group at the Energy Ministry.

The working group has decided to distribute donations for the creation of power facilities operating on renewable energy sources between all the participants of the wholesale power market. As calculated by the working group, a total of around U.S. \$50 billion is necessary to increase the share of renewable energy sources in the power sector to 4.5% by 2020 from around 1% currently. If this program is fully implemented, it is expected to lead to a maximum growth of less than 6% in the wholesale sector. For end consumers, the price of 1 kilowatt of power is expected to increase by no more than 0.018 rubles, the daily said. Thus a return on investments in green energy facilities is likely to be made after their construction. Such a mark-up on power tariffs may appear in 2013; the tariffs for 2012 have already been set and are unlikely to be changed in the pre-election year, the source said.



A great deal of attention to renewable energy development was earlier paid by hydropower company RusHydro; other state companies, for instance, power engineering company Atomenergomash, also have plans for green energy development. RusHydro owns geothermal energy facilities in the Kamchatka Region and implements a number of projects to build small hydropower facilities in the Caucasus. However, the company on numerous occasions claimed that the large-scale development of "green energy" in Russia is not possible without economic stimulus ensuring the projects' profitability.

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According to the Energy Forecasting Agency, power consumption in Russia is projected at 1.111 trillion kilowatt-hours (kWh) in 2013. In this case, the combined income of power facilities operating on renewable energy sources, if the share of renewable energy sources is increased to 4.5% in 2013, which is unlikely, is to amount to around 20 billion rubles per year and increase proportionally to growth of power consumption.

Mikhail Rasstrigin, an analyst at VTB Capital, believes it is more feasible to spend the funds on the modernization of existing power facilities in Russia.

(30.8255 rubles – U.S. \$1)

### Russian government to provide 5 billion ruble energy efficiency subsidies

The Russian government has ruled to provide 5.3 billion rubles to regions in 2011 to co-finance their spending on programs aimed at energy saving and increasing energy efficiency, according to a government ruling seen by PRIME on Tuesday. Under the ruling, the biggest subsidies of 500 million rubles are to be allocated to the Primorsky and Krasnoyarsk regions.

### Minister sees \$120 billion spent on Russian power grids over next 10 years

Investments in the development of electric power grids in Russia may amount to U.S. \$100 billion–\$120 billion over the next 10 years, Russian Energy Minister Sergei Shmatko said Monday, RIA Novosti reported.

The minister said that the Russian power system required a complete overhaul. The current state of the Russian electric power grid complex raises concerns due to its high level of worn-out equipment, estimated by experts at around 70%, which leads to power losses in grids and disruptions of power supplies.

The government earlier introduced the RAB, or regulatory asset base, system of tariff calculation for grid companies that was to help attract funds for modernization, but is constantly changing tariff decisions for grid companies making them lower their investment programs.

### Regulator still opposes Gazprom, Renova merging power assets

Russia's Federal Antimonopoly Service (FAS) is still opposing a proposed merger of the power assets of gas giant Gazprom and businessman Viktor Vekselberg's multi-industry holding Renova Group, the service's Director Igor Artemyev told reporters on Thursday. In July, Gazprom and Renova Group signed a memorandum of understanding to merge their power assets around Gazprom Energoholding, which manages Gazprom's power assets.

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Gazprom is expected to have no more than a 75% minus one share stake in the joint venture, while Renova Group is expected to have at least a 25% plus one share stake. In early October, Gazprom and Renova filed an application with the antimonopoly service. The merger was slated to be completed by the end of this year.

“In its current form we will certainly never support this deal,” Artemyev said. The service is likely to either prohibit Gazprom from making such a deal or instruct it to sell some of its other energy assets to ensure fair competition, he said.

Gazprom Energoholding holds a controlling stake in power producers Wholesale Generating Company-2 (WGC-2) and WGC-6, which are currently in the process of a merger with Territorial Generating Company-1 (TGC-1), Mosenergo and a number of power sales companies. Power utility Integrated Energy Systems (IES Holding), part of Renova Group, holds major stakes in power producers TGC-5, TGC-6, TGC-7, and TGC-9, as well in power sales companies in the Urals and Volga federal districts.

Artemyev said in July that the proposed merger was “undesirable” in terms of antimonopoly legislation.

### Official sees power deficit in Moscow Region eliminated by 2016

The deficit of electric power facilities in the Moscow Region is expected to be fully eliminated by 2016 when a second power ring around Moscow is built, Tsyren Tsagadayev, director of the regional fuel and energy committee, said in an interview with the Komsomolskaya Pravda newspaper published on Tuesday.

The 500-kilovolt (kV) second power ring around Moscow is expected to follow the Central Ring Road that is expected to stretch on the Moscow Region territory 50 kilometers away from the Moscow Ring Road. The project implies the construction of substations and reconstruction of existing ones.

There are still some regions in the Moscow Region, for instance the Krasnogorsky and Istrinsky districts, where the power deficit is acute and substations overloaded, Tsagadayev said.

At present, the power complex of the Moscow Region is actively developing unlike in 1992–2005, when no power generating capacities were launched and only one substation was built, Tsagadayev said.

A total of 35 power facilities were launched in the Moscow Region in 2006–2010, Tsagadayev said, adding that another 15–20 substations were expected to be reconstructed or expanded in the next couple of years.

### Official says 3.5 billion rubles spent to ready Moscow Region grids for winter

Over 3.5 billion rubles has been spent to prepare around 92,000 kilometers of electric power grids in the Moscow Region for winter and the start of the heating season, Dmitry Airapetyants, deputy chairman of the regional fuel and energy committee, said on Thursday, as cited by RIA Novosti.

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Specifically, the United Moscow Power Grid Company (MOESK) spent 2.95 billion rubles on repairs, while the Moscow Region Power Grid Company spent over 600 million rubles.

In December 2010, power supplies in the Moscow Region were seriously disrupted by freezing rain, which led to power transmission lines freezing.

(30.5732 rubles – U.S. \$1)

### CEO: Russia ready to finance up to 100% of Belene nuke project

Russia is ready to finance up to 100% of the cost of a project to build the Belene nuclear power plant in Bulgaria, Sergei Kiriyenko, head of Russian nuclear power corporation Rosatom, said at a forum on Tuesday, RIA Novosti reported.

“We are ready to invest our own funds in the project – as much as the Bulgarian government considers to be necessary – 100%, 51%, 49%,” Kiriyenko said, adding that this was a unique offer and that Rosatom could build the plant very quickly.

Bulgaria wants Russia to fully finance the project and seeks to retain a 51% stake in the plant, Kiriyenko also said. “We have now developed such an offer, which will allow this to be done,” he said.

However, he noted that Russia’s financial offer over the project was not unlimited in time. “We are convinced that the project is profitable and efficient, and are ready to invest our own funds in it. Another question is that we will invest funds until the project is profitable,” Kiriyenko said. If a decision on building the plant is delayed, the efficiency of the project may become less evident, he said.

Kiriyenko also said that Russian companies were continuing to produce equipment for the Belene project and technical documentation was also being prepared.

Russian power engineering company Atomstroyexport, part of Rosatom, signed a contract in 2008 to build the Belene plant, but construction has been delayed by the two countries due to a dispute over the cost of the project, among other reasons.



### Russia, India may revise nuclear power plant launch schedule

Russian and Indian nuclear power companies may hold talks to revise the schedule of launching the first stage of the Kudankulam nuclear plant due to protests among the population, Alexander Glukhov, CEO of Russian nuclear power engineering company Atomstroyexport, told reporters on Tuesday, as cited by RIA Novosti.

Atomstroyexport, a unit of Russian nuclear power corporation Rosatom, has been building the Kudankulam plant in the southern state of Tamil Nadu under a contract signed in 1988.

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Rosatom said earlier the first unit of the power plant was to be launched by the end of this year, while the launch of the second unit was expected in January–June 2012.

Protests against the launch of the power plant started already in September. Protesters say that nuclear power is not safe and may threaten the lives of people living nearby if an accident occurs.

### Russia, Bangladesh may ink deal on nuke plant by year-end

Russia and Bangladesh may sign an intergovernmental agreement on the construction of a nuclear power plant by the end of 2011, Alexander Glukhov, CEO of Russian nuclear engineering company Atomstroyexport, part of nuclear power corporation Rosatom, told reporters on Tuesday, as cited by RIA Novosti.

At present, the sides are trying to agree on the contract for pre-design work at the construction site, Glukhov said.

The power plant, consisting of two power units with a capacity of 1,000 megawatts (MW) each, is to be the first nuclear power plant in Bangladesh and is to help cover the electric power deficit in the country. The cost of the project is reportedly estimated at U.S. \$2 billion.

### Russia, Vietnam agree on loan for nuclear plant construction

The governments of Russia and Vietnam have agreed on Russia's loan for the construction of a nuclear power plant in Vietnam, Alexander Glukhov, CEO of Russian nuclear engineering company Atomstroyexport, part of nuclear corporation Rosatom, told reporters on Tuesday, as cited by RIA Novosti.

"I know that the Russian Finance Ministry had completed agreeing over a loan for the nuclear power plant with its Vietnamese partners," Glukhov said. "The start of real work at the (construction) site is slated for January–June 2012, the financing will start after real (construction) work begins," he also said.

Glukhov did not provide any details about the loan, but Vietnamese state media reported earlier that Vietnam was negotiating to borrow around U.S. \$7.7 billion from Russia for the construction of its first nuclear power plant, the Ninh Thuan 1 plant in southern Vietnam.

An intergovernmental agreement on the loan from Russia for the construction of the nuclear power plant in Vietnam is expected to be signed by the end of 2011, a spokesperson for Rosatom said Wednesday, as cited by RIA Novosti. "The document is currently being considered by Russia's Finance Ministry," the spokesperson said.

Construction of the plant is scheduled to begin in 2014. It is expected to be operational from 2020.

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## Industry Politics

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### Russia, Iceland agree to jointly develop geothermal energy

Russian Energy Minister Sergei Shmatko and Katrin Juliusdottir, Iceland's minister of industry, energy, and tourism, on Monday signed an intergovernmental agreement on cooperation in the sphere of geothermal energy, RIA Novosti reported. Under the agreement, the sides plan to build and develop geothermal power facilities.

Specifically, Russia is considering acquiring stakes in Icelandic companies operating in the renewable energy sources sector, as well as implementing joint projects in Russia's Kamchatka Region.

Geothermal energetics utilizes the Earth's heat, for instance, geysers and volcanoes.

Russia's first geothermal power plant was launched in 1966 in the Kamchatka Region and currently has a capacity of 12 megawatts (MW). Additional geothermal power plants are to begin operating in the region, namely the Mutnovskaya and the Verkhneye-Mutnovskaya geothermal plants with capacities of 62 MW and 12 MW, respectively.

## Mergers and Acquisitions

### CEO: Russian government may sell 8% in RusHydro to large holders

The Russian government could sell a 7.97% stake in hydropower company RusHydro to the company's other large shareholders, the company's CEO Yevgeny Dod told reporters on Monday, as cited by RIA Novosti.

The government, which currently holds 57.9% in RusHydro, earlier announced plans to sell 7.97% minus one share in the company in 2011–2013. Russian Deputy Prime Minister Igor Sechin said in late June that the government could sell the stake within a year.

"We have constructive relations with large shareholders. If there are constructive proposals, I think, shareholders could join the deal," Dod said.

RusHydro is the largest power producer in Russia, with the combined installed capacity of its power facilities amounting to 26.1 gigawatts (GW).

Information about RusHydro's other shareholders was not immediately available.

### RusHydro buys 100% in Pavlodolskaya hydro plant in North Ossetia

Russian hydropower company RusHydro acquired a 100% stake in the Pavlodolskaya hydropower plant in the constituent republic of North Ossetia-Alania, the company said in a report Tuesday, as cited by RIA Novosti.



In mid-2011, RusHydro shareholders approved offering 89 billion additional shares. The company said then that it expected the additional shares to be paid for both with cash and shares in several companies, including the Pavlodolskaya hydropower plant.

The Pavlodolskaya hydropower plant is located on the Terek River and has a capacity of 2.64 megawatts (MW). Previously, the power plant was owned by the Federal State Property Management Agency.

RusHydro also said it had acquired stakes in several more power facilities, specifically, 98.7% in power utility Kolymaenergo, 35.3% in the Ust-Srednekamskaya hydropower plant, 92.7% in Geoterm, and 96.58% in KamGEK.

### Atomenergomash mulls buying more Czech assets

Russian power engineering company Atomenergomash is considering acquiring more assets in the Czech Republic, Atomenergomash CEO Vladimir Kashchenko said Tuesday, as cited by RIA Novosti. "We are considering the possibilities of acquiring new assets in the Czech Republic. It is too early to talk about any specific companies," Kashchenko said. At present, Atomenergomash holds two Czech companies - Arako and Chladici Veze Praha. Atomenergomash is part of Russian nuclear power corporation Rosatom.

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## Mergers and Acquisitions

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### RAO ES Vostoka ups stake in Sakhalin Energy Company to 17%

Russian power utility RAO ES Vostoka has increased its stake in Sakhalin Energy Company to 17.27% from 10.26% previously, RAO ES Vostoka said on Friday, RIA Novosti reported.

The company increased the stake during Sakhalin Energy Company's additional share offering.

Sakhalin Energy Company focuses on engineering and technical design in industrial production and construction. The company's current priority projects include the construction of a fourth power unit at the Yuzhno-Sakhalinskaya TETs-1 thermal power plant and the construction and reconstruction of electric power grids in the Sakhalin Region.

RAO ES Vostoka was set up in July 2008 following the reorganization of former electric power holding UES. The company supplies electric power and heat in Russia's Far East. The company's power plants have a combined installed electric power capacity of 8,735 megawatts.

### Little-known company acquires 9.4% in WGC-6

Little-known company Eurofert Trading Limited has acquired a 9.37% stake in Russian power producer Wholesale Generating Company-6 (WGC-6), according to WGC-6's documents, RIA Novosti reported on Wednesday.

WGC-6 declined to comment on the deal.

In October 2010, Eurofert Trading Limited provided a 6 billion ruble 5-year loan to WGC-6 at an annual interest rate of 8.4%.

WGC-6, or OGK-6, owns and operates the Kirishi GRES, Novocherkassk GRES, Krasnoyarsk GRES-2, Ryazan GRES, GRES-24, and Cherepovets GRES power plants. The company is expected to be merged into WGC-2 by the end of 2011. Both WGC-2 and WGC-6 are controlled by Gazprom Energoholding, which manages gas giant Gazprom's power assets. (30.4971 rubles – U.S. \$1)

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## Technology & Construction

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### Rusnano sees nanotechnology energy efficient products at 56 billion rubles in 2015

The total volume of nanotechnology energy efficiency products created with the participation of Russian state-owned nanotechnology company Rusnano is projected to exceed 56 billion rubles by 2015, Rusnano CEO Anatoly Chubais said at a forum Wednesday, as cited by RIA Novosti.

As an example of such projects, Chubais mentioned Liotekh's project to produce rechargeable lithium-ion cells for electric vehicles. Liotekh is a joint venture of Rusnano and international holding Thunder Sky Group, which focuses on the mass production of high-capacity accumulator batteries for electric transport and energy storage units. Investments in the construction of a facility to produce lithium-ion cells in the Novosibirsk Region amount to almost 12 billion rubles.

(30.4971 rubles – U.S. \$1)

### RusHydro agrees to cooperate with two South Korean companies

Russian hydropower company RusHydro plans to cooperate with South Korean companies Hyundai Heavy Industries and Korea Electric Power Corporation (KEPCO) in the renewable energy field, the Russian company said Thursday, RIA Novosti reported.

In particular, the companies agreed to cooperate in the hydro power and renewable energy resources field, as well as in the construction of energy generating objects in Russia and abroad.

The value of the projects was not provided.

Hyundai Heavy Industries is a multiprofile concern holding comprising six production units operating in the shipbuilding, designing, and electric system fields, among others.

KEPCO is the largest power generating company in South Korea producing 87% of electric power in the country.

RusHydro is the largest power generating company in Russia in terms of installed capacity. It is also the leader in power production using renewable energy sources, developing power generation via water flows, tidal, wind and geo-thermal energy. The company's installed capacity amounts to 26.1 giga-watt (GW).

### RusHydro to spend 1 billion rubles on replacing Saratov plant turbines

Russian hydropower company RusHydro plans to spend more than 1 billion rubles to install and replace 21 turbines and one unit at the Saratov hydropower plant by the end of 2025, the company's press office said Thursday, as cited by RIA Novosti.

## Technology & Construction

The turbines are expected to be produced by Austria's Voith Hydro GmbH & Co, which concluded a contract on the production in June.

The launch of the first renewed turbine worth over 50 million euros (or more than 2 billion rubles) is slated for 2015.

The replacement is expected to increase the plant's turbines' capacity to 68 megawatts (MW) from 60 MW and is also to increase the plant safety and reliability of the plant's operations.

The Saratov hydropower plant has 24 hydropower units with a combined capacity of 1,360 megawatts. The plant's average annual power output amounts to 5.4 billion kilowatt-hours (kWh).

(30.5732 rubles – U.S. \$1)



### FGC UES launches Krasnoyarsk substation after two billion ruble upgrade

Russia's Federal Grid Company of Unified Energy Systems (FGC UES) has launched the 220-kilovolt (kV) Kisk substation in the city of Krasnoyarsk following an update worth 2 billion rubles, the company said in a statement Wednesday, as cited by RIA Novosti.

As a result of the upgrade, which started in the second half of 2009, the substation's capacity was increased to 400 megavolt-amperes (MVA) from 126 MVA previously.

FGC UES manages Russia's electric power grid, provides services related to the electric power wholesale market, and carries out investment programs to develop the electric power grid. (30.4971 rubles – U.S. \$1)

### Irkutskenergo launches 1.2 billion ruble heating pipe in Angarsk

Russian power utility Irkutskenergo on Friday launched a 1.2 billion ruble heating pipeline in the Siberian city of Angarsk, the company said in a statement.

The heating pipeline, stretching from the TETs-9 thermal plant's main block to the TETs-10 plant's heating pipeline, is expected to increase the efficiency of the TETs-9 plant by increasing heat-extraction mode at the plant and lifting current limitations on power production at the plant. The heating pipeline is currently used for thermal power supplies to citizens of Angarsk. (30.2421 rubles – U.S. \$1)

### US' GE supplies two turbines to Russia's Sakhalin thermal plant

U.S. engineering company General Electric (GE) has supplied two gas turbines to the Yuzhno-Sakhalinskaya TETs-1 thermal power plant on Russia's Sakhalin Island, a spokesperson for power utility Sakhalinenergo said, RIA Novosti reported on Monday.

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## Technology & Construction

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The gas turbines, with a combined capacity of 91.2 megawatts (MW), are expected to be used in the construction of the power plant's fifth unit. The project is aimed at eliminating the absence of required reserve capacity on Sakhalin Island.

The project is estimated to cost 2.7 billion rubles and is to be financed by state-controlled power utility RAO ES Vostoka, Sakhalinenergo's parent company

(31.3361 rubles – U.S. \$1)

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## Financial & Operating Results

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### Rosatom seeks 20% share of global nuclear plant market in 20 years

Russian nuclear power corporation Rosatom plans to obtain at least 20% of the global market of nuclear power plant construction within the next 20 years, the company's CEO Sergei Kiriyenko said at a forum on Tuesday, RIA Novosti reported.

The International Atomic Energy Agency recently estimated the volume of the global market of nuclear power plant construction at 350 power units.

Rosatom plans to build 70–80 nuclear power units in the next 20 years, Kiriyenko said. Around half of these are expected to be built in Russia, while the remaining half are to be built abroad, Kiriyenko said.

Rosatom's current order portfolio comprises 29 nuclear power units. Of the total, 10 are currently being built in Russia, 12 are at various stages of construction abroad, and contracts have been signed on the remaining seven units, Kiriyenko also said.

### Rosatom may pull out of non-core innovative projects

Russian nuclear power corporation Rosatom may pull out of non-core innovative projects in the future, the company's Deputy CEO Kirill Komarov said Thursday, as cited by RIA Novosti.

At present, Rosatom is involved in a number of innovative projects, where it has a non-controlling stake, Komarov said. Specifically, Rosatom holds only 33% in a project to produce automobile catalysts in the city of Novouralsk, which is to be implemented jointly with nanotechnology company Rusnano and one more investor, he said. He also said he believed Rosatom would become the leader in a number of innovative projects. As an example of such projects, Komarov mentioned a project to set up production of cathode materials for lithium-ion accumulators around the Novosibirsk Chemical Concentrates Plant.

Rosatom is interested in wholly using production sites, for instance, to gradually remove nuclear fuel production from the Novosibirsk plant to other facilities and develop some new products at this plant, Komarov said.

Under Rosatom's development strategy, the production of newly-developed products should give at least 25% of its revenue by 2030. (30.5732 rubles – U.S. \$1)

### Executive: Russian–Kazakh uranium center in Novouralsk to start operations in 2012

A Russian–Kazakh center for uranium enrichment in Russia's Sverdlovsk Region's city of Novouralsk is expected to start operating in 2012, Sergei Kiriyenko, CEO of Russian nuclear power corporation Rosatom, said on Friday, RIA Novosti reported.

Kazakh state-owned nuclear company Kazatomprom agreed already in mid-2010 to acquire an unspecified stake in Novouralsk-based Ural Electrochemical Plant to implement a joint uranium enrichment project.

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## Financial & Operating Results

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Kazakh companies are expected to participate in the operations of the Ural Electrochemical Plant and get access to enriched uranium, while in exchange, Russia is to receive access to the cheapest and most profitable uranium fields in the world, Kiriyyenko said.

Russia and Kazakhstan already operate a uranium enrichment center in the Irkutsk region city of Angarsk.

### Rosatom unit signs 15 deals with Czech power equipment makers

Rosatom Overseas, a unit of Russian nuclear power corporation Rosatom, on Tuesday signed 15 cooperation agreements with Czech producers of equipment and providers of services for the nuclear power industry, RIA Novosti reported.

These deals define the main terms of long-term cooperation in production and installation of equipment and construction of nuclear power plants with reactors of Russian design.

### Rosatom ready to take part in uranium project in Czech Republic

Russian nuclear power corporation Rosatom is ready to take part in projects to mine uranium in the Czech Republic, the company's CEO Sergei Kiriyyenko told reporters late on Monday, as cited by RIA Novosti.

Rosatom is actively operating in various countries and has made large investments in uranium mining in Russia, Kazakhstan, Australia, the U.S., and Tanzania, Kiriyyenko said. "That's why if our Czech partners are interested in our participation in projects to mine uranium in the Czech Republic, we are ready to consider such proposals," Kiriyyenko said. He added that the volume of uranium resources in the Czech Republic was feasible for Rosatom.

### Czech-Russian Arako in deal with Enel's Slovak nuclear power plant

Arako spol. sro, a Czech-based unit of Russian machinery division OJSC Atomenergomash of state-owned nuclear engineering company Rosatom, said Tuesday it had secured a contract to supply components to the Slovak Mochovce nuclear power plant of Italy's Enel SpA, Dow Jones Newswires reported.

"The total value of goods that we're supplying to Mochovce exceeds EUR20 million," said Rovan Abbasov, Arako's general director.

Enel is currently expanding the Mochovce nuclear plant, operated by its Slovak unit Slovenske Elektrarny AS.

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The announcement came at a Rosatom-sponsored conference in Prague at which Rosatom is seeking to attract Czech subcontractors to its nuclear power plant projects, based on the Russian VVER nuclear reactor design, in third countries.

Arako, based in the north-eastern Czech town of Opava, is a maker of industrial valves and high-pressure valve fittings used in energy and nuclear power engineering.

Rosatom is one of three bidders that the Czechs have invited into the final round of their \$25 billion tender to build up to five new reactors at power plants in the Czech Republic and Slovakia.

Czech 70% state-owned power company CEZ AS will release the final, binding terms and parameters of the tender by the end of this month.

The other bidders are French state-owned Areva SA and Westinghouse Electric Co., a unit of Japan's Toshiba.

### RusHydro to up investments in innovations to 5 billion rubles in 2012

Russian hydropower company RusHydro plans to increase the size of the fund of its center for science and technology, created for financing innovative research, to 5 billion rubles in 2012 from 3.5 billion rubles currently, RusHydro Deputy CEO George Rizhinashvili said Thursday, RIA Novosti reported.

Financing for the center is expected to be included into the company's investment program, he said, adding that RusHydro planned to approve its investment program for 2012-2014 in January-June 2012.

In 2011, the company's investment program amounted to 100 billion rubles.

RusHydro Deputy CEO Rakhmetulla Alzhanov said earlier on Thursday that the company planned to cut its investment program for 2012 to around 70 billion rubles from 112 billion rubles planned initially.

(30.5732 rubles – U.S. \$1)



### RusHydro to revise RAO ES Vostoka 2012 investment plan soon

Russian hydropower company RusHydro plans to revise the investment program of power utility RAO ES Vostoka for 2012 sometime in January-March 2012, RusHydro Deputy CEO George Rizhinashvili told reporters on Monday, as cited by RIA Novosti.

RusHydro plans to optimize the investment program, Rizhinashvili said, adding that the optimization did not necessarily imply a reduction.

In mid-2011, RusHydro shareholders approved offering 89 billion additional shares.

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The company said then that it expected the additional shares to be paid with both cash and shares in several companies, including RAO ES Vostoka. Earlier in October, the Federal Antimonopoly Service (FAS) cleared RusHydro to acquire over 75% of voting shares in RAO ES Vostoka.

In October, RAO ES Vostoka's board of directors approved a revised investment program for 2011 at 7.85 billion rubles.

RAO ES Vostoka was set up in July 2008 following the reorganization of former electric power holding UES. The company supplies electric power and heat in Russia's Far East. The company's power plants have a combined installed electric power capacity of 8,735 megawatts.

The Russian government currently holds 52.7% in RAO ES Vostoka's charter capital. (31.3361 rubles – U.S. \$1)

### RusHydro to cut 2012 investment program by 38%

Russian hydropower company RusHydro plans to cut its investment program for 2012 to around 70 billion rubles from 112 billion rubles planned initially, the company's Deputy CEO Rakhmetulla Alzhanov told reporters on Thursday, as cited by RIA Novosti.

He also said the company expected its investment program to be approved by the Energy Ministry in the near future. He said the revision of the investment program was connected with the government's decision to curb the growth of power tariffs.

RusHydro also plans to spend over 2 billion rubles on repairs in 2012, flat on the year, Alzhanov also said.

The company's complex modernization program is estimated at over 450 billion rubles in 2012–2025, he also said. (30.5732 rubles – U.S. \$1)

### FGC UES to up investments in research and development 67% on year in 2012

Russia's Federal Grid Company of Unified Energy Systems (FGC UES) plans to spend 5 billion rubles on research and development projects in 2012, up around 67% on the year, the company's Chairman Ernesto Ferlenghi said late on Wednesday, RIA Novosti reported.

By 2014, the company's investments in research and development are projected to amount to 13 billion rubles, he also said.

FGC UES manages Russia's electric power grid, provides services related to the electric power wholesale market, and carries out investment programs to develop the electric power grid. (30.5732 rubles – U.S. \$1)

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### Gazprom mulls taking part in power projects in Japan

Russian gas giant Gazprom is considering taking part in electric power projects in Japan and has discussed the issue with a number of Japanese companies, Gazprom said in a statement Thursday.

Specifically, Gazprom Deputy CEO Alexander Medvedev held meetings with leaders of Japanese companies Mitsui, Mitsubishi, and Tokyo Electric Power Company (TEPCO). The sides discussed the prospects of Russian-Japanese cooperation in the energy sector, paying special attention to gas supplies to Japan as part of the Sakhalin-2 oil and gas project and to Gazprom's possible participation in electric power projects in Japan.

Japan currently holds fourth place in the world in terms of electric power consumption, but has almost no energy resources of its own. Japan imports 100% of the gas it consumes in the form of liquefied natural gas (LNG) making it the world's largest LNG importer.

TEPCO focuses on the construction and exploitation of electric power plants, providing housing and utilities services, investing in the power sector abroad.

Mitsui focuses on the development, purchase and sale, distribution, and processing of all kinds of energy products in Japan and abroad, as well as on financial operations. Mitsui holds 12.5% in Sakhalin Energy, the operator of the Sakhalin-2 project. Gazprom holds 50% plus one share in the project, while U.K.-registered petroleum company Royal Dutch Shell holds 27.5%, and Mitsubishi holds 10.0%.

Mitsubishi Corporation focuses on production and sales of various types of products, from textile products to cars and equipment; providing management support for the development of innovative types of business; attracting modern technologies and capital for the implementation of projects; and coordinating actions during the implementation of projects.

### Fortum fulfills 60% of investment program in Russia until 2014

Finnish energy producer Fortum has so far spent around 1.5 billion euros out of its 2.5 billion euro investment program in Russia until 2014, the company's President Tapio Kuula said at a forum on Tuesday, RIA Novosti reported.

The program is assigned for eight power plants in Russia, Kuula said, adding that the company planned to fully fulfill its investment obligations.

Fortum plans to invest a total of around 4 billion euros in the Russian electric power sector by the end of 2014, including in buying stakes in Russian companies, Kuula also said. These figures include the company's 2.5 billion euro investment program until 2014.

The company's further plans in Russia depend on the results of the implementation of its investment program, Kuula said.

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Fortum has a number of assets in Russia and other countries. It controls Russian power producer Fortum, previously known as Territorial Generating Company-10 (TGC-10), which operates power plants in the Tyumen and Chelyabinsk regions and in the Khanty-Mansi Autonomous District.

### Irkutsk Power Grid Company, RUSAL ink 154 billion ruble power supply agreement

Russia's Irkutsk Power Grid Company has signed an agreement worth 154 billion rubles on electric power supplies to Russian aluminum giant RUSAL until 2018, the power company said in statements its Web site on Tuesday.

Irkutsk Power Grid Company provides power transmission services in the Irkutsk Region. The company was set up based on power producer Irkutskenergo's power grid branches. (30.8255 rubles – U.S. \$1)

### IDGC Holding IFRS net profit up 51% on year in January–June

The net profit of Russia's IDGC Holding increased 50.8% on the year to 26.1 billion rubles in January–June, as calculated under International Financial Reporting Standards (IFRS), the company said in a report Wednesday, as cited by RIA Novosti.

Revenue rose 18.3% on the year to 322.3 billion rubles in this period, while earnings before interest, taxes, depreciation, and amortization (EBITDA) were up 32.0% to 66.9 billion rubles, the holding said.

The holding attributed the increase in the net profit to the fact that the company's revenue grew at a higher pace than operating expenditures in this period, among other factors. The increase in revenue was explained by higher power output and higher power transmission tariffs.

IDGC Holding's total assets rose 3.1% in January–June to 791.9 million rubles as of June 30. Established on July 1, 2008, as part of electric power holding UES' reorganization, IDGC Holding holds stakes in Russian electric power distribution companies. (30.4971 rubles – U.S. \$1)

### E.ON Russia power output up 12% on year in January–September

Russian power producer E.ON Russia, previously known as Wholesale Generating Company-4 (WGC-4), produced 44.919 billion kilowatt-hours (kWh) of electric power in January–September, up 12% on the year, the company said in a press release Monday, RIA Novosti reported.

Electric power sales were at 46.736 billion kWh in this period, up 10% on the year, the company also said.

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E.ON Russia attributed the growth of electric power output to the launch of capacities implied by its investment program and the modernization of existing equipment.

Thermal power sales were at 1.154 million gigacalories in January–September, down 14% on the year, the company also said attributing the decline to higher temperatures compared to the same period in 2010.

German utility E.ON holds 78.3% in E.ON Russia, which changed its name in June.

### Northwest IDGC swings to RAS net profit in January–September

Russia's Northwest Interregional Distribution Grid Company (Northwest IDGC) posted a net profit of 1.33 billion rubles in January–September against a net loss of 289.8 million rubles in the same period in 2010, as calculated under Russian Accounting Standards (RAS), according to the company's documents seen Wednesday, RIA Novosti reported.



Revenue increased 17.3% on the year to 22.77 billion rubles in January–September.

In late September, the board of directors of Northwest IDGC approved cutting the forecast for its 2011 net profit under RAS by 87.0% from the previous estimate to 166.0 million rubles.

In 2010, the company had a net loss of 807.0 million rubles.

Northwest IDGC also revised its forecast for 2011 revenue to 31.37 billion rubles from 33.6 billion rubles previously.

Northwest IDGC focuses on power transmission in Russia's Northwest Federal District. (30.4971 rubles – U.S. \$1)

### Far East Generating Company power output up 12% on year in January-September

Russia's Far Eastern Generating Company produced almost 15.5 billion kilowatt-hours (kWh) of electric power in January–September, up 12.2% on the year, the company said Wednesday, as cited by RIA Novosti.

The company attributed the growth to higher power consumption, among other reasons. Thermal power output dropped 2.26% on the year to around 14.3 million gigacalories in January–September, the company also said.

Far Eastern Generating Company produces electric power in Russia's Far East and is 100% owned by state-controlled Far Eastern Energy Company.

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### WGC-3 holders to mull gas supply deals with Novatek on December 8

An extraordinary general meeting (EGM) of shareholders of Russian power producer Wholesale Generating Company-3 (WGC-3) is expected to consider gas supply deals with independent gas producer Novatek at a meeting on December 8, the company said in a report Friday, as cited by RIA Novosti.

Ilnar Mirsiyapov, a member of the company's management board, said earlier in October that WGC-3 could switch most of its power plants to operating on natural gas produced by Novatek in 2012. The Kostroma GRES is scheduled to continue operating on gas giant Gazprom gas, with a decision on its transfer to Novatek gas coming sometime in 2013, Mirsiyapov said then.

The board of directors recommended that WGC-3's shareholders approve deals on supplies of Novatek gas to WGC-3's Kostroma GRES, Pechora GRES, and Yuzhnouralskaya GRES power plants, WGC-3 said.

In addition to the three plants, WGC-3 operates the Cherepetskaya GRES, Gusinoozyorskaya GRES, and Kharanorskaya GRES power plants.

WGC-1, which is part of Inter RAO UES along with WGC-3, was earlier switched to operating on Novatek gas.

### TGC-1 power output up 5% in January–September

The electric power output of Russian power producer Territorial Generating Company-1 (TGC-1) rose 5% on the year to 20.72 billion kilowatt-hours (kWh) in January–September, the company said in a statement on Thursday.

TGC-1 attributed the growth to the launch of more efficient power units at the Yuzhnaya and Pervomaiskaya thermal power plants in April–June.

Thermal power output fell 4.5% on the year to 18.28 million gigacalories in this period, the company said, attributing the decrease to warmer temperatures.

TGC-1 owns power plants in St. Petersburg and the constituent republic of Karelia, as well as in the Leningrad and Murmansk regions.

### TGC-2 RAS net loss widens in January–September

The net loss of Russian power producer Territorial Generating Company-2 (TGC-2) widened to 697 million rubles in January–September from 267 million rubles in the same period in 2010, as calculated under Russian Accounting Standards (RAS), according to the company's statement seen by RIA Novosti Thursday.

The company attributed the increased loss in January–September to the fact that the loss for the same period in 2010 included incomes for 2009 amounting to 298 million rubles. Moreover, the company said that it traditionally incurs losses in the period of April through September due to reduced revenue and increased expenses on maintenance operations to prepare equipment for the coming heating season.

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TGC-2 operates electric power plants in the Arkhangelsk, Vologda, Kostroma, Novgorod, Tver, and Yaroslavl regions with a combined installed electric power capacity of 2,531 MW. (30.5732 rubles – U.S. \$1)

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### RusHydro may take out 8 billion ruble loan from EBRD

Russian hydropower company RusHydro may take out an 8 billion ruble loan from the European Bank for Reconstruction and Development (EBRD), the bank said in a statement late Thursday, RIA Novosti reported.

The EBRD is currently studying the issue, it said without providing any terms of the proposed loan.

If the loan is provided, RusHydro is expected to use the funds to finance the optimization of power utility RAO ES Vostoka's balance by refinancing its current short-term liabilities.

The Federal Antimonopoly Service recently cleared RusHydro to buy 75% in RAO ES Vostoka. In mid-2011, RusHydro shareholders approved offering 89 billion additional shares. The company said then that it expected the additional shares to be paid with both cash and shares in several companies, including RAO ES Vostoka.

Providing the loan to RusHydro would allow the EBRD to cooperate with the company in restructuring the Russian Far Eastern power system and help complete reforms in the Russian electric power sector, the bank also said.

(30.2421 rubles – U.S. \$1)



### Atomenergomash holders to mull extra share offering on November 11

An extraordinary general meeting (EGM) of shareholders of Russian power engineering company Atomenergomash is slated to consider privately offering additional shares at a meeting on November 11, the company said in a report Friday, as cited by RIA Novosti.

The size and terms of the share offering were not specified.

Atomenergomash's charter capital is currently split into 526,500 common shares with a face value of 1 ruble each. According to the documents placed on the company's Web site, the company has the right to offer 99.6 million additional shares. Atomenergomash is part of Russian nuclear power corporation Rosatom.

(30.2421 rubles – U.S. \$1)

### Atomenergoprom places 23% of additional share issue

Russian nuclear power company Atomenergoprom has placed 69.08 million additional shares, accounting for 23.026% of the total additional issue that was due to be placed, the company said in a report Monday, as cited by RIA Novosti.

In February, Atomenergoprom started privately offering 300 million additional shares with a face value of 1,000 rubles each.

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The company plans to spend the funds raised in the offering on financing the investment programs of its subsidiaries.

Atomenergoprom, part of state-owned nuclear power corporation Rosatom, ensures the full cycle of nuclear power production, from uranium mining to the construction of nuclear plants and electric power production. Atomenergoprom holds 79.97% in uranium holding Atomredmetzoloto and 100% stakes in nuclear power companies TVEL and Rosenergoatom Concern. (31.3361 rubles – U.S. \$1)

### FGC UES fully places 10 billion ruble bonds, coupon at 8.75%

Russia's Federal Grid Company of Unified Energy Systems (FGC UES) has fully placed its 15th, 10 billion ruble 12-year bond issue, with the rate of the first coupon set at 8.75%, the company said in a report Thursday, as cited by RIA Novosti.

Major Russian banks Sberbank, Gazprombank, VTB Capital, and Renaissance Capital acted as organizers of the bond offering. Russian investment company Troika Dialog acted as a co-organizer of the offering.

FGC UES said earlier that it planned to offer nine bond issues totaling 125 billion rubles. In July, FGC UES placed its 13th, 10 billion ruble 10-year bond issue and 19th, 20 billion ruble 12-year bond issue. (30.5732 rubles – U.S. \$1)

### WGC-2 to offer 5 billion ruble bonds on November 1 for WGC-6 merger

Russian power producer Wholesale Generating Company-2 (WGC-2) plans to offer its second, 5 billion ruble bond issue on November 1 as part of the process of merging with WGC-6, WGC-2 said in a report Wednesday, as cited by RIA Novosti.

As part of the merger process, WGC-6's first, 5 billion ruble bond issue is expected to be converted into WGC-2's second bond issue. Under earlier announced plans, WGC-6 is expected to merge with WGC-2 by the end of 2011.

During the reorganization, WGC-6 shares are expected to be converted into WGC-2 additional shares at a ratio of 1.2142.

The merged company is projected to be Russia's largest heat generating company, with an installed power capacity of 17,869 megawatts (MW). The synergy effect from the merger is expected at around 7.8 billion rubles in 2011–2015.

(30.4971 rubles – U.S. \$1)

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## Capital Markets & Credit

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