

The end of the Russian electricity sector

and the beginning of a new one

It is the greatest economic reform program ever undertaken in Russia and perhaps in the world: as of July 2008, the massive Russian electricity monopoly will cease to exist. The sector will be broken up, companies privatized, the market liberalized. And this in Russia? Yes, in Russia.

| *by Jeroen Ketting*

The year 2008 will mean the end of an era in the Russian electricity sector. At a time when the Russian government is increasing its control over strategic sectors such as the oil, gas, metals and aviation industries the - no less strategic - electricity sector is undergoing momentous reforms aimed at its liberalization and privatization.

The practical importance of these reforms cannot be underestimated. The Russian electricity sector has suffered from a lack of investments that dates back to the 1980s. During the demise of the Soviet Union, capital and operational expenditure on infrastructure was virtually reduced to zero. The problems of underfinancing were not immediately felt in the 1990s. After the collapse of the Soviet Union, generation capacity still exceeded demand because of a declining GDP

and consequently declining electricity consumption. But from the mid-nineties, with GDP rising, growing consumer spending and strong industrial growth, energy demand started to increase. The energy infrastructure, however, was, and still is, deteriorating. Expansion of generating capacity is not keeping up with demand. And the outlook is gloomy. Almost the entire installed base of generating capacity dates back to Soviet times and will reach the end of its planned lifespan in a matter of years. In fact, in 2002, electricity output was only 75% of what it was in 1990!

The major reason for the problems in the sector is that there were no stimuli to increase efficiency and encourage energy saving, and to manage and plan electricity generation capacity, distribution and consumption more rationally. There was also

a widespread lack of payment discipline which increased the lack of financing.

As a result, the electricity sector fell behind in comparison with its Western analogues in terms of, for example, fuel rate, average efficiency and operating time. Power shortages became a regular occurrence in various regions in Russia. Practically no external investments were forthcoming as the enterprises in the electricity sector were not financially transparent and as the market was closed to new and independent players.

In 2005 the International Energy Agency estimated the need for investment into Russia's generation capacity to be \$157 billion in the next 25 years with another \$200 billion needed for investment into the network. RAO UES estimated in 2003 that 50% of its generating capacity would need replacement in the next 10 years. Considering



Thermal power station in the Moscow suburbs. Photo: Georges de Keerle/Syigma/Corbis

that Russia is the 4th largest electricity generator in the world, it is not hard to imagine what a colossal undertaking it would be to replace 50% of Russia's generating capacity. This prospect of an energy crisis, and major power failures made measures to stimulate efficiency and attract investments inevitable. In order to deal with these problems, a restructuring of the electricity sector was the only solution.

Monopoly |

The birth of Russia's current electricity sector resulted from Lenin's drive to electrify the Soviet Union. During Soviet times and later during the days of the Russian Federation the electricity sector had the form of a vertically integrated monopoly that was controlled by the Government and managed by the Ministry of Energy. In 1992, the company "Unified Energy System of Russia" - or

RAO UES - was established and most of the generation, transmission, distribution and supply assets were transferred to its ownership. As a result RAO UES became responsible for 70% of electricity generation and around 30% of heat generation in Russia, and received under its control 72% of Russia's generating capacity and 96% of the total length of Russia's trunk transmission lines. The company employs over 400,000 people.

Anatoly Chubais, the ceo of RAO UES, devised the first reform plans for Russia's electricity sector as early as 1999. His plans were incorporated in the country's Energy Strategy 2020. This Energy Strategy 2020 was formulated and developed between 2000 and 2003. It aims at defining measures to improve the investment environment, to implement energy price reform, to strengthen the role

and independence of regulatory bodies and to improve energy efficiency. The current reform of Russia's electricity sector is based on these plans.

Starting in 2002, RAO UES has been undergoing a full-scale reorganization. Its primary goals are to enhance the efficiency of the energy sector in general and to create the conditions for the development of the energy sector on the basis of private investments. The reform is undoubtedly the largest and most ambitious ever undertaken in Russia and maybe even in the world, both in terms of the size of the sector being restructured and in terms of the breadth and depth of the changes being made.

The key objectives of the reform are to divide the sector into natural monopolies and private businesses. The

natural monopolies (electricity transmission and distribution) are to be separated from the competitive sector (electricity generation, trade and retail sales) by unbundling generation, distribution and trade activities, bringing the natural monopolies under regulatory supervision and a competitive market will be devised for wholesale generation, trade and energy retail sales companies. The target is to have the structure for this reform in place by July 2008 and to have a fully competitively operating market by the year 2011.

For this new competitive electricity sector to function, an efficient legislative and institutional system for the private market players needs to be created and fair access to the networks owned by the natural monopolies needs to

be guaranteed. Effective and fair government regulation of these natural monopolies is to increase efficiency, reduce cost and make the natural monopolies more profitable and attractive for investors.

Energos |

Before the reforms Russia's electricity sector consisted of 10 nuclear power plants fully owned by the Russian government, 4 independent regional Energos (i.e. vertically integrated electricity utilities) and RAO UES. RAO UES in its turn was 52% owned by the Russian government and 48% owned by various minority shareholders. RAO UES owned or controlled 72 regional energetos (including generation, transmission, distribution and sales), 44 federal power plants and the high voltage grid, grid service and central dispatch.

Thus, in July 2008, the Russian electricity industry, consisting of one monopoly that operates generation, transmission, distribution and supply, will cease to exist. Privatization will not extend to the entire sector. The nuclear power industry will remain 100% government-owned and Russia's hydro-energy company



Anatoly Chubais, Co-Chairman and CEO of RAO UES of the Russian Federation.
Photo: Daniel Berehulak/Getty Images

interregional distribution companies) will exist with majority state ownership. The transmission networks will be overseen by regulatory institutions that guarantee open and non-discriminatory access to the grid for all generators. Fully privatized will be the 6 federal thermal generating companies and the 14 regional generating companies as well as up to 10 generating companies that are independent of UES shareholders. A large number of retail/supply companies and service companies and isolated utilities will fall into the hands of the government and RAO UES shareholders. All RAO UES assets will be liquidated by July 2008 and transferred to the UES shareholders.

Russia may actually succeed in creating a competitive and efficient electricity sector

and 4 independent generating companies will have continued majority state ownership. In addition, a System Operator, a Federal Grid Company and an Interregional Distribution Grid Holding (comprising 11

The wholesale electricity market is being gradually liberalized and full liberalization is foreseen for the year 2011. Prices should become fully liberalized but some form of market regulation with

regard to prices, tariffs and volumes that may be traded are likely to remain in place. Electricity is traded Russia-wide in the electricity spot-market, which is self-regulated by the Administrator of the Trading System (ATS), owned by market participants.

European players |

All in all, the ambitious reform process has all the hallmarks of becoming a success. The Russian government is confident that through a gradual transition process a fully competitive and unregulated electricity market will be a reality by 2011. The reform of Russia's electricity sector seems to be well thought out and properly implemented. The main targets of the reform are likely to be met within the agreed-upon timeframes and as a result, Russia may actually succeed in creating a competitive and efficient electricity sector.

The proof of this success is that the first careful private investors are buying into electricity assets or are considering doing so. Some of the main players in the race for the former RAO UES assets are the Russian companies Gazprom, Lukoil, Integrated Energy Systems, Mechel,

Suek, Rusal, Novatek and Norilsk Nickel. An interesting development in Russia is that large metallurgical companies have a strategy to develop into "energometallurgical" holdings. The main reason is their need to secure the supply of favorably priced electricity. The more prominent European players vying for stakes in Russia's electricity sector are Enel, Fortum, Gaz de France and Eon.

Nevertheless, the problems that the Russian electricity sector will have to overcome during the next decade are numerous and cannot be solved by a reform process alone. Money is needed but it still is a question to what extent Russia's electricity industry will be able to attract the necessary investments that are crucial to meeting the increasing energy demand. Before the large volumes of investments will start flowing into Russia's electricity sector, a number of uncertainties and risks will need to be dealt with. Some of these risks include possible liquidity problems of the independent companies after the liquidation of RAO and confusion among investors concerning the new electricity landscape in Russia. Also power blackouts that are already a regular occurrence may scare away investors, who may fear the backlash of popular discontent and negative public opinion. Imagine the foreign investor who right after moving into an investment makes headlines as being responsible for households, hospitals or orphanages going without electricity.

Strange though it may seem, but the scarcity of internal

gas supply to power plants is also a potential risk. Even though Russia has the largest gas reserves in the world, with growing domestic gas

almost all strategic industrial sectors. There is no real reason to doubt that the reform of the electricity sector was the result of a rational and liberal

Russian population will result in political pressure to keep energy prices low. This, in turn, will affect legislative and administrative predictability and rationality as politicians may start to propose populist measures. This will negatively affect investors' assessments of the conditions for investments and of the financial returns to be made in Russia's electricity sector. Already, a large majority of the Russian population looks negatively upon private ownership in the electricity sector. In the eyes of many Russians state ownership in this sector is to be preferred over ownership by private investors. They do not trust the oligarchs to act for the benefit of Russian society and to see foreigners running the show in Russia would be perceived as a national humiliation.

In any case, whether largescale investment will take place or not, the electricity sector reform was highly necessary, well planned and so far well executed. For Russia it has been a positive electrical revolution. But as with any revolution, it is the subsequent evolution that will establish the success of the revolution. The Russian government has a big responsibility in this respect. With prices being sure to rise as a result of the electricity reform, the cheapest and most direct strategy to guarantee a sufficient supply of electricity in Russia and to minimize the negative effects for households and businesses, is to increase energy efficiency for both residential and industrial consumers. Energy efficiency, after all, is the only real long-term guarantee for a healthy electricity sector. ■

Full liberalization is foreseen for the year 2011

consumption and long term export obligations on the one hand and stagnating gas production on the other, the risk of gas shortages is increasingly felt.

State control

Then, the power of Gazprom, which a number of foreign oil majors in Russia have already experienced, is also looming over the electricity sector. Gazprom, being a state in a state and a de-facto executive arm of the Russian government, may well become the most powerful player in the Russian electricity sector within the next 5 years. Gazprom has already started buying into electricity assets. With Gazprom calling the shots, actual state control may be reinstated and liberalization may become a relative notion. The redistribution of ownership in the electricity sector that will take place in the coming years may also lead to a resurfacing of vertical and concentrated companies in the market.

It remains a question why the electricity sector was so successfully unbundled at a time when the Russian government is clearly creating and supporting the emergence of vertically integrated "national champions" in

recognition of the need for investment in that sector. However, there is always the risk that the Russian government will classify the electricity sector as a strategic sector that needs to be brought under state control. Gazprom, after all, is the best example of a private company that is under full actual government control.

And there are other political risks. With the regularly occurring blackouts and with the electricity shortages forming an impediment to further economic growth, the Russian political establishment has supported the electricity reform during recent years. This political support may come to a halt once the reform of the sector leads to higher electricity prices for businesses and households. That the electricity prices will not go down as a result of reform is certain. No one expects the prices to stay at the same level given the gigantic and urgent need for investments. With private investors becoming responsible for increasing the cost of living of the population and so negatively affecting everyday life in Russia, energy may very well emerge as a major source of political unrest in the years to come. Real or perceived deterioration of living standards of the

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