RUSSIAN ENERGY IN THE WAKE OF FUKUSHIMA

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Energy of course is central to Russia’s economic and political recovery under once and future president Vladimir Putin. Russia is the world’s leading producer of oil and gas, and has major assets in coal, hydro and nuclear power. The current energy dynamic in Russia has some serious flaws, since its soviet-era infrastructure is still in need of massive new investment, based on prices that take into account market conditions and long-run externalities. The problem is that Russia’s political and economic elites have found a way to make the status quo work well – very well – to their own personal benefit.

Russian civil society is not completely inert: it has proved capable of mobilizing over ecological issues, such as Lake Baikal. But the political system provides few opportunities for society to hold officials accountable, and a widespread respect for nature is not matched by a sophisticated culture of risk evaluation and safety consciousness.

Beginning with the question of Fukushima, one would have to say that it has had only an indirect impact on Russia’s energy strategy. After Fukushima, in June 2011 Rosenergoatom launched a $530 million program providing supplementary power and water back-up systems for its reactors. But the main impact of Fukushima has been to make Russian natural gas more attractive for power generation in Japan and other countries such as Germany who are newly wary of nuclear. On the other hand, this trend is countered by the explosive arrival of shale gas on international markets, which has led to a radical drop in the price of natural gas. This poses a serious challenge the viability of some of Gazprom’s new projects, which require drilling in expensive off-shore Arctic or remote Siberian fields.

Russia has a proud tradition of nuclear engineering, and had its own Fukushima moment in the Chernobyl disaster of 1986 – an event whose significance as one of the factors leading to the break-up of the Soviet Union is often overlooked. Chernobyl triggered a wave of protests across the country by citizens concerned about local nuclear sites, which breathed grass-roots life into the top-down glasnost campaign. After Chernobyl, Russia overhauled the safety of its reactors and no new plants were started – although this was primarily due to the GDP collapse and investment dearth of the 1990s. In the wake of Chernobyl two plants then under construction were finished, the 4-unit Balakovo in 1988-90, and a third unit at Smolensk in 1990. Four new plants were built in the 2000s, at Kalinin and Volgodonsk.

In 2006 the Russian government launched an ambitious plan to spend $55 billion doubling the country’s nuclear power capacity, and intends to build two new plants a year from now until 2020. They are also moving ahead with the construction of floating reactors that will power remote mining communities on the Arctic shore and Kamchatka peninsula. They intend to double the share of nuclear and hydro in electricity generation. Currently Russian electricity relies on gas (48%), hydro (18%), coal (17%) and nuclear (16%). Russia is stepping up exports of electricity to China and East Europe, and investing heavily in power stations linked to giant aluminum smelters. They see a lucrative international market for Russian nuclear engineering – one of the few manufacturing sectors in which Russia is still competitive on international markets (the other being weapons). They are now building half a dozen reactors abroad, in China, India, Bangladesh, Belarus, Vietnam and of course Iran. The International Uranium Enrichment

Center at Angarsk gives Russia a unique niche in the global nuclear energy market: taking in radioactive waste that countries don’t want in their own backyards, and enriching uranium offsite for countries who do not have their own facilities.

Most of Russia’s 31 reactors are of the VVER pressurized water design. Experts believed that the RBMK type reactor, the sort that exploded at Chernobyl, is seriously flawed in that it relies on a graphite moderator and water coolant, increasing the chances of meltdown if the coolant leaks, and it lacks a containment vessel. All eleven RBMK reactors in Russia (clustered at three locations) are still in operation, though they are due to be closed down by 2024. (They are all past their initial 30 year projected lifespan.) The European Union has insisted that RBMK reactors be shut down in Ukraine and Lithuania. In Russia there was a protracted debate over whether to spend an additional $1-2 bn to complete the Kursk-5 RBMK reactor, which is 70% finished. On the eve of the Fukushima anniversary, on March 1, 2012, the nuclear regulator Rosatom announced that the plant will be abandoned.2

The political economy of Russia’s energy sector is complex and prone to political instability, due either to factional politics or popular unrest. Most of the sector is managed through state corporations such as Rosatomenergo, or corporations with a majority state ownership such as Gazprom. In the 1990s the oil industry was controversially privatized into a dozen independent companies, but since 2003 with the break-up of Yukos and the purchase of Sibneft by Gazprom they have now consolidated, with state-majority owned Rosneft the largest producer. Foreign oil majors have been kept at arm’s length. In Sakhalin, where they were involved in developing the off-shore fields through production sharing agreements in the 1990s, they were in many cases squeezed out in the 2000s. The TNK-BP joint venture is the main foreign player.

The geopolitics of Russia’s energy exports are also challenging. Russia is accused of using energy as a lever to extract political concessions from countries such as Ukraine, Belarus and Germany – though the evidence for the success of such a tactic is weak. Russia has rebuffed European efforts to incorporate the principles behind the European Energy Charter, such as competitive access to Russia’s export pipelines. Moscow has devoted a lot of political capital and investment dollars to developing the North and South Stream gas pipelines across the Baltic and Black Seas to diversify their export routes and reduce their dependence on Ukraine, which had led to embarrassing gas shut offs in 2006 and 2009. Russia is also reorienting their energy exports to Asia, signaled by the opening of the East Siberia Pacific Ocean pipeline in January 2011. However, one can expect more tough bargaining and political strains in the years ahead: it will not be any easier for Russia to handle China, North Korea and Japan than it has been dealing with its European customers.

From 2000 on the electricity monopoly RAO EES was prepared for privatization by its head Anatolii Chubais. Regional energy companies were sold off to Russian and foreign buyers, the process being completed in July 2008 – just as the global economic crisis shattered the demand projections for investors in these dilapidated generating companies. Another challenge facing investors in the electricity sector is the continuing cross-subsidization of households by industrial customers (and the cross-subsidization of domestic natural gas customers with receipts from foreign sales.) Russian households pay about 9c/kWh compared with EU median of 18.5 cents. Promised annual tariff increases lagged behind inflation and

2 http://www.bellona.org/articles/articles_2012/rip_kursk_reactor
were repeatedly postponed in the face of successive waves of elections (including the current December 2011 Duma election).

Russia is a leading source of **greenhouse gases** and was a passive spectator to the Kyoto Protocol. It finally joined in 2004, but the fact that its emissions were locked in at 1990 levels, before the 1990s deindustrialization radically cut Russian emissions, meant that this was an empty gesture. It would not obligate Russia to curb emissions, and would have enabled Moscow to profit by selling unused carbon credits. Russia is one of the few countries that sees itself as standing to gain from climate change, from a longer growing season to an Arctic maritime trade route to Asia. With Russia having just joined the WTO, it will be crucially important to get Moscow involved as a leader and not just an opportunistic bystander in tackling climate change.