

## Can Russia Assist Japan in Fueling Its Energy Future?

Written by Alex Calvo  
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Putin's return to the Russian presidency took place shortly after the first anniversary of Fukushima, prompting the question whether there could be a confluence between Japan's forced reorientation of its energy policy and Moscow's desire to turn toward the Pacific and fully develop its Far-East regions. The nuclear incident has brought into focus the relatively low level of energy trade between the two neighbors which could well increase in the near future.

Although the situation in the energy arena somehow suggests a less than intense relationship between the two neighboring countries, suffering from an unsolved territorial dispute and Moscow's Atlantic orientation, it directly contradicts some of the perceived needs of both powers. There are reasons to believe that some major changes may soon take place prompting a much higher level of energy trade between Japan and Russia. This would be necessary for Japan to increase its energy security, and for Russia to improve its status in the Asia-Pacific region, a necessity both in terms of diversifying energy exports and of going from a regional to a global power. Having already secured a marked improvement in Russia's geopolitical and geo-economic status in the European and Black Sea regions, Putin may be tempted to devote more efforts to the Pacific where Russia's role remains weak. A success on that front may secure Putin's place in history and thus act as a powerful incentive to try to overcome the past failure by successive leaders to pay enough attention to the region. Pointing in this direction was one of Putin's first decisions, which was to announce plans to reinforce Russia's naval power in the Arctic and the Pacific. And for Japan, it is in many ways still too early to guess the exact shape that future Japanese energy policy will take in order to fill the void left by Fukushima.

Although a number of voices, both within and without Japan, have pointed at renewable energies as the key to the country's predicament, it is doubtful whether given the current state of these technologies they can plug Japan's short to medium term energy gap. While a return of nuclear energy to the forefront cannot yet be ruled out, political realities including popular fears and the need for local governments to authorize the restart of offline reactors, mean that there will continue to be a significant gap between generating capacity and electricity demand. Some observers have pointed out that while there may be a majority against killing off nuclear energy, this may coexist with an important reluctance to restart those reactors that have gone offline. Actually, the government has already warned that rolling blackouts may once again become necessary over the summer.

The impact of Fukushima on Tokyo's energy planning goes beyond the nuclear debate and how to make up for lost capacity. Behind these difficult policy choices lies an acute sense of vulnerability. As an island nation with painful experiences such as the summer of 1941 oil embargo, which precipitated its fateful decision to go to war, Japan decided some decades ago to resort to nuclear energy partly as a means to reduce its vulnerability to a maritime blockade. Although energy policy decisions can rarely, if ever, be ascribed to a single goal, the aftermath of Fukushima has rekindled Japan's acute sense of vulnerability already made clear by the September 2010 Chinese rare-earths blockade. Even excluding Fukushima, continued instability in the Middle East, US pressure to cut oil imports from Iran (accounting for 10% of Japanese consumption), and growing consumption by countries such as China, India, and South Korea, has turned diversification into a Japanese policy imperative. Specifically in power generation less than 10% of the country's power is derived from oil; aging oil-fired power plants

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are used primarily for meeting peak demand as necessary, which was [less than 10%](#) of all electricity generated in 2010.

All this does not leave Tokyo much choice beyond increased reliance on natural gas to generate the electricity no longer flowing from the country's nuclear reactors. There has already been a sizable increase in the country's energy consumption, with imports by Japan's ten regional electric power companies (responsible for two-thirds of LNG imports) showing a year-on-year 31.8% increase in March, according to the Federation of Electric Power Companies of Japan (FEPC). From a corporate point of view this is probably, together with the restart of the offline nuclear reactors, the most attractive option. From a government perspective it also has its attractions, although it is likely that the authorities will want to review more in depth other alternatives and take into account a number of non-economic factors. The traditional Japanese close relationship between industry and government is also apparent in the energy arena, however, Fukushima has put this into focus and prompted some criticism. There may be some pressure for politicians to take a more independent stand than has usually been the case in the past.

Increased reliance on LNG points to Russia as a potential supplier. Russia is a proximate supplier holding large reserves and is interested in geographically diversifying its exports. Actually, the immediate aftermath of Fukushima saw Moscow provide some short-term assistance in the form of emergency supplies, which were most welcome at the time, and which could perhaps be a harbinger of things to come. A number of influential Russian voices were quick to point out the increased scope for LNG exports, with for example Gazprom CEO Alexei Miller saying in January of this year that, "the Japanese market is the biggest LNG market in the world and considering the decision by the Japanese government to reduce nuclear power generation, the demand for LNG into Japan will only increase." He pointed out that the giant Shtokman field, located in the Barents Sea and being developed by a Gazprom-led consortium, could supply Japan. This has also been mentioned by Russian authorities as being part of the move away from excessive dependence on pipeline exports to Europe, choosing instead the greater geographical flexibility provided by LNG. The United States, expected to become an LNG exporter in a few years has also been mentioned as a potential future supplier. **Russia and the Pacific: a key to great power status?**

While Japan is still suffering the consequences of last year's earthquake and tsunami, reeling from two decades of flat economic growth and increased Chinese military pressure, Russia is widely seen as having successfully recovered from the breakdown of the Soviet Union and the deep economic malaise of the 1990s. It has or is becoming once more under Putin a respected power with a great deal of influence not only over former Soviet states but over much of Western Europe in no small part thanks to its energy exports.

However, Russian leaders themselves are the first to recognize that the challenge of developing the country's Far East remains to be met. In a wider sense, and despite its physical geography and this year's chairmanship of the Asia-Pacific Economic Forum (APEC), Russia still has far to go until it is recognized as a first-rate Pacific nation.

From a political and military perspective, some observers are quick to point out that the only

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true global power, the US, is native to both the Atlantic and the Pacific oceans. So is Russia, but not until the full potential of her Far East is realized will this perception be secure. One reason is that some of the country's super-giant oil and natural gas fields may be approaching or may even have already reached a point of diminishing returns and another is that the vast demographically empty spaces full of natural resources could be an open invitation for Chinese expansion or at least hegemony. Although Siberia already accounts for more than half of the country's proven natural gas reserves their volume could increase with further exploration efforts.

There also appears to be a certain consensus that these regions must be developed, and that this should facilitate a diversification of energy exports today heavily centered on the Atlantic (mainly meaning Europe), which in 2010 accounted for 83% of Russian crude oil exports. [This could help Russia](#) increase its export revenue and lower market risks by tapping the dynamic economies of Asia-Pacific.

The expansion of existing LNG facilities (the country currently has just one liquefaction plant on the Far Eastern island of Sakhalin, with a further one planned in the Yamal Peninsula, in Western Siberia) would give Russia a great measure of flexibility concerning downstream markets for energy exports. In addition to ASEAN, three countries often feature in her calculations. First of all there is China, which on purely economic grounds, seems to fit the bill perfectly and has indeed shown interest in the building of natural gas and oil pipelines from Russia. There are fears however that this may pave the way to Russia becoming a junior partner, limited to an energy commodities provider, to an increasingly powerful China. Moreover disputes over pricing are putting these projects on hold at least for the time being.

Second, there is South Korea, an industrial powerhouse, which may be interested in investing in the Russian Far East. The main problem is that in between lies North Korea with resulting risks and difficulties involved in constructing pipelines. However this has not deterred Moscow from putting forward proposals, covering also rail links, between the two countries. Should these plans materialize, they could contribute to the gradual relaxation of China's grip on the country.

Third, there is Japan with the capital and technology that Russian modernization projects call for. The complementary character of the two economies would therefore seem clear although obstacles remain.

### **The keys to understanding the low-level relationship in energy**

The factors contributing to a relatively minor trade in energy between Japan and Russia include: the legacy of the Cold War (which prevented normal economic relations for more than four decades), Japan's use of nuclear power (thus reducing her need for fossil fuels), Russia's Western orientation (which is one of the reasons why, to date, it sells more oil and natural gas to Western Europe than to the Far East), and mistrust between Tokyo and Moscow (partly resulting from traditional geopolitical competition but aggravated by Japanese corporate perceptions of arbitrary behavior by Russian authorities and lack of clear rules). The figures speak for themselves: while Japan, the world's third-largest oil importer, bought 4.4 million b/d

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in 2010, 76.9% came from Arab countries in addition to 9.6% from Iran, with only 5.6% from Russia. To put this in perspective, in 2010 Russia exported more than 5 million b/d. It is not only in Tokyo's oil imports that Russia fails to feature pre-eminently; the country's role in exploration and production by Japanese companies abroad is also rather limited

Concerning Russia's export infrastructure serving the Far East and Japan, the key asset here is the ESPO, a 2,900 mile-long pipeline (the longest in the world) running from Taishet, in Siberia, to Nakhodka, a port in Sea of Japan. A branch to China was opened in August 2010, while the remainder is still being built and should be completed this year. Its expected capacity, once completed, could be around 1 million b/d. Until the spur to the port of Kozmino is built (completion expected in December 2012) oil will continue to be shipped to its export terminal by rail.

With regards to natural gas, Japan's position as an importer is even more significant. In 2010, Japanese imports of LNG already amounted to 3.489 Tcf, in contrast with total Russian natural gas exports that year of 6.6 Tcf. Again, Russia's role is limited, albeit greater than it is in oil,

Japan has more than 40 re-gasification plants, with an installed capacity in excess of current imports. It should therefore be able to accommodate an increased reliance on this form of energy without the need for major capital investments in the coming years.

Concerning joint projects, Japan participates in Sakhalin-II (22.5% in the hands of Mitsui and Mitsubishi), where production is expected to reach 468 Bcf/year, with 60% of the resulting LNG earmarked for sale to Japan. In addition, Japan and Russia agreed in 2010 to jointly build a LNG terminal in Vladivostok, with a 244 Bcf/year capacity, to be completed by 2017. When finished, this terminal may account for 7.5% of Japan's LNG consumption, and if existing supplies are added (originating in Sakhalin), this would bring the Russian share in Japanese imports to between 17% and 20%.

Vladivostok is also home to a number of bilateral energy projects. Following a proposal from Russian Deputy Prime Minister Igor Sechin shortly after Fukushima, joint working groups on oil and gas were set up and have been meeting regularly with a view towards upgrading cooperation in the energy arena, paying special attention to oil and gas in Eastern Siberia. A memorandum of understanding covering possible Japanese participation in both upstream projects and the building of a refinery near the port of Nakhodka, with a capacity of 200,000 b/d and part of a petrochemical complex near ESPO's terminus has been concluded

Together with these steps, some high-level statements have made it clear that Tokyo has been looking to Moscow at least as part of the solution to its energy woes. Thus, one year after the tsunami, Prime Minister Yoshihiko Noda said that he believed "that Japan and Russia have substantial prospects for expanding cooperation, especially in the energy sphere. We have discussed it with the Russian leaders and have come to the conclusion that the two countries must work towards that end." Although prompted by Fukushima, such statements somehow reflect the fact that Japan has always had an eye on Siberian oil and gas.

In addition, the aftermath of Fukushima saw some notable Russian emergency energy

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assistance, with Moscow promising to send between 7.31 and 9.74 Bcf of LNG, albeit without making it clear how and over which period of time frame, doubling heavy oil exports for power generation to 131.94 million barrels, increasing supplies of oil products, exporting an extra 3 to 4 million tons of coal (again, without a specific time-frame), and diverting 6,000 MW of electricity from her Far East. The latter, however, would need the construction of an underwater connection, requiring up to two years to build, since no such infrastructure is currently in place.

### **What are the reasons why Russia's role as an energy provider to Japan is still a far cry from other regions such as the Middle East?**

On the one hand there is simple inertia. Since the Cold War normal economic relations between Tokyo and Moscow have lagged development, while Japan in tandem with most of the Western camp, chose to rely on the Middle East for the bulk of their oil imports. In addition there is a territorial dispute inherited from the closing days of the Second World War, when Soviet forces seized four islands. Although there does not seem to be at present a significant risk of the dispute turning violent (Japanese military forces are actually slowly redeploying from a Northward axis facing Russia to a Southwestern axis facing China), the issue remains a thorn in the side of bilateral relations. To this can be added uncertainty and mistrust which may have harmed the prospects for cooperation in joint exploration and infrastructure projects. From a Russian point of view the failure of Japan to participate more fully in the development of the Russian Far-East is evidence of this.

Japanese-Russian relations still suffer from long-held Japanese suspicions about Russia's role in North-East Asia, fears which go beyond fear of communism, and which contributed both to Japan's alliance with Britain early last century and with the US after the end of the Second World War. Different perceptions on China, and North Korea, as well as on the role of the US in Asia-Pacific are also factors driving Tokyo and Moscow apart.

Russia's lack of natural borders protecting her core has historically pushed Moscow to expand and access to open waters remains an imperative. Pulling in the opposite direction, however, is Russia's traditional Western orientation with its two main cities, economic centers, and elites facing the Atlantic. This constant struggle between Eastward expansion and Westward orientation is reflected in its energy infrastructure and trade destinations.

Past cooperation between Tokyo and Moscow in the energy arena are full of instances of conflict and misunderstanding. Tokyo's experience with the Sakhalin II consortium has left a sour taste in the mouths of many Japanese observers who question Russia's reliability as a supplier and business partner and caution against becoming increasingly dependent on the country. Some voices go as far as warning that Moscow may be using Tokyo as a bargaining chip against China, in order to extract concessions and better sales terms from the latter. More objectively, other observers point to the lack of a proper legal framework and availability of international bank guarantees in the absence of a peace treaty and the absence of a wider framework of agreements in the trade and investment area.

It is not only in energy that bilateral trade is relatively modest. Despite progress in the last decade which has brought yearly bilateral trade to 24 billion dollars, last year Russia just ranked

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13th among the destinations for Japanese exports and 20th on its list of suppliers.

### The coal and nuclear industries

In terms of coal, Russia is a major producer and exporter while its role as a supplier to Japan is much more modest. In 2010 Moscow sold Tokyo 3.9 million tons of coal, (small when compared with total Japanese imports of 160 million tons). More than 60% of Japan's coal is supplied by Australia.

While not the most attractive of energy sources, greater reliance on coal may not be currently ruled out in Japan's new energy policy in which case Russia may well supply part of the extra volumes required. Observers also note that transportation bottlenecks pose an obstacle to increased Russian coal exports to the Far East. In late March Rudi Vann, lead analyst with Wood Mackenzie, said at a conference that "Russian ports are close to capacity with no new expansions scheduled this year. There is a bottleneck to increase supply to the market".

At present Russia's rail system connecting the main coal producing region of Kuzbass (Central Siberia) and the Far East has no spare capacity. The combined cost of Russian mining and transportation by rail is one of the highest among coal producing nations in the world leaving little profit margin for exporters. More coal could be extracted from Eastern Siberia, but its energy content is lower than other grades of coal available on the international market.

Increased coal exports to Japan may help Russia secure the future of an industry considered to be politically sensitive due to prospective job losses at home. At the same time, Russia could benefit from advanced Japanese mining technology and machinery. In May of last year, Sumitomo's construction and mining machinery subsidiary Sumitec International Ltd opened an office in Kuzbass, the first such action ever by a Japanese company in the industry. In addition, there are plans to build new export ports on Russia's Pacific coast-which could handle coal although the issue of their connection to the rail network remains in the air.

With regards to nuclear power, the industry is now in a state of paralysis in Japan although it is too early to conclusively pronounce it D.O.A. However, Russian-Japanese relations where nuclear power is concerned is much more complex than a typical commercial relationship. Russia is a major civil nuclear energy power in all of the industry's fields, from uranium extraction to waste recycling, whereas Japan is one of the most advanced countries in terms of building and operating atomic power stations. Fukushima struck right when there was increasing talk of a 'nuclear renaissance' worldwide which could have seen both countries increase their competition with one another abroad in a race where South Korea is another key participant.

On the political level, Moscow and Tokyo concluded a wide ranging nuclear cooperation treaty in 2009, which was ratified by the Japanese Diet in December 2011 and will come into force in 2012.

Rosatom expressed an interest last year in setting up an office in Japan, reaching an agreement with Toshiba Corp. to sell enriched uranium from Kazakhstan, where Toshiba is

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already active, recycling used fuel in Siberia, as well as assisting in cleaning up the Fukushima site. Following the treaty's ratification, the General Director of Rosatom's sale subsidiary, Alexei Grigoriyev, explained to RIA Novosti that, "it meets with Tenex's plans ... to set up a new and more profitable route to transport enriched uranium products through Russian ports in country's Far East." adding that it now may be possible for the Russian corporation to enrich Japanese spent uranium stored in Europe. Tenex (Techsnabexport, a subsidiary of Atomenergoprom, part of Rosatom), has already reached an agreement with South Korea's nuclear monopoly, Korea Hydro and Nuclear Power Co, to use the future Vostok transport and logistics node as a replacement for Saint Petersburg. This would cut by 50-60% the time required to ship uranium products to Asia-Pacific countries currently accounting for a fifth of such exports from Russia.

### Conclusion

The context for increased cooperation between Russia and Japan is complex. For Tokyo, importing more energy from Russia means diversifying away from the SLOCs (Sea Lines of Communication) running through the disputed South China Sea and thereby reducing the risk of blockade and the vulnerability to piracy. Although in theory Moscow may join Beijing in blockading Japan, this is unlikely.

From a US military planning perspective, lesser use by Japan-bound shipping of the South China Sea may facilitate operations there, as long as it does not go as far as lessening Tokyo's interest in the region (made clear by emerging US security cooperation with the Philippines). It should also be noted that traditionally, in a policy going back to late Cold War era European-Soviet deals to export natural gas, Washington has seen with suspicion closer relationships between Russia and countries in her periphery on the back of joint energy interests. However, the US' current "Pivot to the Pacific" policy is aimed at China rather than Russia, and features a growing reliance on autonomous albeit coordinated action with regional allies such as Japan.

There are also some powerful reasons pushing Japan and Russia towards a deeper degree of economic interaction, and particularly in an increasingly larger volume of energy trade. Because of the stakes involved, and the significant policy objectives which both Moscow and Tokyo could achieve, it is justified to talk of a 'grand bargain'. If successful, such deal would see Japan diversify away from both nuclear energy and Middle-Eastern energy supplies, and Russia becoming a more full-blown Asia-Pacific power instead of Beijing's junior partner in the region. In addition Putin's place in Russian history would be secured, and its role would extend much further than its consolidation of strategic influence in Europe and the Black Sea regions.

As part of the deal, Moscow may seek to secure a degree of Japanese participation in her Far-East, which together with other powers, would allow Russia to benefit from foreign capital and technologies without falling prey to any hegemonic partner. Japan on the other hand may try to secure the return of her "Northern Territories", that is the Southern Kurile Islands. Although it is difficult to envision Russia conceding this in full, perhaps an agreement along the lines of that reached in the 1950s (whereby two of the four disputed Islands would be transferred to Japan) or some sort of condominium or joint economic development area could be agreed upon.

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A further military variable which may be part of this 'grand bargain' would be cooperation in the weapons industry where Russia is already working with French, German, and Israeli enterprises in the missile defense domain. Although Japanese progress in this area, conducted under cooperation with the US, has not attracted the hostility of NATO plans in Europe, a successful Japanese breakthrough, especially if exported to other countries under more flexible weapons' sales guidelines passed in December, would diminish the value of Russia's nuclear strategic forces essential not only for the country's defense but also for its status as a superpower. Therefore, in addition to selling energy to Japan, Russia may end up being interested in reaching an agreement which protects the value of its nuclear forces. If such a comprehensive agreement could not be reached, Moscow and Tokyo may alternatively just agree on increased energy trade without closing the door to progress in other fields.

In any case, in addition to an improvement in overall political relations, increased energy trade may require the building or upgrading of some Russian infrastructure, to be precise an electricity interconnector between the two countries, improved railway links from coal producing regions to ports near Japan, and additional LNG terminals.

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