

Given today's time constraints, I 'd like to provide a baseline understanding of Russian coal and then talk about some of the implications for the development of coal fired power generation in light of recent events around the world including the Middle East and Japan. Here are a few Russian coal factoids:

- (1) Although coal may be falling out of favour, it remains an important component of Europe's energy mix, accounting for 18 per cent of the EU-27's energy needs. In addition, as Europe has substantially larger resources of coal than those of natural gas and oil, coal use moderates the block's dependence on fuel imports.
- (2) At the same time, coal accounts for 28 per cent of European electricity generation and Europe's steel industry is dependent on foreign

imports as the continent has few coking coal reserves of its own.

(3) As a result of the factors outlined above, Europe relies on imports for around 40 per cent of its coal supply and this figure, like those for natural gas and oil, is expected to increase significantly as we move towards 2030.

(4) The major suppliers of coal to Europe are: Russia, Indonesia, Australia, South Africa, Colombia and the USA , while Germany and the UK are by the largest importers of coal within the EU

In 2009, the German Marshall Fund of the United States decided to look at Russian coal as a resource and environmental issue. While I have for many years, nearly 3 decades in fact, researched and written on Russian oil and gas this was a significant personal departure for me. In fact my Russian hydrocarbon focus has largely been centered on the Role of

Russian hydrocarbon resources as an economic and more recently as a political factor in Russian society and most specifically in terms of Russian foreign policy decision making. Having said this, the study which I completed on Russian coal is decidedly apolitical. It of course does address the economic aspects of Russian coal. Two of these points are worth highlighting.

**First,** the Russian coal industry is largely privatized. There were clear self-serving interests of the Russian government is carrying out coal sector privatization in the early 90s. According to the IEA Clean Coal Centre, in Russia “government subsidies to the industry [at one point] were the second single largest expenditure in the government’s annual budget.”<sup>i</sup> For example in mid-June 1991 it was announced that that total subsidies to the coal industry in Russia would exceed the grants to the Pension Fund in that year.<sup>ii</sup>

Having said this, it would be naive to think that the Russian government would simply abdicate control over the coal industry, which like oil and natural gas, is considered a strategic commodity by Russian policy makers. The Russian government clearly recognized it could jettison its responsibility for the Russian coal industry, in terms of subsidies and number of workers employed, while at the same time continue to control the industry. The mechanism of control then and now is the Russian Railway monopoly, RZD which is the second largest state owned and controlled company in Russia after Gazprom. The Russian coal industry's domestic future is complicated and constrained by coal's dependency on Russia's inland rail-transport sector.<sup>iii</sup> This dependence is expressed all stage of the coal technological cycle (from transporting of coal from mines to enrichment plants – to export)

RZD also controls the cost of coal transportation which translates into state influence over the private coal business – via railroad transport monopoly and railroad tariff regulation

The cost of transporting coal is comparatively 3-4 times greater in Russia for one ton of delivered coal on a CIF basis as compared to other countries like the United States. Secondly, the profit on transporting coal versus oil in Russia is marginal for the railways. Therefore there is little financial incentive to expand inland transport infrastructure for moving coal around the country when existing rolling stock is more profitably employed by the Railway Monopoly for oil deliveries.

A second historical constraint on the Russian coal industry have been domestically subsidized prices

for Russian gas. Throughout Russia's boom-and-bust periods over the 1990s through today, the domestic price of Russian gas has continued to be carefully controlled by the government. For example, during the second quarter of 2008 when oil was approaching its historic high in July the Russian Economic Ministry announced that domestic increases in the price Russians paid for gas would be delayed until after 2011. (The domestic price of natural gas in Russia in April 2008 was \$74 per thousand bcm versus over \$400 per thousand bcm on European markets.) The Ministry announced that scheduled periodic increases leading to internal-external equilibrium in the price of Russian gas would have to be delayed with the government, "need[ing] to continue hiking tariffs moderately after 2011."<sup>iv</sup> Backtracking on gas price liberalization in the Russian domestic market continues to be the biggest barrier to moving to

coal in the power generation sector. Once relative price parity between Russian gas and coal is reached inside of Russia this is a clear indicator, but not a determinant, that European policy makers may see more newly installed coal fired power generation in Russia itself. For European policy makers exclusively or largely fixated on GHG emissions from coal fired power plants this is a warning signal. Russia's industrial infrastructure is already highly energy intensive. Its current energy inefficiency is equal to the annual primary energy consumption of France. Specifically in terms of per capita GHG emissions Russia just this week was overtaken by India as the world's third largest GHG emitter behind China and the United States. It is estimated that by 2030 per capita Russian GHG emissions will equal those of the United States. Therefore if the EU is seriously concerned about GHG emissions on a global basis it must begin to

work with Russia today. One clear recommendation that Eurocoal with funding and financing from the European Union could undertake would be a baseline assessment of the potential efficiency contribution to a reconfigured Russian power sector from new technologies . This assessment should be undertaken in consultation with private industry, the Russian government and its power sector. These technologies lack enumeration and an appropriate financing mechanism for their transfer has not been identified. Secondly, helping Russia catalog its GHG emissions at the point of generation, plant by plant, would help in assessing where the greatest GHG emission savings through investment should be carried out.

From a background perspective Since 2006, then President and now Russian Prime Minister Vladimir Putin began openly to advocate a new energy strategy that would capitalize on the increasing

value of oil and gas exports in foreign markets. In order to maximize revenue to the national government from these exports, Russia has embraced, at least on paper, its desire to reorient future Russian domestic power production towards nuclear and coal fired power generation. The essential concept is that gas exports offer greater net revenue from their export than coal. As far back as 2002 the US Energy Information Administration predicted that “the Russian government’s strategy to increase coal production and build more coal-fired plants will help reduce demand for natural gas, thus allowing for more natural gas exports.”<sup>v</sup> This principle is underscored in the Russian Energy Strategy (RES) to 2020, originally released in 2003. The first phase of this strategy (2009-2010) includes the “realization of the export potential of the oil and gas complex and attainment of stable positions of energy companies at [in] the internal and

external fuel and energy markets.”<sup>vi</sup> If such a strategy were successful it would free up Russian-produced gas for the export market, where it commands four times the price at which gas is presently sold to power producers on the domestic market. The second phase of this strategy (2011-2020) includes “rapid use of ... existing ... nuclear power and hydro energy sectors, coal industry, development of petrochemistry and gas chemistry.” The Energy Strategy points out the intention to develop the “new provinces” in Eastern Siberia, the Far East, and Yamal.<sup>vii</sup>

There have been of course a number of events in recent years that have impacted on a future evolution of Russia’s power sector overall and in particular on a focused move towards nuclear and coal. First, the impact of the global recession, with some exceptions like China and India, has

dampened demand for all energy resources. For coal exports this dampened in late 2008 and the first half of 2009 demand for Russian coking and steam coal. Much of the world remains in recession. This should be seen as an opportunity for European policy makers to engage their Russian counterparts on Russia's future energy strategy. Having said this, lecturing Russia on how to power its economy will not work particularly if such discussions are launched on environment, or in other words, on the basis of a naïve hope that Russian will reduce its GHG emissions for the sake of the planet. Demonstrating to Russia however, on how it could provide the same amount of power at the point of generation more efficiently may work with the added benefit of reducing GHG emissions per unit of output.

Second, as events presently unfolding in the Middle East demonstrate the global economy remains uneasy about global oil supply availability. I would suggest that if the EU is serious about wanting to reduce GHG emissions and at the same time be viewed as a contributing economic partner to Russian industrialization then another look be given to coal-to-liquids as a way of allowing Russia to draw economic benefit from its coal beds, add industrial level capacity in producing an alternative to oil based transportation fuels, and in mitigating future GHG emissions from Russian coal fired power plants.

Third, events in Japan have rattled the nest of global anti-nuclear activists. Germany's Chancellor yesterday announced that the seven oldest nuclear plants in Germany would be taken offline pending safety checks during the previously announced three-month moratorium. Russia has said it would

review nuclear safety standards for its industry and protestors are in London's streets again wagging their fingers at the nuclear industry. These events are in contrast to a March 7 (pre Japanese earthquake and tsunami) that in the US the TVA would be idling 1,000 megawatts of coal-fired generation while spending \$2.5 billion over five years to finish a 1,200-megawatt reactor at its Watts Bar site by October 2012. This announcement was indicative of a same day plan which recommendations include a range of idling coal-fired power generation, possibly up to another 3,700 megawatts by 2017 and expanding [nuclear power](#) up to 5,900 megawatts by 2029.

Ladies and gentlemen, in conclusion we cannot have it all. The world's population is growing, some economies are expanding and others will in a post recessionary period, and all of this requires power.

If we remove nuclear from the equation, we revert to coal. But people don't like coal, as we know, because of its environmental impact. What the world actually needs are all of these power generating sources and increasingly more of them. To move forward with a cleaner energy and power agenda, large power generators on Europe's doorstep need engagement and this means Russia. Lack of attention to this detail may result in the Russian economy in a post-recessionary period moving forward with its Energy Security Strategy in the coal power sector towards more not less coal. The opportunity is here before us and it should be capitalized on.

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<sup>i</sup> Ibid.1

<sup>ii</sup> "Russian Coal Industry 1991-2000" *Kommersant*, 2 March 2004

<sup>iii</sup> Russian coal is dependent on railways at all stages in its supply chain from the transportation of coal from mines to enrichment plants to export. Second the rail network is limited to a few lines to China and Europe. Finally the cost of rail transport/per ton of inland transport is a key factor in coal's competitiveness both domestically as well as internationally. As of June 2009 Russian tariffs on rail are set to rise by 4percent-6percent trapping Russian coal

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producers in a situation of falling commodity prices for coal globally, increasing costs domestically, and falling demand in the industrial and residential heat and power sectors.<sup>iii</sup> It is readily acknowledged that the Russian railway monopoly Rossiiskie Zheleznie Dorogi (RZD), the second largest company in Russia after Gazprom, is a tool available for use by government policy makers to exert influence over the Russian coal industry. This influence is expressed by

- a) a dependence of the coalmining business from railroad infrastructure – at all stage of technological cycle (from transporting of coal from mines to enrichment plants – to export)
- b) controlling the cost of coal transportation
- c) which translates into state influence over the private coal business – via railroad transport monopoly and railroad tariff regulation.

<sup>iv</sup> “Russia May Delay Gas Price Liberalisation-Paper,” Reuters, 2 April 2008.

<sup>v</sup> EIA, Russia Country Report, Updated May 2008.

<sup>vi</sup> The Summary of the Energy Strategy of Russia For the Period of Up To 2020, Ministry of Energy, Russian Federation: 3

<sup>vii</sup> These are precisely the areas where, geographically speaking, coal could make a future contribution to Russia’s power sector. In the European and Urals regions of Russia, gas has already eroded coals’ contribution to the fuel mix for a variety of reasons including the long distances between mines to power plants and heavily depleted coal fields in the European part of Russia. The result is that the future of Russian coal fired power generation will have a decided regional versus national character, if it is to develop at all.