



**HOW TO MEET EUROPE'S  
ENERGY NEEDS?  
The Role of Russian Gas and Oil**

**EUROPEAN BUSINESS LEADERS'  
CONVENTION ST. PETERSBURG 7 JULY 2006**

**EXECUTIVE SUMMARY**

**Compiled by**

**Madeline Koch, the G8 Research Center,  
University of Toronto**

## Key Conclusions

- The prospects for high and volatile energy prices and growing vulnerability to supply and demand shocks continue.
- There is a growing interdependence and a natural partnership between Europe and Russia.
- Greater transparency, predictability and large long-term investment are required, with clear, stable, predictable regulation in both Europe and Russia essential to this end.
- Protecting the environment and the need to control CO<sub>2</sub> are both increasingly relevant.
- Energy efficiency is the key and requires greater reliance on renewables, technology and nuclear power.

## Session 1: EU-Russia Energy Relationship

- Global energy volatility and uncertainty will continue
- Russia and Europe are natural partners in a volatile global energy environment
- Investment and a clear regulatory framework in Russia are required

Oil prices are expected to find equilibrium at a higher level than in the 1990s, but lower than today's level. However, the process will remain volatile, and will be driven by four factors: robust demand, although engine efficiency, biofuels penetration, growth of hybrid car production and fuel-mix changes could lower demand; supply, although Russia's production is now expected to flatten; financial speculation, triggered by actual or threatened supply disruptions;

and refining capacity, which is expected to return to a surplus situation.

Gas demand is more elastic, driven by fuel-mix policies that reflect environmental, security and national interest considerations. There will be major supply shifts as new gas chains are developed globally. The European system will fundamentally change: declining indigenous supply will mean increased imports through Russian, Middle Eastern and African pipelines as well as LNG. Russia accounts for 27% of global gas reserves and has a convenient geographic position. Pricing dynamics remain uncertain.

The Russian state budget depends heavily on its gas exports, with 25% of its budget coming from Gazprom.

CO2 has a fundamental impact on the system, particularly gas. As much as US\$ 75 billion of investments could shift between gas and coal depending on future CO2 legislation and nuclear phase-outs in Europe.

Russia has a strong track record of 40 years of successful energy collaboration. Russia represents 58% of European gas imports and Europe represents almost 50% of Russia's gas revenue.

Increased energy security requires action on six key themes:

- A common view on energy security, particularly in gas
- Sufficient European infrastructure investment to ensure supply, which requires EU energy liberalization and a clear regulatory framework
- Clear economic signals from Russia and Eastern Europe to facilitate a US\$200 billion investment program and improved energy efficiency, which requires continued Russian domestic energy reform,

reduced risk for foreign investment, and a depoliticized process for the transition to equalized prices

- Mutual access across the entire energy value chain, which involves cross-border investment and joint value-chain investments
- Clarification of Russia-Europe CO2 policy beyond 2007
- Increased information transparency, perhaps through a joint Russian-European energy institute along the lines of an International Energy Agency

The Russian electricity sector is midway through transforming from a Soviet-style system not concerned with sales: as much as 83% was unpaid for or bartered. Today, it is strictly forbidden to provide electricity that is not paid for. Most of the structural changes are now complete and the creation of market is now in its final stage. The government has accepted a five-year US\$87 billion program to facilitate building new capacity for electricity generation, balanced in terms of other energy sources and regional redistribution, with plans for more capacity building within a decade.

Some feel that capacity building in Russia also requires real market prices.

This requires significant private investment, from within Russia as well as from outside. On August 1, 2006, the bilateral contract market for capacity will be introduced using IPOs. The first five generation companies will produce IPOs this year; the tender process for the investment bank has now been finished and the individual companies will launch their tenders in several weeks. The auxiliary and retail markets are separate.

Not just upstream investment in Russia is required, but also mutual investment. But it is important to consider that the lead time for a project is at minimum ten years, and the scale of investment needed is very large. The role of business is to deliver supply and to provide the necessary technological development and innovation to do so. Clear, consistent policy and regulation are key to making the financial commitment required.

Russia's new law on foreign investment, now in the final stages of discussion, will introduce clear rules and will not require government permission for investment in power generation. Different levels of investment are required for a balance among gas, oil and coal, but foreign strategic investors contributing more than 51% in two or three producers would not be unwelcome. Discussions are already underway with European interests.

Europe's demand for gas will continue to increase. Europe will require imports from Norway, Iran, Algeria, and Libya, in addition to Russia, whose gas reserves exceed the Middle East's (excluding Iran). The North European Gas Pipeline (NEGP) is an alliance among Gazprom, BASF/Wintershall and E.ON Ruhrgas — two German and one Russian industry leaders — that improves the security of supply from Russia's Siberian gas fields to the huge European market. The venture pools the Russian and European expertise in engineering, materials, procurement and technology as well as transparency and corporate governance. It is expected to complete the approval process by 2008 and will start delivering gas by 2010, with the full pipeline anticipated by 2013, although this time frame is seen by many as ambitious.

The NEGP is a good example of multilateral co-operation between Europe and Russia. It involves close

dialogue on routing and environmental protection among governmental and non-governmental bodies, including those in the Baltic states and Finland, Sweden and Denmark, in addition to Russia and Germany.

Energy security key in fighting climate change, and energy-efficient policy could save vast quantities of natural gas. The fight against climate change requires energy efficiency, renewables and technology, and investments in other areas, including nuclear. Nuclear power is owned by the state in Russia. Attitudes are changing in both Russia and Europe, driven by shortages in capacity. The new technology will not build on the type used at Chernobyl.

Within Europe, energy consumption is generally measured country by country but if the EU is considered as a whole, it is second only to the U.S. and well above China in terms of demand. Security of supply may be interpreted by individual EU members differently, but all are concerned with it and thus support the concept of common action to bring economies of scale and scope. Such action would create the perception of solidarity — important for the new member states of the EU — to build confidence that there are sufficient energy resources available in an emergency.

## **Session 2: Geopolitics of European Energy**

It today's tight supply situation, oil and gas are strategic geopolitical commodities. This situation is the result of three recent shocks: a demand shock, given the best global economic performance in a generation with 2.5 years of demand growth in a single year; a

supply shock, resulting from the — unrealized — threat of disruption in supply from hot spots such as Iran despite the spare capacity of at least 2 billion barrels; and a financial shock, caused by the movement of passive funds such as pension funds into commodity markets as part of a long-term diversification strategy.

In Russia, the preoccupation is with the state capturing its gas and oil sectors to support the economy. In Europe, the concern is more with gas than oil, with concerns about dependence.

The U.S. imports almost two thirds of its energy requirements and will soon import 25% of its natural gas with LNG. But the supply chain and infrastructure have not been developed in consideration of America's vulnerability to terrorism, war or natural disaster, despite the fact that electricity is fundamental to everything. The energy system thus requires partnerships among governments, and between governments and the private sector, although it remains unclear where responsibilities lie and who pays.

China and India must be integrated into that system. Commercial competition and national rivalry must not be confused: indeed, the world would be worse off if China and India did not invest in resources because by their very involvement they increase the potential availability of more resources. Furthermore, as with Russia, increased co-operation means reduced risk of conflict.

Russia depends ever more on its harbours and infrastructure on foreign soil. Its existing resources add little value unless they are exported, which builds Russia's ties to the rest of the world. Increased traffic inevitably means some military involvement, which

makes some in this part of Europe a little more uncomfortable than others.

As a commodity, hydrocarbons are peculiar because they are specific to energy-producing natural resources and thus are easily monopolized. Indeed, in the last ten years, in this regard Russia's energy sector has become stronger, given the role of political interests or the personal interests of those acting in the name of government. Nonetheless, Russia could never become a petrol state because only a fraction of its very large labour force is employed in the energy sector.

Gas markets are becoming interconnected with prices in North America, Asia and Europe influencing each other. Russia's market share of 25 percent of gas consumption is not huge compared to other commodities with single suppliers. Russia must defend that market share.

Growth forecasts for energy production for the next ten years are so low that growth in oil or gas exports will have to come from increased domestic energy efficiency. Some of the additional production will be in regions that cannot conveniently service the European market. Russia must also be confident in its ability to supply increased demand.

Most of the world's gas reserves are not very far from European consumption centres. Central Asia is an excellent opportunity for diversification of sources. But supply is not the only factor: the speed and clarity of decision making and stability are just as important in assuring reliability.

Cheap gas provides no incentive for increasing efficiency. However, it is unlikely that gas prices will rise more than 15% before the 2008 Russian presidential election, after which they might increase



to 25%. Some consider energy prices are already high enough to encourage a reduction in consumption: Severstal, for example, decreased electricity consumption from 1999 to 2005 by 17 percent and simultaneously increased production substantially.

There will be private and public partnerships as well as privatization in Russia. These will also create an incentive to reduce energy consumption, which already exists: GDP went up 7.1% but energy consumption only 1.6% in 2004.

Russia forecasts an increase in exports of up to 60 billion cubic metres between now and 2020. Europe, over that same period, is expected to increase demand by 200 billion. That is four times as much gas as Gazprom can deliver. The State Duma supports Gazprom's export monopoly but the future of independent producers is at stake if they are limited to the domestic market. At stake, too, is the gas produced in Central Asia. Europe supports the ratification of the transit protocol to facilitate the transport of gas from central Asia.

Diversification already exists in the energy sector. Oil has less leverage over the economy than it did in the 1970s. Moreover, the impact of globalization, with counterforces from China and India, may be ending and central bankers are smarter than they used to be.

## **Key-Note and Working Lunch**

**Prime Minister Matti Vanhanen**, President of the Council of Ministers of the European Union, pointed out in his keynote message that "the cornerstone for energy security is a well-functioning energy market."

**Mr. Ernest-Antoine Seillière**, President of UNICE, spoke about the future of EU-Russia trade relations. He emphasized the need for a full-fledged free trade agreement between the EU and Russia.

### **Session 3: Brainstorming on How to Meet Europe's Energy Needs**

- A free market will guarantee energy security.
- There must be increased transparency and reciprocity among partners.
- Research and development should focus on making energy convenient, cheap and clean.

There are many opportunities for Russians, with some interpreters mature enough to become real players in the global arena, including Europe. People still do not understand the Russian situation well and base their criticisms on prejudice. Conventions like this one improve the understanding of Russia by the European and world business community.

Russian capital markets expanded extraordinarily due partly to Russian willingness to invest and partly to foreigners' willingness. The market has increased tenfold, with huge capitalization. Portfolio investors tend to look at capital markets and are concerned with liquidity, transparency and corporate governance. Most developing markets started off focusing on factors other than transparency, liquidity and corporate governance, as a look at India, Malaysia, Korea or even Japan 20 years ago reveals. Foreign direct investment brings improvement in those areas, because investors demand higher standards to create a climate of trust.

On the question of Russian investment in Europe, Europe retains an element of economic patriotism, particularly toward companies from emerging markets but also among the EU member states.

Some maintain that continental Europe is returning to a pre-1992 situation with restrictions on the free flow of capital, and follows a double standard of corporate governance, given the concept of national champions espoused by Italy, Portugal, Spain and France. Russia, with its tradition of state ownership, may have much to learn, but continental Europe may not be the best role model. There needs to be far more cross-border connections, with common rules for things such as gas storage. Small steps — following the direction of the EU green paper — rather than sweeping gestures will produce steady progress and, eventually, a common voice.

The amount of gas available in Russia would increase by as much as 75% if energy efficiency improves: the biggest “deposits” are in thus Moscow, St. Petersburg and Novosibirsk. A single dollar invested in energy efficiency yields much more than a dollar invested in Siberia’s gas fields.

There is much debate on whether a central European regulator is more desirable than national regulators. For some sectors such as electricity the major consideration is simply an efficient and functioning system; nuclear safety has different requirements, and although the needs vary by country, Germany’s position affects the whole EU.

Opinions in nuclear power are increasingly fluid. In Sweden, for example, some say as much as 50% of public opinion supports developing nuclear energy. Finland also shows majority support. The business

community is reaching out, but more education is always required.

Two decades after Chernobyl, technology is part of the solution for energy and safety is paramount. In France, nuclear energy has been privatized to some extent, and the negative impact on the share price indicates nuclear is considered an affordable alternative.

Japanese and Swiss utilities have invested into French nuclear power stations. Cross-border co-operation among nuclear operators will improve safety and standards. The UK's energy review, expected in four or five months, will likely reveal a position different from three years ago.

Germany has been a good partner in the nuclear industry in the past, and some feel public opinion will likely begin to support nuclear energy. Germany has underinvested in power plants because of an unclear regulatory framework. The grid system does not fit the production structure well, and the price of CO2 is unpredictable. Nuclear is part of the solution, but discussions will probably not be publicly acceptable until after the next election. President Putin was able to persuade Chancellor Merkel to discuss nuclear safety but no other nuclear power issues at the St. Petersburg G8 Summit on July 15-17.

Russia's big nuclear industry does not have the highest standards. The 10 new members of the EU have Russian technology that is still working well. Ironically, the strength of resistance to nuclear energy may be influenced by the high price of oil and the fear of inconsistency in the supply of energy through the G8 from Russia. Nongovernmental organizations have been more effective in getting their message on abolishing nuclear energy through the G8 leaders than the business community has been in promoting nuclear

as a necessary part of the solution. A G8 business council should be created to restore balance.

If Russia was a member of the World Trade Organization, dispute settlement could be managed by its appellate body. The International Energy Agency doesn't work because Russia is not a member, and it appears it cannot be in the U.S. view until Russia joins the WTO.

On Europe transit, Russians have agreed in principle with the Energy Charter but are bound by an outdated protocol. A free trade agreement between the EU and Russia could produce more modern, balanced rules for dispute settlement similar to the North American Free Trade Agreement.

Liquefied natural gas is the future although it requires another five to ten years to develop.

## **Session 4: How to meet energy needs and reduce CO<sub>2</sub>?**

Future demand for energy will come from the developing world, not the industrialized members of the Organization for Economic Co-operation and Development as in the past. China's energy consumption has increased by 60% over the past six years.

Today's energy mix of resources and countries was determined 50 years ago, but from now on it will be determined by accessibility, affordability and environmental protection: it must be convenient, cheap and clean.

Europe uses 10% ethanol in gasoline, but this first generation of biofuels is still inefficient and uses too much land. Similarly, components are being designed to function better on alternative energy sources.

Technological development is focusing on clean coal or gas liquids for transport that differ from gasoline and diesel. One promising area is synthesis gas, essential in catching CO<sub>2</sub>. Another is coal gasification. China's coal-fired power stations can be built in a way that captures CO<sub>2</sub>, although the problem of storage remains.

Enough energy is available but it requires international co-operation to manage the environmental aspects and reduce the global footprint. Multinational corporations are well equipped to grasp this opportunity for technological development. But the message for the G8 is that strong and predictable frameworks must be in place for foreign investment.

## PROGRAMME

### FRIDAY 7 JULY 2006

9:00

#### Welcome

- **Mr. Jorma Ollila**, Chairman of the Council, European Business Leaders' Convention

9:10-  
10:45

#### EU-Russia Energy Relationship

**Briefing: Mr. Ivo Bozon**, McKinsey & Co.

- **Mr. Anatoly Chubais**, RAO UES
- **Mr. Andris Piebalgs**, European Commission
- **Mr. Matthias Warnig**, The North-European Gas Pipeline
- **Moderator: Mr. Anatole Kaletsky**, The Times

10:45-  
11:10

#### Coffee

11:15-  
12:20

#### Geopolitics of European Energy

- **Mr. Pekka Sutela**, The Bank of Finland

- **Mr. Daniel Yergin**, Cambridge Energy Research Associates CERA
- **Moderator: Mr. Charles Grant**, Centre for European Reform

12:20- **Working Lunch:**  
14:00

**"The Future of EU-Russia Trade Relations: What is the Role of Energy?"**

- **Mr. Ernest-Antoine Seillière**, UNICE

14:10- **EU and Russia: Energy Issues**

14:30

- **Key note: Mr. Matti Vanhanen**, Prime Minister of Finland, President of the EU Council

14:30- **How to Meet Europe's Energy Needs?**  
16:00 **Brainstorming Session with Nik Gowing**

**Opening Comments:**

- **Sir Win Bischoff**, Citigroup
- **Mr. Jukka Härmälä**, Stora Enso
- **Mr. John Kirton**, University of Toronto
- **Mr. Bruno Lescoeur**, Electricité de France
- **Mr. Alexey A. Mordashov**, Severstal



- 16:00-16:25
  - **Mr. Victor Vekselberg**, TNK-BP  
**Coffee**
- 16:30-16:50
  - Sustainability and Energy:  
“Can We Meet Energy Needs and  
Reduce CO2 Emissions?”**
  - **Key note: Mr. Jeroen van der Veer**,  
Royal Dutch Shell
- 16:50-17:00
  - Announcements**
  - **Dr. Risto Penttilä**, Secretary General,  
European Business Leaders’ Convention
- 18:00 **Departure to the Mariinsky  
Theatre**
- 19:00 **Ballet at the Mariinsky Theatre  
hosted by Severstal**
- ~22:00 **Buffet Dinner at the Consulate  
General of Finland**

## **SATURDAY 8 JULY**

- 10:00-~13:30 **A tour of St. Petersburg**

