



# RUSSIA: Oil and gas giant

## Introduction

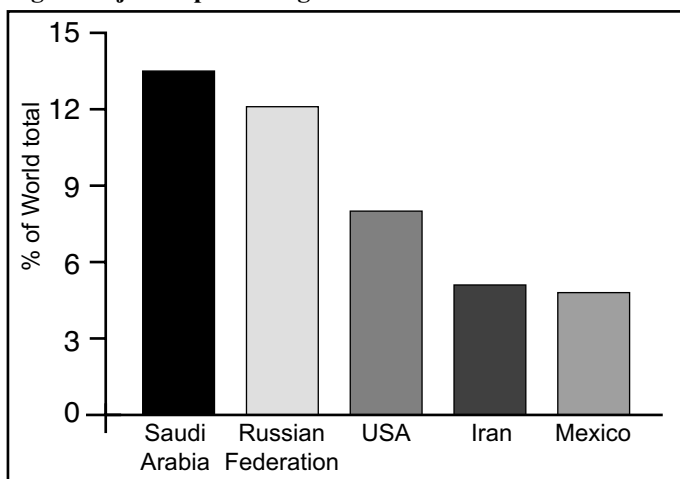
Russia is one of the world's major producers and exporters of oil and gas. It is the World No. 2 for oil and the World No. 1 for gas. World Bank statistics show that oil and gas account for over 20% of Russia's GDP. The production of these fossil fuels is vital to the country's economic success. The high energy prices of recent years have been of massive benefit to the Russian economy and there is no shortage of demand for Russian oil and gas. To the west lies energy-hungry Europe. To the south and east are the rapidly expanding economies of India and China, along with the developed economies of South Korea and Japan.

European countries in particular have become increasingly reliant on energy supplies from their giant neighbour. However, a series of disputes in recent years, usually involving significant price increases, have made Russia's neighbours wary of its increasing energy influence. This Factsheet examines the strength of the Russian oil and gas sector and its trading patterns in these commodities along with the major issues that have arisen.

## 1. Oil

Russian oil production has increased considerably over the last decade to put it firmly in second place in the global league table (Fig. 1). In 1995 the level of production was 6,288 thousand barrels daily. By 2005 this has risen to 9,551 thousand barrels daily. In contrast, production in Saudi Arabia increased from 9,127 to 11,035 thousand barrels daily. There is a considerable gap between the top two oil producers and the USA in third place. Early data for 2006 suggest that Russia may have edged in front of Saudi Arabia to become the world's number one oil producer.

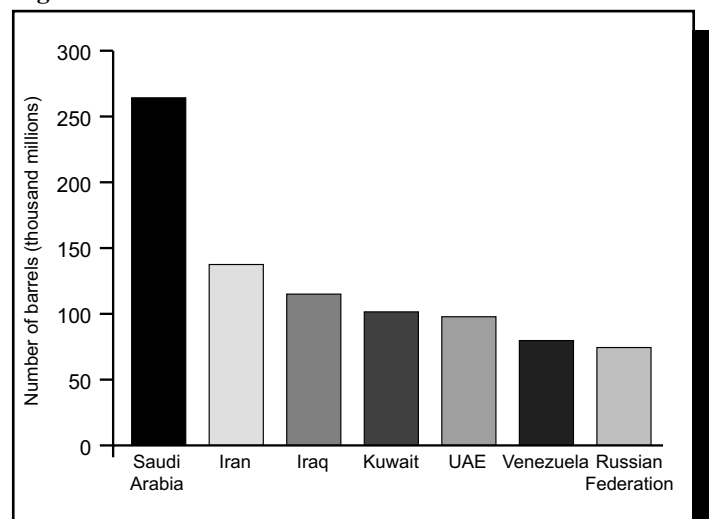
Fig. 1 Major oil producing countries 2005.



Source: BP Statistical Review of World Energy, June 2006

In terms of proven oil reserves Russia is less prominent than it is with regard to production. In 2005 it ranked seventh with 10.2% of the global total (Fig. 2) according to the BP Statistical Review of World Energy. However, it must be kept in mind that a number of different organisations have produced estimates of Russian oil reserves and their conclusions vary widely from 60 to 180 thousand million barrels.

Fig. 2 Proven oil reserves 2005.



Source: BP Statistical Review of World Energy, June 2006

A major aspect of proved reserves is the **R/P Ratio (Reserves/Production Ratio)**. In Russia it is 21.4 years compared to 65.6 years in Saudi Arabia. The highest in the world is the UAE with a figure of 97.4 years. In total, fifteen countries have an R/P ratio greater than Russia. However, R/P ratios can change considerably with new discoveries and significant areas of Russia have yet to be explored in detail, including E. Siberia.

### Key Term: Reserves-to-production (R/P) ratio

If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that level.

Fig. 3 The main oil and gas producing areas in Russia.



### Russia's oil producing areas

- Most of Russian oil production increase in recent years has come from the **West Siberian basin** in the Khanty-Mansiysk Okrug region. About two-thirds of production comes from this region and it holds about the same proportion of the country's reserves. The region is best known for the huge Samotlor megafield but this is in decline. The new production since the early/mid 1990s declines emanates from 270 other fields in this immense region.
- The **Volga/Urals Basin** contains about 18% of Russia's reserves. Production is dominated by the Romashkino field where production is clearly in decline. However, there has been a slight increase in production from other fields recently.
- The **Timan/Pechora Basin** contains around 8% of the country's reserves. The exciting development here is Rosneft/Gazprom's Prirazlomnoye field just offshore in the Pechora Sea. This is the first significant polar continental shelf project to get underway. It is likely that others will follow.
- The **Eastern Siberia/Far East Oil Basins** are separate producing regions which together comprise 3% of the estimated total reserve. Production in this region will increase significantly in future years with the focus on Sakhalin Island and the surrounding Sea of Okhotsk.
- The **North Caucasus Oil Basin** contains 1% of Russian oil reserves, with production levels flat for a number of years.

### Sakhalin/ Sea of Okhotsk

Two huge oil and gas projects are underway beneath the Sea of Okhotsk, off the coast of Sakhalin island in the far east of Russia. Led by Exxon Mobil and Royal Dutch Shell these are the largest foreign direct investments in Russia. The Shell-led project (Sakhalin Energy) began producing oil in 1999. Eventually, both oil and gas will be pumped through twin pipelines to an oil terminal and a liquefied natural gas (LNG) plant at the southern tip of the island.

The Exxon group first sent oil across the Tatar Strait in 2006. It is likely that Japan will be the main recipient of most of the gas from this region. Russia made its first shipment of oil to India from its Sakhalin 1 offshore block in late 2006.

Sakhalin Energy was the only big energy project in Russia not to involve a Russian company, although this is changing, while the two huge Sakhalin projects are the only exceptions to Gazprom's gas export monopoly.

### Increasing state control

The process of **resource nationalisation** which has occurred in other countries such as Venezuela and Bolivia, seems to be underway in Russia. Under various types of pressure from Russian government departments. Royal Dutch Shell and two Japanese partners agreed in January 2007 to sell a controlling stake in the \$20 billion Sakhalin 2 project. It also seems that Russia is preparing to reserve control of all new offshore oil and gas fields for Gazprom and Rosneft, the state controlled energy giants. This would leave out foreign companies and Russian non-state companies such as Lukoil. However, many energy experts feel that production and efficiency will suffer without the expertise of foreign companies.

#### Key Term: Resource Nationalisation

When a country decides to place part, or all, of one or a number of natural resources (e.g. oil and gas) under state ownership.

### Overseas investment

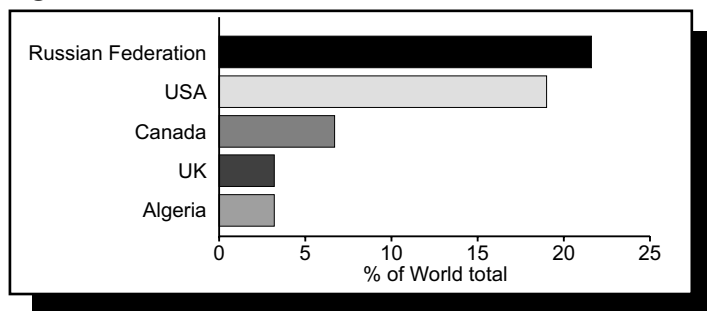
In November 2006 The Russian OAO Rosneft Oil Company announced that it was to sign an agreement with China National Petroleum Corporation to co-establish and co-manage petrol stations in China. The Russian government is keen to see more developments of this nature. Rosneft also plans to build a pipeline connecting a branch of the East Siberia-Pacific oil pipeline in Russia to a refinery in China. Rosneft already accounts for more than 70% of Russian oil exports to China.

**2. Natural Gas**

Russia vies with the USA as the world's number one gas producer (Fig. 4). Both countries account for about a fifth of global production. For natural gas there is an even larger gap than for oil between the two largest producers and the country in third place (Canada). Production in Russia has increased from 555.4 billion cubic metres in 1995 to 598.0 billion cubic metres in 2005. As the currently operated gasfields are largely becoming depleted and major investment in new fields is lacking, there is concern that gas production is likely to remain at the same level or even decrease in the coming years. Exports of Russian gas have likewise remained relatively stable. The Energy Information Administration (EAI) identifies the following problems with the Russian gas industry:

- Aging fields
- State regulation
- Gazprom's monopoly control
- Insufficient export pipelines.

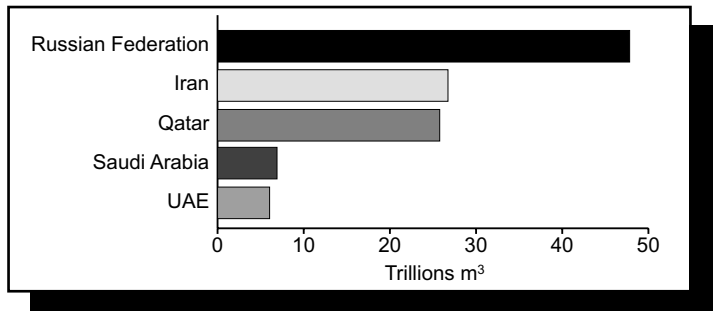
**Fig. 4 Natural Gas Production 2005.**



Source: BP Statistical Review of World Energy, June 2006

The 'Big Three' major gas fields in Western Siberia – Urengoy, Yamburg and Medvezh'ye account for more than 70% of Gazprom's total natural gas production. Although these fields are in decline the company still projects increases in its natural gas production between 2008 and 2030. Russia has vast reserves of natural gas, at almost twice the level of Iran, the next ranking country (Fig. 5). In 2005 the R/P ratio was estimated to be 80 years. The problem will be to deliver these resources in time to meet rapidly increasing foreign demand.

**Fig. 5 Proved reserves of natural gas.**



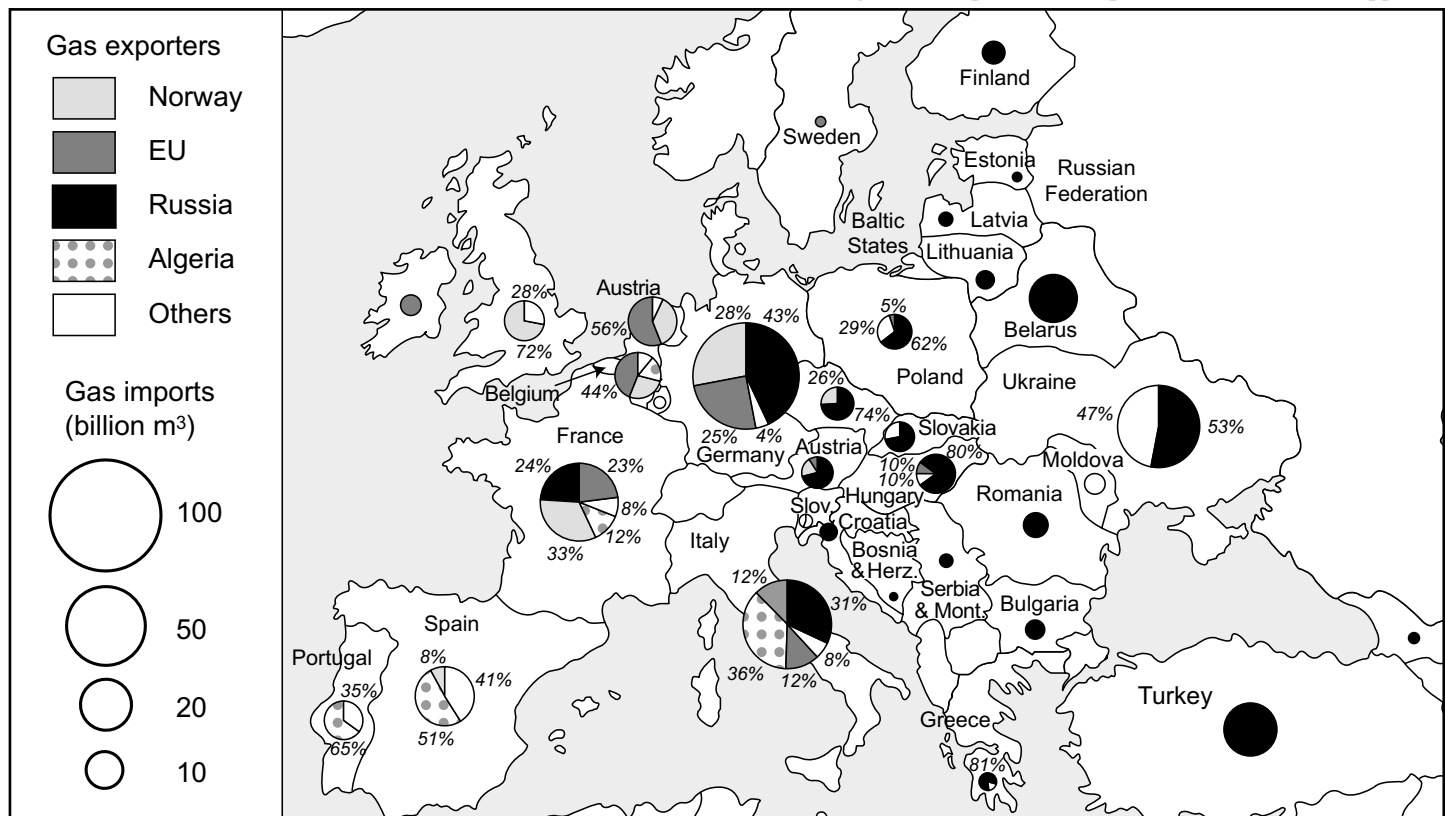
Source: BP Statistical Review of World Energy, June 2006

**Russia extends its energy influence**

Russian gas is piped to a large number of countries via an extensive pipeline network. The pipeline networks for both oil and gas are owned by the state. Gas supplies by Gazprom (a state company with a monopoly on Russian gas exports) accounts for approx 23% of gas consumption in the EU. Countries of Central, Eastern and Southern Europe remain heavily dependent on imports from Russia. Some, such as the Baltic States are 100% reliant (Fig. 6). The largest buyer of Russian gas in absolute terms is Germany, followed by Ukraine and Italy. At present Russia does not export gas to Eastern Asian countries or to the USA. The most important route for Russian gas exports is the pipeline which crosses the Ukraine. This accounts for over 80% of all Russian gas sent beyond the CIS.

There have been increasing concerns about the actions and attitudes displayed by Gazprom, Russia's state-controlled gas giant. Its European customers sometimes view the company as aggressive and bullying. Gazprom has a monopoly on all Russian gas exports, thus it has considerable power. The company is Russia's largest foreign investor. Gazprom is seeking to purchase more "downstream" assets in Europe such as Centrica (which owns British Gas). Some people are concerned about the even-more powerful position Gazprom will enjoy if this happens. Gazprom is also active in other continents, especially in the upstream segment (exploration and extraction) in Central Asia, India, Iran and other countries.

**Fig. 6 Gas imports to Europe: Shares of different suppliers.**



### Recent disputes between Russia and neighbouring countries

Russia has had a number of disputes with neighbouring countries over its exports of oil and gas:

- **The 2006 ‘gas war’ between Russia and the Ukraine** was thought to be largely the result of Russia’s displeasure with Ukraine due to the latter’s political shift towards the West after the ‘Orange Revolution’ in 2004. Russia increased the price of gas to the Ukraine considerably to put political pressure on the country (as well as increasing its revenue).
- **In January 2007 Belarus cut off a transit pipeline carrying Russian oil.** The closure of the 2,500 mile Druzhba pipeline halted the movement of Russian oil supplies to a number of countries. The pipeline carries more than 1.2 million barrels a day of oil, providing almost a quarter of Germany’s needs and 96% of Poland’s imports as well as supplies to Hungary, Ukraine, the Czech Republic and Slovakia. This action was the latest round in the dispute between the two countries over the steep increases in the prices of Russian oil and gas. On December 31<sup>st</sup> 2006 Gazprom raised gas prices for Belarus from \$47 per 1,000 cubic metres to \$100. To counter the rising cost of Russian energy, Belarus announced it would charge an import duty of \$45 a tonne on Russian oil shipped across its territory to western Europe. When Belarus halted pumping, Russia accused Belarus of illegally siphoning off oil from the pipeline. Russia then closed the pipeline on its side of the border. Fortunately, a negotiated settlement was reached which allowed the pipeline to flow again.
- **In late 2006/early 2007 Azerbaijan was also in dispute with Russia.** The former had suspended oil exports to Russia following a pricing dispute with Gazprom.

Such disputes have again raised EU fears about its increasing reliance on energy supplies from Russia. Currently, Europe relies on Gazprom for about a quarter of its gas. Critics argue that Russia has a habit of manipulating gas and oil supplies for political purposes. The German chancellor Angela Merkel said that the dispute illustrated that Europe’s energy sources needed to be more diverse. Thus the EU is looking to:

- **build interconnecting pipelines and power lines**, such as electricity hook-ups between Germany, Poland and Lithuania and between France and Spain.
- **diversify supply.** An important example is the Nabucco pipeline which will connect Europe with gasfields in the Middle East, Caucasus and Central Asia via the Balkans and Turkey. The EU is also looking to build more terminals for the import of liquified natural gas.

Serious doubts have been expressed about the management and efficiency of the energy industry in Russia. In May 2006, the head of the International Energy Agency (IEA) voiced concerns that Gazprom may not have enough gas to supply Europe over the next decade. An IEA study concluded that Gazprom was not reinvesting enough to ensure continued adequate supplies in the future. Gazprom relies on a very limited number of large gasfields and has so far failed to invest in developing new resources in the Arctic. Already Gazprom makes up the difference between its exports to Europe and its falling output from Western Siberia by increasing imports from Central Asia. Gazprom is the monopoly purchaser of gas exports from Turkmenistan. This gas is used to supply Gazprom’s domestic customers in Siberia. Gazprom has announced that it plans to increase the volume of gas exports to European countries with which it has signed long-term contracts. It will thus have to seek additional sources of gas in Central Asia. The company aims to keep full control of such gas exports and to prevent Central Asian producers from selling their gas directly in European markets.

Russia has also taken a very tough line with foreign investors in the energy sector, making life difficult in a number of different ways. There is some concern that the country risks scaring off vital foreign investment as well as potential oil and gas customers. It is not just foreign investment that is needed to keep Russia’s oil and gas sector on track it is also the expertise of foreign firms. According to the Economist (16/12/06, p13):

*“In the early part of the decade new production from the former Soviet Union accounted for most of the growth in the world’s supply of oil and gas. But when Mr Putin began his campaign to take control of Russia’s resources, that growth stalled, just as China’s demand for energy was taking off. The present high prices for oil and gas are the result. With exploration prospects drying up in most of the Western world, and with the countries of the Organisation of the Petroleum Exporting Countries unwilling to open the taps, Russia is one of the few countries that could produce more oil – if only Mr Putin changed his thuggish ways.”*

### NATO warning

According to the Financial Times (Nov 13, 2006) *“Nato advisers have warned the military alliance that it needs to guard against any attempt by Russia to set up an ‘Opec for gas’ that would strengthen Moscow’s leverage over Europe.”* The study warned that Russia could seek to construct a gas cartel including the countries of Central Asia, Algeria, Qatar, Libya and perhaps Iran.

### Increasing links with China

In 2006 Russia said it would build two natural gas pipelines to China and become one of the country’s biggest gas suppliers within the next decade. The pipelines would cost up to \$10 billion to build and under the agreement Russia would supply China and the Asia Pacific region with 60-80 billion cubic metres of gas, twice China’s total consumption in 2004. Some analysts believe that this would not be possible without disrupting supplies to Europe. The first gas could reach China in 2011.

### Exporting to the USA?

The US Department of Energy has discussed the possibility of importing Russian liquefied natural gas. One option appears to be the financing of a joint project on the Jamal Peninsula. Gazprom has floated the idea of building an LNG plant on Yamal since 1995. The fate of the project depends on the rate of development of gas deposits on the peninsula. If production advances swiftly the proposed plant might be able to produce 15 million tons of LNG a year. A fleet of five to eight ice-resistant LNG carriers would be required to transport the product to US ports.

### Conclusion

Russian’s importance as an international energy supplier has increased significantly over the last decade or so and it will become even more critical in the future and may even return Russia to super-power status. This importance will give the country greater economic and political power. There is growing concern about how this power will be used, as the energy security of many parts of Europe could be threatened.

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