

## **Environmental Policy of the Russian Oil and Gas Companies during the Transition Period**

### **(Extended Abstract)**

**Dr. Nina Poussenkova,  
*Institute of World Economy and International Relations,  
Russian Academy of Sciences***

The presenter analyses environmental policy of the Russian oil and gas companies in the 90s, the years of profound, complex and controversial changes in this sector, and attempts to identify its principal driving forces taking into account the specifics of Russia's development during the transition period.

#### **1. Decade of our Discontent**

The 90s was a period of deep economic, production and social decline in Russia: by the late 1990s, Russian GDP was at 56.0%, industrial production at 45.6% and gross fixed capital investments at 22.3% of their 1990 level. Adverse investment climate characterised by economic and political instability and unpredictability, pricing distortions, absence of transparent and fair rules of the game, extremely burdensome taxation, bureaucracy, etc., prevented the inflow of domestic and foreign capital into Russia's economy in general and the oil and gas sector in particular.

Market economy is gradually emerging in Russia after political, economic and institutional transformations of the past decade, but its mechanism of functioning is still undeveloped. Non-payments, mutual off-setting of debts, barter, obligatory deliveries, politically, rather than commercially motivated decisions distort the actions of market forces and the response of the companies. As a result, for example, though energy prices in Russia increased considerably during the 90s, they led to higher unpaid energy bills, instead of lower energy consumption.

#### **2. Economic Decline as an Instrument of Environment Protection**

Technogenic impact of the fuel and energy complex on the environment was reduced by approximately 10% during 1995-2000. But this seemingly favourable environmental trend to a great extent results from the general economic decline rather than from active nature-protection measures: during the 90s the production of main energy resources diminished much more drastically (oil from 516 million tons in 1990 to 305 million tons in 1999, gas from 641 bcm to 592 bcm, and coal from 395 million tons to 250 million tons). And, despite a substantial contribution this decade made to CO<sub>2</sub> emissions reduction in Russia (by 38%), it is more than offset by the adverse consequences of recession, as the energy intensity of Russia's economy by late 1990s grew by 22.0% from its 1990 level.

### 3. Light at the End of the Tunnel?

Currently, after a decade of decline, economic growth begins in Russia in general and in the energy sector in particular: thus, oil production in 2000 amounted to 323 million tons versus 305 million tons in 1999. However, this growth in the fuel and energy complex is based on *obsolete, worn-out and energy-intensive equipment*. For example, the age of Russia's oil pipelines is a matter of serious concern from environmental point of view:

- 25.0% - more than 30 years old;
- 30.0% - 20-30 years old;
- 12.0% - 10-20 years old;
- Annually, 75-80 ruptures occur, mainly at feeder pipelines.

Russian refineries are extremely energy and labour intensive, with considerable emissions of pollutants, 86% of their equipment is worn out, and their yield of light products averages 62% versus 85-92% in the West.

### 4. Environmental Policy: Advancing or Retreating?

The 90s were also an era of important transformations in the environmental sphere. Several *key environmental laws* were adopted during the 90s:

- On Environment Protection (1991);
- On the Subsurface (1992);
- On Environmental Expertise (1996);
- On the Protection of Atmospheric Air (1999);
- On Production-Sharing Agreements (1996, amended 1999), etc.

They introduced important environment-protection mechanisms (including the *polluter pays* principle with differentiated payments for pollution within established norms and in excess of these norms). Some of them were borrowed from Western practices, but they were badly adapted to Russian specifics of the transition period and sometimes evolved into *to pay to pollute* approach. For example, annually 3 bcm of associated gas are flared in Khanty-Mansi Autonomous region, the oil capital of Russia, while many rural settlements and towns of the region, including its capital, Khanty-Mansiisk, use wood, coal, fuel oil and crude oil for heating. To a large extent this "Soviet" attitude to the use of energy resources is still in evidence because today, due to distorted pricing mechanisms, it is more profitable to flare associated gas than to process it. Fines for gas flaring are negligibly small amounting to 30 kopecks per 1 thousand cubic meters for flaring within established norms and 7.5 roubles for flaring in excess of these norms. Regulated prices for associated gas produced by oil companies and sold to gas processing plants to not cover costs of oil companies connected with the establishment of gas-processing facilities, especially at remote fields.

Though greater *environmental "glasnost" and openness* can be considered a very important achievement of the 90s, environmental issues have receded to the bottom of the list of public priorities being overshadowed by more urgent problems of poverty, unemployment, crime,

etc. Besides, the status and authority of the main environment-protection body (*the Ministry of the Environment*) established in the early 90s were gradually diminishing, and in the process of the latest government reshuffle it was abolished altogether, while its functions were transferred to the Ministry of Natural Resources to “speed up the approval process” with understandably grave implications for the environment protection process.

At the same time, environmental matters are sometimes used as a *convenient lever* in the achievement of other (usually political) goals. For instance, the commencement of the Sakhalin-1 project under production-sharing terms was postponed because of its allegedly unsound environmental practices.

### 5. Cinderella without a Godmother

Environment protection is currently a poor relation to other (admittedly urgent) matters, for example energy security. Nowadays, one of the serious problems in the Russian energy sector is the *distortion in the structure of prices*. With market dynamics of coal prices and artificial freezing of gas prices, coal calculated as one ton of oil equivalent became 1.6 times and fuel oil 3.0 times more expensive than gas during the 90s. Therefore, gas as the cheapest (and seemingly available in abundance) fuel is wastefully consumed, while the proportion of coal and fuel oil in the energy balance is diminishing. The share of natural gas in the fuel and energy balance of Russia is currently some 53.0% considerably exceeding the level in other industrialised countries. Gas accounts for 64.3% of energy consumption by power stations of RAO UES Russia.

This trend could have been considered progressive because of high ecological properties of gas if the state of Gazprom’s resource base made it possible to support the necessary level of gas production. However, non-payments for domestic gas deliveries, even taking into account export revenues, do not allow Gazprom to develop new fields. The declining gas production in traditional regions does not permit to meet the growing domestic demand and simultaneously fulfil obligations under export contracts that are main sources of cash for the company and the budget. Thus, Gazprom is forced to cut deliveries to the domestic market.

The Energy Strategy of Russia till 2020 envisages the decrease of gas share in the energy balance with the simultaneous expansion of coal use. Annual gas consumption in the country could be reduced by 30.0 bcm, while coal consumption will grow by 50.0-60.0 million tons. A positive aspect of the programme of gas-to-coal transition for power stations is the recovery of the coal industry and alleviating miners’ discontent in coal producing regions, so social problems will be resolved at the expense of the environment.

### 6. Russian Mystery

So, taking into account the specifics of the 90s, weak NGOs, indifferent public preoccupied with other matters, inability of federal authorities to collect even ordinary taxes, let alone environmental fines,

poorly designed environmental regulation, dominance of energy companies in the regions over local environmental bodies, what can make oil and gas companies comply with environmental regulation and take their own nature-protection initiatives? Presumably, two factors play an important role: the objective need to *upgrade their production facilities* and the desire to have a *positive international image*.

During the 90s, state oil production associations were corporatised and privatised, and vertically-integrated oil companies combining the whole production cycle, from well-head to gas-filling station, were formed in the process. The industry's consolidation is continuing, and weaker companies are acquired by their stronger and more financially sound rivals. These winners are comparable to Western oil majors in terms of their hydrocarbon reserves and oil production volumes. For example, LUKoil, the biggest Russian oil company, produced 62.1 million tons of oil, YUKOS – 49.5 million tons and Surgutneftegas – 40.6 million tons in 2000.

The strongest VICs intend to expand their production base beyond Russia and compete internationally. They target developing countries and European countries for their upstream and downstream projects, respectively. To succeed at the international arena, they have to improve their operating efficiency (to gain qualitative, in addition to quantitative edge) and play by universally accepted rules of the game.

#### 8. The Rich Get Stronger (and Cleaner)

So, all financially well-off oil companies that found themselves in a much stronger position after the 1998 crisis and a period of high oil prices initiate *measures to improve their operating efficiency* throughout the whole production chain thus indirectly benefiting the environment:

- Introduction of state-of-the-art management principles
  - *YUKOS* formed strategic partnership with Schlumberger in 1998 and is implementing QHSE (Quality, Health, Safety, Environment) management at all sites.
- Application of innovative technologies to reduce operating losses.
  - *Tatneft* established Tatex JV in 1990 that develops and manufactures installations for catching and further utilisation of light hydrocarbons.
- Modernisation of oil fields operations.
  - *Sibneft* uses specialised drilling muds of Mdrilling Fluid Company, closed system of purification and regeneration of drilling muds.
- Rational use of natural resources and improved energy efficiency.
  - *Surgutneftegas* is building two gas-turbine stations at distant fields to utilise associated gas.
- Enhancing safety and reliability of pipelines.
  - *Slavneft* started to build new and renovate existing pipelines using fibreglass pipes produced by Ameron International.
- Refineries upgrading.
  - *Tyumen Oil Company* is upgrading its Ryazan refinery with the assistance of ABB Lummus Global and partially funded by the US

EXIMbank in order to enhance the yield of light products, improve energy efficiency and decrease emissions of pollutants.

- Improving quality of petroleum products.
  - Motor oils of *LUKoil* received certificates of conformity with API standards and are approved by BMW, Volkswagen and Porsche.

### 9. Conquering New Frontiers

Another important benefit for the environment stems from the desire of the Russian oil VICs to *integrate into the world economy*. In the 90s, all Russian oil majors have been actively raising funds at international stock markets through issues of ADRs, Eurobonds; many of them are currently listed at NYSE and LSE; they obtained loans of the World Bank, EBRD, US and Japanese EXIMbanks. Their management is getting increasingly more sophisticated and Westernised; the old generation of the so-called "Red oil generals" has been almost completely replaced by new Russian yuppies who were educated abroad or use Western advisors. YUKOS for example proudly informs that it employs some 40 foreigners in its top echelon. So, they understand that in order to become successful global players they have to be perceived as "good corporate citizens", not only in their relations with minority shareholders, but in environmental sphere as well.

To demonstrate better transparency of their operations and improve their environmental image, they undertake:

- audits of their financial statements (big five of auditors);
- reserves audits (Miller&Lents, Ryder Scott, etc.);
- environmental audits (Dames&Moore, etc.);
- publication of environmental reports;
- receive ISO 14001 and ISO 9001 certificates.

And, presumably, with the further development of the stock market in Russia, their environmental image will have greater impact on their share performance domestically.

### 10. Environmental Missionaries

Another important factor is the *greater participation of world-class international oil and service companies* in the development of the Russian oil industry, including on the basis of production-sharing agreements and joint ventures. They contribute more progressive and environment-friendly technologies and equipment, know-how and sound managerial practices.

*CONOCO's* activities in Russia can serve as a vivid example of this new trend in the energy dialogue between Russia and the West. The company is currently implementing two projects in the Timan-Pechora oil and gas province: Polar Lights (together with Arkhangelskgeoldobycha and Rosneft) and Northern Territories (with Arkhangelskgeoldobycha and LUKoil). Taking into account the climatic conditions of the Arctic tundra, the company is introducing technology and methods that it tested and successfully used in Alaska:

- Ardalinsk field and 67-km Ardalinsk-Kharyaga pipeline were constructed only in Winter not to damage soil; equipment was delivered by winter roads and helicopters;
- drilling rigs, production facilities and houses were built on 2-3-meter high pads to protect soil against warming;
- in 1998-99, CONOCO drilled a well from an ice pad using technology tested in Alaska. This method was used in Russia for the first time;
- insulated pipeline is laid on piles and has four crossings especially made for Northern deer;
- the company utilises low-toxic drilling muds and Western engines with lower atmospheric pollution;
- a comprehensive environmental monitoring is maintained at all facilities;
- as a result, Polar Lights was awarded Lomonosov prize for the introduction of environment-protection technologies in Polar regions in 1994 and 1998.

The approach of the company to the Northern Territories project radically differs from the former Soviet attitude to the development of new provinces when oilmen and construction crews came to a new region, thoughtlessly destroyed fragile ecosystems in their quest for "quick and easy oil" and then, in best case scenarios, hastily repaired the damage, while in worst case scenarios simply ignored it. Out of the total capital expenditures of \$ 3.2 billion envisaged for the Northern Territories, \$ 481 million will be spent on environment-protection measures and another \$ 12 million will be allocated for social programmes in the Nenetsk district.

### 11. Hydrocarbon Ambassadors of Russia

Another aspect of the Russian energy sector internationalisation that could have an important beneficial impact on the environment is the growing *participation of Russia's leading oil and gas companies in international projects*, often with foreign partners, especially in oil and gas pipelines construction. Thus, one of the most ambitious projects of Gazprom is the construction of the **Blue Stream** pipeline to deliver 16 bcm of Russian gas to Turkey. The unique environmental features of this project stem from the fact that 396.0 km of this 1,213.0 km long pipeline will be laid on the bottom of the Black Sea in a highly ecologically sensitive area, and it will pass through the territories of several states which makes Blue Stream very sensitive politically as well. The defence of the environmental concepts of its construction that finally was approved by the international community was a difficult obstacle for Gazprom to overcome. Environmental safety of the construction is further ensured by 50:50 ENI-Gazprom partnership and by the use of specially insulated pipes manufactured by Sumitomo that guaranteed their safety and reliability. Gazprom and its construction arm, Stroitransgas, are well aware that if successful (especially environmentally), the Blue Stream can serve as their "business card" in further large-scale international projects.

### **Conclusion**

The beginning of the new millennium will undoubtedly witness the emergence of new trends in the complex interrelation between energy and the environment in Russia. A lot will depend on the type of economic growth (sustainable or unsustainable) in the country. A much stronger federal authority (however not particularly concerned about environmental matters) will be another key driver. Probably, the best hopes for the environment are connected with the continuation of profound market reforms, further improvement of investment climate, deeper integration of the country into world economy and much greater transparency.