PUBLIC POLICY FOR THE

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Gas Reform in Ukraine

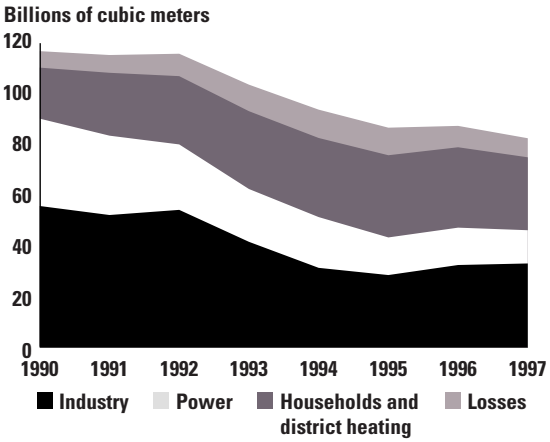
Monopolies, markets, and corruption

Many countries are struggling to liberalize their energy markets and to replace rigid state controls with private initiative and ownership. Ukraine illustrates the extreme difficulties of this transformation when a country's macroeconomy is severely imbalanced, enterprise governance is poor, and political leadership is ineffective—shortcomings that also exist in several other countries of the former Soviet Union. This Note is the second of three on Ukraine's reforms; the other two are on the electricity and coal industries.

Reform of the natural gas industry in Ukraine started a year later than reform of the power industry. Because gas reform had no blueprint, its direction has remained ambiguous. That ambiguity is the result of a conflict between those who advocate vertically integrated, opaque, monopolistic structures and those who want a transparent, competitive gas market governed by stable rules. This conflict will likely continue for several years, making the ultimate outcome difficult to predict. More by accident than by design, the reform produced a number of innovative features that might be of interest for other countries planning to restructure and privatize their gas industries.

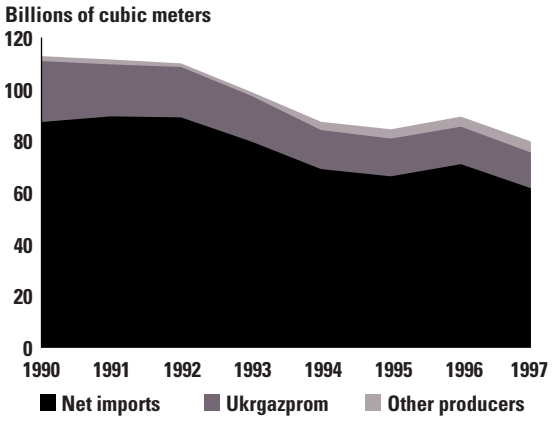
In 1990 Ukraine consumed 115 billion cubic meters of natural gas (figure 1), representing about 40 percent of primary energy consumption. Over the next seven years gas consumption dropped to about 80 billion cubic meters a year. In 1997 industrial enterprises used 40 percent less gas than in 1990, households, budgetary entities, and district heating companies used 43 percent less, and power plants used 62 percent less. Despite the decrease, gas accounted for more than half of primary energy consumption in 1997, making Ukraine one of the world's most gas-intensive economies.

FIGURE 1 NATURAL GAS DEMAND, 1990–97



Source: Ukraine State Oil and Gas Committee.

FIGURE 2 NATURAL GAS SUPPLY, 1990–97



Source: Ukraine State Oil and Gas Committee.

Ukraine has significant proven and probable gas deposits, both onshore and offshore. Today domestic gas fields produce about 18 billion cubic meters of gas a year (figure 2). The rest of domestic gas demand is covered by imports from Russia and Turkmenistan (though Russia is expected to become the sole external supplier in 1998). Ukraine is on the main export route for Russian gas to the rest of Europe. As payment in kind for the transit service, Ukraine receives up to 30 billion cubic meters a year of gas from RAO Gazprom. (RAO Gazprom, Russia's largest company, produces about one-quarter of the world's natural gas.) Ukraine has extensive gas storage facilities (capable of storing an active volume of 32 billion cubic meters), a well-developed transmission system (10,000 kilometers of high-pressure lines), and an extensive distribution system (60,000 kilometers of small-diameter pipes). In early 1998 the gas industry employed about 110,000 people.

Ukraine became one of the first countries in the world where gas transmission and distribution were unbundled from gas import and supply.

A 1994 parliamentary decision banned the privatization of transmission and distribution pipelines and the related infrastructure, so these formally belong to the State Property Fund and are not included among the assets of the gas companies. Until recently Ukrgazprom, a fully state-owned company, was the main domestic gas producer and operated gas transmission and storage facilities. About fifty oblast- and city-based distribution companies were responsible for the operation and maintenance of the distribution networks. Ukrgaz, a former association of gas distribution companies, managed state-owned shares in the gas distribution companies. Gas production, transmission, and distribution activities were supervised by the State Oil and Gas Committee, the main government agency responsible for implementing the government's gas strategy and the de facto representative of the state as the owner of gas industry companies. Gas exploration was supervised by the State Geology Committee. The Ministry of Economy regulated gas prices and transportation tariffs.

Main challenges and initial reforms

In early 1995 the Ukrainian government faced three major challenges in the gas sector: reversing the decline in gas production, ensuring that only those that paid for imported gas received it, and preserving Ukraine's strategic position on the east-west gas transport corridor in Europe. In 1994 RAO Gazprom announced that a major new line through Belarus and Poland would be constructed to carry gas from the Yamal peninsula to Germany. Early construction of this line would enable RAO Gazprom to divert some of the gas flows that currently go through Ukraine.

The first reform step addressed the problem of declining domestic gas production. Gas production had the potential to increase to 30 billion cubic meters a year following large investments in exploration and production over a period of about five years. But these investments would have to come from abroad because Ukraine lacked sufficient financial resources, technology, and know-how. Recognizing this, the State Geology Committee started awarding exploration (and later, production) licenses to private (mostly foreign) companies in 1995.

The second reform step addressed the problem of inadequate payments for gas imports. Until 1996 Ukrgazprom was the sole importer of gas in Ukraine. This monopoly fit well with the State Oil and Gas Committee's centrally planned approach to balancing gas supply and demand. It also suited RAO Gazprom because import volumes, prices, and payments were negotiated with and guaranteed by the Ukrainian government. But highly subsidized domestic gas prices led to the rapid accumulation of payment arrears in 1992–94. Even after indus-

trial gas prices were raised to the import parity level in early 1995, the state continued to build up external arrears at an unsustainable rate because payment discipline was poor and state-owned distribution companies were reluctant to cut off delinquent customers. In 1996, under pressure from the International Monetary Fund, the government took a radical step: sovereign guarantees for gas imports were eliminated, and private gas traders were given exclusive rights to import and sell gas to all consumers in specific oblasts assigned to them by the Cabinet of Ministers. With this measure Ukraine became one of the first countries in the world where gas transmission and distribution were unbundled from gas import and supply.

Continuing problems

Awarding exploration and production licenses to foreign companies and transferring responsibility for gas imports to private traders had mixed results. On the positive side, foreign direct investment started to flow to the upstream gas industry, traders managed to improve payment discipline among industrial customers, and the government stopped accumulating additional debt to Russia and Turkmenistan. On the negative side, none of the main multinational oil and gas companies found the legal and regulatory framework attractive enough to make large-scale investments in gas exploration and production, the frequent redistribution of supply franchises among traders led to occasional violence and to accusations of corruption, and payment discipline remained low among households, district heating companies, and power plants. Even on external debt, success was only partial. RAO Gazprom claimed that the Ukrainian government was responsible for the arrears accumulated by private traders because the traders were pressured by central and local governments to maintain supplies to politically important customers, and were afraid of losing their franchises if they ignored "national interests." In the summer of 1998 the government accepted responsibility for US$1.37 billion of debt incurred in 1997–98.

Although the system was left largely intact in 1997—the only notable changes were the redistribution of supply franchises in favor of politically influential traders and the permission given to Ukrgazprom to import a limited amount of gas—the need for additional reforms was widely acknowledged. Even Ukrgazprom, a company that had opposed any change in the status quo, argued that it could not ensure the reliability of the transmission system unless

The frequent redistribution of supply franchises among traders led to occasional violence and to accusations of corruption, and payment discipline remained low.

it stopped giving gas to privileged consumers at low prices and mostly without payment. In fact, Ukrgazprom should have been the most profitable company in Ukraine in 1997. It produced 14 billion cubic meters of gas at a cost of about US$400 million, about 30 percent below market value. It also received from RAO Gazprom 30 billion cubic meters of gas with a market value of US$1.2 billion to US$1.4 billion as payment for the transit service, while the cost of providing this service was about US$700 million.

Several shippers—RAO Gazprom, a number of gas traders, and a private gas producer—pointed to deficiencies in the tracking and control of gas flows in the transmission and distribution network, deficiencies that made it extremely difficult to enforce commercial contracts between gas sellers and buyers. Potential foreign investors in the upstream gas industry noted the lack of assurances about their access to the transmission and distribution network and their ability to market gas to third parties. A commission created by Parliament to investigate "irregularities" in the energy sector demanded that

territorial supply monopolies be abolished and a properly functioning gas market be established.

Competing reform concepts

Two very different reform concepts emerged in the debate. The first, put forward by Ukrgazprom and the State Oil and Gas Committee, favored increased state control over the gas industry through the vertical integration of gas producers, transporters, and distributors. This setup, it was argued, would improve the flow of revenue from consumers to producers and facilitate the reallocation of profits to priority investments. The second reform concept, developed by the Ministry of Economy, National Agency for Development and European Integration, and World Bank, advocated reduced state intervention through the separation and privatization of Ukrgazprom's production, transmission, and marketing activities, elimination of exclusive gas supply franchises, privatization of gas distribution companies, liberalization of gas prices, and establishment of an independent regulatory body to ensure open access to the transmission and distribution network. Various presidential decrees and Cabinet resolutions issued in 1997 attempted to combine these two concepts into a coherent reform plan, with limited practical results.

A change of government in mid-1997 opened a window of opportunity for those who wanted to eliminate the regional gas import and supply monopolies awarded to selected gas traders. The newly formed Cabinet announced that the gas market would be divided into two segments in the coming year. The first segment, for the import and supply of gas to industrial consumers, would be assigned to private gas traders without any restrictions on service areas or prices (figure 3). The second segment, for the supply of gas to households and district heating companies, would be assigned to gas distribution companies selling Ukrgazprom's domestically produced and transit-fee gas at prices fixed by the Ministry of Economy. Subsequently, the State Oil and Gas Committee issued requirements that gas traders had to meet to receive import permits. After some relaxation of these requirements, more than twenty traders were authorized to import and sell gas to industrial consumers at freely negotiated prices in 1998.

Meanwhile, the State Property Fund sold the majority of the shares of several gas distribution companies to company managers, employees, and local financial investors at very low prices. The low share prices resulted from a number of factors that deterred strategic investors:

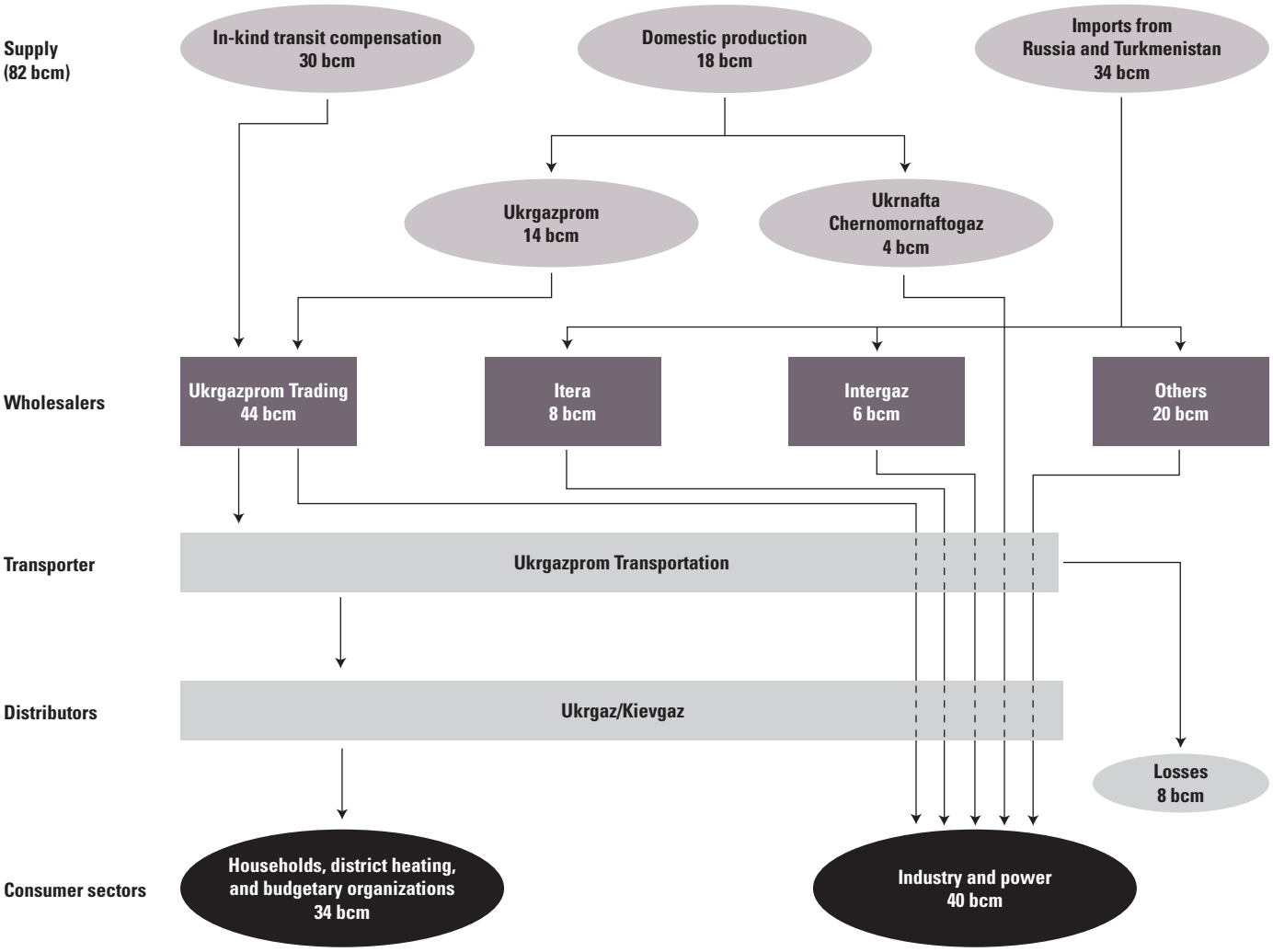
- The assets of the companies did not include the pipelines (since pipelines could not be privatized).
- The rights of the companies to operate and manage the pipelines in the long term were unclear.
- The price of gas marketed by the distribution companies was set at US$66 per thousand cubic meters, including a distribution fee of US$5.34 per thousand cubic meters—barely enough to cover recurrent costs.
- Local governments and influential politicians remained strongly opposed to the curtailment of gas supplies to delinquent consumers.

Developments in 1998

Payment collections from households and district heating companies remained low in the first six months of 1998. The newly privatized gas distribution companies kept enough revenue to cover their wages and other recurrent costs and sent what was left to Ukrgazprom. Still, Ukrgazprom's financial situation continued to deteriorate. The supply to industrial consumers was at risk because few traders were sufficiently creditworthy to purchase gas from RAO Gazprom. Nevertheless, price liberalization led to a significant drop in the prices paid by large consumers, particularly when part of the payment was in cash.

In early 1998 supporters of a vertically integrated industry structure focused their efforts on establishing Naftogaz, a company whose assets would include everything that the state owned in the oil and gas industry. It was argued that Naftogaz could solve the problem of

FIGURE 3 PLANNED GAS SUPPLY AND DEMAND, 1998



Note: **The abbreviation "bcm" means billion cubic meters.**
Source: **Ukraine State Oil and Gas Committee.**

low payment collection because it could take away the right to manage and operate distribution assets from gas distribution companies that performed poorly. Its supporters also claimed that Naftogaz could increase foreign direct investment in oil and gas production because it could enter the assets of its oil- and gas-producing subsidiaries into joint ventures (until then, only the State Property Fund was authorized to privatize these and other gas industry assets). Finally, supporters claimed that Naftogaz could provide funding for priority investments because it could reallocate profits among its subsidiaries.

These arguments were apparently accepted by all the relevant government agencies, and in February 1998 a presidential decree ordered the government to establish Naftogaz. Naftogaz can also be seen as an attempt by the government to regain control over the privatization process in the oil and gas sector in response to the increasing influence of the Parliament over the State Property Fund. As a gesture to those who argued for separation rather than integration, the presidential decree also ordered the implementation of organizational steps to unbundle gas production, transmission, and supply functions, although this unbundling was expected to take place within the framework of Naftogaz. A government resolution issued in June approved the charter of Naftogaz and appointed its chairman and supervisory board.

In a May 1998 meeting to discuss the recommendations of a World Bank–government working group on gas reform, advocates of the second reform concept argued that the nonpayment problem could not be solved unless the management of transmission and distribution assets were transferred to strategic investors, that controlling corruption would require introducing a transparent, cash-based gas marketing mechanism, and that full-scale privatization (rather than joint ventures) was needed to revitalize domestic gas production. At the end of the meeting agreement was reached on an action plan that included, among others, the following steps to be taken during 1998–2001:

- Setting up in 1998 of a state-owned joint stock company to operate the transmission network, and appointment in 1999 of a consortium of domestic and foreign companies to manage the shares of this company for at least fifteen years. State ownership in the consortium will be limited to 25 percent plus one share. The allocation of transmission capacity will be market-based, ensuring equal treatment of all domestic shippers.
- Introduction in 1999 of incentives and criteria to improve the collection performance of gas distribution companies. Where performance is poor, rights to operate the distribution system and supply gas to nonindustrial customers will be transferred to other entities (domestic or foreign) with a proven track record.
- Starting in mid-1998, organization of quarterly gas auctions where gas traders and large consumers can purchase gas from Ukrgazprom for cash.
- Improvements in 1998–99 in the metering, tracking, and balancing of gas flows, including the introduction of contractual arrangements for the settlement of differences on a daily and monthly basis.
- Separation and privatization of the gas production activities of Ukrgazprom and the gas exploration activities of the State Geology Committee.

If implemented, the action plan will go a long way toward restoring the financial health of the gas industry, increasing budget revenues, addressing the complaints of investors in gas exploration and production, and ensuring the reliable transit of gas from Russia to Central, southern, and Western Europe. Several well-connected parties will be negatively affected, however. Private traders, for example, may lose their best customers when financially liquid industrial companies can purchase their gas at auctions. Central and local governments will be much less able to ensure the supply of gas to cash-strapped budgetary entities and public utilities. Managers who cannot adapt to a market environment and workers who are redundant will lose their jobs. Government officials who benefit from nontransparent gas trading arrangements will also be worse off.

To date, government performance in implementing the action plan has been mixed. The first gas auction, in the summer of 1998, failed because of a high preset minimum price and limited advertisement. Half a billion cubic meters of gas were sold at a subsequent auction shortly afterward at a slightly lower minimum price. At the third auction, in late October, just 9 million cubic meters of gas were sold for US$37 per thousand cubic meters (equal to the minimum price), reflecting the weakening demand for gas due to the recent depreciation of the hryvnia

and a downturn in the economy. It remains to be seen whether the government (or its agent, Naftogaz) will be willing to lower the minimum price in order to sell more gas through auctions.

In September 1998 Ukrgazprom and Ukrgaz were reorganized into three companies: a gas transportation company that owns transmission and distribution assets, a gas trading house, and a gas production company. All three companies, however, remain under Naftogaz. Preparations have not started for the privatization of the gas production company and the award of a long-term management contract for the gas transmission system.

A presidential decree ordered the transfer of responsibility for regulation of the gas industry from the Ministry of Economy and the State Oil and Gas Committee to the National Electricity Regulatory Commission (although the Ministry of Economy will continue to set household gas prices for a limited period). Given the time required to recruit gas specialists and implement necessary organizational changes, the regulatory commission is not expected to be ready to discharge its new functions until mid-1999. The State Oil and Gas Committee, having been stripped of its ownership and regulatory functions, has refused to go out of business without a fight, and is lobbying for the preservation of its technical (that is, noneconomic) regulatory functions.

Lessons

Reform of the gas industry in Ukraine started a year later than reform of the power industry. Because gas reform had no blueprint, its direction has remained ambiguous. That ambiguity is the result of a conflict between those who advocate vertically integrated, opaque, monopolistic structures and those who want a transparent, competitive gas market governed by stable rules. The probability is low of a strong jolt—such as a significant and lasting curtailment of Russian gas deliveries to Ukraine to stop the accumulation of payment arrears—signaling the need to end the "unholy" alliance between politicians and gas traders. (Russia, at least in the short term, has no alternative route to European gas markets.) Thus the conflict between those supporting reform and those opposing it will likely continue for several years. Eventually, however, Russia will likely have one or two alternatives to the unreliable Ukrainian transit system, creating strong incentives for players in the Ukrainian gas industry to clean up their act.

A number of lessons emerged during the first three and a half years of gas reform. These may be of use for reformers in the former Soviet Union and other countries:

- The apparent contradiction between an externally imposed goal—that state guarantees for gas imports should be eliminated—and the conviction of domestic decisionmakers—that the government's operational control over the gas industry should be preserved—was resolved by introducing private regional supply monopolies. Although the new arrangements reduced the state's exposure to the risk of nonpayment, this benefit came at a high cost. A few politically connected traders captured a large part of the gas market, corruption skyrocketed, and the moral authority of the government eroded.
- Ukrgazprom's ability to absorb the cost of nonpayment for domestically produced and transit-fee gas without catastrophic consequences (at least in the medium term) reduced decisionmakers' sense of urgency to initiate reform, demonstrating that gains do not motivate governments as strongly as do actual losses.
- The regulatory, taxation, and market access difficulties experienced by the first investor in gas exploration and production strongly deterred other potential investors despite favorable drilling and production conditions.
- The sale of the majority of the shares of the gas distribution companies to workers and managers did not solve the payment collection problem. In the absence of strategic investors, the companies continued to lack the commercial focus, experience, and independence needed to stand up to political pressure and aggressively pursue delinquent

households, public utilities, and budgetary entities.

- The liberalization of gas supply provided certain immediate benefits to industrial consumers, but the development of a vibrant competitive gas market requires clear network access rules, better metering, tracking, and balancing of gas flows, and new contractual arrangements.

Even the first step toward a spot market—setting up a system of occasional gas auctions—requires strong political commitment to overcome opposition from suppliers and traders that stand to lose customers.

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