

COUNTRY ANALYSIS BRIEFS

Ukraine

Last Updated: August 2007

Background

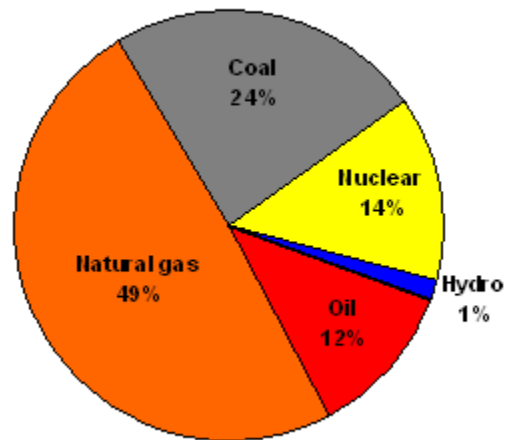
Ukraine is important to world energy markets because it is a critical transit center for exports of Russian oil and natural gas to Europe, as well as a significant energy consumer.

Ukraine's geographic position, linking East and West, while also holding critical warm water ports on the Black Sea, has made the country a trade link of growing importance between the former Soviet Union and Europe for energy and other goods.



Ukraine is one of Europe's largest energy consumers, and it consumes over twice as much energy per unit of GDP than Germany. In 2005, almost half of Ukraine's energy consumption came from natural gas, and over 75 percent of this natural gas came from Russia. Since 2004, the price of imported natural gas from Russia has almost doubled. The economic impact of these price increases on the economy will depend on the pace at which Ukraine can implement energy efficiency reforms. For a more in-depth discussion of the recent increases in natural gas prices and energy efficiency reform in Ukraine, please consult a February 2007 IMF [Selected Issues Paper](#).

Total Energy Consumption in Ukraine, by Type (2004)



Source: EIA International Energy Annual 2004

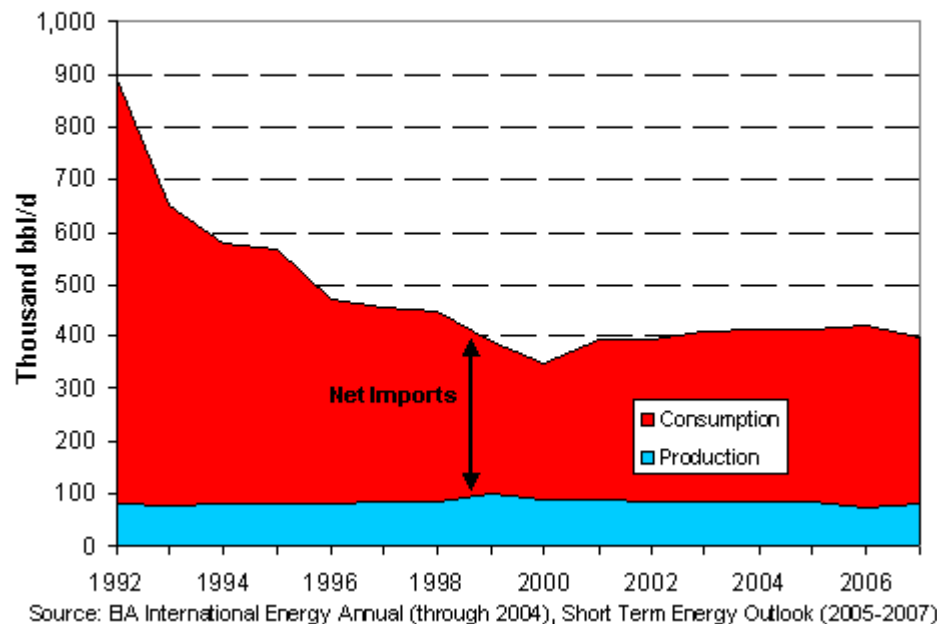
Although the reorientation of trade towards Europe and Asia has resulted in an improved macroeconomic environment in Ukraine, political uncertainty remains problematic. Following the Orange Revolution in 2004, continued lack of clarity on the division of powers between the Ukrainian Parliament, or Rada, and the President continues to hurt the country's investment climate. President Viktor Yushchenko issued a decree to dissolve the Rada in April 2007, and new elections are expected in September 2007.

Oil

Ukraine is an important transit corridor for Russian oil exports. During 2006, pipelines in Ukraine carried 22 percent of Russia's oil exports to Ukrainian refineries or onwards to the European oil market.

Although Ukraine has made efforts at exploration, particularly in its sector of the Sea of Azov, oil production has remained relatively flat since independence (see Fig. 1). According to the *Oil and Gas Journal*, Ukraine has 395 million barrels of proven oil reserves in 2007, the majority of these are located in the eastern Dnieper-Donetsk basin. Consumption, on the other hand, has fallen dramatically, from 813,000 barrels per day (bbl/d) in 1992 to around 343,000 bbl/d in 2006 (see Fig. 1). Despite this decline in consumption, Ukraine remains highly dependent on imported oil, most of which comes from Russia and lesser amounts from Kazakhstan (see [Russia](#) and [Kazakhstan](#) Country Analysis Briefs for more information). In 2006, net crude oil imports totaled roughly 267,000 bbl/d, representing roughly 78 percent of consumption.

Fig. 1: Ukrainian Oil Production and Consumption 1992-2007



Oil Transit

Ukraine's geographic location makes it an ideal corridor for oil and natural gas to transit from Russia and the Caspian Sea region to European markets (see [EU Ukraine Oil Map](#)). According to Ukrainian oil ministry data, Ukrainian oil pipelines transported an average of about 900,000 bbl/d in 2006, a decrease of 4 percent from 2005. Approximately 22 percent of Russia's 4.1 million bbl/d crude oil exports either transited Ukraine to reach European markets or were consumed domestically. The exports flow via the Druzhba and the Pridnieper pipelines to Slovakia, Hungary the Czech Republic, and the Black Sea. Transit tariffs are discussed in great detail at the Energy Charter Treaty [website](#).

Table 1: Oil Transit in Ukraine			
(in thousand bbl/d)			
	2005	2006	% Change
Druzhba Pipeline	478,620	433,840	-9%
Transit	453,500	425,520	-6%
for Ukraine	25,120	8,320	-67%
Pridnieper Pipeline	455,340	465,060	2%
Transit	174,040	238,680	37%
for Ukraine	281,230	226,380	-20%
Total Ukraine	933,960	898,900	-4%
Transit	627,540	664,200	6%
For Ukraine	306,350	234,700	-23%

Source: Adapted with permission from IHS Energy, 2007.

As much as 1.6 million bbl/d eventually could be exported through Ukraine after a 15-year intergovernmental oil transit improvement agreement in 2003 comes to fruition. Most of the oil transited via Ukraine is Russian oil, sent in part through the 1.2-million-bbl/d capacity Druzhba pipeline. The southern fork of the pipeline runs through Ukraine (see map below). Also, the Prydniprovski Main Pipeline operates nine interconnected pipelines throughout Ukraine with a total length of 1,500 miles and a capacity of 2.1 million bbl/d. The Pridnieper pipeline transports crude to refineries in southern Ukraine as well as around 200,000 bbl/d of Russian and Kazakh crude through Odessa on the Black Sea.

Brody-Odessa Reversal and Extension Project

Ukraine's government has made clear its goal of becoming a transit center for oil from the [Caspian Sea](#) region. Oil production from the region is expected to increase from 2.5 million bbl/d in 2006 to around 4.3 million bbl/d by 2015. One potential conduit for this oil in the Black Sea region is the Odessa-Brody pipeline. The pipeline was completed in 2001 and extends from Ukraine's Black Sea port of Odessa northward to the city of Brody (see "Proposed Pipeline Reversals" map below).

The pipeline was initially intended to load 300,000 bbl/d of Caspian Sea oil from the newly completed Black Sea marine terminal, Pivdennyi (or Yuzhnyi) and carry it northward through the Ukrainian system to Europe. However, for approximately three years the pipeline remained mostly dormant because Ukraine was unable to secure oil supplies from Caspian Sea area suppliers. Russia is now using the pipeline in the reverse direction, moving oil from the Urals basin southwards to tankers in the Black Sea and onwards to world markets. Since January 2003, TNK-BP has used the last 32-mile leg of the pipeline (in reverse) for these purposes.

Map 1: Proposed Pipeline Reversals



Faced with the possibility of losing direct access to Caspian Sea region oil, European governments have voiced their opposition to the reversal project in newspaper articles and public statements. Leading Caspian Sea region producer, Kazakhstan, has also taken counter-measures. In July 2003, for instance, Kazakhstan agreed to help construct a 32-mile pipeline parallel to the segment currently being used in reverse to transit Russian oil.

If the pipeline does run in its originally intended direction, from Odessa to Brody, then Ukraine would like to extend the pipeline from Brody to Plock in Poland, and then Gdansk on the Baltic Sea. A preliminary agreement was signed between Azerbaijan, Georgia, Lithuania, Poland and Ukraine, and a Kazakh deputy minister in May 2007 to begin working on a multinational agreement.

There are multiple reasons why the extension may not be currently feasible. The primary hurdle is securing commercial guarantees of Caspian oil, especially in light of recent developments with Kazakhstan agreeing to send oil via the Bourgas-Alexandroupolis pipeline and BTC routes (see [maps](#) section). Azerbaijan will be sending most of its oil through the BTC pipeline. Also, the European Bank for Reconstruction and Development (EBRD) has stated it may make more economic sense to construct the extension further to Wilhelmsaven, Germany, where it would avoid the crowded straits off the Danish and Swedish coast. Additionally, industry players have publicly stated that Caspian crude oil will be unlikely to displace cheaper Urals blend crude oil from Russia at central European refineries. Finally, the refinery at Plock would have to be upgraded to accommodate the lighter quality Caspian crude.

Refining/Downstream

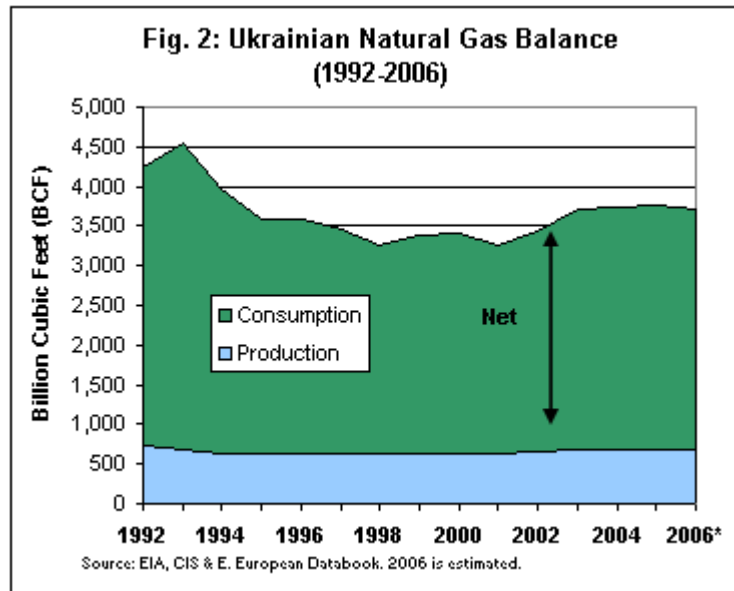
Ukraine has six crude oil refineries, with a combined throughput capacity of approximately 880,000 bbl/d. However, with domestic demand at just over 30 percent of the country's refining capacity, Ukraine's refineries are operating below capacity (around 50 percent in 2005). Until recently, Ukraine's refineries did not even receive enough crude oil supplies to supply the country's domestic petroleum product demand.

Ukraine has begun to achieve better results in securing sufficient crude oil supplies for its refineries by offering oil exporters in Russia and Kazakhstan a stake in the country's refineries. Ukraine's recent success in privatizing its refineries has allowed the country to secure additional oil supplies to meet domestic demand, as well as to attract funds for necessary renovation work and to boost utilization rates at its refineries.

Natural Gas

According to the *Oil and Gas Journal* Ukraine has roughly 40 trillion cubic feet (Tcf) of natural gas reserves, from which roughly 0.68 Tcf was produced in 2005. In 2006, Ukraine produced 0.67 Tcf and consumed 3.1 Tcf of natural gas, making it the former Soviet Union's largest natural gas net importer (2.4 Tcf, or 78 percent of consumption, see Fig. 2). Ukraine is the sixth-largest consumer of gas in the world and consumes more gas than Poland, the Czech Republic, Hungary, and Slovakia combined. Since the early 1990s, Ukraine's usage of natural gas as a share of its total energy consumption has increased by 10 percent to comprise over half of Ukraine's energy usage (see [Fig. 5](#)).

Ukraine is a key transit center for Russian natural gas exports to Europe. In order to provide reliable supplies domestically and in Europe more investment in the Ukrainian transport network, more international cooperation, and a more transparent energy sector are needed.



Ukraine holds 1.1 Tcf of natural gas in storage, and in January 2006 Prime Minister Yekhanurov announced a plan to increase the capacity at Ukraine's 13 existing storage facilities to 1.2 Tcf by 2009. The six major facilities, most of which are depleted gas fields, are located in the provinces of Lvov, Kiev, and Chernigov. Ukrainian storage is held by Naftogaz Ukrainy, RosUkrEnergo and Ukgazenergo, with a few small contracts with other companies. Ukraine can withdraw gas at around 7.1 Bcf/d (200 mmcm/d).

European Dependency on Russian Natural Gas

Ukraine plays a significant role as an intermediary connecting Russia, the world's largest natural gas producer, with growing European markets. Also, as gas exports from the Caspian to Europe and Russia grow, Ukraine serves as the largest market for this natural gas. UkrTranzGaz estimates that in 2006 approximately 4.5 Tcf (128.4 Bcm) of Russian natural gas transited Ukraine en route to Europe or to be consumed domestically. In 2007, Gazprom and Naftogaz Ukrainy have agreed to transit roughly 4.1 Tcf (116.8 Bcm). According to Gazprom, sales to domestic consumers in Ukraine in 2006 totaled 2.1 Tcf (59 Bcm). The remainder, around 2.4 Tcf (69.4 Bcm), is sold to other consumers that are connected to Ukraine's transit lines. Some of these countries are entirely dependent on these natural gas for their gas consumption. (see Table 2).

Table 2: Major Recipients of Russian Natural Gas Exports, 2005			
Rank	Country	Imports (bcf/y)	Percent of Domestic NG Consumption
1	Germany	1,291	36%
2	Italy	824	27%
3	Turkey	630	65%
4	France	406	23%
5	Hungary	294	56%
6	Czech Republic	252	75%
7	Austria	246	72%
8	Poland	226	39%
9	Slovakia	226	99%
10	Finland	148	95%
11	Romania	140	22%
12	Fmr Yugoslavia	134	57%
13	Bulgaria	101	53%
14	Greece	85	85%
15	Switzerland	13	11%
Sales to Baltic & CIS States, 2005			
	Ukraine	2,113	69%
	Belarus	710	99%
	Baltic States	205	89%
	Azerbaijan	120	33%
	Georgia	46	88%
Sources: Domestic Consumption: EIA International Energy Annual, 2005; Imports: Cedigaz 2006 and BP Statistical Review 2007.			

Europe's dependency on natural gas exports from Russia drew worldwide attention in January 2006 when a longstanding dispute over price and payment mechanisms in the in-kind agreements caused Gazprom to shut off gas supplies to Ukraine. Supplies to Europe were also affected. Eventually, Russia's natural gas company agreed to sell its natural gas to RosUkrEnerg, a Zurich-based trading company, 50 percent-owned by Gazprom, at the market price of \$6.51/mcf (\$230 per thousand cubic meters). RosUkrEnerg will acquire some of the natural gas from Kazakhstan and Turkmenistan (see Table 3).

Table 3: Sources of Natural Gas for Ukraine's January 2006 Supply Agreement					
Country Source	Amount (BCM/y)	Amount (BCF/y)	Acquired by	Price (\$/MCM)*	Price (\$/MMCF)*
Turkmenistan**	41	1449	Gazexport, Naftohaz Ukrainy	\$ 65.00	\$ 1.84
Uzbekistan	7	247	Gazexport	\$ 65.00	\$ 1.84
Kazakhstan	8	283	Gazexport	\$ 65.00	\$ 1.84
Russia	17	601	Gazexport	\$ 230.00	\$ 6.51
Total/Wtd.Average	73	2,580		\$ 103.42	\$ 2.93
* MCM: Thousand Cubic Meters, MMCF: Million Cubic Feet					
**Naftohaz Ukrainy stated on 1/10/06 it will buy Turkmen gas for \$50/mmcm in the first half of 2006 and \$60 during the second half, but the final agreement's price was higher. Using the lower price for Turkmen gas, the wtd. average price is \$97.8/MCM.					
Source: Russian Energy Monthly, January 2006					

In the past, Russia partially supplied Ukraine by offering natural gas as payment in-kind for transiting Russia's gas onwards to Europe, and partially through annual sales contracts. In the past few years, Turkmenistan has become Ukraine's largest source of natural gas imports through long-term contracts. Under a deal signed in late October 2006, RosUkrEnergo will supply Ukraine with at least 1.9 Tcf or 55 billion cubic meters (bcm) of Turkmen gas in 2007 at \$130 per thousand cubic meters (mcm). Gazprom buys gas from Turkmenistan at \$100/mcm and sells it to RosUkrEnergo, which then sells it to Ukraine. Russia pays Ukraine natural gas transit fees of 7.3 cents per thousand cubic feet per 100 miles, a 47 percent price increase from 2005. The contract is subject to renegotiation in October 2007 and each year afterward.

There are a few potential problems with the Ukrainian-Russian natural gas agreement. First, Turkmenistan will need to increase its natural gas exports to Russia from 1.4 Tcf in 2006 to 1.8 Tcf in 2007, at the same time that its domestic natural gas production is declining at around 3 percent per year. Also, the deal has solidified Russia's commitment to a contract price with Ukraine that is still below full market value. The agreement also does not address Ukraine's high level of energy intensity or the country's need for energy diversification, and it leaves the country's economy vulnerable to natural gas price increases. Natural gas accounted for 46 percent of the country's primary energy consumption in 2004.

Transit Infrastructure

Ukraine's aging natural gas infrastructure is a concern both to European consumers and Russian producers. Some of the pipes in the Ukrainian network have been in operation for 20-30 years, and repairs are rarely carried out because of a lack of available funds. In addition to pipeline disrepair, capacity utilization is a problem. Roughly 1.4 Tcf per year of spare capacity is available on the system. An additional 1 bcf/year could be added through rehabilitation and upgrades of the existing infrastructure.

Map 2: Existing Gasfields and Pipelines Delivering Natural Gas to Europe



The fragile state of Ukraine's critical natural gas transport infrastructure was highlighted this year by a powerful blast that destroyed a 50-yard stretch of the Brotherhood pipeline, a major carrier of Russian natural gas to Europe. Russian gas continued to flow via a bypass pipeline.

In 2004, Ukrainian and Russian state-owned oil and gas companies, Naftogaz Ukrainy and Gazprom, established a joint venture (JV) to manage and upgrade Ukraine's natural gas distribution infrastructure. After a couple years of delay, in February 2006, the JV announced the beginning of construction of the first stage of a natural gas pipeline that will increase Ukraine's transport levels to Western Europe by around 25 percent. The construction of the \$2.2-2.8 billion pipeline from Uzhorod (on the border with Slovakia) to Novopskov (in eastern Ukraine) will be completed by 2009. Construction of the initial section of the pipeline was postponed from 2005 to February 2006 and will take approximately two years to complete. The completed pipeline will have a capacity of up to 670 Bcf per year. The project's financing faces challenges from Gazprom's efforts to obtain a stake in the Ukrainian pipeline network.

Coal

Ukraine has the seventh-largest amount of coal resources in the world, but underinvestment, and a lack of progress on deregulation have made the country a net coal importer.

Ukraine has 37.6 billion short tons in proven coal reserves, 17.9 billion short tons of which is anthracite and bituminous coal, and 19.7 billion short tons of which is lignite and sub-bituminous), accounting for about 15 percent of the former Soviet Union's total reserves. Production and consumption of coal in Ukraine have been relatively flat since 1996, after a precipitous falloff in production after gaining independence. In 2004, the country produced 69.3 million short tons of hard and brown coal, while consuming roughly 77.5 million short tons, making Ukraine a net coal importer, despite its sizeable resources.

Most of Ukraine's coal is mined in the Donetsk/Donbas basin in the eastern region of the country. The country's coal industry, which counts slightly less than 200 mines and employs about 500,000 people, is managed by a hierarchy of state organizations and suffers from numerous problems including labor strikes, hazardous working conditions, inefficiency and low productivity. Ukraine has the world's second-highest mining fatality rate, with an average of 317 deaths a year since 1990. Only in China is the fatality rate higher.

According to a recent report by Renaissance Capital, the coal industry's financial losses increased 70 percent to \$530 million in 2006. The sector's development is hampered by a combination of underinvestment, and slow deregulation, which has resulted in gradually declining production capacity and a loss of global market share (from 3.9 percent of global output in 1990 to 1.3 percent of global output in 2005). As natural gas has become more predominant in the region as a fuel source for electricity, even more coal mines have been closed.

Privatization and Restructuring

Ukraine's government has made restructuring the coal industry a priority, and in December 2002, the Fuel and Energy Ministry announced plans to hand the industry over to 21 open joint-stock companies designed for eventual privatization. In the past, the industry was heavily subsidized by the government, with over half of the mines operating at a loss. After the handoff was completed in March 2003, privatization still proceeded slowly. The World Bank has provided over \$300 million to aid in the coal sector's restructuring since 1997. A sizeable portion of the money has gone to aid in the closure of the unprofitable mines, yet the country has been reluctant to close them in regions where there are few other job sources. Where the government has closed the mines, such as in the Torez area, around 300 small illegal mines are still operating. Even with more than \$1 billion in annual government subsidies, most state-run mines are not profitable.

Electricity

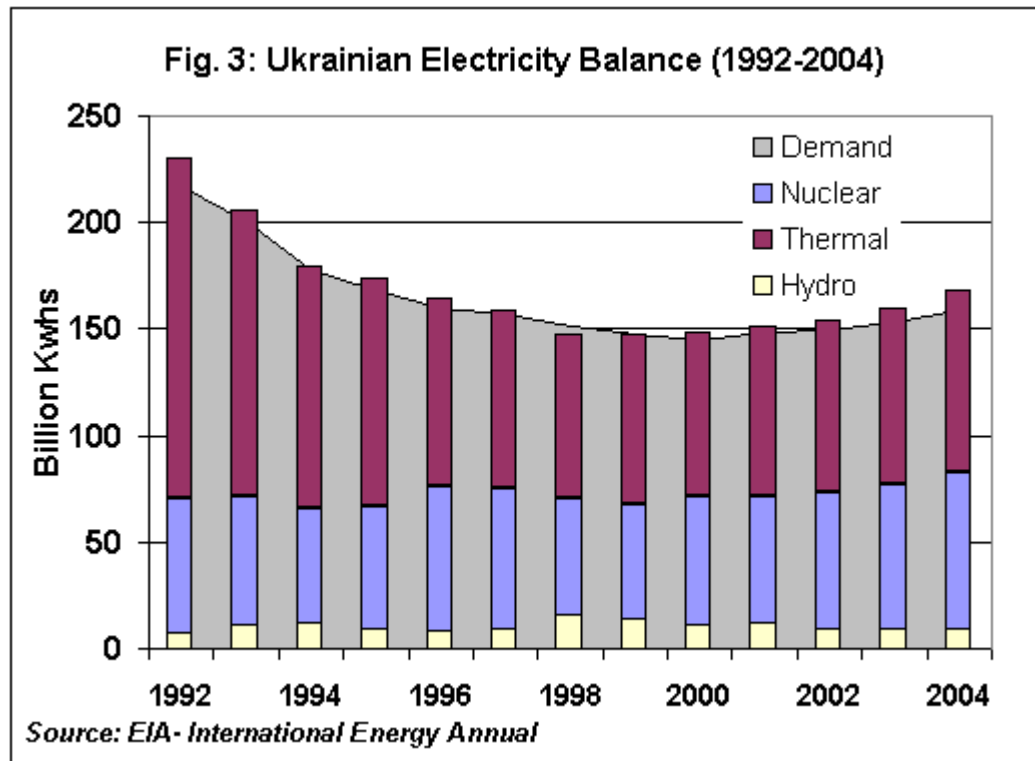
Ukraine has sufficient generating capacity to supply more than twice its electricity needs, but the country's ageing infrastructure is in need of investment and maintenance.

Ukraine's power sector is the twelfth-largest in the world in terms of installed capacity, with 54 gigawatts (GW). Generation and consumption fell sharply since independence, but they have increased since 2000 (see Fig. 3). EIA estimates that Ukraine generated 177 billion kilowatt hours (kWh) of electricity. The country is currently in the process of revamping its electricity sector, through privatization, increased utilization at existing facilities, and the completion of two new nuclear plants (see below).

In Ukraine, thermal power plants (oil, natural gas, coal) account for nearly 50 percent of generation, with nuclear power generating another 45 percent, and hydroelectric generation accounting for approximately 5 percent (see Fig. 3). Ukraine has sufficient generating capacity to supply more than twice its electricity needs. However, the country's transmission and distribution systems are in need of investment and maintenance. Also, several of the country's nuclear facilities are intermittently shut down throughout the year for technical problems.

With the surplus electricity, in 2006 Ukraine increased electricity exports by almost 25 percent, or by over 2 billion kWh compared to 2005 according to the Ukrainian Energy. After the completion of two new nuclear reactors (see below), Ukraine signed a deal with RAO UES, Russia's main

electricity supplier, to supply 500 million kWh of power per month to Russia at a price of \$.014/kWh.



The World Bank has been working with Ukraine on energy sector reform and has published a number of different [studies](#) on the effect of natural gas price increases on both the rest of the economy and in the electricity sector. Electricity sector reform and infrastructure development is one of the main components of the [EU-Ukraine Action Plan](#), and the World Bank will be spending over \$200 million in upcoming months to rehabilitate transmission substations, expand the transmission network, and stabilize the Crimea electric power grid, among other institutional and administrative reforms. More information is available at the World Bank's project [webpage](#).

Ukraine signed a contract to supply 2.5 billion kWh to Belarus during 2006 and stands to make \$50 million from the contract. Ukraine also exports electricity from the Burshtyn thermoelectric power station to Moldova, Slovakia, Poland, and Hungary. It started exporting electricity to Romania in March 2005. The Burshtyn thermoelectric power station and part of Ukraine's western energy system have been connected to UCTE energy system of Europe since July 2002. EU officials met with Ukrainian energy officials in Kiev in early 2006 to discuss plans to fully integrate Ukraine's electricity grid into the UCTE by 2008.

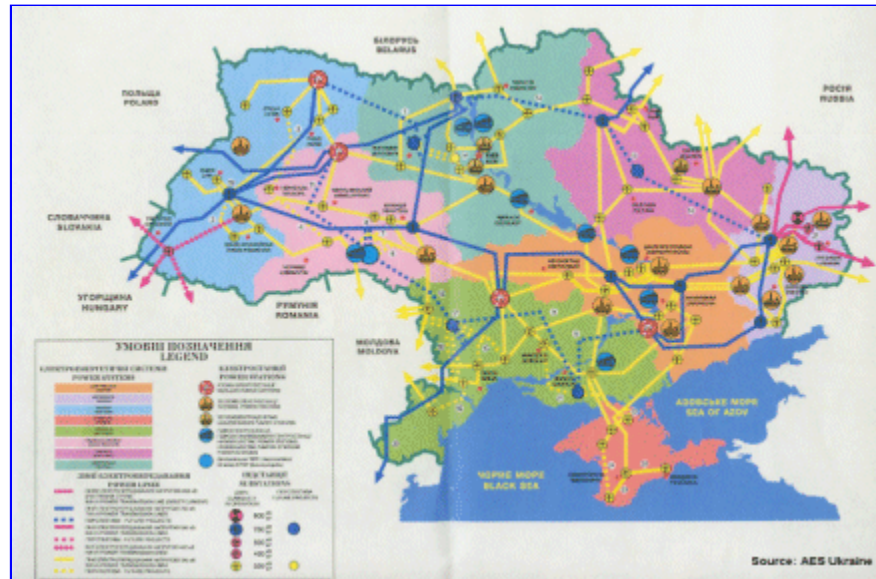
Ukraine currently has four operating nuclear power plants. These plants have a combined capacity of 12.8 gigawatts, accounting for approximately 24 percent of the country's total power-generating capacity.

On December 15, 2000, Ukraine permanently shut down the 925-MW, Unit 3 at the Chernobyl power plant, disabling the last remaining working reactor at the ill-fated facility. To replace the power generated by Chernobyl, which Ukrainian officials say accounted for approximately 5 percent of the country's total, Ukraine resumed construction of two 1-GW reactors at the Khmelnytsky and Rivne power plants. The construction of Khmelnytsky Unit #2 and Rivne Unit #4 began under the Soviet Union, and both were more than 80 percent finished when Ukraine received its independence and ran out of money to complete them. After financing from the EBRD was placed on hold, the Ukrainian government completed the reactors on its own and connected them to the electricity grid in August and October 2004, respectively.

Regulatory Structure

During President Yushchenko's previous administration in 2000/2001, privatization of the electricity sector was one of his key objectives and resulted in the sale of six distribution companies. AES, based in the United States, won 2 of the 6 tenders and is now the only foreign investor in the sector. Currently, only six Ukrainian distribution companies have been fully privatized, and 20-45 percent stakes in nine other utilities were sold in 1997-1998. Further privatization of the sector is not currently planned.

Map 3: Ukrainian Electricity Sector Infrastructure



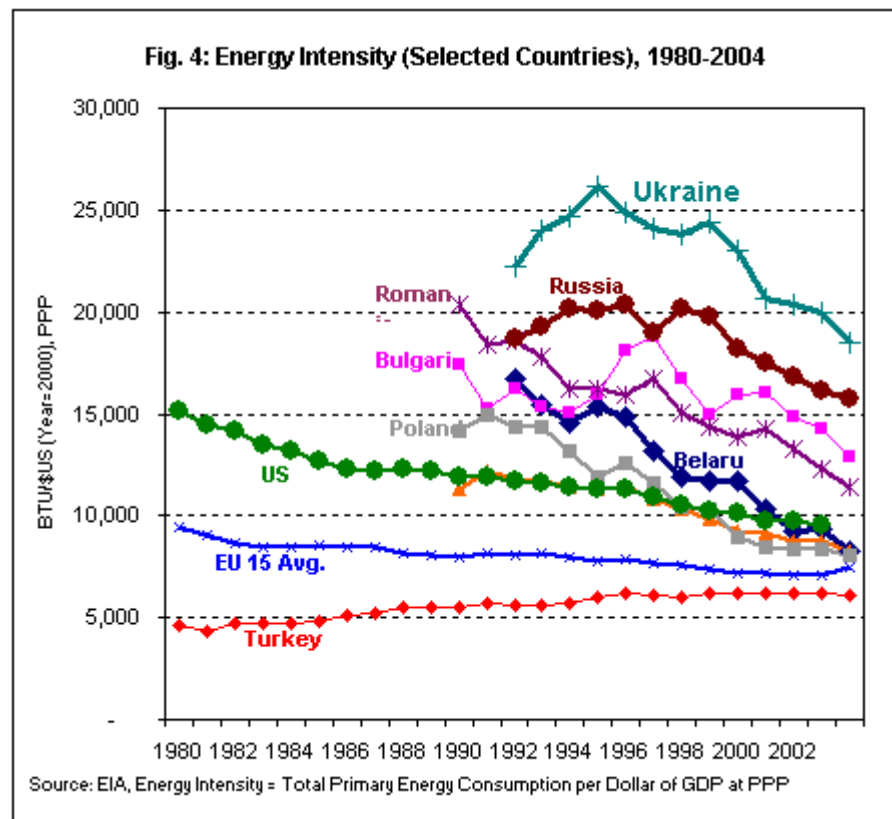
Other problems hinder the full development of a deregulated market in Ukraine. First, there is a high level of transmission losses; in recent years, these have increased from 8 percent to 17 percent (compared to around 3 percent in the United States, see Fig. 5). Again, only six of those companies have begun the process of privatization, and the Ukrainian government has been reluctant to give new buyers more than a minority stake in the companies. There are also worries that the government will not receive enough compensation for the sale. Also, the industry itself is in debt from a long history of problems which stem from insufficient collection mechanisms during the 1990s. Distribution companies owe \$3 billion in debt to the wholesale market. The combination of poor networks, high losses, corruption, and pressure to keep current tariffs low has created inefficiencies in the market and muted the necessary price signals.

Despite all these obstacles, market operators have made some progress. In 1999, cash payments for electricity purchased in the wholesale market represented only 7-10 percent of the actual value of electricity. By 2005, most distribution companies were paying back 100 percent of their electricity purchases and were beginning to pay back debt.

Environment

The country has one of the highest energy intensities in the world and has made some progress in reducing its energy usage from oil and coal but not for natural gas.

Today air pollution in Ukraine's cities is a major problem. The energy sector in Ukraine is a major contributor to local air pollution. According to the World Bank it's responsible for 75 percent of emissions of sulphur dioxide (SO₂), 50 percent of emissions of particulates, and 45 percent of nitrogen oxides (NO_x) emissions. Ukraine's energy sector also contributes about 70 percent of total domestic emissions of greenhouse gasses (GHGs). Today, although energy use is lower in part to policies encouraging energy conservation and energy efficiency, Ukraine's economic woes account for much of the reduction. As the economy contracted through the 1990s, industrial production and consumer demand dropped as well, resulting in lower carbon dioxide emissions. Ukraine's recent economic growth has led to increases in both carbon dioxide emissions and energy consumption (see Fig 4).



In terms of energy consumption per unit of output, Ukraine has one of the highest levels of energy intensity in the world. In 2004, Ukraine used 0.5 tons of oil equivalent (toe) per \$1,000 of GDP at purchasing power parity. This compares to the EU-15 average of 0.15 toe per \$1,000 of GDP. Its consumption of natural gas as a percentage of its total energy consumption has also increased since 1992 and now represents over half of its energy usage. (see Fig. 1) The country's heavy dependence on coal makes it correspondingly high in carbon intensity, although Ukraine still generates over 50 percent of its electricity from nuclear sources. The government has made some progress and passed a bill to encourage alternative energy sector development through tax rebates for companies seeking to develop solar, geothermal and wind power projects. Former-President Kuchma signed the bill in 2001. Also, Ukraine is a member of the U.S.-led, international [Methane to Markets Initiative](#) that pledges to reduce global methane emissions.

Maps

U.S. Government Maps:

FSU Energy Map (click for a high resolution version):



(Source: US Government)

Major Pipelines to Europe:

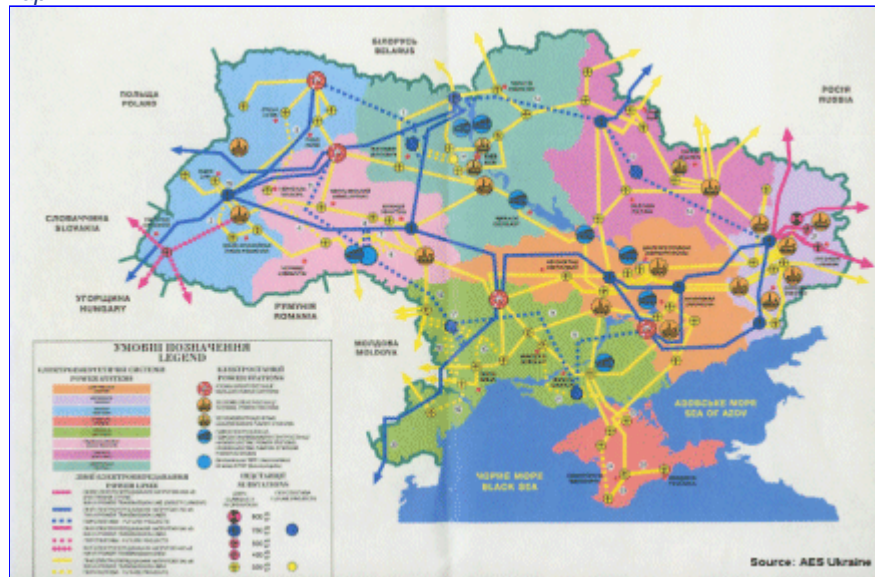


(Source: US Government)

Bosphorus Bypass Options (please click below for a full map)



Other Non-U.S. Government Maps:
Ukraine Electricity Map



(Source: AES)

Profile

Country Overview

Chief of State	Viktor Yushchenko
Prime Minister	Viktor Yanukovich
Location	Eastern Europe, bordering the Black Sea, between Poland, Romania, and Moldova in the west and Russia in the east
Independence	24 August 1991 (from the Soviet Union)
Population (2007E)	46,299,862
Languages	Ukrainian (official) 67%, Russian 24%; small Romanian-, Polish-, and Hungarian-speaking minorities
Religion	Ukrainian Orthodox - Kiev Patriarchate 19%, Orthodox (no particular jurisdiction) 16%, Ukrainian Orthodox - Moscow Patriarchate 9%, Ukrainian Greek Catholic 6%, Ukrainian Autocephalous Orthodox 1.7%, Protestant, Jewish, none 38% (2004 est.)
Ethnic Group(s)	Ukrainian 77.8%, Russian 17.3%, Belarusian 0.6%, Moldovan 0.5%, Crimean Tatar 0.5%, Bulgarian 0.4%, Hungarian 0.3%, Romanian 0.3%, Polish 0.3%, Jewish 0.2%, other 1.8% (2001 census)

Economic Overview

Minister of Economy	Anatoly Kinakh
Currency/Exchange Rate (2006)	US \$1=6.3 hryvnia
Inflation Rate, Change in consumer prices year-on-year	(2006E): 9.0%; (2007E): 11.3
Nominal Gross Domestic Product (GDP), \$US Billion	(2006E): 106.1, (2007F): 122.8
Real GDP Growth Rate	(2006E): 7.1%, (2007F): 5.0%
Unemployment Rate (2006)	2.7% (official estimate)
Net External Debt (2006)	\$32.4 Billion
Exports (2006)	\$38.9 Billion
Exports - Commodities	ferrous and nonferrous metals, fuel and petroleum products, chemicals, machinery and transport equipment, food products
Exports - Partners (2006E)	Russia 17.4%, Turkey 7.1%, Italy 5.7%
Imports (2006)	\$44.1 Billion
Imports - Commodities	energy, machinery and equipment, chemicals
Imports - Partners (2006E)	Russia 31.9%, Germany 11.9%, Turkmenistan 5.8%, Italy 4.5%
Current Account Balance (2005)	-\$1.61 Billion

Energy Overview

Minister of Fuel and Energy	Ivan Plachkov
Proven Oil Reserves (January 1, 2007E)	0.4 billion barrels
Oil Production (2006E)	75.8 thousand barrels per day, of which 86% was crude oil.
Oil Consumption (2006E)	342.9 thousand barrels per day
Net Oil Imports (2006E)	264 thousand barrels per day
Crude Oil Distillation Capacity (2007E)	879.8 thousand barrels per day
Proven Natural Gas Reserves (January 1, 2007E)	39 trillion cubic feet

Natural Gas Production (2005E)	685 billion cubic feet
Natural Gas Consumption (2005E)	3,079 billion cubic feet
Net Natural Gas Imports (2005E)	2,364 billion cubic feet
Recoverable Coal Reserves (2005E)	37,647.2 million short tons
Coal Production (2004E)	69.3 million short tons
Coal Consumption (2004E)	77.5 million short tons
Electricity Installed Capacity (2004E)	52.4 gigawatts
Electricity Production (2004E)	177.3 billion kilowatt hours
Electricity Consumption (2004E)	158.9 billion kilowatt hours
Total Energy Consumption (2004E)	6.5 quadrillion Btus*, of which Natural Gas (49%), Coal (24%), Oil (12%), Nuclear (14%), Hydroelectricity (1%)
Total Per Capita Energy Consumption (2004E)	137.1 million Btus
Energy Intensity (2004E)	18,443.4 Btu per \$2000-PPP**

Environmental Overview

Energy-Related Carbon Dioxide Emissions (2004E)	365.5 million metric tons, of which Natural Gas (46%), Coal (40%), Oil (14%)
Per-Capita, Energy-Related Carbon Dioxide Emissions (2004E)	7.7 metric tons
Carbon Dioxide Intensity (2004E)	1.0 Metric tons per thousand \$2000-PPP**
Environmental Issues	inadequate supplies of potable water; air and water pollution; deforestation; radiation contamination in the northeast from 1986 accident at Chornobyl' Nuclear Power Plant
Major Environmental Agreements	party to: Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulfur 85, Antarctic-Environmental Protocol, Antarctic-Marine Living Resources, Antarctic Treaty, Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: Air Pollution-Persistent Organic Pollutants, Air Pollution-Sulfur 94, Air Pollution-Volatile Organic Compounds

Oil and Gas Industry

Organization	Naftogaz Ukrainy is the state oil company, and is involved in almost all oil and gas projects in the country. With the exception of Gazprom, there are very few foreign investors in Ukraine's energy industry.
Major Oil/Gas Ports	Odessa (Pivdenny), Feodosiya, Sevastopol, Mariupol
Major Oil Pipelines (capacity, MMBD)	Druzhba (1.2), Prydniprovski Main Pipeline (2.1), Brody-Odessa (180 initially, 500 eventually)
Major Natural Gas Pipelines (capacity, Tcf)	Northern Lights, Progress, Soyuz, Brotherhood - all 1 Tcf
Major Refineries (capacity, bbl/d)	Kremenchuk (372,000), Lisichansk (320,000), Kherson (118,000), Halychyna/Drohobych (86,000), Odessa (80,000), Naftokhimnik Prykarpattya (50,000)

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

Links

EIA Links

[EIA: Country Information on Ukraine](#)

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