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October 2003

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Caucasus Region

The Caucasus Region, comprising the newly independent states of Armenia, Azerbaijan, and Georgia, is important to world energy markets as a transit area for oil and natural gas exports from the Caspian Sea to Europe. Although the region has been beset by conflict, regional leaders hope that the development of several oil and natural gas export pipelines will bring peace and prosperity to the Caucasus.

Note: Information contained in this report is the best available as of October 2003 and is subject to change.



GENERAL BACKGROUND

The Caucasus region sits between the Black Sea on the West and the Caspian Sea on the East, and comprises the newly independent states of Armenia, Azerbaijan, and Georgia. Herein, the report considers only Armenia and Georgia—for a full report on Azerbaijan, see EIA's [Azerbaijan Country Analysis Brief](#).

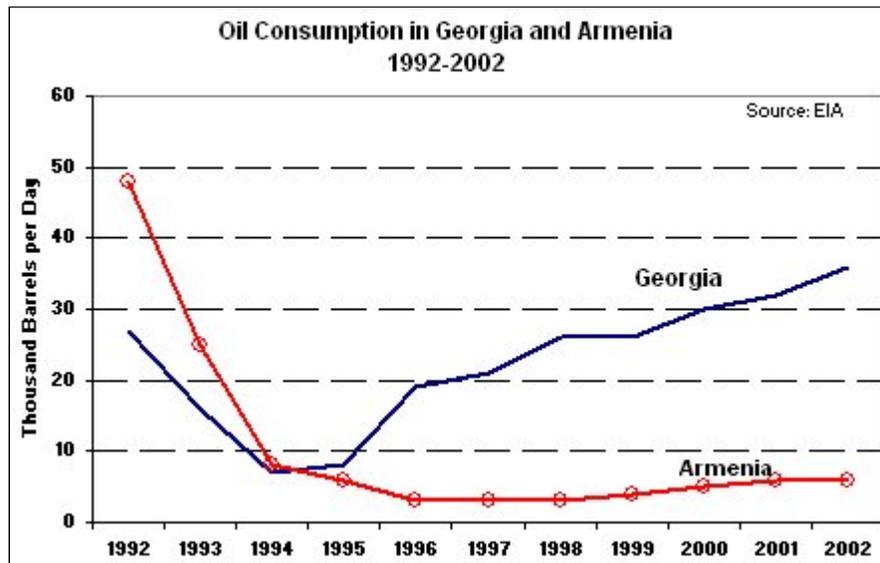
As herein defined, the Caucasus Region consists of two highly dependent net energy importers surrounded by some of the world's energy giants (i.e. Russia, Iran, and to a smaller but growing extent, Azerbaijan). Energy priorities of the Caucasus countries, therefore, are two-fold: to

diversify their energy supplies; and to cash in on transit revenues as their neighbors develop export facilities which transverse their territory. As conceived by international investors, three of the new export pipelines will pass through Georgia, while none are scheduled to cross Armenia.

The Soviet Union bequeathed a number of problems on the Caucasus countries, including artificially drawn national borders and centrally-planned economies that were heavily dependent on Russia. Even before Azerbaijan and Armenia received independence, fighting broke out in 1988 between the then-Soviet republics over the disputed area of Nagorno-Karabakh, and separatist conflicts sparked in Georgia soon after independence. Although most of the regional conflicts that flared in different parts of the Caucasus throughout the 1990's are now dormant, none have been officially resolved.

Robert Kocharian has been President of Armenia since March 1998 and was re-elected to another term in May 2003. Georgian President Eduard Shevardnadze has been at the head of that country's politics since 1992 and has served as President since 1995. Georgia will hold presidential elections in 2005, at which time Shevardnadze will be constitutionally ineligible for a third term. Georgia will also hold parliamentary elections on November 2, 2003.

This report will first address domestic energy issues and then transit energy projects separately. (To skip ahead to transit projects, see: [Transit Energy](#))



Domestic Energy Issues: Oil

Armenia has no proven oil reserves and Georgia's are quite small. Georgia's proven reserves are estimated at 0.3 billion barrels, from which the country produced 2,000 barrels per day (bbl/d) in 2002. Combined, oil consumption in the two countries was 42,000 bbl/d in 2002 (36,000 bbl/d in Georgia and 6,000 bbl/d in Armenia). However, for the Georgian government and several foreign firms, oil import

dependence is not a foregone conclusion. In April 2003, Georgian President Shevardnadze predicted that the country will be self-sufficient in oil "in a few years." Foreign oil companies including Frontera (U.S.), and Canargo (Canada) are involved in both oil exploration on and offshore, and well work-overs designed to increase production.

Most of the region's oil demand is met through imports from Russia and Azerbaijan. In both countries, consumption fell drastically following independence and 1995 (roughly 70% in Georgia and 90% in Armenia). But since about 1995, Georgian consumption has recouped some of its losses, while Armenian consumption remains stagnant (see graph). Armenian oil demand is constrained, in large part, due to an economic embargo maintained by Azerbaijan to the East, and Turkey to the West. The embargo began shortly after the secession of Nagorno-Karabakh, an Armenian enclave within Azerbaijan in 1988, and has held, despite a cease fire declared in 1994. (For more on Nagorno-Karabakh, see [links](#)).

Domestic Energy Issues: Natural Gas

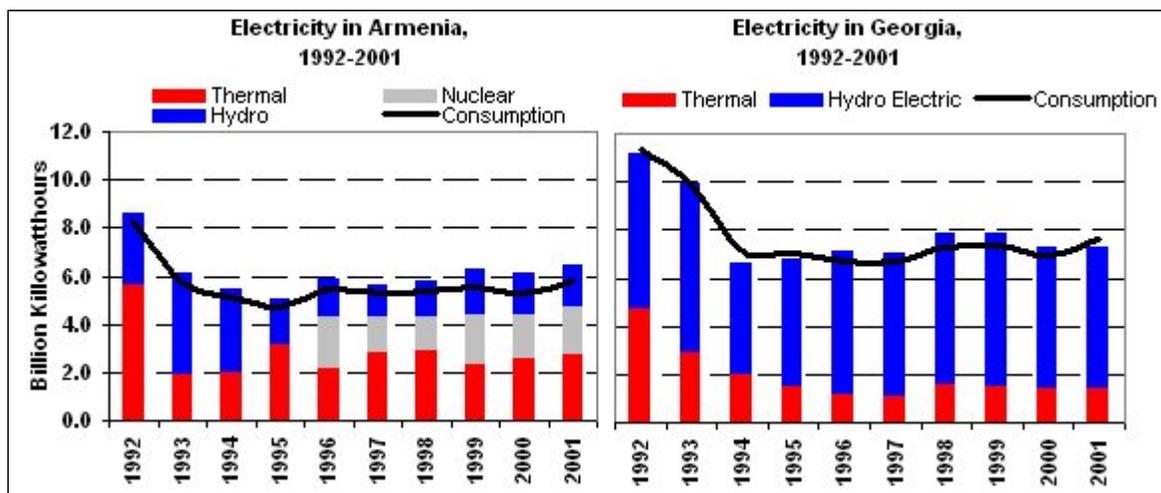
Natural gas represents a large portion of total energy consumption in both Armenia and Georgia, accounting for 50% and 24% respectively. Neither country produces significant quantities of natural gas, making both countries heavily dependent on imports to keep their economies running. Natural gas imports come primarily from Russia, and in recent years Turkmenistan (piped through Russia). But a change in Russian suppliers this year, from the Russian independent Itera, to state-owned Gazprom, has in effect put large portions of the Caucasus countries' economies in the hands of the Russian monopoly.

In the summer of 2003, Russian state-owned natural gas monopoly, Gazprom, signed agreements with both Armenia and Georgia designating Gazprom as the countries' predominant natural gas supplier into the future. For Armenia, a 5-year agreement was signed on June 17, 2003, and for Georgia, a 25-year agreement was signed on July 21, 2003. The strategic cooperation agreement signed with Georgia reportedly includes provisions for joint work on new distribution projects and infrastructure rehabilitation. While the agreements still cede some market share to Itera, Gazprom's new share in the Caucasus natural gas markets has come at Itera's expense.

The agreements with Gazprom could prove to be temporary measures, given that Georgia will

reportedly be entitled to 5% of the natural gas running through the Baku-Tbilisi-Erzurum pipeline, which will run from Azerbaijan, through Georgia and on to Turkey, scheduled for completion in 2006. By 2009, the pipeline is expected to carry 222 billion cubic feet per year (bcf/y), entitling to Georgia to roughly 11 bcf/y, more than twice the country's consumption in 2001.

Armenia is also very interested in purchasing natural gas from Iran, and has been in discussions with Tehran about building a roughly 90-mile natural gas pipeline between the two countries since 1992. Implementation of the project has been delayed for years due to disagreements between the two sides over natural gas prices and the location of the pipeline. The European Bank for Reconstruction and Development (EBRD) has indicated its support for the project, and has offered financial support. The EBRD has suggested that opening Armenia's economy to more natural gas could wean the country off of nuclear power, which accounts for 30% total electricity generation and is produced at a potentially dangerous Soviet-era facility (see below).



Domestic Energy Issues: Electricity

Armenia and Georgia have significant domestic electricity generation resources, despite their dearth of fossil fuel. In Armenia, non-thermal domestic electricity generation accounted for roughly 60% of total generation in 2001 (30% nuclear and 30% hydroelectric). Likewise in Georgia, hydroelectric power accounted for 80% of generation (see graph).

But electricity supply within the republics, especially Georgia, has been problematic. Several times throughout the year, non-payment disputes between Georgia and its natural gas and electricity suppliers, Russia and Armenia, have caused intermittent supply disruptions. Both Armenia and Georgia experienced outages in January 2003 when a natural gas line from Russia was accidentally ruptured, resulting in rolling power outages and the total shutdown of public transportation. Several other malfunctions have left the populace without power for days at a time.

These problems have prompted regional players to propose an integrated regional utility network. Capitalizing on this suggestion, Russian electricity monopoly Unified Energy Systems (UES) has effectively taken control of the Caucasus electricity industry, paralleling maneuvers by Gazprom in the Caucasus' natural gas industry. In July 2003, UES purchased 75% of Tbilisi's electricity network, as well as several electric generating facilities from an American investor, AES--effectively surrendering control over the Republic's electric energy system to UES effective September, 2003. UES has made similar moves in Armenia, offering to cancel out the Republic's sizeable debt for nuclear fuel through the acquisition of Armenia's aging infrastructure. UES has been granted license to operate Armenia's sole nuclear power plant, Metsmamor (see below), as well as other thermal and

hydroelectric facilities.

Armenia has privatized much of its electricity industry, with its distribution network owned by foreign investors, Midland Resources Holding Ltd. (U.K.) and operated by Daewoo Engineering (South Korea).

Domestic Energy Issues: Metsamor Nuclear Power Plant

Armenia has one nuclear power plant, the controversial Metsamor Nuclear Power Plant (NPP). The power plant, with two VVER-design reactors and a combined capacity of 815 MW, was shut down in March 1989 by the Soviet Union because of safety fears following the devastating earthquake that struck Armenia in December 1988. However, faced with a deepening energy crisis due to the country's lack of fossil fuels and the economic blockade imposed by Azerbaijan and Turkey, on November 5, 1995, Armenia decided to resume operation at the 440-MW second unit. The plant, which was built in 1980 with a design life of 30 years, now supplies around 30% of the country's electricity.

Since the Metsamor NPP was inactive for six years, Armenian and Russian nuclear officials believe that the lone reactor functioning at the plant could operate through 2016. The European Union, however, is pressuring Armenia to shut the plant earlier, since the EU considers Metsamor to be a safety risk due to flaws in the plant's Soviet-designed reactors and the region's seismic activity. The EU has suggested the plant be shut down by 2004, and has pledged financial support to facilitate its closure.

Transit Energy

With the collapse of the Soviet Union and the increase in oil production from the Caspian Sea region, the Caucasus region has gained in importance from an energy perspective. Previously, the only way for Caspian Sea region oil exports to reach European consumers was via the Russian pipeline system. The United States has supported the principle of multiple export options for Caspian exporters, and three of the largest projects to these ends cross through Georgia (Baku-Tbilisi-Ceyhan, Baku-Tbilisi-Erzurum, and Baku-Supsa, a.k.a the "Western Early Oil Route")--none of these pass through Armenia. (For more on these projects and energy in the Caspian Sea region, see [EIA's Caspian Sea Region Country Analysis Brief](#)).

Baku-Tbilisi-Ceyhan and Baku-Tbilisi Erzurum

Roughly 150 miles of the pipeline corridor extending from Baku, Azerbaijan to Turkey will pass through Georgia. This corridor will include the Baku-Tbilisi-Ceyhan oil pipeline, which is to be completed by late 2004, and the Baku-Tbilisi-Erzurum natural gas pipeline, to be completed in 2006. Regional governments and international investors expect these pipelines to become two of the primary conduits for Caspian Sea region oil and natural gas exports over the next decade. Georgia will be paid transit tariffs by the pipeline's operators, and will be allotted a small percentage of fuel passing through the Republic.

Georgian environmental and security concerns have influenced the pipeline project significantly, particularly in the last year. The Georgian government has expressed worries that the pipeline corridor's planned route traverses the country's Borjomi Valley, home of Georgia's famed mineral water. In November 2002, the Georgian Ministry of Natural Resources and British Petroleum came to agreement stipulating that the path be adjusted around the valley. Later, in December 2002, the Georgian government, working in concert with international experts, presented a new set of environmental security standards for the project.

Given Georgia's internal civil strife as well as hostilities between Armenia and Azerbaijan, the

Georgian government has also expressed security concerns. In January 2003, U.S. and Georgian officials created a special military unit to guard the pipeline, consisting of U.S.-trained Georgian military personnel. Georgia and foreign investors have also reportedly signed an agreement with Northrop Grumman Corp. to implement an aerial surveillance program.

But several non-governmental organizations from Georgia and around the world have expressed continued reservations about the pipeline project. Critics such as Amnesty International, Green Alternative, Friends of the Earth, and others have conducted their own studies and fact finding missions, concluding that the pipeline may still be environmentally hazardous and even in violation of human rights.

Baku-Supsa Pipeline

On March 8, 1996, Georgian President Eduard Shevardnadze and Azerbaijani President Heydar Aliyev signed a 30-year agreement to pump a portion of the Azerbaijan International Operating Company (AIOC)'s "early oil" via Georgia to its Black Sea port of Supsa. The Georgian International Oil Company, a subsidiary of the AIOC, made substantial upgrades to the existing 515-mile pipeline along this route and built the \$565-million Supsa terminal on the Black Sea.

The so-called "western route," which became operational in April 1999, had an original design capacity of 100,000 bbl/d, but recent upgrades have raised capacity and throughput is reportedly around 145,000 bbl/d. The Baku-Supsa route, however, was designed to carry only the early oil from the AIOC's development of the Azeri-Chirag-Gunashli fields, and although there has been discussion of increasing the pipeline's capacity to 300,000 bbl/d or even 600,000 bbl/d, AIOC is planning to export its future production via the Baku-Ceyhan Main Export Pipeline, once it becomes operational. In January 2003, the pipeline was shutdown for two days owing to an explosion near the Georgian village of Sveneti, roughly 40 miles from Tbilisi. Some analysts have suggested that the explosion was an act of sabotage, instigated by Georgia's separatists groups.

Country	2002 GDP*	2002E Real GDP Growth Rate,	2003F Real GDP Growth Rate	2002E Per Capita GDP,	2001E Population (Millions)
Armenia	\$2.1	7.2%	5.4%	\$542	3.8
Georgia	\$3.1	4.0%	3.2%	\$619	5.0
Total/weighted average	\$5.2	5.3%	4.7%	\$586	5.8

*GDP in billion U.S. dollars

Country	Total Energy Consumption*	Percentage of Total Energy Consumption							Carbon Dioxide Emissions**
		Oil	Natural Gas	Coal	Nuclear	Hydro-electric	Other Electricity	Net Electricity Imports	
Armenia	0.10	11.7	50.3	.05	22.7	17.7	0	-2.44	.98
Georgia	0.18	36	24.4	.1	0	34.5	0	5.0	1.79
Total	0.18	-----							2.77

*Total energy consumption measured in quadrillion british thermal units (Btu's)
**Carbon dioxide emissions measured in million metric tons of carbon

OIL

	Reserves (Million Barrels)	Production (1,000 bbl/d)	Consumption	Imports
Armenia	0	0	6	6
Georgia	35	2	36	34
Total	35	2	42	40

NATURAL GAS

	Reserves (Trillion Cubic Feet)	Production (Bcf/yr)	Consumption	Imports/Exports
Armenia	0	0	49	49
Georgia	0.3	0	41	41
Total	0.3	0	90	90

ELECTRICITY

	Installed Capacity (GWh)	Generation (Bkwh)	Consumption
Armenia	2.738	6.48	5.8
Georgia	4.492	7.27	7.6
Total	7.23	13.75	13.4

Sources for this report include: AFX-Asia, Agence France Presse, Asia Pulse, Associated Press, BBC Monitoring Trans Caucasus Unit, Central Asia & Caucasus Business Report, Caspian News Agency, Caspian Business Report, CIA World Factbook, DRI/WEFA Eurasian Economic Outlook, The Economist, The Financial Times, FSU Oil and Gas Monitor, Interfax News Agency, The International Herald Tribune, ITAR-TASS News Agency, The Moscow Times, Petroleum Economist, PlanEcon, PR Newswire, Radio Free Europe/Radio Liberty, Reuters, RosBusinessConsulting

Database, Russian Economic News, The Russian Oil & Gas Report, Turkish Daily News, U.S. Department of Energy, U.S. Energy Information Administration, U.S. Department of State, and World Markets Online.

LINKS

For more information from EIA on the Caucasus Region, please see:

[EIA: Country Information on Armenia](#)

[EIA: Country Information on Azerbaijan](#)

[EIA: Country Information on Georgia](#)

Links to other U.S. government sites:

[U.S. Agency for International Development](#)

[U.S. Department of Commerce, Business Information Service for the Newly Independent States \(BISNIS\)](#)

[U.S. Department of Commerce, Country Commercial Guides](#)

[U.S. Department of Commerce, International Trade Administration: Energy Division](#)

[U.S. Department of Commerce, Trade Compliance Center: Market Access Information](#)

[CIA World Factbook](#)

[U.S. Department of Energy, Office of Fossil Energy: International Affairs](#)

[Library of Congress Country Study on the former Soviet Union](#)

[Radio Free Europe/Radio Liberty \(RFE/RL\)](#)

[RFE/RL: Energy Politics in the Caspian and Russia](#)

[U.S. Department of State: Background Notes](#)

[U.S. Department of State, International Information Programs](#)

[U.S. Embassy, Baku, Azerbaijan](#)

[U.S. Embassy, Tbilisi, Georgia](#)

[U.S. Embassy, Yerevan, Armenia](#)

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[Amnesty International: Human Rights on the Line--The Baku-Tbilisi-Ceyhan Pipeline Project](#)

[Armenpress: Armenian State News Agency](#)

[Azerbaijan International](#)

[Azerbaijan Internet Links](#)

[The Baku Ceyhan Campaign](#)

[British Petroleum: The Caspian](#)

[Caspian Crossroads Magazine](#)

[Caspian Energy](#)

[Caspian News Agency](#)

[Caspian Sea News](#)

[Central Asia-Caucasus Institute of The Johns Hopkins University](#)

[Embassy of Azerbaijan in the U.S.](#)

[Embassy of Georgia in the U.S.](#)

[EurasiaNet.org--News and Analysis from Central Asia and the Caucasus](#)

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File last modified: October 24, 2003

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