

## *Energy*

The main indigenous fossil fuel resources in Afghanistan are natural gas, petroleum and coal. Afghanistan also produces hydroelectric power.

The Soviets had estimated Afghanistan's proven and probable natural gas reserves at up to 5 trillion cubic feet (Tcf). Afghan gas production reached 275 million cubic feet per day (Mmcf/d) in the mid-1970s, but due to declining reserves from producing fields, output gradually fell to about 220 Mmcf/d by 1980. At that time, the Djarquduq field was brought online and was expected to boost Afghan gas output to 385 Mmcf/d by the early 1980s. However, sabotage of infrastructure by mujahidin limited the country's total production to 290 Mmcf/d, an output level which held fairly steady until the Soviet withdrawal in 1989. After the Soviet pullout and subsequent Afghan civil war, roughly 31 producing wells at Shibrgan-area fields were shut down pending the restart of gas sales to the former Soviet Union.

At its peak in the late 1970s, Afghanistan exported to the Soviet Union's gas grid between 70-90 percent of its natural gas output via a link through Kushka, Turkmenistan. In 1992, Afghan President Najibullah indicated that a new gas sales agreement with Russia was in progress. However, several former Soviet republics raised price and distribution issues and negotiations stalled. In the early 1990s, Afghanistan also discussed possible gas supply arrangements with Hungary, Czechoslovakia and several Western European countries, but these talks never progressed further. Current Afghan gas production remains around 30 Mmcf/d, all of which is used domestically.

Soviet estimates made in the late 1970s placed Afghanistan's proven and probable oil and condensate reserves at 95 million barrels. Despite plans to start commercial oil production in Afghanistan, all oil exploration and development work as well as plans to build a 10,000 barrel per day refinery were halted after the 1979 Soviet invasion. Afghanistan's various provinces receive refined products from neighboring countries.

In late September, 1999, the Taliban signed an exploration agreement with a Greek firm, ECC. The contract obliges ECC to conduct seismic and other exploration in southwest Afghanistan, which is considered to be highly prospective.

Afghanistan recently has acquired significance from an energy standpoint as a potential transit route for oil and natural gas exports from Central Asia to the Arabian Sea.

In January 1998, the Taliban signed an agreement that would allow a proposed 890-mile, \$2-billion, 2-billion-cubic-feet-per-day natural gas pipeline project led by Unocal to proceed. Unocal subsequently estimated that construction on the line, which would transport gas from Turkmenistan's 45-Tcf Dauletabad gas field to Pakistan, would begin in late 1998. The proposed \$2-billion pipeline tentatively would run from Dauletabad south to the Afghan border and through Herat and Kandahar in Afghanistan, to Quetta, Pakistan. The line would then link with Pakistan's gas grid at Sui. Gas shipments had been projected to start at 700 Mmcf/d in 1999 and to rise to 1.4 Bcf/d or higher by 2002. In March 1998, however, Unocal announced a delay in finalizing project details due to Afghanistan's continuing civil war. In June 1998, Gazprom announced that it was relinquishing its 10 percent stake in the gas pipeline project consortium (known as the Central Asian Gas Pipeline Ltd., or Centgas), which was formed in August 1996. Unocal and Saudi Arabia's Delta Oil hold a combined 85 percent stake in the consortium, while

Turkmenrusgas owns 5 percent. Other participants in the project include Hyundai Engineering & Construction Company of South Korea, Itochu Corporation of Japan, and Indonesia Petroleum Ltd.

In August 1998, Unocal announced that it was suspending its role in the Afghanistan gas pipeline project in light of the U.S. military action in Afghanistan that year, and also due to intensified fighting between the Taliban and opposition groups. Unocal has stressed that the gas pipeline project will not proceed until an internationally recognized government is in place. To date, only three countries -- Saudi Arabia, Pakistan and the United Arab Emirates -- have recognized the Taliban government.

Besides the gas pipeline, Unocal also has considered building a 1,000-mile, 1-million barrel-per-day capacity oil pipeline that would link Chardzou, Turkmenistan to Pakistan's Arabian Sea Coast via Afghanistan. Since the Chardzou refinery is already linked to Russia's Western Siberian oil fields, this line could provide a possible alternative export route for regional oil production from the Caspian Sea. The \$2.5 billion pipeline is known as the Central Asian Oil Pipeline Project. For a variety of reasons, including high political risk and security concerns, however, financing for this project remains highly questionable.

In April 1999, Pakistan, Turkmenistan and Afghanistan agreed to reactivate the Turkmenistan-Pakistan gas pipeline project, and to ask the Centgas consortium, now led by Saudi Arabia's Delta Oil (following Unocal's withdrawal from the project), to proceed. As of mid-2000, discussions on this issue reportedly were continuing amongst India, Pakistan, Iran, Turkmenistan, and Afghanistan. It remains unlikely, however, that this pipeline will be built until the political and military situations in Afghanistan improve.

Discussions were initiated in September, 1999 concerning the possibility of Afghanistan supplying gas to the Ukraine. Meetings were held in Odessa between the Odessa Region Council Chairman and the Afghanistan Deputy Minister of Foreign Affairs.

Besides oil and gas, Afghanistan also is estimated to have significant coal reserves (probable reserves of 400 million tons), most of which is located in the region between Herat and Badashkan in the northern part of the country. Although Afghanistan produced over 100,000 short tons of coal annually as late as the early 1990s, as of 1998, the country was producing only around 4,000 short tons.

Afghanistan's power grid has been severely damaged by years of war. Currently, the ruling Taliban are concentrating on rebuilding damaged hydroelectric plants, power distribution lines, and high-voltage cables. Afghanistan has received electricity from Uzbekistan, mainly into Mazar-e-Sharif near the border, but payment problems have previously caused Uzbekistan to reduce power exports. On October 1999, Afghanistan announced that it had reached agreement with Turkmenistan for electricity imports into Andkhoy District in northwestern Afghanistan, including power to the Herat cement plant. Turkmenistan also has discussed supplying Afghanistan with additional electricity, with work reportedly set to begin in the near future and to be completed within 6 months. A power transmission line would connect the Seydi power plant in eastern Turkmenistan with western Afghanistan.

According to Afghanistan's Minister of Water and Power, Mowlawi Ahmad Jan, the 66-MW Mahipar hydro plant reportedly is now operational. In recent months, a severe drought has limited Afghanistan's hydro production, including the main plants at Naghloo and Saroobi. In addition, the government has tripled the power tax, making power less affordable for many Afghans. Currently, only around 6% of Afghanistan's 21 million people have access to electricity, with the rest using diesel, firewood, or manure for cooking and heating.

Afghanistan  
Key Sectors

Energy: Production and Consumption of Primary Energy  
(Quads)

		1995	1996	1997	1998	1999
Coal	Production	0.0280	0.0390	0.0400	0.0070	0.0140
	Consumption	0.0910	0.1360	0.1890	0.1470	0.1780
	Net Exports	-0.0630	-0.0970	-0.1490	-0.1400	-0.1640
Hydro	Production	0.1890	0.1740	0.1890	0.1560	0.1390
	Consumption	0.1890	0.1740	0.1890	0.1560	0.1390
	Net Exports	0.0000	0.0000	0.0000	0.0000	0.0000
Natural Gas	Production	0.0670	0.0670	0.0790	0.0740	0.0720
	Consumption	0.0670	0.0670	0.1040	0.1200	0.1480
	Net Exports	0.0000	0.0000	-0.0250	-0.0460	-0.0760
Nuclear	Production	0.0000	0.0000	0.0000	0.0000	0.0000
	Consumption	0.0000	0.0000	0.0000	0.0000	0.0000
	Net Exports	0.0000	0.0000	0.0000	0.0000	0.0000
Petroleum	Production	0.0220	0.0190	0.0160	0.0170	0.0160
	Consumption	0.4000	0.4410	0.4710	0.4850	0.4940
	Net Exports	-0.3780	-0.4220	-0.4550	-0.4680	-0.4780
Renewables	Production	0.0070	0.0090	0.0080	0.0110	0.0160
	Consumption	0.0070	0.0090	0.0080	0.0110	0.0160
	Net Exports	0.0000	0.0000	0.0000	0.0000	0.0000

Sources: US Department of Energy