

TURKMENISTAN

By Richard M. Levine

Turkmenistan occupies an area of 488,100 square kilometers (slightly larger than the State of California) and is the fourth largest country in landmass to form from the former Soviet Union (FSU). The country's population of 4.37 million inhabitants, however, was small compared with that of other countries of the FSU (U.S. Central Intelligence Agency, 1999, Turkmenistan, World Factbook, accessed February 8, 2000, at URL <http://www.odci.gov/cia/publications/factbook/geos/tx.html>).

Turkmenistan's substantial energy resources include natural gas and oil. In 1999, it ranked among the world's leading gas producers. It was the second largest natural gas producer in the FSU after Russia, and ranked third in natural gas production in the FSU after Russia and Uzbekistan. The country's gas production had fallen by about 80% compared with that of 1991 (Interfax Statistical Report, 2000a).

In 1999, Turkmenistan's gross domestic product increased by 16% compared with that of 1998 mainly because of increases in the production of cotton, natural gas, crude petroleum, and wheat; natural gas exports were a major component of this increase (U.S. Department of Energy, Energy Information Administration, July 2000, Turkmenistan, accessed January 25, 2001, at URL <http://www.eia.doe.gov/emeu/cabs/turkmen.html>; World Bank Group, September 2000, Turkmenistan—Country brief, accessed December 20, 2000, via URL <http://www.worldbank.org>). From January through November 1999, industrial production increased by 13% compared with the same period in 1998. Specifically, production in the chemical and petrochemical sector increased by 23%; in the engineering and metals processing sector, by 10%; and in the construction materials sector, by 7%. Output in the oil refining sector, however, decreased by 8% (Interfax Statistical Report, 2000b).

Turkmenistan considered gas and oil production its major opportunity for economic growth. The country contains more than 2.8 trillion cubic meters (100 trillion cubic feet) of proven gas reserves (U.S. Department of Energy, Energy Information Administration, September 1999, Turkmenistan, accessed February 8, 2000, at URL <http://eia.doe.gov/emeu/cabs/turkmen.html>). The country, with the participation of foreign investors, was counting on the development of its large natural gas reserves being the central focus for its economic development (U.S. Department of Energy, Energy Information Administration, September 1997, Turkmenistan, accessed August 3, 1998, at URL <http://www.eia.doe.gov/emeu/cabs/turkmen.html>).

Aluminum.—Plans were also being formulated to construct an integrated aluminum production complex in Mary, which would include an alumina refinery that would process domestically mined alunite ore. The complex would have the capacity to mine 2 million metric tons per year of alunite and to

produce 300,000 t/yr of alumina and 150,000 t/yr of primary aluminum (U.S. Department of State, August 24, 1999, Turkmenistan—Country commercial guide, accessed February 5, 2001, at URL <http://www.bisnis.doc.gov/bisnis/country/9909txCCG2000.htm>). In another report, the production capacity of the complex was reported to be 240,000 t/yr of aluminum (Ashgabat Turkmenistan, July 13, 2000, Turkmen southern Mary region economic development noted, accessed January 26, 2001, via URL <http://fbis.fedworld.gov>). In 1999, the U.S. Trade and Development Agency signed an agreement with the Government of Turkmenistan that would provide the country with \$450,000 for a feasibility study for the aluminum complex, to be conducted by the Bechtel Corp. of the United States. The complex would have the advantage of access to a large available domestic supply of inexpensive natural gas (Ashgabat Turkmen Television First Channel, March 1, 1999, US aluminum project grant noted, accessed February 2, 2001, via URL <http://fbis.fedworld.gov>).

Industrial Minerals.—The country also has a wide variety of industrial mineral resources, which include bromine, iodine, salt, sodium sulfate, and sulfur. The Garabogaz Aylagy lagoon off the Caspian Sea was one of the world's largest sources of raw materials for the chemical industry; commercial interest in the salts of this region began at the end of the 19th century (Weisman and McIlveen, 1983). Production from the Garabogaz Aylagy had accounted for almost 45% of the FSU's sodium sulfate production and all of its production of epsomite and medicinal Glauber's salt (Aganbegyan and Ovezgel'byev, 1988, p. 97).

Turkmenistan was seeking investors for a number of production projects proposed by Turkmenistan's Ministry of Energy and Industry, which, along with energy, Turkmenistan believed had the potential to generate significant revenue for the country. These projects included constructing facilities to produce ammonia, bromine, caustic soda, epsomite, fertilizers, iodine, potash, salt, soda ash, sodium sulfate, and strontium carbonate (U.S. Department of State, August 24, 1999, Turkmenistan, Country Commercial Guide, accessed February 5, 2001, at URL <http://www.bisnis.doc.gov/bisnis/country/9909txCCG2000.htm>); U.S. Department of Commerce, July 29, 1997, IMI: Turkmenistan—List of investment projects in the chemical industry, accessed June 4, 1998, at URL <http://www.itaiep.doc.gov/bisnis/cables/970730t2.htm>).

Turkmenistan was seeking investment to upgrade and expand production at 10 plants in the chemical sector that, besides using outmoded technologies, posed environmental hazards to surrounding areas. These plants included the Cheleken carbon black plant, the Mary fertilizer plant, and the Nebit Dag iodine plant (Irena Begjanova, Commercial Section, U.S. Embassy,

Ashgabat, Turkmenistan, September 1999, Construction sector in Turkmenistan, accessed December 20, 1999, at URL <http://www.bisnis.doc.gov/bisnis/country/9909txconstr.htm>; Irena Begjanova, Commercial Section, U.S. Embassy, Ashgabat, Turkmenistan, September 1999, Environmental issues in Turkmenistan, accessed December 20, 1999, at URL <http://www.bisnis.doc.gov/bisnis/country/9909txenvironm.htm>).

Iron and Steel.—In the metals sector, Turkmenistan, with Turkish participation, was planning to construct a steelworks in Mary with a capacity of 400,000 metric tons per year (t/yr) of steel products, which will include pipes. Initially, the plant would obtain 70% of its raw material from scrap, but plans called for eventually developing the Gyzylgay iron ore deposit to provide a domestic source of ore. Turkmenistan was almost entirely dependent on imports for its supply of ferrous metals. With the construction of this plant, the country would be able to supply a significant portion of its domestic steel consumption needs (Mining Journal, 2000).

Natural Gas and Oil.—Gas from Turkmenistan was being exported through pipeline routes controlled by Russia to consumers in Russia, Ukraine, and the countries of the Caucasus and Eastern and Western Europe. Such FSU countries as Armenia, Georgia, and Ukraine had been receiving gas from Turkmenistan without being able to pay for it. Russia insisted that Turkmenistan continue to supply these countries, but Turkmenistan, not wanting to supply gas without getting paid, had stopped shipments intermittently and had reduced gas production accordingly. Owing to arrears in payment, Turkmenistan again discontinued gas shipments to Ukraine in mid-1999.

In 2000, Russia agreed to purchase almost 10 billion cubic meters (Gm³) of natural gas from Turkmenistan, anticipating to increase that amount to almost 40 Gm³ by 2002 (U.S. Department of Energy, Energy Information Administration, July 2000, Turkmenistan—Natural gas, Country Analysis Briefs, accessed January 25, 2001, at URL <http://www.eia.doe.gov/emeu/cabs/turkmen.html>). This increase in exports would enable Turkmenistan to increase production significantly.

Turkmenistan was faced with the problem that the only alternative to using the pipeline routes controlled by Russia was to build new pipelines (U.S. Department of Energy, Energy Information Administration, January 18, 2000, International energy annual, accessed February 8, 2000, via URL <http://www.eia.doe.gov/emeu/iea/contents.html>). Consequently, the country was developing alternate pipeline routes to get its gas to world markets in cooperation with western firms. Upon completion, these new routes would considerably boost the country's foreign currency earnings. A small gas pipeline to Iran with the capacity to export about 4 billion cubic meters per year (Gm³/yr) of natural gas had been put into operation in 1997; the amount transported would increase to about 8 Gm³/yr. The most important proposed project was the Trans-Caspian Gas Pipeline (TCGP), which would be routed under the Caspian Sea through Azerbaijan and Georgia to Turkey. Little progress, however, was made in 1999 on the terms that would enable construction to commence. The lack of export routes was also one of the major factors that was impeding development of

Turkmenistan's significant onshore and offshore oil resources (U.S. Department of Energy, Energy Information Administration, July 2000, Turkmenistan—Oil, Country Analysis Briefs, accessed January 25, 2001, at URL <http://www.eia.doe.gov/emeu/cabs/turkmen.html>; World Bank Group, September 2000, Turkmenistan, Country Brief, accessed December 20, 2000, via URL <http://www.worldbank.org>).

The still unresolved issue regarding ownership of the Caspian Sea's seabed resources further complicated offshore oil and gas production. Turkmenistan sided with Azerbaijan and Kazakhstan in the contention that the Caspian should be divided into national sectors. The opposing position, supported by Iran and Russia that have fewer oil and gas resources near their coasts, asserts that offshore resources should be shared by all five littoral states. In actuality, development of Caspian resources was proceeding according to the principle of division by national sectors, but even this de facto resolution entailed complications because Turkmenistan was engaged in a controversy with Azerbaijan regarding the demarcation line for a major offshore oil and gas field named Serdar by Turkmenistan and Kyapaz by Azerbaijan (U.S. Department of Energy, Energy Information Administration, July 2000, Turkmenistan—Oil, Country Analysis Briefs, accessed January 25, 2001, at URL <http://www.eia.doe.gov/emeu/cabs/turkmen.html>).

As with other countries with substantial earnings from the export of oil or gas, Turkmenistan will have to ensure its future through balanced development. The country has a number of important industrial mineral resources that could be used to supply regional and world markets with raw materials and downstream products. The country will be better able to focus on the development of these resources and mineral products after the issue of gas transport is resolved, which will provide the country with both a more secure economic base and a more favorable investment climate.

For more extensive coverage of the mineral industry of Turkmenistan, see the 1997 Minerals Yearbook, volume III, Mineral Industries of Europe and Central Eurasia.

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Major Sources of Information

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TABLE 1
TURKMENISTAN: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1995	1996	1997	1998 e/	1999 e/
Bentonite e/	50,000 r/	50,000 r/	50,000 r/	50,000 r/	50,000
Bentonite powder	NA	33	250	250	250
Bischofite	28,266	3,230	90	90	100
Cement	437,300	450,500	450,000 e/	450,000	475,000
Epsomite	1,500	14,250	NA	NA	NA
Ferrous bromide (51% Br)	200	255	83	80	85
Gypsum	216,427	169,577	35,321 r/	35,000	40,000
Iodine	135 r/	35	87	90 r/	95
Lime	NA	9,000	16,000	15,000	17,000
Natural gas million cubic meters	32,300	35,200	17,300	14,000	22,800
Nitrogen, N content of ammonia	52,000 r/ e/	69,500 r/	60,700 r/	75,000	80,000
Petroleum, crude	4,500,000	4,300,000	4,700,000	6,500,000	7,000,000
Salt	277,000	255,738	216,500	215,000 r/	220,000
Sodium sulfate	22,226	30,820	56,552	55,000	60,000
Sulfur	7,913	8,112	9,227	9,000	10,000

e/ Estimated. r/ Revised. NA Not available.

1/ Table includes data available through February 2001.

2/ Estimated data are rounded to no more than three significant digits.

TABLE 2
TURKMENISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 1998

(Thousand metric tons unless otherwise specified)

Commodity	Major operating company	Location of main facilities	Annual capacity e/
Ammonia	Maryaot Association	Mary region	400,000. 1/
Bentonite, clay	Oglanly Mine	Oglanly region	100,000. 1/
Cement	Byuzmein cement plant	Byuzmein	1,000,000. 1/
Gypsum	IA Turkmenmineral	Mukry, Tagorin deposits	300,000. 1/
Do.	Wastes from Gaourdak sulfur deposit	Gaourdak	400,000. 1/
Iodine and bromine	Cheleken plant	Cheleken region	355 (iodine), 1/
Do.	Nebitdag plant	Vyshka	4,740 (bromine). 1/
Natural gas billion cubic meters	Deposits:		
	Achakskoye, Gygyrlinskoye, West Shatlykyskiye, North and South Naipskiye, Dauletabad-Donmezsokoye	Onshore in Eastern, southwestern part of country and offshore in Caspian Sea	90 total.
Petroleum:	Deposits:		
Crude	Nebitdag, Cheleken, Kum Dag, Koturtepinskoye, Barsa-Gelmesskoye, Burunskoye, Kuydzhikskoye, Gograndagskoye, Okaremskoye, Kamyshldzhinskoye	Onshore in southwestern part of country and offshore in Caspian Sea	5,500,000 total.
Refined	Chardzhou refinery	Chardzhou	6,000,000.
Do.	Turkmenbashi refinery	Turkmenbashi (formerly Krasnovodsk)	5,000,000.
Sodium sulfate	Karabogzulfate Association	Bekdash	400,000. 1/
Sulfur	IA Turkmenmineral	Gaourdak deposit	340,000. 1/

e/ Estimated.

1/ Reported number.