



2013 Minerals Yearbook

GEORGIA

THE MINERAL INDUSTRY OF GEORGIA

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Prior to the proclamation of Georgia's independence in 1991, a range of minerals were mined in Georgia, including arsenic, barite, bentonite, coal, copper, diatomite, lead, manganese, zeolites, and zinc. The country's metallurgical sector produced ferroalloys and steel. Production of many of these mineral commodities ceased or had been significantly reduced since 1991 because many supply-demand chains were lost after the disintegration of the Soviet Union.

After the Rose Revolution of 2003, the new Georgian Government set out to reorient the economy toward privatization and free markets. The Government introduced major changes by enacting sweeping tax reform that reduced the types of taxes from 26 in 2003 to 6 in 2008, significantly reducing the number of ministries and state agencies, and dramatically reducing corruption. According to the World Bank's ease of doing business index, Georgia was the first developing country to be rated among the top 10 countries in 2013. Since 2005, Georgia has completed 35 reforms, including a reform of the banking sector and privatization of many large enterprises. The strengths of the country are the lack of bureaucracy and high efficiency in obtaining licenses and credit, registering businesses, and the taxation structure and rates (KaznexInvest, 2013; World Bank, The, 2013).

In the middle of the past decade, the Government of Georgia sought to position the country as a transit hub between Europe and Asia. As a result, the country made improvements to its transportation infrastructure and logistics systems. As of 2013, the annual revenue from petroleum shipping through the Supsa pipeline amounted to \$8 million. As the country's Caspian oil and gas projects transition from exploration to production, it was expected that this revenue would increase (KaznexInvest, 2013).

In the fall of 2012, after the Georgian Dream Party won the parliamentary elections, work in the mining industry was frequently interrupted by worker strikes. These strikes continued in 2013. In February 2013, about 200 workers at the Rustavi metallurgical plant went on a strike and demanded company adherence to the agreed-upon pay schedule, a wage increase, and better working conditions. The company's administration agreed to partially satisfy the workers' demands by promising to pay wages between the 10th and 15th day of every month and by promising to pay overtime for the night shift. The administration promised to consider the other demands in the future (Interfax Azerbaijan, 2013; Mail.ru, 2013).

In May, 2,400 workers at the Zestafoni ferroalloy plant called a strike, demanding a 50% wage increase, a 20% night-shift wage increase, and the signing of a collective bargaining agreement. The Zestafoni workers were also joined by the Chiatura manganese mine workers. In November, about 700 workers of LTD RMG Gold and JSC RMG Copper called a strike. The employees demanded an increase in wages and an improvement in working conditions. The workers stated that the company's administration had previously promised

to increase wages but later refused to do so. It was not known if the workers' demands were met (Lenta.ru, 2013; Metaltorg.ru, 2013).

In 2007, the Government had decided to stop importing natural gas from Russia and instead to import most of its natural gas from Azerbaijan. In 2013, members of the new Government thought that reliance on a single source for such an important energy product could be risky and were developing options for some alternative sources of natural gas. The options included obtaining natural gas from Kazakhstan, Turkmenistan, and possibly Iran, with the goal of supply diversification. The Government even considered the possibility of purchasing gas from Russia (Kikaleishvili, 2013).

Minerals in the National Economy

In 2013, the nominal gross domestic product (GDP) of Georgia increased by 2.5% compared with that of 2012, to \$16.2 billion.¹ The country's real GDP increased by 3.2% in 2013 compared with that of 2012. The share of industrial production in the GDP in 2013 was 17.2%. Mining and quarrying accounted for 4.4% of the value of industrial production. In 2013, the real value of production in mining and quarrying decreased by 0.1%, whereas the real value of manufacturing production increased by 8.4%, indicating that Georgia's economy was growing after the economic reforms of the previous decade, but that the mining sector was lagging behind other sectors of the economy (National Statistics Office of Georgia, 2014c; U.S. Central Intelligence Agency, 2014).

In 2013, foreign direct investment (FDI) increased by 3.3% to \$942 million from \$912 million in 2012, and the share of reinvestments in total FDI was 28.5%. The Netherlands was the leading investor in Georgia (having provided 16% of the total FDI in 2013), followed by Luxembourg (15%), China (10%), Azerbaijan (9%), the United Arab Emirates and the United Kingdom (6% each), and the Czech Republic and Malta (5% each). The FDI in the energy sector was \$244.7 million, or 26% of the total FDI, and in mining, \$43.7 million, or 4.6% of the total FDI; compared with the FDI in 2012, these investments represented increases of 36% and 791%, respectively (National Statistics Office of Georgia, 2014b).

Government Policies and Programs

One of the promises Georgia's Dream Party made during the election campaign was a reduction in energy rates. Starting in January 2013, consumers using less than 300 kilowatthours per month had their electricity rates reduced by 21.5%, and those with monthly consumption of less than 100 kilowatthours

¹Where necessary, values have been converted from Georgian laris (GEL) to U.S. dollars (US\$) at an annual average rate of GEL1.651=\$1.00 for 2012 and GEL1.655=US\$1.00 for 2013.

had a 27% reduction. For consumers with higher consumption patterns, the rates remained unchanged (News Georgia, 2012).

In February 2013, the Government announced that the natural gas rates charged to consumers would be reduced by 10% starting in March. The natural gas distribution networks in Georgia were controlled by two foreign companies—KazTransGaz of Kazakhstan, which controlled gas distribution in the capital city of Tbilisi, and the State Oil Company of Azerbaijan (SOCAR), which controlled gas distribution in the rest of the country. The Government's rationale for the rate reduction was that the rates effectively include two components—the wholesale price paid for the gas at the border and the distribution surcharge. Although the wholesale prices for the gas imported from Azerbaijan were very competitive—\$143 per thousand cubic meters for commercial customers and \$167 per thousand cubic meters for residential customers, the distribution surcharges were monopolistic and too high. The Government essentially used this reduction to regulate Azerbaijan's monopoly on gas distribution within the country. It was not clear how long the Government would be able to sustain the reduced prices (Kavkasia Online, 2013).

Production

Most of the production data for 2013 listed in table 1 are estimated because data for most mineral commodities were not available. Production of crude petroleum increased by 18.6%; gold, by 10%; silver, by an estimated 10%; and cement, by an estimated 9.2%. Output of salt and bentonite increased by an estimated 3.4% and 2.0%, respectively. At the same time, production of mined copper decreased by an estimated 32%; steel rebar, by 13.2%; and silicomanganese, by 2.7%. These and other production data are listed in table 1.

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Mineral Trade

In 2013, Georgia ran a substantial trade deficit—the total value of its exports (\$2.91 billion) was greatly exceeded by the total value of its imports (\$7.89 billion). The country's major export trade partners were, in order of descending value, Azerbaijan (which received 24.4% of Georgia's exports), Armenia (10.8%), Russia and Ukraine (6.6% each), Turkey (6.3%), Bulgaria (5.2%), the United States (4.7%), Canada (4.4%), Kazakhstan (3.6%), and Italy (2.8%). Its major import trade partners were, in order of descending value, Turkey (which supplied 17.1% of Georgia's imports), Azerbaijan (8.3%), Ukraine (7.6%), Russia (7.5%), China (7.1%), Germany (5.7%), Romania and Japan (4.1% each), the United States (3.2%), and Italy (2.8%). Mineral commodities, especially metals, played an important role in the country's exports. Ferroalloys accounted for 7.9% of the country's total export value; copper ores and concentrates, 5.6%; nitrogenous mineral or chemical fertilizers, 4.5%; and unwrought gold, 2.5%. Among the country's imports, the largest category in terms of import value was petroleum and petroleum oils, which made up 12.1% of the total. Petroleum gases contributed another 4.0%, and copper ores

and concentrates, 1.4% (National Statistics Office of Georgia, 2014a).

Commodity Review

Metals

Copper and Gold.—In 2012, GeoProMining, Ltd. (GPM) of Russia had sold both of its Georgian holdings—JSC Madneuli and Quartzite Ltd.—to the Rich Metals Group (RMG) for a total of \$120 million. The new owner renamed the two companies JSC RMG Copper (formerly JSC Madneuli) and LTD RMG Gold (formerly Quartzite Ltd.). RMG announced that it had invested \$10 million in infrastructure and modernization efforts and stressed the importance of environmental protection and social programs at its enterprises. According to some sources, RMG is also a part of the Capital Group owned by Russian investors (Georgia Online, 2012a, b; Gvimradze, 2012).

In February 2012, the Ministry of Energy and Natural Resources conducted an auction for the right to mine ore deposits in Sakdrisi, Bolnisi region. As a result of the auction, the license was sold for 110 million laris (\$66.6 million) to Mining Investments LLC, which, according to some sources, was a part of the Capital Group. Eight years earlier, in 2004, Georgian and German archeologists had discovered one of the oldest gold mines in the world, which is thought to be about 5,000 years old. Subsequently, in 2006, the mine was awarded the status of an archeological cultural heritage monument. In October 2013, however, the Government annulled the status of the archeological cultural heritage monument and declared that the status had been awarded illegally. Some members of the public disagreed with the October 2013 decision and appealed the decision. At yearend, the matter was still not resolved, and it was not clear if the Sakdrisi Mountain would be mined (Civil Georgia, 2012; Georgian Business Week, 2013; Green Alternative, 2013; EurasiaNet.org, 2014).

Industrial Minerals

Cement.—As of February, HeidelbergCement AG of Germany owned three cement plants and four concrete plants in Georgia. In May 2006, the company had started its operations in Georgia after purchasing a 51% share in OOO Kartuli Cementi, and in November 2006, it had acquired a 75% share in SaqCementi, which had two cement plants—one in Kaspi and one in Rustavi. By yearend 2013, the three plants had a production capacity of 2 million metric tons per year of cement. In 2011, HeidelbergCement had commissioned a port terminal with the capacity to transport 1,200 metric tons per day of cement at Supsa, a port on the Black Sea. HeidelbergCement was also planning to build a new cement plant with a capacity of 400,000 metric tons per year at Supsa. The company was planning to invest 30 million laris (\$18 million) in this project, but it was not clear when the project was expected to be completed (Ukrcement, 2013).

Mineral Fuels

Petroleum.—According to the Government, as of January 2013, Georgia's crude oil reserves were 7.2 million metric tons (52.3 million barrels). In 2013, Georgia produced 52,248 metric tons (380,000 barrels) of petroleum and exported all of it, because the country did not have an operational oil refinery. In September, the Government announced plans to build a new refinery on the coast of the Black Sea. Azerbaijani investors were expected to spend about \$1 billion on the construction of the plant. Out of the six countries of the Black Sea Basin, Georgia was the only country that had no plans to explore for oil in the sea shelf because Anadarko Petroleum Corp. of the United States had completed this work earlier. At the same time, several companies were exploring for oil in Georgia; one company was Jindal Petroleum Ltd. of India. In 2013, Georgia imported almost all the petroleum consumed in the country, and Azerbaijan supplied 28.9% of that amount (Business Georgia, 2013; Democracy & Freedom Watch, 2013; Rosbalt, 2013, 2014).

Outlook

In the past decade, the Government of Georgia substantially improved the business climate in the country and attracted increased levels of FDI (World Bank, The, 2013). The mineral sector, however, has been unable to take full advantage of those changes. In the next 3 to 5 years, the mineral industry of Georgia is expected to have moderate but stable growth. Copper, ferroalloys, manganese, and steel are likely to remain the dominant mineral commodities in the short and medium terms. At the same time, a potential increase in domestic energy production could serve as a catalyst for faster future growth.

References Cited

- Business Georgia, 2013, Gruzija ne uchastvuet v poiskovyh rabotah nefi na Chernom more [Georgia is not taking part in oil exploration at the Black Sea coast]: Business Georgia, November 16. (Accessed October 15, 2014, at <http://bizzone.info/energy/2013/1384652776.php>.)
- Civil Georgia, 2012, Litsenzia na dobychu poleznykh iskopaemykh prodana za 110,5 mln. lari [The license for mining resources is sold for 110.5 million laris]: Civil Georgia, March 2. (Accessed October 15, 2014, at <http://www.civil.ge/rus/article.php?id=23128>.)
- Democracy & Freedom Watch, 2013, New oil refinery planned on Georgia's Black Sea: Democracy & Freedom Watch, September 9. (Accessed October 15, 2014, at <http://dfwatch.net/new-oil-refinery-planned-on-georgias-black-sea-coast-61975>.)
- EurasiaNet.org, 2014, Gruzija razreshila Rossijskoi kompanii dobyvat' zoloto na meste unikal'nykh istoricheskikh raskopok [Georgia allowed Russian company to mine gold at the unique historical site]: EurasiaNet.org, March 19. (Accessed October 15, 2014, at <http://russian.eurasianet.org/node/60526>.)
- Georgian Business Week, 2013, Pravitel'stvo Gruzii anulirovalo status arheologicheskogo pamyatnika rudnika v Sakdrisi [Georgian Government annulled the status of an archaeological monument for the Sakdrisi Mine]: The Georgian Business Week, no. 884, October 7–13.
- Georgia Online, 2012a, GeoProMining prodal gruzinskie aktivy za 120 millionov dollarov [GeoProMining has sold its Georgian assets for \$120 million]: Georgia Online, June 19. (Accessed October 15, 2014, at <http://www.apsny.ge/2012/eco/1340151201.php>.)
- Georgia Online, 2012b, Novyy vladelets "Madneuli" i "Kvartsita" prodolzhit sotsial'nye i ekologicheskie programmy [The new owner of Madneuli and Quartzite will continue social and environmental programs]: Georgia Online, July 27. (Accessed October 15, 2014, at <http://www.apsny.ge/2012/eco/1343424126.php>.)
- Green Alternative, 2013, Madneuli above the law: Tbilisi, Georgia, Open Society Georgia Foundation, 20 p. (Accessed October 15, 2014, at http://greenalt.org/wp-content/uploads/2013/12/Madneuli_above_the_Law.pdf.)
- Gvimradze, Kote, 2012, Novyy vladelets [New owner]: Argumenty i Fauty, June 27. (Accessed October 15, 2014, at http://gazeta.aif.ru/online/tbilisi/510/14_02?print.)
- Interfax Azerbaijan, 2013, V Gruzii bastuyut rabochie rustavskogo metallurgicheskogo zavoda [Workers of the Rustavi metallurgical plant are on strike in Georgia]: Interfax Azerbaijan, February 15. (Accessed October 15, 2014, at <http://interfax.az/view/566388>.)
- Kavkasia Online, 2013, Ministr energetiki Gruzii podtverdil informatsiyu o smizhenii tarifov na gaz [The Georgian energy minister confirmed the gas tariff reductions]: Kavkasia Online, February 6. (Accessed October 15, 2014, at <http://kavkasia.net/Georgia/2013/1360196288.php>.)
- KaznexInvest, 2013, Gruzija—Stranovoy obzor [Georgia—Country review]: KaznexInvest, 23 p. (Accessed October 15, 2014, at http://www.kaznexinvest.kz/napr/analytics/export/cr/gruzia_2013.pdf.)
- Kikaleishvili, Megi, 2013, Gruzija mozhet vozobnovit' pokupku gaza u Rossii [Georgia may start buying gas from Russia again]: Prime, May 6. (Accessed October 15, 2014, at <http://1prime.ru/Energy/20130506/763226679-print.html>.)
- Lenta.ru, 2013, V Gruzii zabastovali zolotodoytchiki [Gold miners went on strike in Georgia]: Lenta.ru, November 19. (Accessed October 15, 2014, at <http://lenta.ru/news/2013/11/19/strike/>.)
- Mail.ru, 2013, V Gruzii zavershena zabastovka na Rustavskom metzavode [In Georgia, the strike at the Rustavi metallurgical plant is finished]: Mail.ru, February 15. (Accessed October 15, 2014, at <http://news.mail.ru/economics/12009983>.)
- Metaltorg.ru, 2013, Zestafonskiy zavod ferrosplavov probastoval vsyu proshluyu nedelyu [Zestafoni ferroalloys plant was on strike the entire last week]: Metaltorg.ru, May 27. (Accessed October 15, 2014, at <http://www.metaltorg.ru/n/99DACF>.)
- National Statistics Office of Georgia, 2014a, External trade of Georgia in 2013: Tbilisi, Georgia, National Statistics Office of Georgia, 37 p. (Accessed October 15, 2014, at http://geostat.ge/cms/site_images/_files/georgian/bop/Georgian_External_Trade_2013.pdf.)
- National Statistics Office of Georgia, 2014b, Foreign direct investments in 2013: National Statistics Office of Georgia. (Accessed October 15, 2014, at http://www.geostat.ge/index.php?action=page&p_id=140&lang=eng.)
- National Statistics Office of Georgia, 2014c, Gross domestic product of Georgia in 2013: National Statistics Office of Georgia press release, March 20, 10 p. (Accessed October 15, 2014, at <http://geostat.ge/index.php?action=wnews&lang=eng&npid=215>.)
- News Georgia, 2012, Tarify na elektroenergiyu v Gruzii snizyatsya dlya 90% naseleniya—Ivanishvili [Electric rates in Georgia will be reduced for 90% of the population]: News Georgia, December 24. (Accessed October 15, 2014, at <http://www.newsgeorgia.ru/economy/20121224/215430365.html>.)
- Rosbalt, 2013, V dobychu nefi i gaza v Gruzii planiruyut vlozhit' dopolnitel'no svyshe \$80 mln [Companies plan to invest more than an additional \$80 million in oil and gas production]: Rosbalt, April 18. (Accessed October 15, 2014, at <http://www.rosbalt.ru/exussr/2013/04/18/1119720.html>.)
- Rosbalt, 2014, Gruzija ishet u sebya nef' [Georgia is looking for oil at home]: Rosbalt, February 12. (Accessed October 15, 2014, at <http://www.rosbalt.ru/exussr/2014/02/12/1232642.html>.)
- Ukrcement, 2013, HeidelbergCement zapustil v Gruzii 4-y betonnyi zavod [HeidelbergCement commissioned the 4th concrete plant in Georgia]: Ukrcement, February 6. (Accessed October 15, 2014, at <http://news.ukrcement.com.ua/2013/02/heidelbergcement-4.html>.)
- U.S. Central Intelligence Agency, 2014, Georgia, in The world factbook: U.S. Central Intelligence Agency Web page. (Accessed October 15, 2014, at <https://www.cia.gov/library/publications/the-world-factbook/geos/gg.html>.)
- World Bank, The, 2013, Doing business 2013—Smarter regulations for small and medium-size enterprises—Comparing business regulations for domestic firms in 185 economies (10th ed.): Washington, DC, The World Bank, 270 p. (Accessed October 15, 2014, at <http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB13-full-report.pdf>.)

TABLE 1
 GEORGIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2009	2010	2011 ^e	2012 ^e	2013 ^e
METALS					
Copper, mine output, Cu content of concentrate	9,800	6,700	6,300	7,400	5,000
Gold kilograms	5,000 ^r	5,000 ^r	7,000 ^r	3,900 ^{r,3}	4,300 ³
Iron and steel:					
Ferroalloys, electric furnace:					
Ferromanganese	1,838	824	195	--	--
Silicomanganese	112,016	203,464	242,746 ³	261,075 ^{r,3}	254,115 ³
Total	113,854	204,288	242,941 ³	261,075 ^{r,3}	254,115 ³
Steel, rebar	200,000 ^r	200,000 ^r	200,000 ^{r,3}	220,132 ^{r,3}	191,137 ³
Manganese ore:					
Gross weight	400,000 ^e	400,000 ^e	400,000	380,000	380,000
Mn content	116,000 ^e	116,000 ^e	116,000	110,000	110,000
Silver kilograms	1,200	1,200	1,700 ^r	1,000 ^r	1,100
INDUSTRIAL MINERALS					
Cement	870,368 ³	856,880 ³	860,000	870,000	950,000
Clays, bentonite	5,000 ^e	5,000 ^e	4,800	4,900	5,000
Gypsum	100 ^e	120 ^e	125	130	130
Nitrogen, N content of ammonia	150,000	150,000	145,000	150,000	150,000
Salt	30,000	30,000	28,000	29,000	30,000
MINERAL FUELS AND RELATED MATERIALS					
Coal, bituminous	168,451 ³	240,628 ³	250,000	240,000	240,000
Natural gas thousand cubic meters	12,200	7,900	7,900	5,400 ³	5,400 ³
Petroleum, crude:					
In gravimetric units	53,942 ³	51,050 ³	50,000	44,061 ^{r,3}	52,248 ³
In volumetric units ⁴ 42-gallon barrels	392,000	371,000	364,000	320,000 ^r	380,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. -- Zero.

¹Table includes data available through October 15, 2014.

²In addition to the commodities listed, Georgia may have produced arsenic, barite, diatomite, iron ore, lead, perlite, petroleum refinery products, zeolites, and zinc, but available information is inadequate to make reliable estimates of output.

³Reported figure.

⁴Figures were converted to 42-gallon barrels from production reported in metric tons at a rate of 7.28 42-gallon barrels per metric ton.

TABLE 2
GEORGIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners ¹	Location or deposit names ¹	Annual capacity ^e
Arsenic:	Includes:	Of which:	2,000 ²
As content of ore	Racha mining and chemical plant Tsana mining and chemical plant	Lukhumi Mine, Ambrolauri area Tsana Mine, Lentekhi area	
Metal and compounds	Racha mining and chemical plant Tsana mining and chemical plant	Racha area Ts'ana area	
Barite	NA	Chordskoye deposit, Onis Raioni	70,000
Do.	JSC RMG Copper (Rich Metals Group)	Madneuli Mine	NA
Barite-zinc ore	NA	Kvaisi Mine	NA
Bentonite	Includes:	Of which:	200,000 ²
	Askana LLC (Silver & Baryte Ores Mining Co., 97.7%) NA	Askanskoye Mine, Ozurget'i Gumbrskoye Mine, Gumbra area	
Cement	LLC Kartuli Cementi (LLC HeidelbergCement Caucasus Shared Services, 70%)	Rustavi	1,500,000
Do.	LLC SaqCementi (LLC HeidelbergCement Caucasus Shared Services, 75%)	Kaspi and Rustavi	500,000
Coal	Saqnakshiri Ltd.	Akhalsikhe, Tkibuli-Shaorskoye, and Tkvarchelskoye deposits in Akhals'ikhis Raioni, Tkibuli, and Tqvarch'eli areas	300,000 ²
Copper-gold ore	JSC RMG Copper (Rich Metals Group)	Sakdrisi deposit, Bolnisi area	12,000
Diatomite	NA	Kisatibskoye deposit, K'isat'ibi area	150,000
Ferroalloys:			
Ferromanganese	JSC RMG Copper (Rich Metals Group)	Zestafoni ferroalloys plant, Zestap'onis Raioni	400,000
Silicomanganese	do.	do.	250,000
Manganese sinter	do.	do.	250,000
Gold	LTD RMG Gold (Rich Metals Group)	Madneuli Mine	NA
Iron and steel, steel, rebar	Kutaisi metallurgical plant (OOO Eurasian Steel)	Kutaisi	100,000
Do.	Rustavi metallurgical plant (Georgian Steel Holding Group, 100%)	Rustavi	125,000
Do.	Geosteel (JSW Steel Ltd., 51%, and Georgian Steel Holding Group, 49%)	do.	180,000
Manganese ore	Chiaturamanganumi enterprise of Georgian Manganese Holding Limited LLC (Georgian American Alloys, Inc.)	Chiatura Mine	500,000
Nitrogen	JSC Azoti chemical plant	Rustavi	NA
Petroleum, crude:	Saknavtobi Oil and Gas Co. and most Georgian petroleum companies in joint ventures with Frontera Resources, Ioris Valley Oil & Gas Ltd., Ninotsminda Oil Co. Ltd., Georgian- British Oil Co. (GBOC), Anadarko Petroleum Corp., and GeoGeroil	About 60 wells that account for 90% of output in Mirzaani, Sup'sa, and Zemo T'ele'ti areas	200,000 ²
Do.	Canagro Ltd.	Sagarejo, eastern Georgia	NA

^eEstimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.

¹Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and names of locations.

²Capacity estimate is the total for all enterprises that could produce the commodity.