



2007 Minerals Yearbook

CZECH REPUBLIC

THE MINERAL INDUSTRY OF THE CZECH REPUBLIC

By Mark Brininstool

The Czech Republic was an important Central European producer of heavy industrial goods manufactured by the country's chemical, machine building, and toolmaking industries. The production of construction materials, the mining and processing of industrial minerals, and steelmaking continued to be of domestic and regional importance.

Minerals in the National Economy

In 2007, the Czech Republic's real gross domestic product (GDP) grew by about 6.5% (Czech Statistical Office, 2008). The value of industrial production increased by about 8.2% compared with that of 2006; the value of mining and quarrying decreased by about 0.7%. The decrease in the value of mining and quarrying was owing to a 3% decrease in the value of production of mineral fuels and a 4.4% increase in the value of production of nonfuel minerals. Although the increase in the value of nonfuel minerals was greater in percentage terms, the greater value of mineral fuel production resulted in an overall decrease in the value of mining and quarrying production (Czech Statistical Office, 2009c). Mining and quarrying activities accounted for approximately 1.1% of the gross value added in the Czech economy and accounted for 3.5% of total employment in the country (Czech Statistical Office, 2009a, b).

Government Policies and Programs

Three main laws apply to the mineral industry in the Czech Republic. Act No. 44/1988 Coll., on mineral protection and exploitation, as amended, defines the classifications of reserved and nonreserved minerals. Under the Act, reserved deposits are "natural accumulations of reserved minerals" and are owned by the state. The Czech National Council Act No. 62/1988, on geological works, as amended, establishes the rules for "prospecting and exploration of reserved mineral deposits." Act No. 61/1988 Coll., on mining activity, explosives and on the state mining administration, as amended, lays out appropriate mining methods. The Ministry of the Environment enforces environmental laws in the mining sector and has authority to revoke exploration and mining leases if environmental laws are violated (Czech Geological Survey, 2007, p. 15-16).

Production

The Czech Republic reported small increases in production of pig iron and crude steel, whereas production of other metals was estimated to equal 2006 levels (table 1). In the industrial minerals category, reported production of bentonite and other clays, cement, feldspar, foundry sand, gypsum, and sulfuric acid increased significantly whereas diatomite, dolomite, and graphite had significant decreases in production. Reported figures for the production of mineral fuels were lower for almost every commodity. Crude petroleum and uranium production

decreased significantly, and natural gas production remained at its 2006 level.

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Gold.—According to the Czech Geological Survey, as of December 31, 2006, total resources of gold were estimated to be almost 240 metric tons (t); reserves were about 84 t. Gold mining was limited owing to environmental concerns and a ban on the use of cyanide in mining processes. No gold had been produced in the Czech Republic since 1994 (Czech Geological Survey, 2007, p. 369).

Iron and Steel.—Pig iron production increased by 1.8%, crude steel production increased by 2.9%, and hot-rolled semimanufactures production increased by 3.3% compared with production in 2006. The Czech Republic had no economically exploitable iron ore deposits and therefore had to import all raw materials for use in the steel industry (Czech Geological Survey, 2007, p. 310). ArcelorMittal Ostrava a.s. and Trinecke Zelezarny a.s. were the dominant producers of steel in the Czech Republic, having produced more than 3 million metric tons (Mt) and 2.5 Mt of crude steel, respectively (Trinecke Zelezarny, a.s., 2008, p. 10; ArcelorMittal Ostrava a.s., 2009). ArcelorMittal Ostrava was known as Mittal Steel Ostrava until July 2007, when its parent company, Mittal Steel, merged with Arcelor S.A. After the merger of Mittal Steel and Arcelor S.A., the former Mittal Steel Ostrava plant became the property of the combined company (ArcelorMittal Ostrava a.s., 2007).

Industrial Minerals

Industrial minerals are the most abundant mineral resources in the Czech Republic. Production of anhydrite and gypsum increased by 312.5%; bentonite, by 25.5%; cement, by 15.6%; foundry sand, by 10%; and feldspar, by 5.5% compared with production in 2006. Production of diatomite decreased by 64.2%; graphite, by 40%; dolomite, by 5.9%; and kaolin, by 4.4% (table 1).

Mineral Fuels and Related Materials

Coal.—The Czech Republic produced 12,462 thousand metric tons of bituminous coal and 49,571 thousand metric tons of brown coal and lignite. Production of bituminous coal decreased by 4.3% whereas production of brown coal and lignite increased by 0.4% compared with production in 2006. Lignite is identified as a separate variety of brown coal with the lowest

degree of coalification in the Czech Republic, and only about 437 thousand metric tons was produced in 2007 (table 1; Czech Geological Survey, 2007, p. 146). OKD a.s. Ostrava, which was the Czech Republic's dominant bituminous coal producer, announced that it intended to maintain production at about 12.5 million metric tons per year for the foreseeable future, which indicated that the country's overall level of production of bituminous coal would remain at 2007 production levels (OKD, a.s., 2008, p. 5).

Natural Gas.—Natural gas production remained at its 2006 level of 148 million cubic meters. The Czech Republic is dependent on imports to meet the majority of demand for natural gas, and in 2006 (the latest year for which data were available), net imports of natural gas amounted to 9,675 million cubic meters, of which about 75% was imported from Russia (Czech Geological Survey, 2007, p. 162).

Petroleum.—Production of crude petroleum decreased by 7.3% in 2007 compared with production in 2006. As with natural gas, the Czech Republic remained dependent on imports to supply domestic needs for petroleum and imported about 7.8 Mt and 7.7 Mt of crude petroleum in 2005 and 2006 (the latest years for which data were available), respectively. Russia was the country's main supplier of petroleum, and accounted for about 67% of the total petroleum imports in 2005 and 2006 (Czech Geological Survey, 2007, p. 154).

Uranium.—Uranium mine production fell by 15.9% compared with production in 2006. Uranium concentrate production fell by 18.7%.

Outlook

Production of aluminum, lead, and iron and steel is expected to remain stable with a continued dependence on imports

of metal ores and concentrates. Dependence on imports of natural gas and petroleum will continue as long as no realistic alternative sources of energy are available.

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TABLE 1
CZECH REPUBLIC: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²		2003	2004	2005	2006	2007
METALS						
Aluminum, metal, secondary ^c		20,000	15,000	15,000	15,000	15,000
Iron and steel, metal:						
Pig iron	thousand metric tons	5,207 ^r	5,385	4,627 ^r	5,192 ^r	5,287
Steel, crude	do.	6,783 ^r	7,033	6,189	6,862	7,059
Semimanufactures, hot rolled	do.	7,338	6,947	5,423	6,100 ^{r,e}	6,300 ^e
Lead, metal, secondary ^c		26,000	25,000	26,000 ^r	26,100 ³	26,000
Silver		-- ^r	-- ^r	-- ^r	-- ^r	--
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand metric tons	3,502 ^r	3,828 ^r	3,978	4,239 ^r	4,899
Clays:						
Bentonite	do.	199	224 ^r	216 ^r	267 ^r	335
Kaolin	do.	4,155	3,862	3,882	3,768	3,604
Other	do.	554	649	661 ^r	561	679
Diamond, synthetic ^c	carats	5,000	5,000	5,000	5,000	5,000
Diatomite		41,000	33,000	38,000	53,000	19,000
Dolomite		416,000	345,000	419,000	409,000	385,000
Feldspar		421,000	488,000	472,000	487,000	514,000
Fertilizer materials: ^c						
Nitrogenous, N content		251,000	271,000	270,000	270,000	270,000
Phosphatic, P ₂ O ₅ content		100,000	100,000	100,000	100,000	100,000
Potassic, K ₂ O content		20,000	20,000	20,000	20,000	20,000
Mixed		36,000	30,000	30,000	30,000	30,000
Gemstones, crude, pyrope-bearing rock		53,000	42,000	43,000	39,000	40,000 ^e
Graphite		9,000	5,000	3,000	5,000	3,000
Gypsum and anhydrite, crude		104,000	71,000	25,000	16,000	66,000
Lime, hydrated and quicklime	thousand metric tons	1,250 ^r	1,264	1,211 ^r	1,218 ^r	1,220 ^e
Nitrogen, N content of ammonia ^c		235,000	240,000 ^r	250,000	250,000	225,000
Sand and gravel:						
Common sand and gravel	thousand cubic meters	9,109	8,664	9,080	9,130	9,185
Foundry sand	thousand metric tons	714	831	807	773	850
Glass sand	do.	904	829	920	963	942
Stone:						
Basalt, for casting ^c		13,000	12,000	12,000	10,000	10,000
Dimension stone	thousand cubic meters	244,000	273,000	288,000	242,000 ^r	242,000 ^e
Limestone and other calcareous stones	thousand metric tons	10,236	10,568	9,912 ^r	10,193 ^r	10,700 ^e
Building stone	thousand cubic meters	12,459	13,177	14,092	14,000 ^e	14,000 ^e
Sulfur, byproduct, all sources ^c		45,000	45,000	45,000	45,000	45,000
Sulfuric acid		239,000	234,000	230,000 ^e	263,000 ^{r,e}	275,900
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous	thousand metric tons	13,382	14,648	12,778 ^r	13,017	12,462
Brown and lignite	do.	50,390	48,290	49,125	49,374	49,571
Coke	do.	3,556	3,538	3,412 ^r	3,428 ^r	3,500 ^e
Fuel briquets from brown coal	do.	314	300	300	345 ^r	345 ^e
Gas:						
Manufactured, all types ^c	million cubic meters	800	800	800	800	800
Natural, marketed ⁴	do.	131	175	356	148	148
Petroleum:						
Crude:						
As reported	thousand metric tons	310	299	306	259	240
Converted	thousand 42-gallon barrels	2,102 ^r	2,027 ^r	2,075 ^r	1,756 ^r	1,627
Refinery products ^c	do.	35,000	35,000	35,000	35,000	35,000
Uranium:						
Mine output, U content		458	435	420	383	322
U ₃ O ₈ content		540	513	495	452	380
Concentrate production, U content		452	412	409	358	291

See footnotes at end of table.

TABLE 1—Continued
CZECH REPUBLIC: PRODUCTION OF MINERAL COMMODITIES¹

⁶Estimated; estimated data are rounded to no more than three significant digits. [†]Revised. do. Ditto. -- Zero.

¹Table includes data available through February 28, 2009.

²In addition to the commodities listed, arsenic, illite, secondary zinc metal, sodium compounds, talc, and zeolite are produced, but available information is inadequate make reliable estimates of output.

³Reported figure.

⁴Includes gas produced from coal mines. Gross output of natural gas is not reported but is believed to exceed reported marketed output by an inconsequential amount.

TABLE 2
CZECH REPUBLIC: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities ¹	Annual capacity
Aluminum, secondary	Alcan Decin Extrusions s.r.o.	Decin, northern Bohemia	40,000
Do.	Kovohute Holdings DT- Mnisek Division (majority owned by Demonta Trade SE)	Mnisek	70,000
Bentonite	Keramost a.s.	Most	250
Do.	LITH s.r.o.	Male Chvojno	NA
Cement	Ceskomoravsky Cement a.s. (100% owned by Heidelberg Cement AG)	Kraluv dvur	350
Do.	do.	Mokra	1,400
Do.	do.	Radotin	750
Do.	Lafarge Cement a.s.	Cizkoviccka	1,200
Do.	Holcim (Cesko) a.s.	Prague	1,500
Do.	Cement Hranice a.s. (Dyckerhoff, 98%)	Hranice	1,100
Do.	Cemos Ostrava a.s. (Cement Hranice, 95%)	Ostrava	400
Clay	Ceske Lupkove Zavody a.s.	Nove Straseci (refractory clay)	120
Do.	Chlumcanske Keranicke Zavody a.s.	Chlumcany (kaolin)	30
Do.	Kaolin Hlubany a.s. (WBB Minerals, 94%)	Podborany	100
Coal:			
Bituminous	OKD a.s. Ostrava	Ostrava-Karvina, north Moravia	20,000
Brown	Severoceske Doly a.s.	Chomutov	14,000
Do.	Mostecka Uhelna Spolecnost a.s.	Most	17,000
Do.	Sokolovska Uhelna a.s.	Sokolov	30,000
Lignite	Lignit Hodonin s.r.o.	Hodonin, south Moravia	1,000
Gold	Kovohute Pribram Nastupickna a.s.	Pribram	9
Graphite	Grafitove doly Stare Mesto s.r.o.	Stare Mesto	10
Lead, metal, secondary, refined	Kovohute Pribram Nastupickna a.s.	Pribram	29
Natural gas	million cubic meters	Gasfields in Brno and Ostrava regions, including:	Eastern/southeastern Czech Republic, 500 ²
		of which:	
	Ceska Naftarska Spol s.r.o.	Hodonin	NA
	Moravske Naftove Doly a.s.	do.	NA
	OKD Dulni Pruzkum a Bezpecnost a.s.	Paskov	NA
	UNIGEO a.s.	Ostrava-Hrabova	NA
Petroleum:			
Crude	Oilfields around Hodonin, including:	Of which:	160 ²
	Moravske Naftove Doly a.s.	Hodonin	NA
	Ceska Naftarska Spol s.r.o.	do.	NA
	UNIMASTER s.r.o.	do.	NA
Refinery	thousand 42-gallon barrels per day	Kolin, Kralupy, Pardubice, and Litvinov	Bohemia 200
Steel, crude	ArcelorMittal Ostrava a.s. (Ispat-Nova Hut)	Kunice-Ostrava	3,800
Do.	Zelezarne Vitkovice (ZV) (Evraz Group)	Vitkovice-Ostrava	900
Do.	Trinecke Zelezarny a.s. (Trinecke Iron and Steel Works)	Trinec	3,000
Do.	Poldi Hutte s.r.o. (Scholz Edelstahl A.G.)	Kladno-Prague	1,700
Do.	Zelezarny Bila Cerkev	Hradek-Rokycany	300
Do.	Zelezarny Veseli, a.s.	Veseli and Moravou	300
Do.	Zelezarny Chomutov s.p.	Chomutov	350
Do.	Bohumin Iron and Steel Works	Bohumin	400
Titanium dioxide	Precheza A.S	Precheza	25
Uranium	DIAMO s.p.	Straz pod Ralskem	2

Do., do. Ditto. NA Not available.

¹Names and locations of mines and crude oil refineries are identical.

²Annual capacity listed is total for all deposits, mines, or companies that produce the commodity.