



News and Highlights

Bulletin of China Mineral Exploration Results in 2020

On May 11, 2021, the General Office of the Ministry of Natural Resources issued the Bulletin of China Mineral Exploration Results in 2020 (Natural Resources Office [2021] No. 774) and released it on the official website of the Ministry of Natural Resources in the form of “Government Information Disclosure” to the public (http://gi.mnr.gov.cn/202105/t20210513_2631949.html). This journal selects the mineral exploration investment and main exploration results parts for readers.

1. Total investment of national geological exploration

In 2020, 16.161×10^9 RMB was invested in national geological exploration (excluding data from Hong Kong SAR, Macau SAR, and Taiwan Province of China; excluding oil,

natural gas, shale gas, coalbed methane and other mineral exploration investment), a year-on-year decrease of 6.1%, which indicates the continuous downward trend in recent years (Fig. 1). Total investment in 2020: 8.247×10^9 RMB for mineral exploration, accounting for 51.0%, a year-on-year decrease of 6.3%; basic geological surveys 1.993×10^9 RMB, accounting for 12.3%, a year-on-year decrease of 22.3%; 3.451×10^9 RMB for hydrological, environmental and geological disaster survey evaluations, accounting for 21.4%, a year-on-year decrease of 0.3%; 2.197×10^9 RMB for geological technology and comprehensive research, accounting for 13.6%, a year-on-year increase of 11.3%; 273×10^6 RMB for geological data services and informatization, accounting for 1.7%, a year-on-year decrease of 33.1%. See Table 1 for total investment by province.

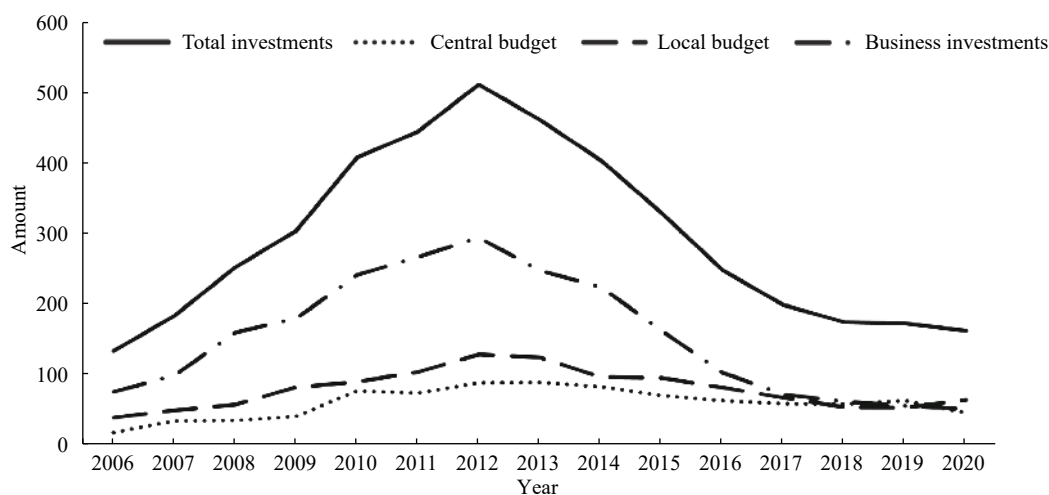


Fig. 1. Comparison of the investment in national geological exploration from 2006 to 2020.

2. Results of mineral exploration

2.1. Capital investment

In 2020, 8.247×10^9 RMB was invested in mineral exploration, a year-on-year decrease of 6.3%. The main

investment minerals are shown in Table 2.

2.2. Setting of prospecting rights

By the end of 2020, there were 9561 non-oil and gas prospecting rights within the validity period across China, a decrease of 15.9% from the end of 2019; the registered exploration area was 113800 km², a decrease of 34.6% from the end of 2019. The changes in the number of prospecting

rights setting in various provinces over the years are shown in Fig. 2. The number of prospecting rights and minerals in 2020 will be shown in Table 2.

2.3. Results of mineral exploration

There are 96 newly discovered mineral deposits in 2020, of which 29 are large-scale, 36 are medium-sized, and 31 are small-scale. The top 5 minerals in the number of newly discovered minerals are gold (7 sites), geothermal (7 sites), copper (6 sites), ceramic soil (5 sites), and cement limestone

(5 sites). There are 457 continuing exploring mineral deposits in 2020, including 148 general surveys, 241 detailed investigations, and 68 exploration sites. See Table 3 for newly added inferred reserves of main minerals. See Table 4 for newly added resources explored in 2020.

Source: http://gi.mnr.gov.cn/202105/t20210513_2631949.html.

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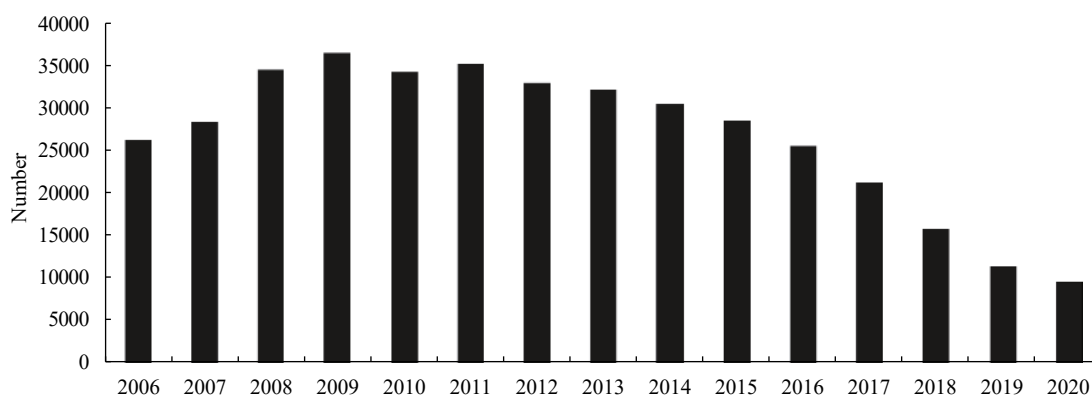
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Table 1. Investments in geological exploration by the province in 2019 and 2020.

Province	Year of 2019/10 ⁴ RMB				Year of 2020/10 ⁴ RMB				Total investments change year on year/%
	Total investments	Central budget	Local budget	Business investments	Total investments	Central budget	Local budget	Business investments	
Total	1721140.63	632024.45	530715.798	558400.382	1616138.4	462592.0	638691.8	514854.6	-6.1
Beijing	16512.06	6352.94	9835.42	323.7	21152.0	10483.6	9921.8	746.6	28.1
Tianjin	5786.43	2712.22	2358.84	715.37	8116.5	3847.5	2159.8	2109.1	40.3
Hebei	93667.01	49969.14	23731.67	19966.2	78299.5	35980.8	31054.3	11264.4	-16.4
Shanxi	81737.9	4337.45	54004.6	23395.85	72065.4	2321.7	46570.0	23173.7	-11.8
Inner Mongolia	135345.47	56458.9	32765.73	46120.84	148607.9	48317.1	59062.9	41227.8	9.8
Liaoning	29144.57	7980.09	13287.83	7876.65	31583.3	6585.7	15629.4	9368.2	8.4
Jilin	24812.64	12966	7865.51	3981.13	18123.5	5594.1	6633.3	5896.1	-27.0
Heilongjiang	34805.49	26296.91	4348.02	4160.56	40683.9	13683.9	24033.9	2966.1	16.9
Shanghai	2304.83	268.07	2036.76	0	3482.8	1661.0	1821.8	0.0	51.1
Jiangsu	29196.79	11044.2	14565.22	3587.37	22340.8	2862.6	11211.8	8266.3	-23.5
Zhejiang	29151.12	5999	16900.84	6251.28	31914.4	3206.7	20153.5	8554.3	9.5
Anhui	48502.52	20510.44	9033.36	18958.72	40844.1	16672.7	7668.5	16502.9	-15.8
Fujian	27596.05	10190	13199.15	4206.9	31938.2	8725.8	18700.9	4511.5	15.7
Jiangxi	60430.27	19065.48	13400.13	27964.66	75659.3	18517.4	17311.0	39830.9	25.2
Shandong	47608.62	9373	22461.36	15774.26	53962.2	8493.0	30850.4	14618.8	13.3
Henan	24226.26	5654.78	15801.65	2769.83	28165.9	5345.2	16890.4	5930.3	16.3
Hubei	71913.59	17626.22	44227.1	10060.27	55448.1	11850.1	37510.6	6087.5	-22.9
Hunan	48427.95	14269.34	11279.68	22878.93	37034.6	8366.0	15071.8	13596.8	-23.5
Guangdong	73744.98	18167.5	24384.37	31193.11	62706.1	12861.8	31486.2	18358.1	-15.0
Guangxi	52460.102	16083.58	25761.61	10614.912	51965.3	8638.2	32265.9	11061.2	-0.9
Hainan	25927.15	19741.5	5856.33	329.32	23294.1	18627.1	4387.6	279.4	-10.2
Chongqing	26515.508	5175	18419.278	2921.23	19771.5	1751.0	16307.7	1712.8	-25.4
Sichuan	74422.3	27116.55	12066.31	35239.44	76268.4	20349.0	21516.1	34403.3	2.5
Guizhou	61742.43	11471.41	6227.67	44043.35	73180.5	8106.3	28195.8	36878.4	18.5
Yunnan	66785.81	13342.8	6844.65	46598.36	68252.7	10427.1	13696.1	44129.5	2.2
Tibet	48135.92	21214.22	15683.84	11237.86	29027.8	12921.0	9921.7	6185.1	-39.7
Shaanxi	54568.03	14751.69	12114.88	27701.46	63512.3	12744.5	18011.2	32756.6	16.4
Gansu	50859.83	17677	20970.33	12212.5	49997.5	10192.8	27836.7	11968.0	-1.7
Qinghai	93209.74	20879.24	41616.86	30713.64	73360.4	17919.4	32804.3	22636.7	-21.3
Ningxia	9549.16	672	5100.4	3776.76	14903.9	2541.0	9554.4	2808.5	56.1
Xinjiang	145885.46	38493.14	24566.4	82825.92	128841.4	31363.7	20452.1	77025.6	-11.7
Others	126164.64	126164.64	0	0	81634.4	81634.4	0.0	0.0	-35.3

Table 2. Investment of major minerals exploration and drilling completion in 2020.

Minerals	Investment input/10 ⁸ RMB	Year-on-year growth/%	Drilling completion/10 ⁴ m	Year-on-year growth/%
Coal	12.23	22.3	98	27.3
Uranium	7.44	-17.2	56	-18.8
Iron	2.48	10.7	20	17.6
Manganese	1.54	43.9	8	60.0
Copper	6.13	-2.7	34	-30.6
Lead-zinc	6.41	-40.3	46	-46.5
Monohydrallite	2.88	89.5	32	113.3
Nickel	0.43	-35.8	2	-33.3
Wolfram	1.59	-21.3	12	-36.8
Tin	0.77	120.0	4	33.3
Molybdenum	0.59	-15.7	4	-33.3
Gold	10.45	-10.8	70	-9.1
Silver	1.37	-52.3	9	-65.4
Phosphorus	1.23	105.0	9	80.0
Graphite	1.58	-24.0	11	-38.9
Sylvite	0.84	-6.7	2	0.0
Rare earth	0.49	63.3	3	50.0

**Fig. 2.** Comparison of the number of solid mineral prospecting rights during 2006–2020 in China.**Table 3. Statistics on the number of national prospecting rights and minerals (by the end of 2020).**

Total	Prospecting rights number by minerals											
	Energy minerals	Ferrous metals	Non-ferrous metals	Platinum group metals	Precious metals	REE minerals	Metallurgical raw materials non-metallic minerals	Raw materials non-metallic	Special non-metal	Building materials and other non-metals	Mineral water gas	
Total	9561	1360	1011	3399	11	2273	83	304	234	31	762	93
Beijing												
Tianjin	47	47										
Hebei	238	36	69	43		62	1	7	3	1	7	9
Shanxi	80	34	20	15		5			2	1	3	
Inner Mongolian	1244	174	117	481		314	10	36	11	3	93	5
Liaoning	156	11	52	18		28	1	10	1	5	30	
Jilin	235	30	34	32		70		1	5	3	51	9
Heilongjiang	165	20	5	46		63	1				28	2
Shanghai	5			2				2			1	
Jiangsu	93	56	2	2		3		4	11		8	7
Zhejiang	155	21	2	29		19	2	68	3	1	8	2
Anhui	156	31	33	45		15	1	5	1		23	2
Fujian	186	18	25	20		58		21	1	1	39	3
Jiangxi	1091	96	64	368	2	282	20	93	5	4	137	20
Shandong	170	18	35	8		81		2	4		22	
Henan	316	21	40	88		102	2	17	5	1	36	4

Table 3. (Continued)

Total	Prospecting rights number by minerals										
	Energy minerals	Ferrous metals	Non-ferrous metals	Platinum group metals	Precious metals	REE minerals	Metallurgical raw materials non-metallic minerals	Raw materials non-metallic	Special non-metal	Building materials and other non-metals	Mineral water gas
Hubei	83	3	18	21		12		3	15		11
Hunan	206	1	25	86		85		2		3	4
Guangdong	124	11	8	68		25	8				2 2
Guangxi	403	12	35	185		120	3	1	7	3	31 6
Hainan	20			3		14		1			2
Chongqing	24	13	2	2		1		2	1	1	2
Sichuan	507	58	57	207	7	104	10	7	30		26 1
Guizhou	369	120	39	113	1	50		5	29		5 7
Yunnan	526	37	76	303	1	83	2		17		7
Tibet	115	8	11	81		13	1	1			
Shaanxi	305	37	43	86		117	2	1	6		6 7
Gansu	252	12	26	53		125	1	6	3		23 3
Qinghai	331	20	30	134		116	5		9		16 1
Ningxia	28	11		3				3	2		9
Xinjiang	1931	404	143	857		306	13	6	63	4	132 3

Table 4. Some minerals and newly added resources explored in 2020.

Minerals	Newfound site	Continuing exploring site	Measured reserve
Coal	One site (large-scale)	52 sites (4 sites for general survey, 28 sites for detailed survey, 20 sites for exploration survey)	11.964×10 ⁹ t
Iron	Three sites (small-scale)	13 sites (4 sites for general survey, 9 sites for detailed survey)	Iron ore 99×10 ⁶ t
Manganese	Three sites (medium-scale)	Seven sites (4 sites for general survey, 3 sites for detailed survey)	Manganese ore 31.7215×10 ⁶ t
Vanadium		Three sites (1 site for general survey, 1 site for detailed survey, 1 site for exploration survey)	(V ₂ O ₅) 436.92×10 ³ t
Copper	Six sites (large-scale: 1; medium-scale: 1; small-scale: 4)	24 sites (8 sites for general survey, 12 sites for detailed survey, 4 sites for exploration survey)	858.2×10 ³ t
Lead-zinc		37 sites (14 sites for general survey, 16 sites for detailed survey, 7 sites for exploration survey)	1.3887×10 ⁶ t
Alumina	One site (large-scale: 1)	16 sites (13 sites for general survey, 2 sites for detailed survey, 1 site for exploration survey)	Bauxite ore 3.74×10 ⁶ t
Tungsten	Five sites (medium-scale: 2; small-scale: 3)	14 sites (5 sites for general survey, 9 sites for detailed survey)	1.4305×10 ⁶ t
Gold	Seven sites (medium-scale: 2; small-scale: 5)	32 sites (18 sites for general survey, 10 sites for detailed survey, 4 sites for exploration survey)	442.46 t
Silver		16 sites (8 sites for general survey, 4 sites for detailed survey, 4 sites for exploration survey)	532.13 t
REE minerals	Five sites (large-scale: 1; medium-scale: 3; small-scale: 1)	19 sites (8 sites for general survey, 4 sites for detailed survey, 7 sites for exploration survey)	(Ta ₂ O ₅) 382 t; (BeO) 2.8×10 ³ t; (Li ₂ O) 59.4×10 ³ t; (Li ₂ O) 13.1×10 ³ t; (SrSO ₄) 1.18×10 ⁶ t
Phosphorous	One site (large-scale: 1)	Five sites (2 sites for detailed survey, 3 sites for exploration survey)	Phosphate: 96.675×10 ⁶ t
Graphite	Three sites (large-scale: 1; small-scale: 2)	Eight sites (7 sites for general survey, 1 site for exploration survey)	Graphite: 7.8283×10 ⁶ t
Fluorspar	Four sites (large-scale: 1; medium-scale: 2; small-scale: 1)	Eight sites (3 sites for general survey, 3 sites for detailed survey, 2 sites for exploration survey)	2.12×10 ⁶ t