



MINISTRY OF MINING
AND HEAVY INDUSTRY

MONGOLIA

MINERALS AND MINING INVESTMENT GUIDE 2022-2023





**MINISTRY OF MINING
AND HEAVY INDUSTRY**

MONGOLIA MINERALS AND MINING INVESTMENT GUIDE 2022-2023

Ulaanbaatar 2023

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**MONGOLIAN NATIONAL
MINING ASSOCIATION**

GREETINGS

Minister of Mining and Heavy Industry

On behalf of the Government of Mongolia and myself, I extend my sincerest gratitude to all interested parties and investors from around the world.

Our country occupies a strategic location at the heart of Asia and in between Russia and China, connecting Southeast Asia with Central Asia and Europe. This geographical advantage is not only strategically important but also economically valuable, as we are neighboring with world's largest consumers. We possess abundant natural resources and a wealth of unexplored minerals, which presents significant opportunities for exploration and development.

The Government of Mongolia is committed to fostering a long-term and stable investment-friendly environment for the minerals sector. Through transparent and responsible mining practices, improved logistics, infrastructure, and refining processes, we aim to give our mineral products a competitive advantage in the global market.

In terms of the legal environment, the Parliament of Mongolia recently passed the "Mining Commodity Exchange Law," which will take effect on June 30th, 2023. Additionally, we have drafted laws for the Subsoil, Minerals, Heavy Industry, and Sovereign Development Fund to further support the minerals sector and align with international best practices.

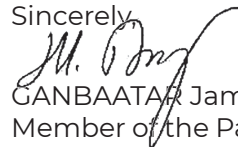
We are committed to creating a predictable, stable, and transparent legal environment that is aligned with internationally recognized ESG principles to attract more investment into our country. Our Ministry prioritizes policies that support internationally recognized Environment-Society-Governance principles to protect and support the interests of investors.

Despite the current challenges faced by countries due to the pandemic, such as logistical difficulties, economic crisis, and complicated international relations, we believe that the transitional period will lead to an increase in commodity prices and demand, and the world economy will recover.

The Government of Mongolia has started the implementation of the "New Recovery Policy", a medium-term development policy, from which the recovery plans for "Ports" and "Industrialization" align well with the goals set out by our ministry. We are actively seeking opportunities to increase the number of ports, build paved roads, improve infrastructure and logistics, and enhance the competitiveness of the Minerals sector globally. Following the above, I am delighted to announce that we as a country have increased the extent of paved roads by 70 percent, rail way by 30 percent, and air transport routes by 50% compared to the statistics for 2009.

I take this opportunity to introduce you to the current state of the Mongolian minerals sector, the transparent, investment-friendly, and predictable legal environment, and the mega-projects currently under development. I wish you all the best in your conference activities and look forward to exploring potential opportunities for collaboration and investment in our country.

Sincerely,



GANBAATAR Jambal
Member of the Parliament of Mongolia,
Minister for Ministry of Mining and
Heavy Industry

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Mongolia

1



Background

One of the world's fastest-growing economies, holding a massive wealth of mineral resources. With an outward-looking professional business community, democratic government and rapidly improving living conditions, many international investors are turning their attention to Mongolia. Landlocked

between Russia and China, Mongolia is a country of extremes. Despite the different climate types, thin populations, and large territory within Asia, the cosmopolitan atmosphere of central Ulaanbaatar contrasts with the isolated existences of smaller communities.

MONGOLIA AT A GLANCE



3.4 Population
million



5.8% GDP Forecast
2023



Ulaanbaatar
Capital

TOP EXPORTS 2022/I-XII

Coal Briquettes
11.5 billion USD

Copper Coucntrate
2.7 billion USD

KEY TRADE PARTNERS BY DESTINATIONS



SOURCE: National Statistics Office of Mongolia,
General Authority of Customs of Mongolia

Our strength

Managing Stakeholders Interests

- ▶ Synergy between government institutions
- ▶ Capacity building program
- ▶ Social program to promote a positive impact of FDI

Diversification

- ▶ Sector diversification
- ▶ Geographical diversification
- ▶ Source country diversification

More Favorable Condition

- ▶ Reduced procedural barriers
- ▶ Incentives
- ▶ Financial Incentives
- ▶ Fiscal Incentives
- ▶ Regulatory Incentives

Protection

- ▶ One stop services
- ▶ Aftercare services
- ▶ Grievance management mechanism

Open Entry to the Market

- ▶ No Approval needed to enter into market and buy a local company
- ▶ No Discrimination between Foreign and Local Investors
- ▶ Fast Registration Process for establishing new entity
- ▶ Open for investment in any industry or sector without limitation or government approval

Guarantees for Investors

- ▶ No-Expropriation
- ▶ Intellectual Property Protection
- ▶ Free Repatriation
- ▶ Choice for Dispute Settlement
- ▶ Tax stabilization

ECONOMIC FREEDOM INDEX 2022

Mongolia is the 66th freest country out of 180

	Mongolia
Business Freedom	66.5 ▲
Trade Freedom	74.4 ▼
Investment Freedom	50.0 -

Mongolia's economic freedom score is 63.9, making its economy the 66th freest in the 2022 Index. Mongolia is ranked 12th among 39 countries in the Asia-Pacific region, and its overall score is above the regional and world averages.

Mongolia's economy gathered steam in 2017 and 2018, slowed in 2019, and turned negative in 2020. Growth resumed in 2021. Economic freedom has improved during the past half-decade. Boosted by substantial score increases for fiscal health and judicial effectiveness, Mongolia has recorded an impressive 9.1-point overall gain of economic freedom since 2017 and has retained its position in the lower half of the "Moderately Free" category for two consecutive years. **Source:** Economic Freedom Index Mongolia 2022, Heritage Foundation

The ease of doing business index in an index created by the World Bank Group. Mongolia ranked 81 among 190 economies in the ease of doing business in 2020.

MONGOLIA IMPROVED IN DOING BUSINESS 2022, RANKED 81

Indicator	Doing business 2020 rank
Protecting investor	25
Starting a business	100
Registering property	50
Getting credit	25
Paying taxes	71

Source: Doing business Mongolia 2022, World Bank

Investment environment

Mongolia constantly proves itself to be in a global market. Mongolia is persistently discussing entering bilateral and multilateral agreements and actively participates in the process of regional integration. Until this day, Mongolia has established Foreign Investment Protection and Promotion Agreements with 43 countries and Double Taxation treaties with 26 countries. Moreover, Mongolia is a member of the Seoul Convention establishing the Multilateral Investment Guarantee Agency and the Washington Convention on the Settlement of Investment Disputes. Consequently, in April 2014, Mongolia introduced its investment policy and the law to UN Conference on Trade and Development /UNCTAD/ released “Mongolian Foreign Investment Policy Review”. The overall feedback was positive, followed by recommendations and suggestions for the Government of Mongolia. The main concern that UNCTAD was having was a resource curse, followed which the recommendations were made. Firstly, to avoid macroeconomic instability, the Government of Mongolia must determine new objectives and tools for a comprehensive Foreign Trade Investment strategy. Secondly, new regulatory and institutional reforms are necessary for foreign and local private sector development. And lastly, Mongolia should develop programs for achieving diversification through Foreign Direct Investment (FDI) and other activities of foreign companies. Following in September 2014, the second review of Mongolia’s trade policies and practices took place, where the basis for the review was a report by the World Trade Organization Secretariat and the Government of Mongolia. The reviews were similar to the UNCTAD’s, which again reinforced the importance of establishing a comprehensive FDI strategy. In the year of 2015, Mongolia completed the Mongolia-Japan Economic Partnership Agreement /EPA/ negotiations, which became the FDI of Mongolia. As with any other EPA

agreement, Mongolia- Japan EPA has created an open door to both markets, which eventually increases the competitive index of Mongolia and the FDI with the increase of import and export between the two countries. Therefore, Mongolia has made another step to become a big player in the global market. Analyzing the overall performance of Mongolia on a global level, international indexes of different types have shown the following results:

- ▶ According to the 2022 Doing business report by the World Bank, Mongolia ranked 81st out of 190 economies
- ▶ According to “Index of Economic Freedom 2022” by Heritage Foundation, Mongolia has gained an overall score of 66.5 percent out of hundred.

Seoul convention establishing the Multilateral Investment Guarantee Agency

Washington Convention on the Settlement of Investment Disputes

Foreign Investment Protection and Promotion agreements with 43 countries

Tax treaties with 26 countries

Mongolia-Japan Economic Partnership Agreement /First FTA/

Process of accession to APTA

Source: Investment guide, 2020
Ministry of Economy and Development

LAW ON INVESTMENT /2013/

The Government of Mongolia has been taking an active policy to attract inward FDI since Mongolia adopted a market economic system and has been persistently conducting a policy that stabilizes the legal environment of foreign investment and provides more favorable conditions for investment procedures and regulations. In 2013, the Government of Mongolia passed a new law on investment, which replaced both the old Investment law of 1993 and the Law on Strategic sectors of 2012. The new Investment law enables an open possible investment environment for investors focusing on:

- ▶ No approval to enter the market and buy a local company
- ▶ No discrimination between foreign and local investors
- ▶ Fast registration process
- ▶ Stability guarantees- Provision of Tax stabilization certificate
- ▶ Flexibility and friendly conditions for investors

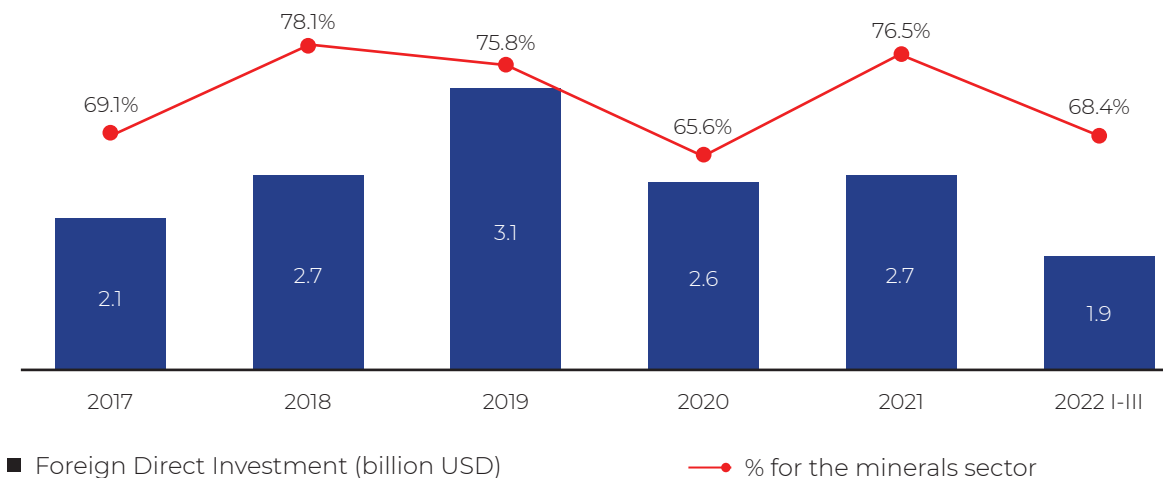
The Law on Investment provides incentives, such as tax exemptions, tax credits, longer terms to possess the land, the increased quota of foreign employees, simplified visa arrangements, and others. Only foreign state-owned entities (those with a minimum of 34% ownership of entities in the mining, media, and communication or financial sectors) must obtain approval from an official government representative. The Investment Law declares that a foreign state's direct or indirect ownership exceeding 50% qualifies it as a foreign state-owned entity.

INVESTMENT TYPES

- ▶ Joint Ventures, Consortium
- ▶ Mergers and Acquisition
- ▶ Concession, Product sharing, management contract
- ▶ Bond, Securities, and other assets
- ▶ Financial leasing, Franchising
- ▶ Other investment types

FOREIGN DIRECT INVESTMENT

The 68% of the total Foreign Direct Investment is fueled into the Minerals sector.

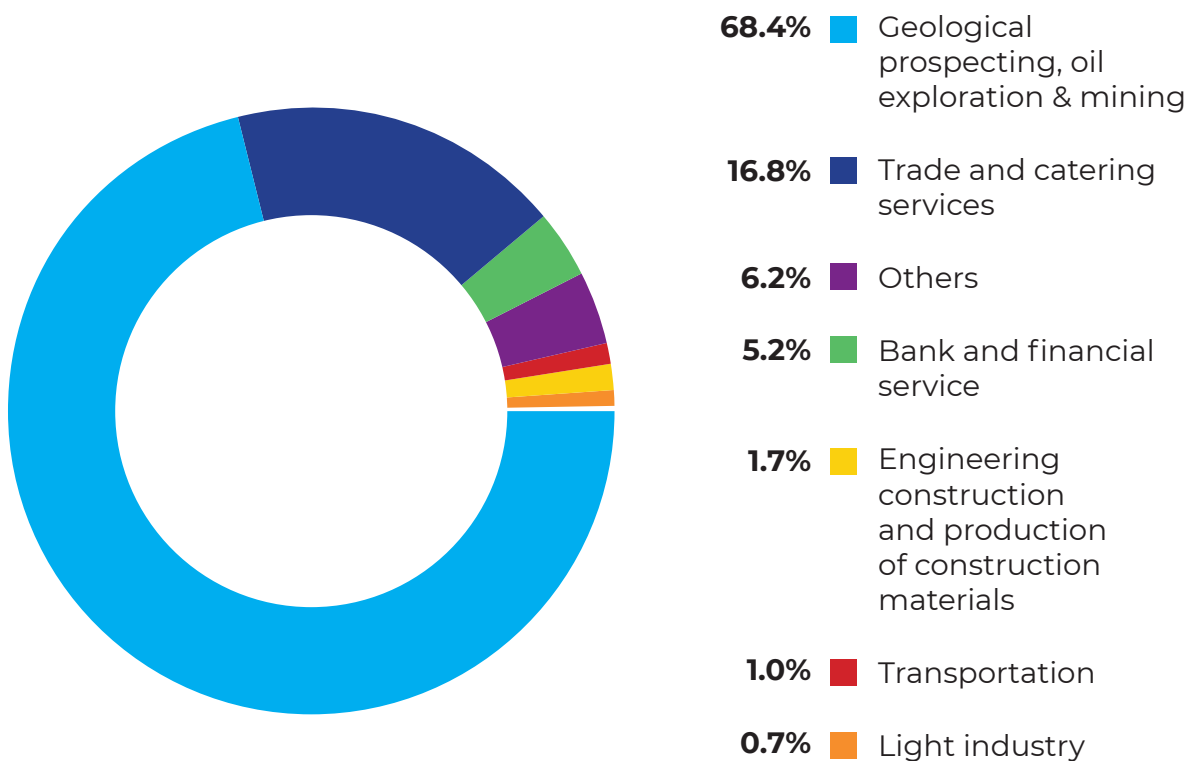


FOREIGN DIRECT INVESTMENT STATISTICS 2022 I-III

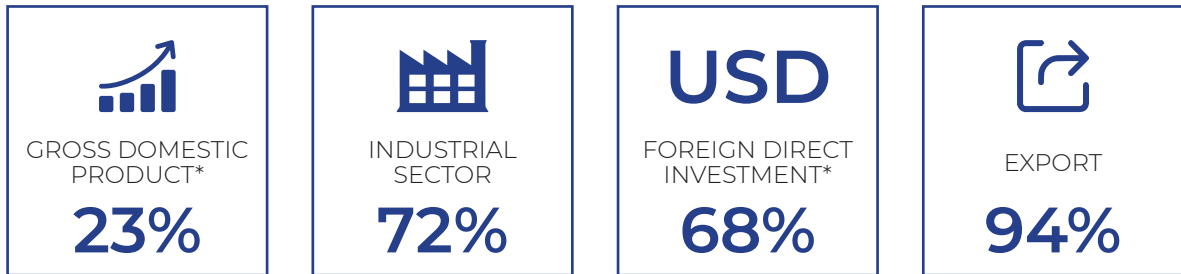
FDI inflow into Mongolia has been significantly increasing for the last few years. Totally 14,932 companies with investments from 120 countries are incorporated and USD 26.8 billion has been invested in Mongolia between 1990 and 2019. From 2000-2011, Mongolia registered an intense and sustained increase in FDI inflows, on the back of the dramatic expansion of the mining sector and the development of the Oyu Tolgoi surface mine. Such trends allowed it to reach an all-time peak of USD 5.7 billion in 2011. After 2012, weaker commodity prices added to deteriorating

investor sentiment in Mongolia, ultimately leading to a drastic drop in FDI inflows. However, because the sustainable policy focused on the investors, FDI inflows to Mongolia have been constantly increasing since 2016. Geological prospecting, oil exploration, and mining industries are the main sector destination for FDI coming to Mongolia. Aside from extractives, FDI goes to various service industries, particularly trade and catering services, banking and financial services, and transportation.

FOREIGN DIRECT INVESTMENT BY SECTORS 2022 I-III



Importance of the Minerals sector



* Q3 2022, National Statistics Office of Mongolia

THE NEW RECOVERY POLICY aims to encourage Mongolia's post-pandemic recovery by opening up the country to domestic and foreign investment.



GEOLOGICAL RESEARCH, EXPLORATION

2022

Paper-based tenement tendering process ~ 2 mil.ha

FOR EXPORT

2022

COPPER	 	Copper concentrate	1.5 Mt
		Copper cathode	9.8 Kt
COAL	 	Mettallurgical Coal	31.8 Mt
		Processed coal	11.4%
GOLD	Gold extraction (Mongolian Bank statistics)	Gold	22.9 t

FOR DOMESTIC USE

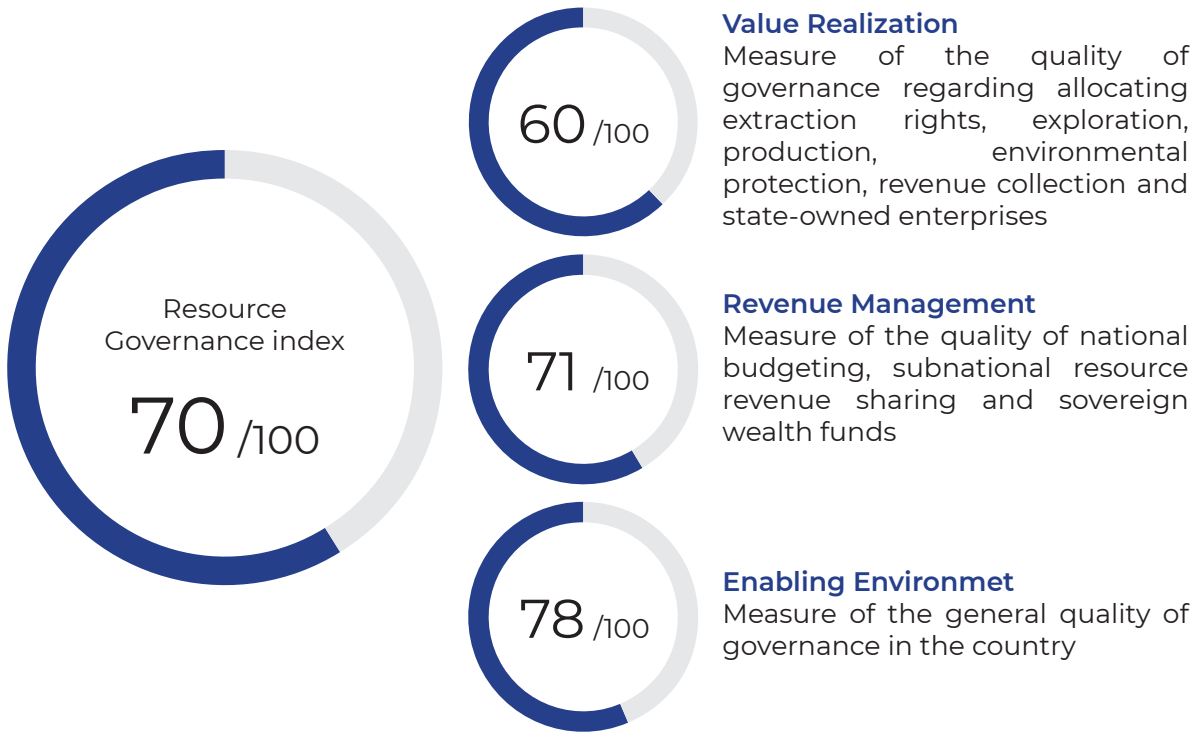
2021

PETROLEUM		Petroleum products	1.76 Mt /imported/
STEEL	Steel products	Steel products	572 Kt /imported/

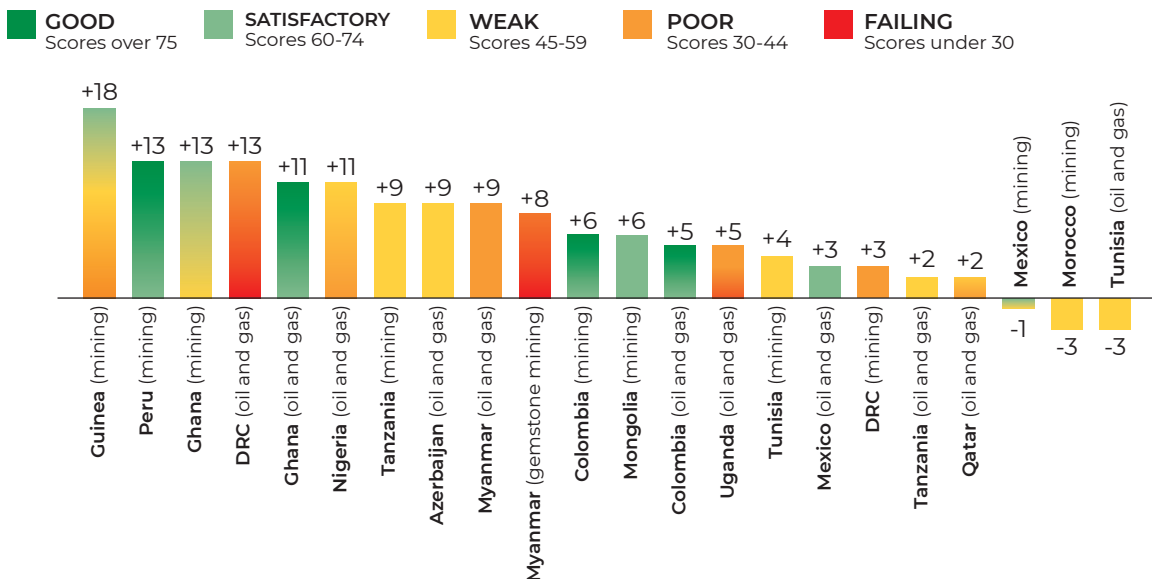
Mongolia's mining sector scored 70 out of 100 points in the 2021 Resource Governance Index (RGI), an increase of 6 points since the 2017 index. Both the value realization and revenue management

components now place firmly within the "satisfactory" performance band, while improvements in the enabling environment push the component into the "good" performance band.

Mongolia mining: 2021 Resource Governance and component scores



Score and performance band shifts between the 2017 and 2021 Resource Governance Indices



Policy

VISION-2050

Priority economic sectors

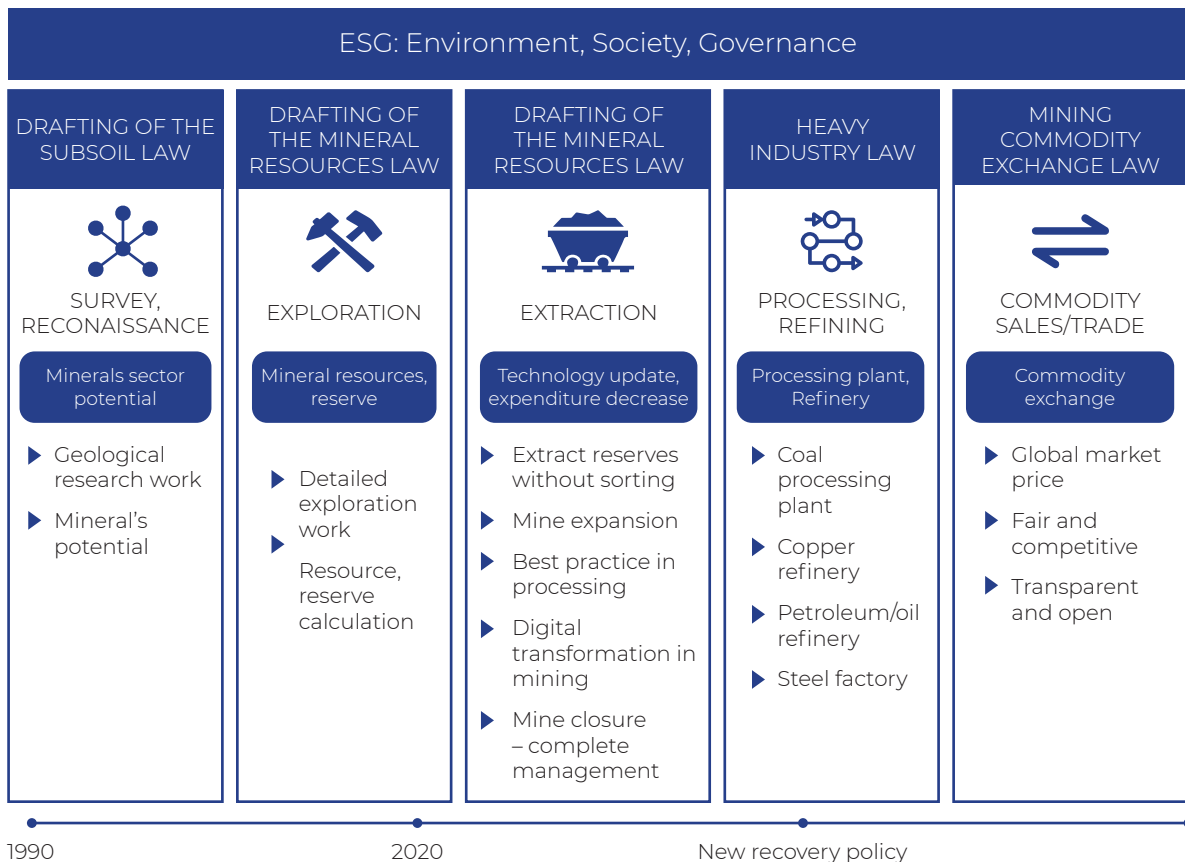
- 4.2.1. **Promote strategic mining megaprojects with value-added cost**, processing industry, agriculture, energy, transport, logistics, diversified tourism and accompanying services, small and medium enterprises, and knowledge-based creative production as priority branches of the economy.
- 4.2.13. Develop environment-friendly and **sustainable heavy industry with value-added cost** production on the basis of processing mining raw materials and render support to advanced forms of investment.

GOVERNMENT ACTION PLAN 2020-2024

Economic policy:

- 3.2.5. Enrich mineral resources and reserves by encouraging foreign investment in high-tech minerals such as rare earth elements, precious, rare, and polymetals, nonmetallic minerals, and petroleum reconnaissance and exploration activities.

THE MINERALS' SECTOR POLICY



Infrastructure development

BORDER CROSSINGS ALONG THE MONGOLIA-CHINA BORDER, DECEMBER 2022

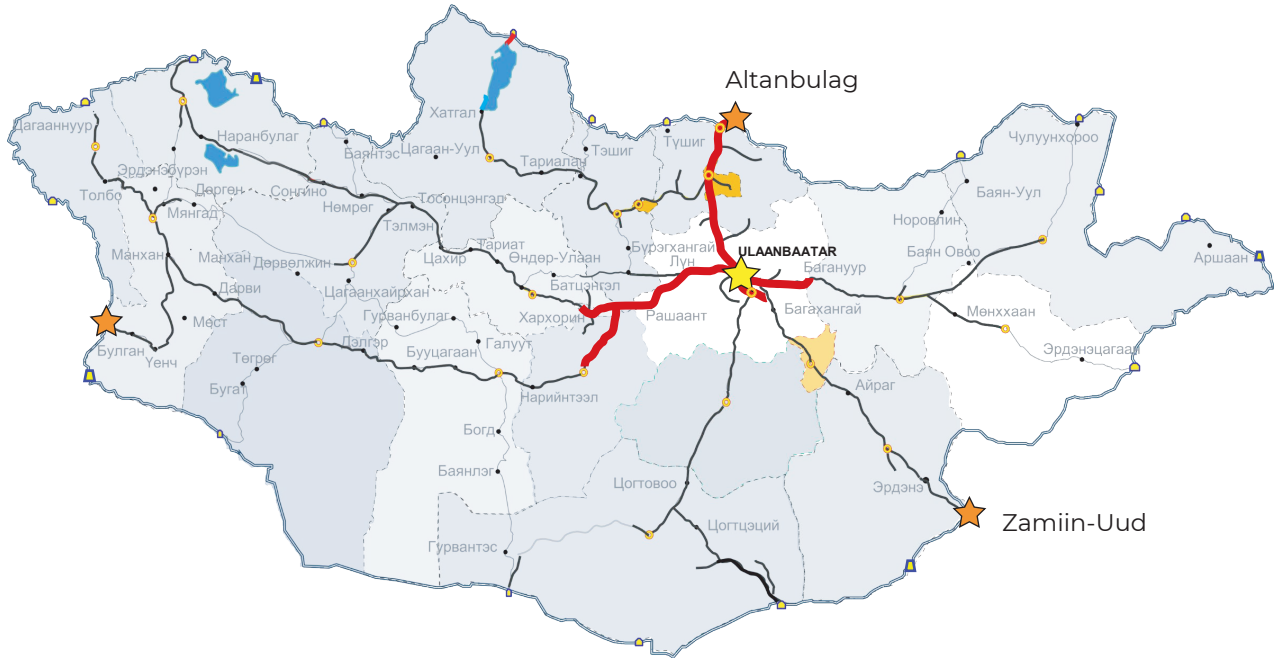


AIR TRANSPORTATION

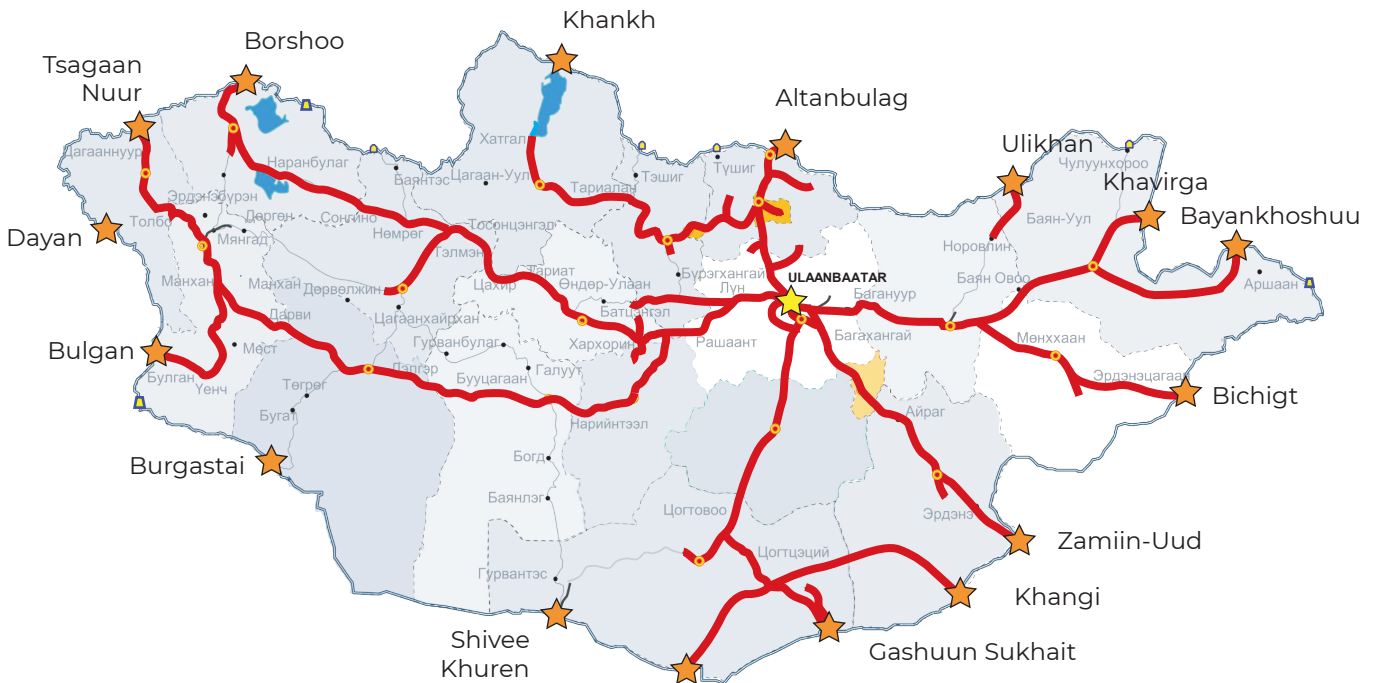
2009	✈️
Mongolia → Russia	
Mongolia → Germany	
Mongolia → Korea	
Mongolia → China	

2023	✈️
Mongolia → Russia	
Mongolia → Germany	
Mongolia → Korea	
Mongolia → China	
Mongolia → Turkey	
Mongolia → Vietnam	
Mongolia → Australia	
Mongolia → Japan	
Mongolia → Thailand	
Mongolia → Hong Kong	

PAVED ROADS 2009 



PAVED ROADS 2023 

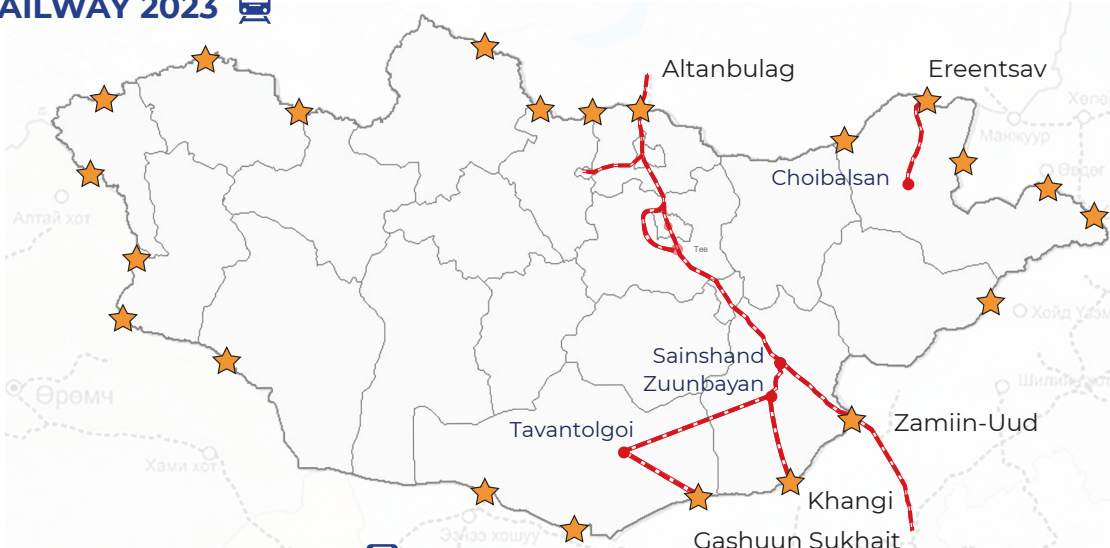


Source: Ministry of Economy and Development

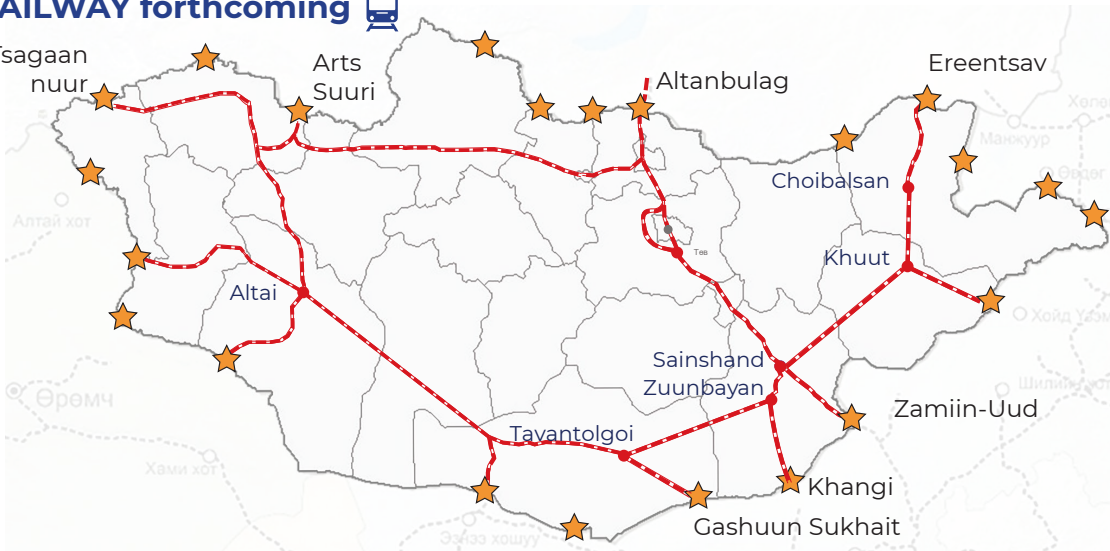
RAILWAY 2009



RAILWAY 2023



RAILWAY forthcoming

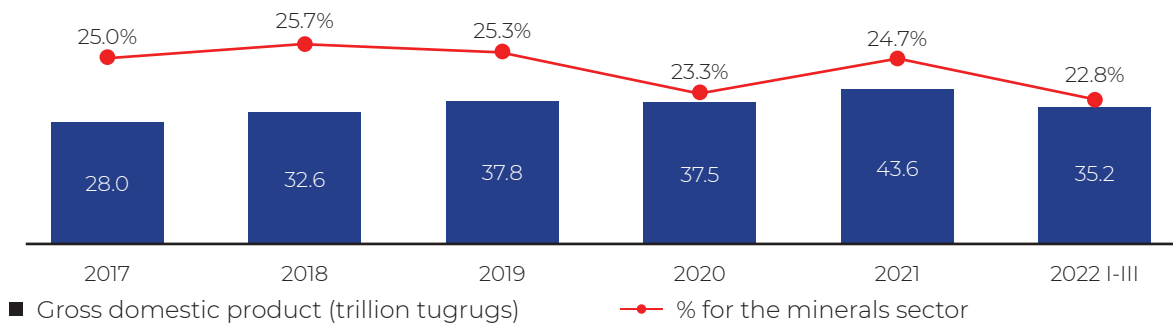


Source: Ministry of Economy and Development

Importance of the minerals sector

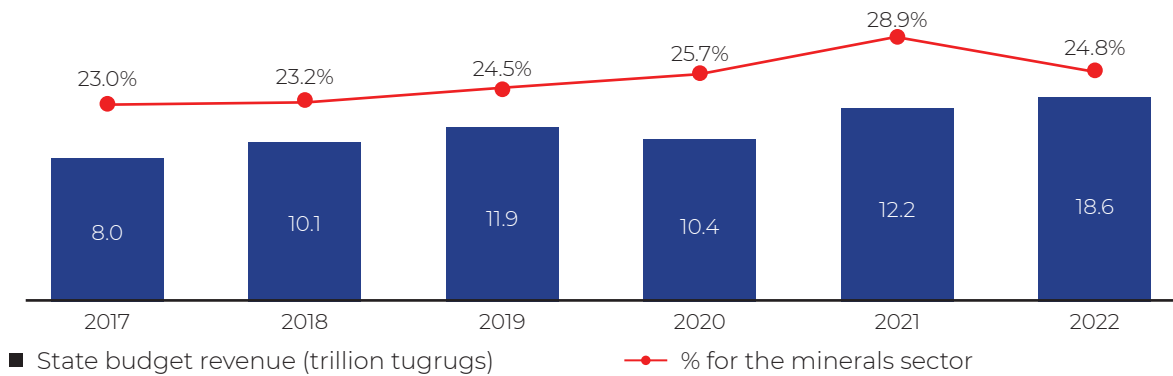
GROSS DOMESTIC PRODUCT /GDP/

The 22.8% of the GDP is gathered from the minerals sector of Mongolia.



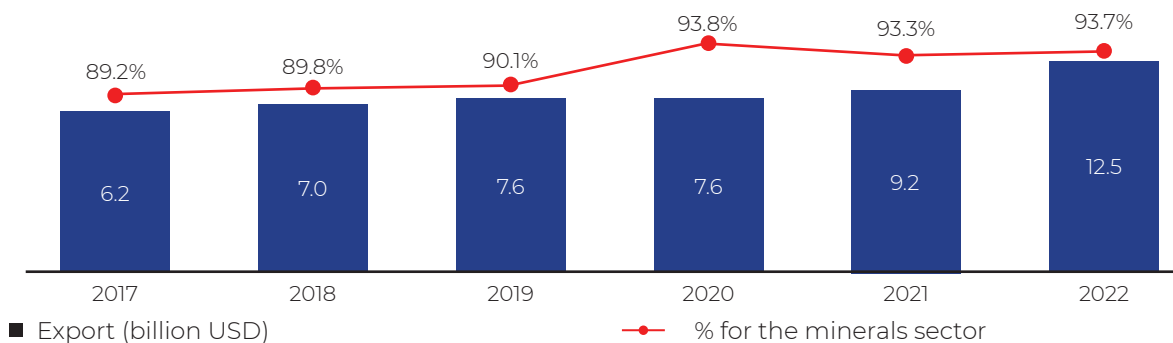
TOTAL STATE BUDGET REVENUE

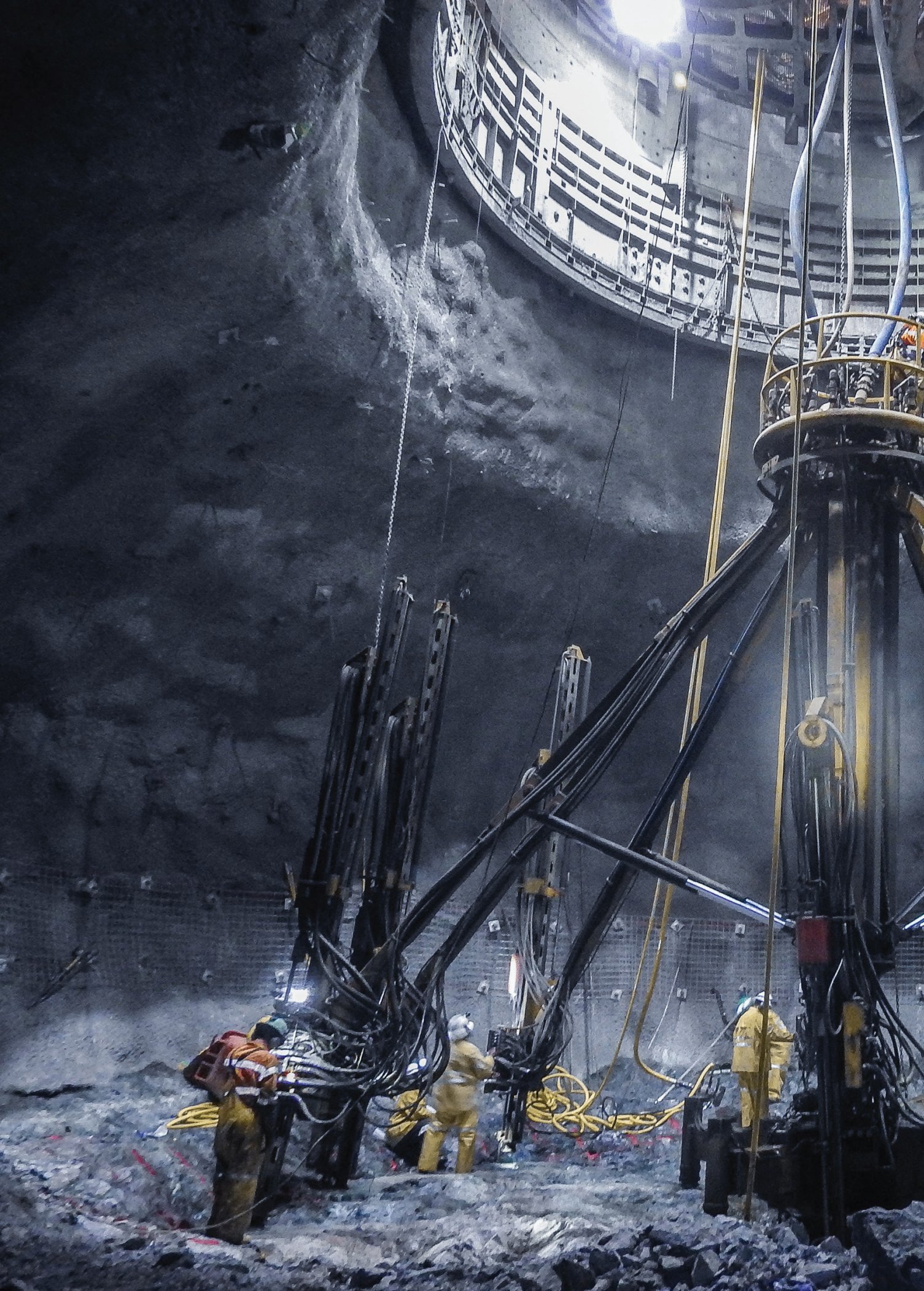
The 24.8% of the total State Budget revenue of Mongolia is gathered from the minerals sector.



MINERALS EXPORT

The 93.7% of the Minerals Export of Mongolia is the minerals sector export.





Source: Oyutolgoi mine

MINERALS POTENTIAL AND ACTIVE MINING PROJECTS

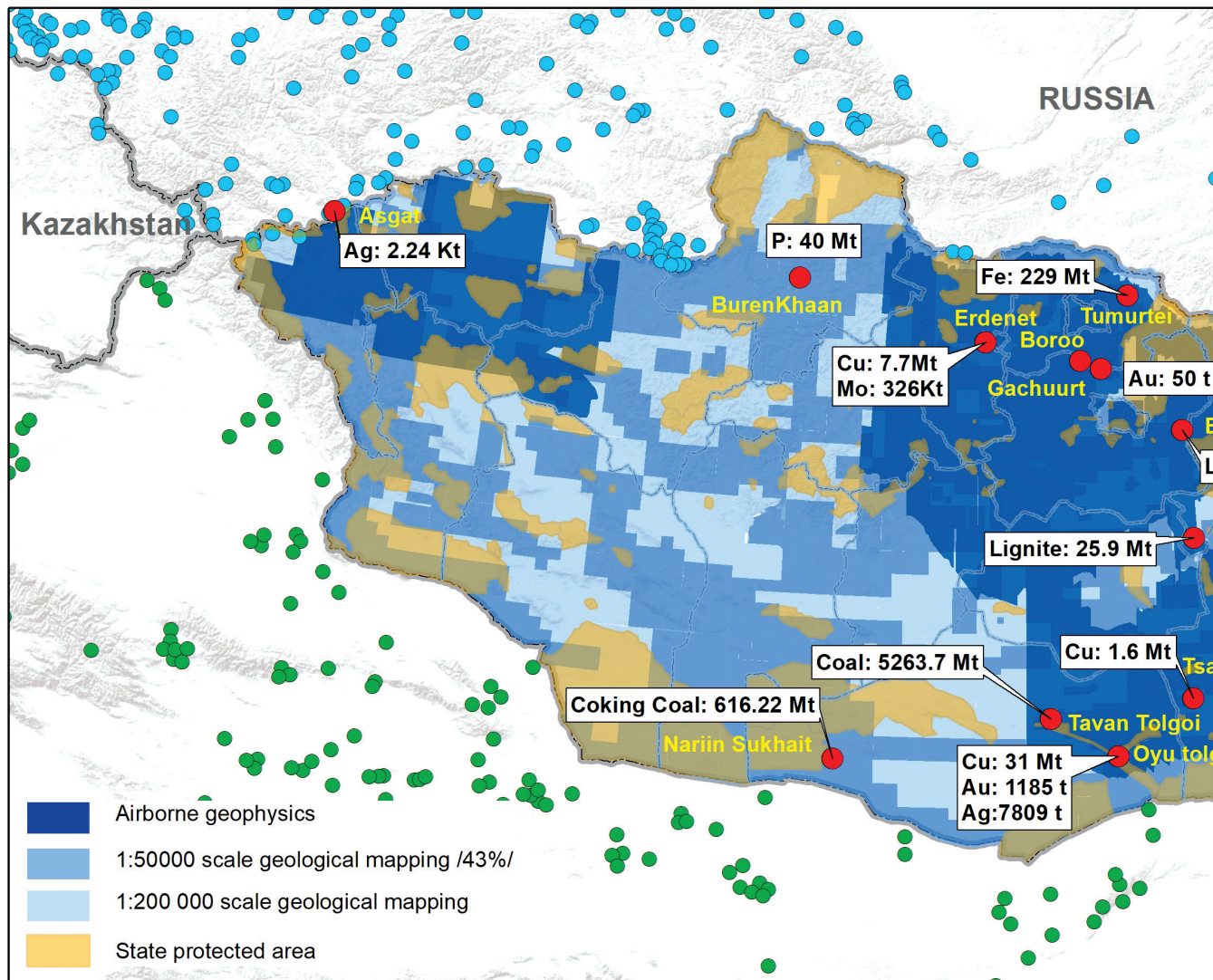
2

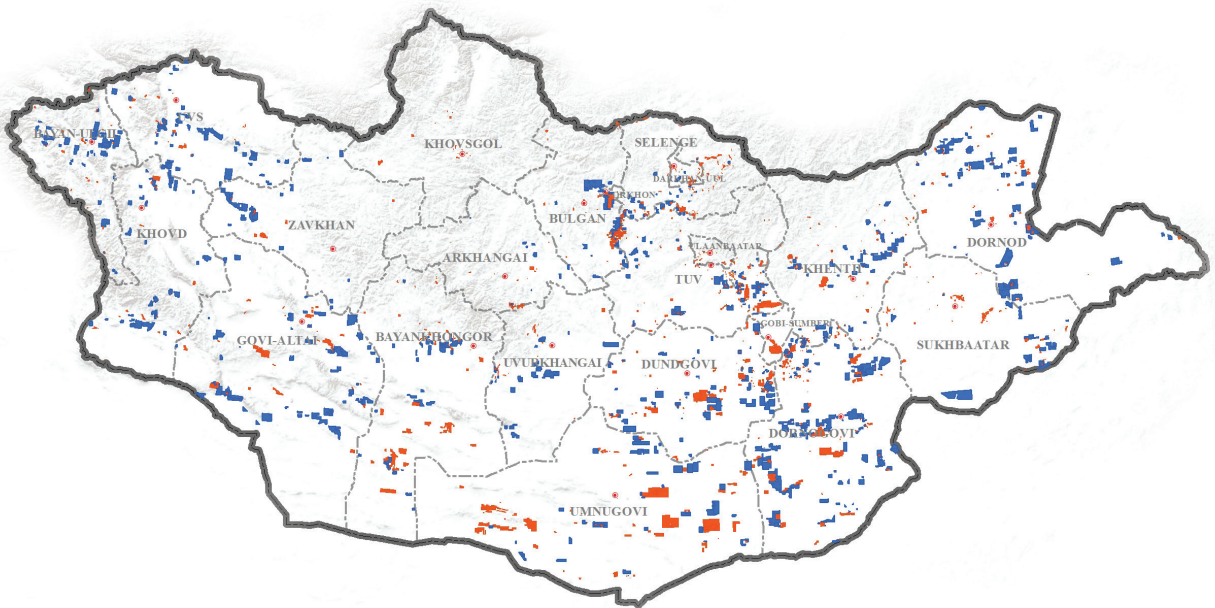


Geological setting



Mongolia is in the heart of the Central Asian Orogenic Belt located between the East European, Siberian, North China, and Tarim cratons, and is considered the largest area of Phanerozoic continental crustal growth (Bold et al., 2016). The evolution of the orogenic belt involved magmatism associated with a variety of geologic settings appropriate for the formation of many types of mineral deposits (Zientek et al., 2015). Mongolia has excellent geologic/natural potential for mineral resource development (Hedenquist & Daneshfar, 2003), which promises an unprecedented growth potential for copper, base metals, gold, and uranium.

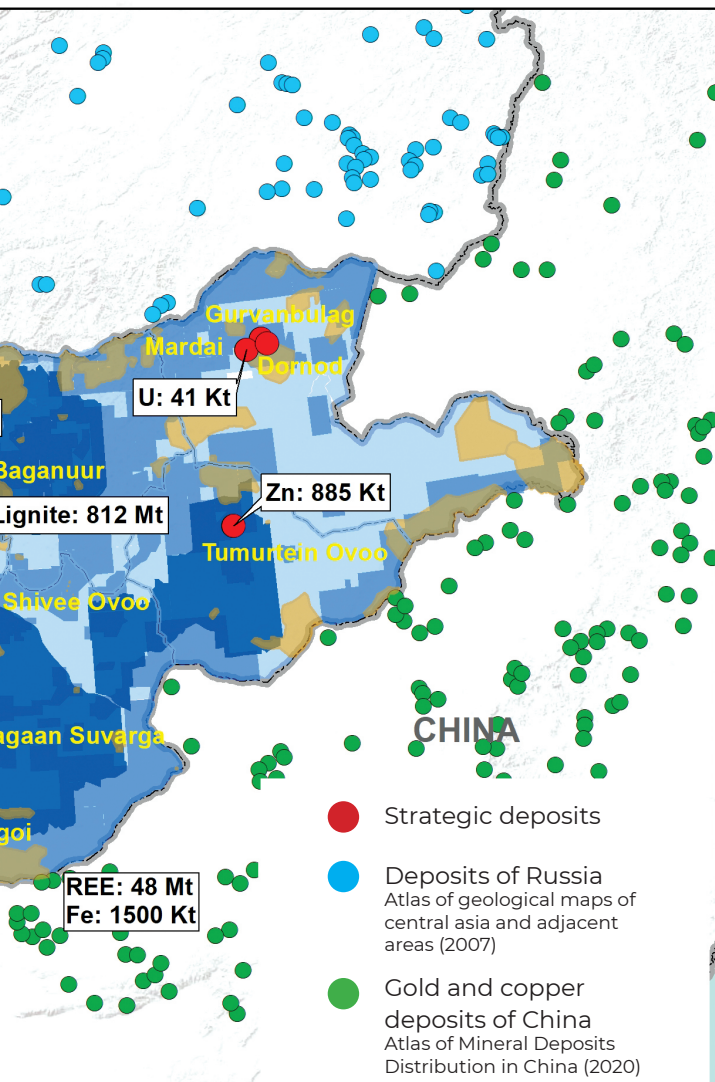




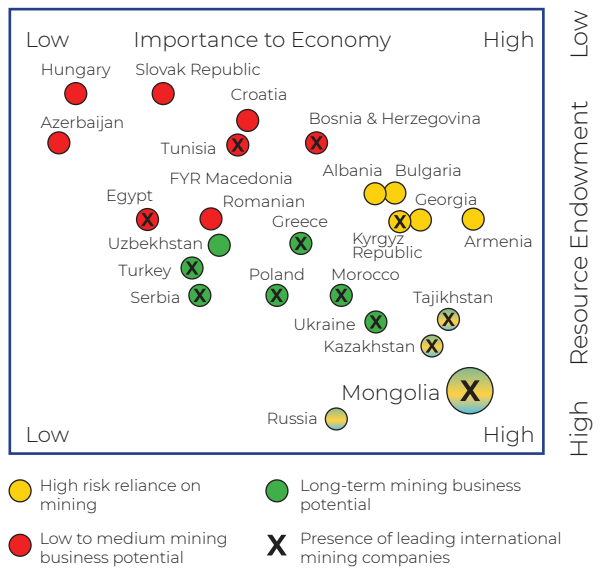
Number of provinces 0-3% Area coverage

0-3%	3-5%	5-10%	10-15%
8	8	3	3

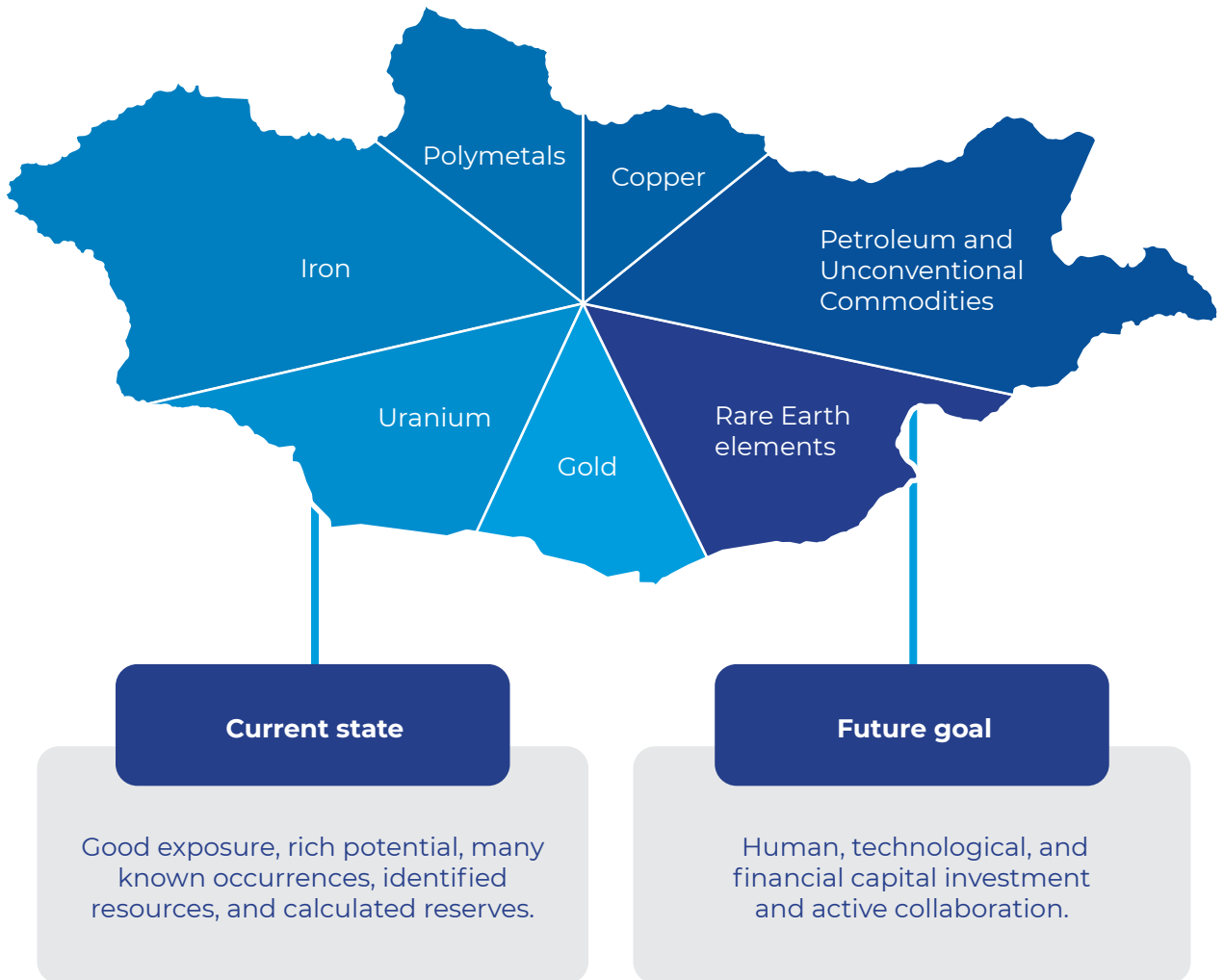
Compared to the mineral resources potential, exploration and mining rights in Mongolian territory are not enough. The Ministry of Mining and Heavy Industry is working towards finding the right balance.



Registered Resources		
Minerals	Unit	Resources
Copper	million.tn	61.4
Coal	billion.tn	33.2
Iron ore	billion.tn	1.84
Gold	tn	494.5
Zinc	million.tn	4.4
Fluorspar	million.tn	34.2
Uranium	thousand.tn	192.2
Crude oil	million.tn	332.6



We welcome interested parties and investors to come and work in the Minerals sector of Mongolia.



Source: Erdenetiin Ovoo mine

COPPER

29 [Ar]3d¹⁰4s¹

Cu

Copper
63.546



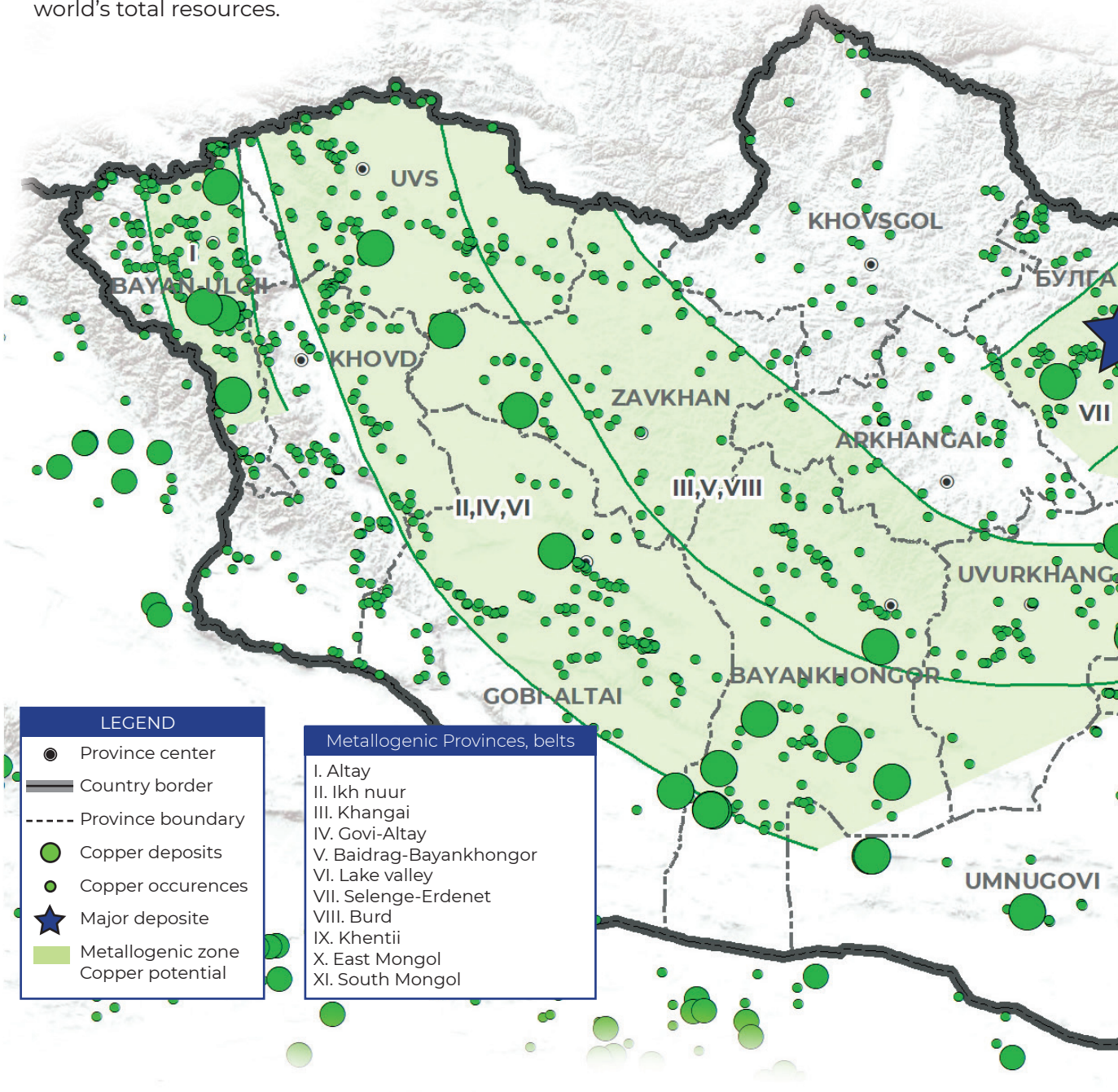
Copper potential

COPPER ORE RESOURCES, 2021

RESOURCES (by Country)	1. CHILE	2. AUSTRALIA	3. PERU	4. RUSSIA	5. MONGOLIA
880.0 Mt	200.0 Mt	93.0 Mt	77.0 Mt	62.0 Mt	61.4 Mt

Source: United States Geological Survey (USGS)

In 2021, copper resources are estimated to be around 880.0 million tons. It is estimated that there are approximately 2,100 million tons of copper ore resources worldwide. The total recorded resources for copper in Mongolia is 61.4 million tons, which is 7.0% of the world's total resources.



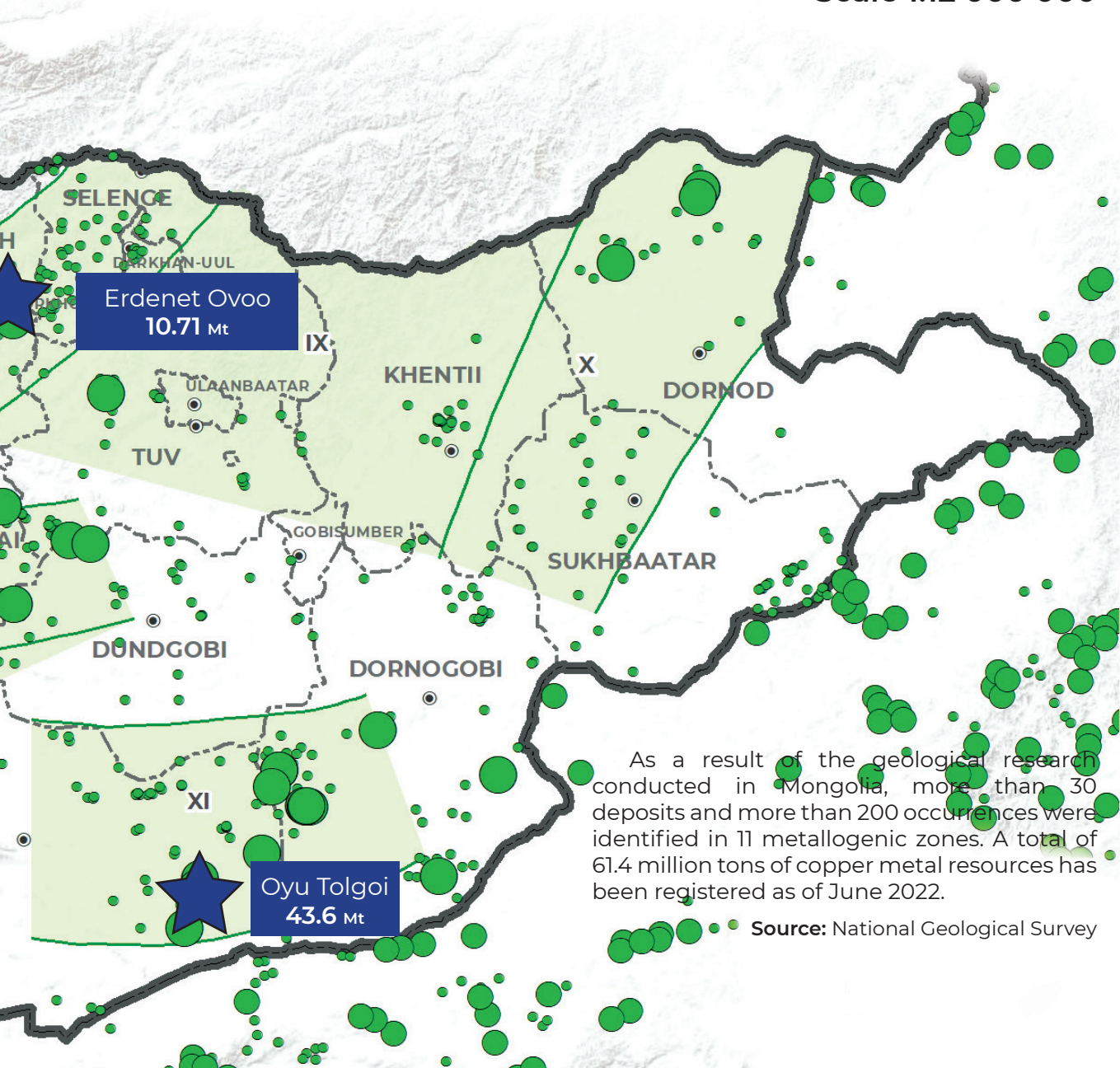
COPPER PRODUCTION IN METAL, 2021

PRODUCTION (by Country): 21.0 Mt	1. CHILE	2. PERU	3. CONGO	4. CHINA	37. MONGOLIA
	5.6 Mt	2.2 Mt	1.8 Mt	1.8 Mt	0.3 Mt

Source: United States Geological Survey (USGS)

Chile was the world's largest producer in 2021, accounting for 26.7% of the world's total production and 1.3% of the world's total production belongs to Mongolia.

Scale 1:12 000 000



As a result of the geological research conducted in Mongolia, more than 30 deposits and more than 200 occurrences were identified in 11 metallogenic zones. A total of 61.4 million tons of copper metal resources has been registered as of June 2022.

Source: National Geological Survey

Resources, Reserves, Export

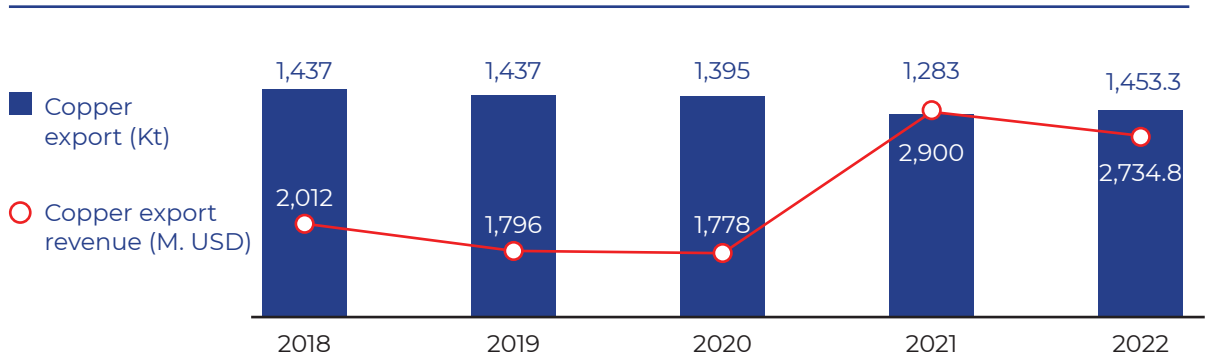
TOTAL RESOURCES OF COPPER

10,795.4 Mt Resources (ore)
61.4 Mt Resources (metal)

RESOURCES OF MAIN COPPER DEPOSITS

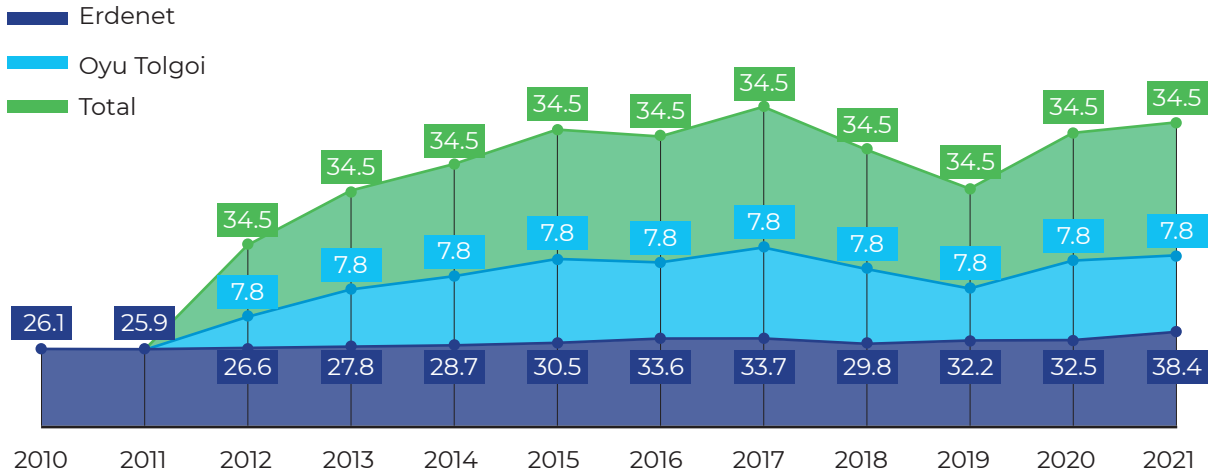
Illustrate	Ore (Mt)	Copper (metal), (Mt)
COPPER RESOURCES IN STRATEGIC DEPOSITS (Oyu tolgoi, Erdenet, Tsagaan suvarga)	9,718.0	56.6
READY FOR MINING DEPOSITS	851.9	2.23
RESOURCE OF TECHNOGENIC DEPOSIT	56.0	0.16
Copper RESOURCES in the form of polymetallic deposits	169.5	2.41
Total resources	10,795.4	61.4

COPPER EXPORT, REVENUE /income/

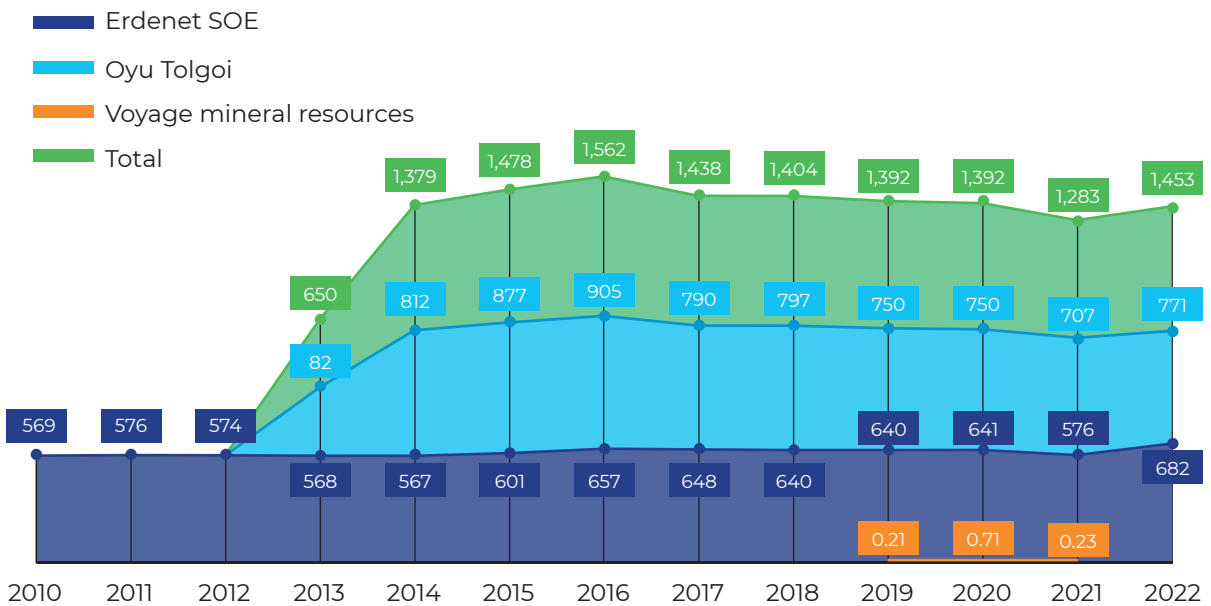


Exploitation, export

TOTAL AMOUNT OF ORE MINED (Mt)



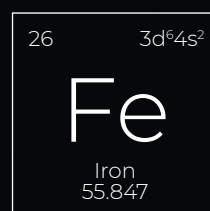
TOTAL AMOUNT OF COPPER EXPORT COPPER CONCENTRATE (Kt)







IRON



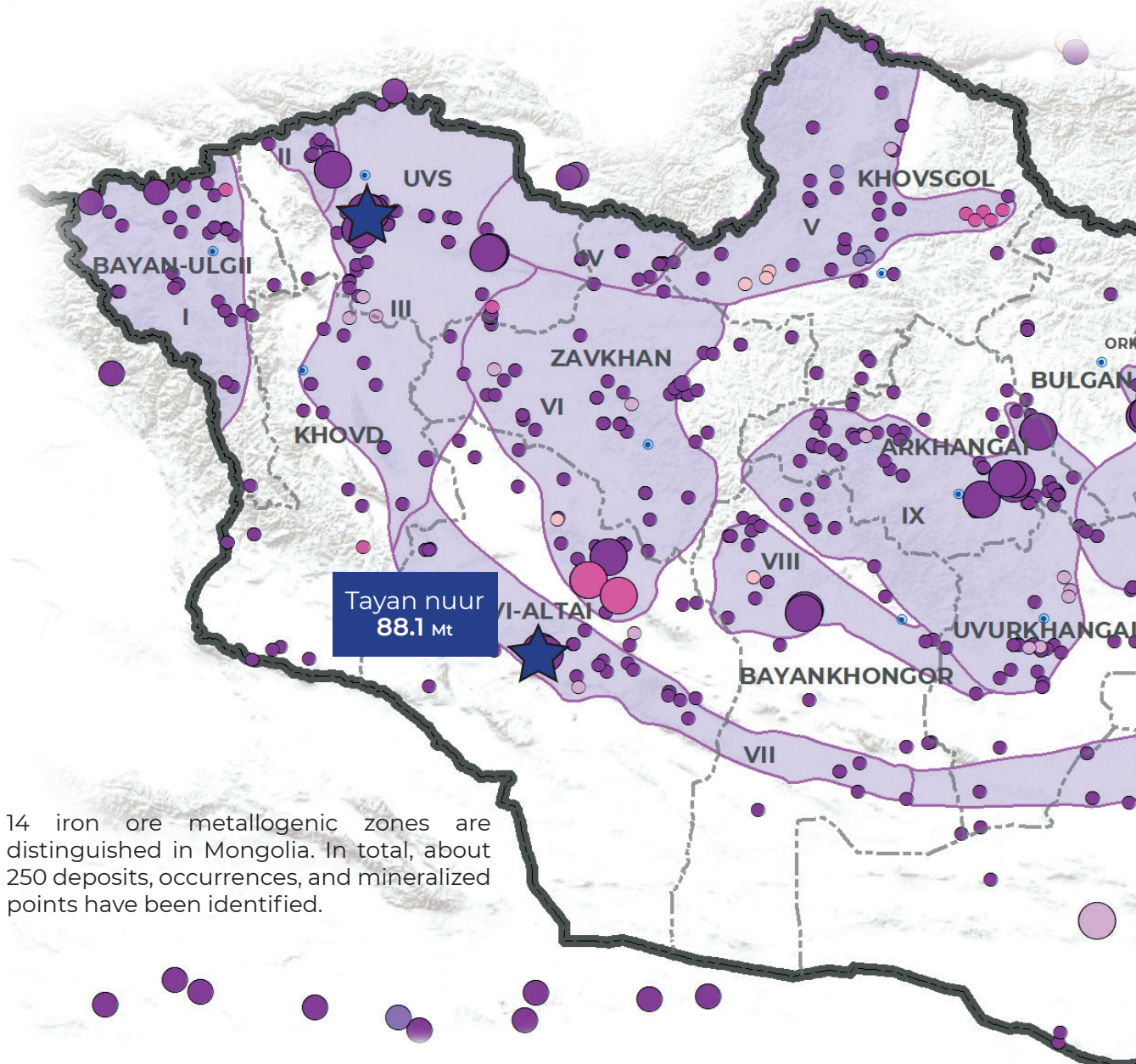
Iron potential

IRON ORE RESOURCES / 2021

RESOURCES (by Country):	1. AUSTRALIA	2. BRAZIL	3. RUSSIA	4. CHINA	MONGOLIA
180.0 Bt	51.0 Bt	34.0 Bt	25.0 Bt	20.0 Bt	1.8 Bt

Source: United States Geological Survey (USGS)

In 2021, iron resources are estimated at 180.0 billion tons worldwide. The total registered iron resources in Mongolia is 1.8 billion tons, which is 1.0% of the world's total resources.



Source: National Geological Survey

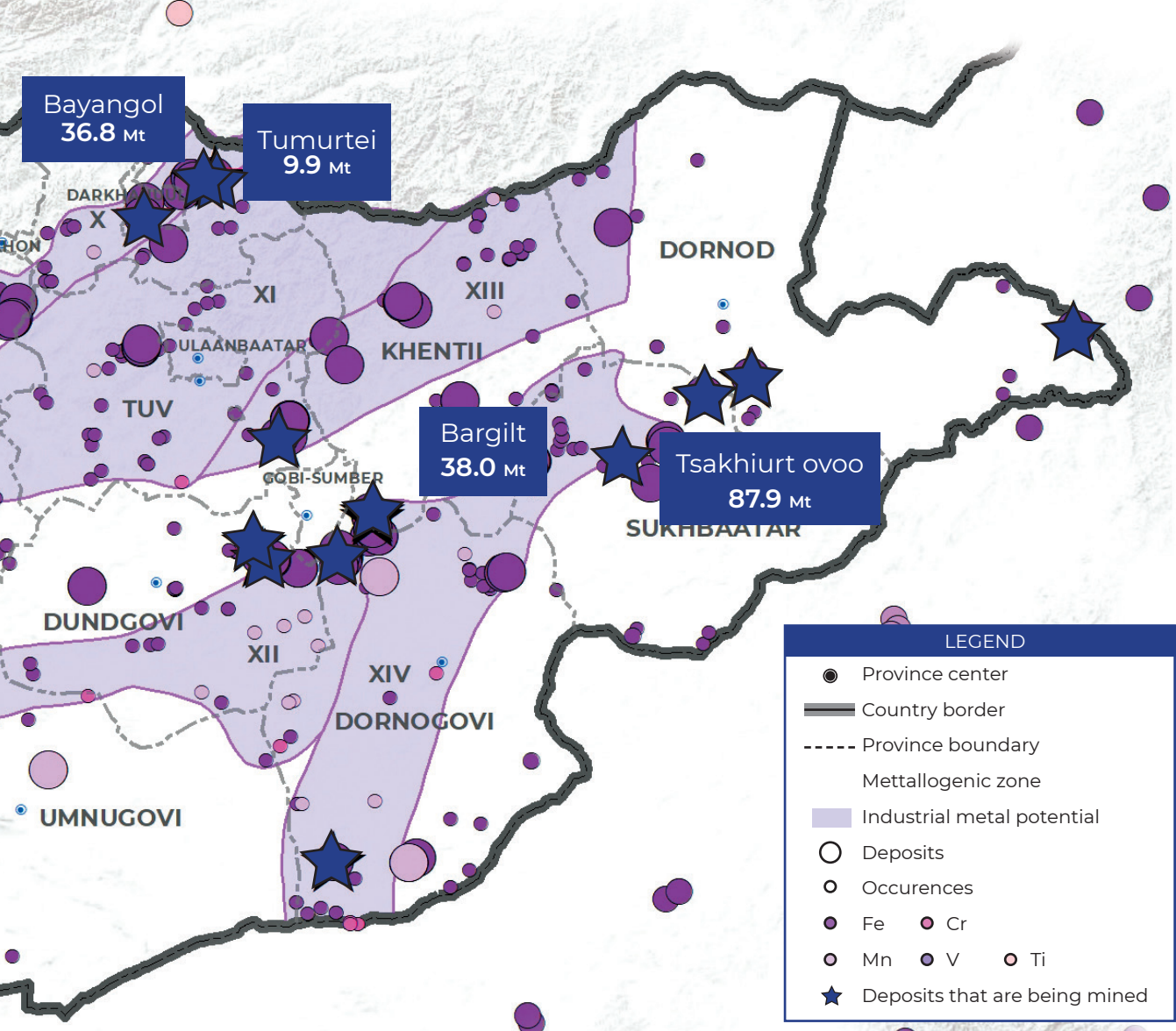
IRON ORE PRODUCTION IN METALS / 2021



Source: United States Geological Survey (USGS)

Australia was the world's largest producer of iron in 2021, accounting for 34.6% of the world's total production and 0.5% of the world's total production of iron belongs to Mongolia.

Scale 1:12 000 000



IRON RESOURCES

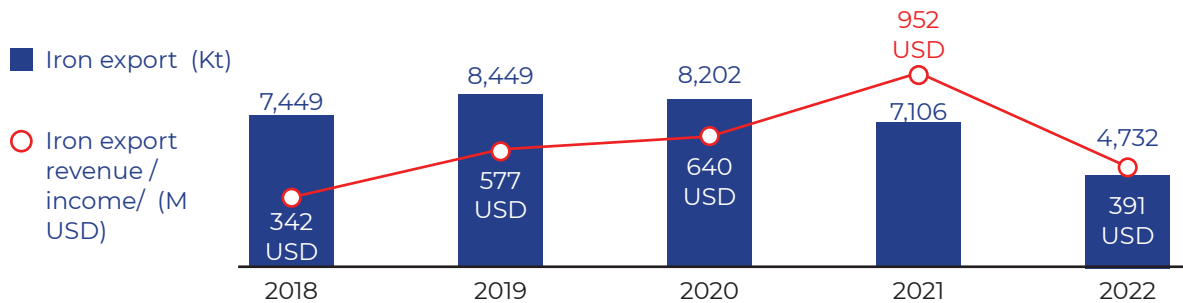
1,800.0 Mt Iron ore resources

602.6 Mt Iron resources in metals

RESOURCES OF IRON ORE DEPOSITS

Resources	Ore (Mt)	Iron (in metal), (Mt)
Mining deposits	746.8	312.6
Developed projects	705.7	235.4
Under 3 Mt iron resources	179.7	54.5
Total	1,800.0	602.6

IRON EXPORT, REVENUE /income/



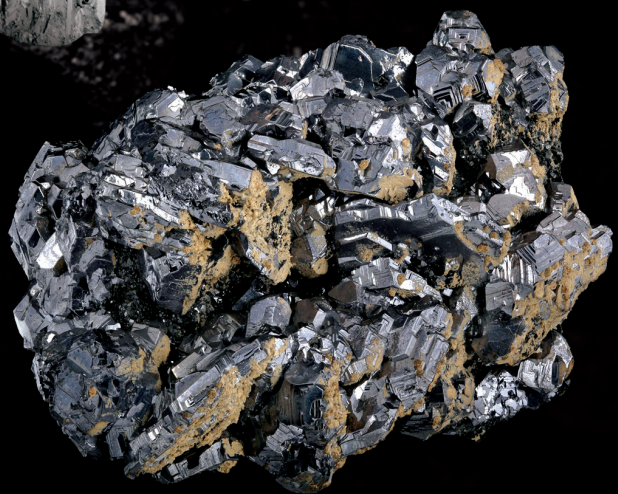
POLYMETALS



47 [Kr]4d¹⁰5s¹
Ag
Silver
107.868



30 [Ar]3d¹⁰4s²
Zn
Zinc
55.38



82
Pb
Lead
207.2

Polymetals

ZINC RESOURCES / 2021

RESOURCES (by Country): 250 Mt	1. AUSTRALIA 69 Mt	2. CHINA 44 Mt	3. RUSSIA 22 Mt	4. MEXICO 19 Mt	MONGOLIA 4.7 Mt
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Zinc resources are estimated to be around 250.0 million tons in 2021. The total recorded zinc resources in Mongolia is 4.7 million tons, which is 1.8% of the world's total resources.

ZINC PRODUCTION IN METALS / 2021

PRODUCTION (by Country): 13.0 Mt	1. CHINA 4.2 Mt	2. PERU 1.6 Mt	3. AUSTRALIA 1.3 Mt	4. INDIA 0.8 Mt	MONGOLIA 53.5 Kt
---	------------------------------	-----------------------------	----------------------------------	------------------------------	-------------------------------

China was the world's largest producer of zinc in 2021, accounting for 32.3% of the world's total production and 0.4% of the world's total production belongs to Mongolia.

LEAD RESOURCES / 2021

RESOURCES (by Country): 90 Mt	1. AUSTRALIA 37 Mt	2. CHINA 18 Mt	3. PERU 6.4 Mt	4. MEXICO 5.6 Mt	MONGOLIA 1.7 Mt
--	---------------------------------	-----------------------------	-----------------------------	-------------------------------	------------------------------

In 2021, lead resources are about 90.0 million tons. The total recorded lead resources in Mongolia is 1.7 million tons, which is 1.8% of the world's total resources.

LEAD PRODUCTION / 2021

PRODUCTION (by Country): 4.3 Mt	1. CHINA 2.0 Mt	2. AUSTRALIA 0.5 Mt	3. USA 0.3 Mt	4. PERU 0.3 Mt	MONGOLIA 11.2 Kt
--	------------------------------	----------------------------------	----------------------------	-----------------------------	-------------------------------

China was the world's largest producer in 2021, accounting for 46.5% of the world's total production and 0.3% of the world's total production belongs to Mongolia.

SILVER RESOURCES / 2021

RESOURCES (by Country): 530 Kt	1. PERU 120 Kt	2. AUSTRALIA 90 Kt	3. POLAND 67 Kt	4. RUSSIA 45 Kt	MONGOLIA 34.5 Kt
---	-----------------------------	---------------------------------	------------------------------	------------------------------	-------------------------------

In 2021, silver resources are about 530,000 tons. The total registered silver resources in Mongolia is 34.5 thousand tons, which is 6.5% of the world's total resources.

SILVER PRODUCTION / 2021

PRODUCTION (by Country): 24.0 Kt	1. MEXICO 5.6 Kt	2. CHINA 3.4 Kt	3. PERU 3.0 Kt	4. CHILE 1.6 Kt	MONGOLIA 142 t
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Mexico was the world's largest producer in 2021, accounting for 23.3% of global production and 0.6% of the world's total production of silver belongs to Mongolia.

Source: United States Geological Survey (USGS)

General information on polymetallic deposits of mongolia

RESOURCES OF POLYMETALS

Mining license **5** ▶ **77.0** Mt

Projects under development **14** ▶ **140.8** Mt

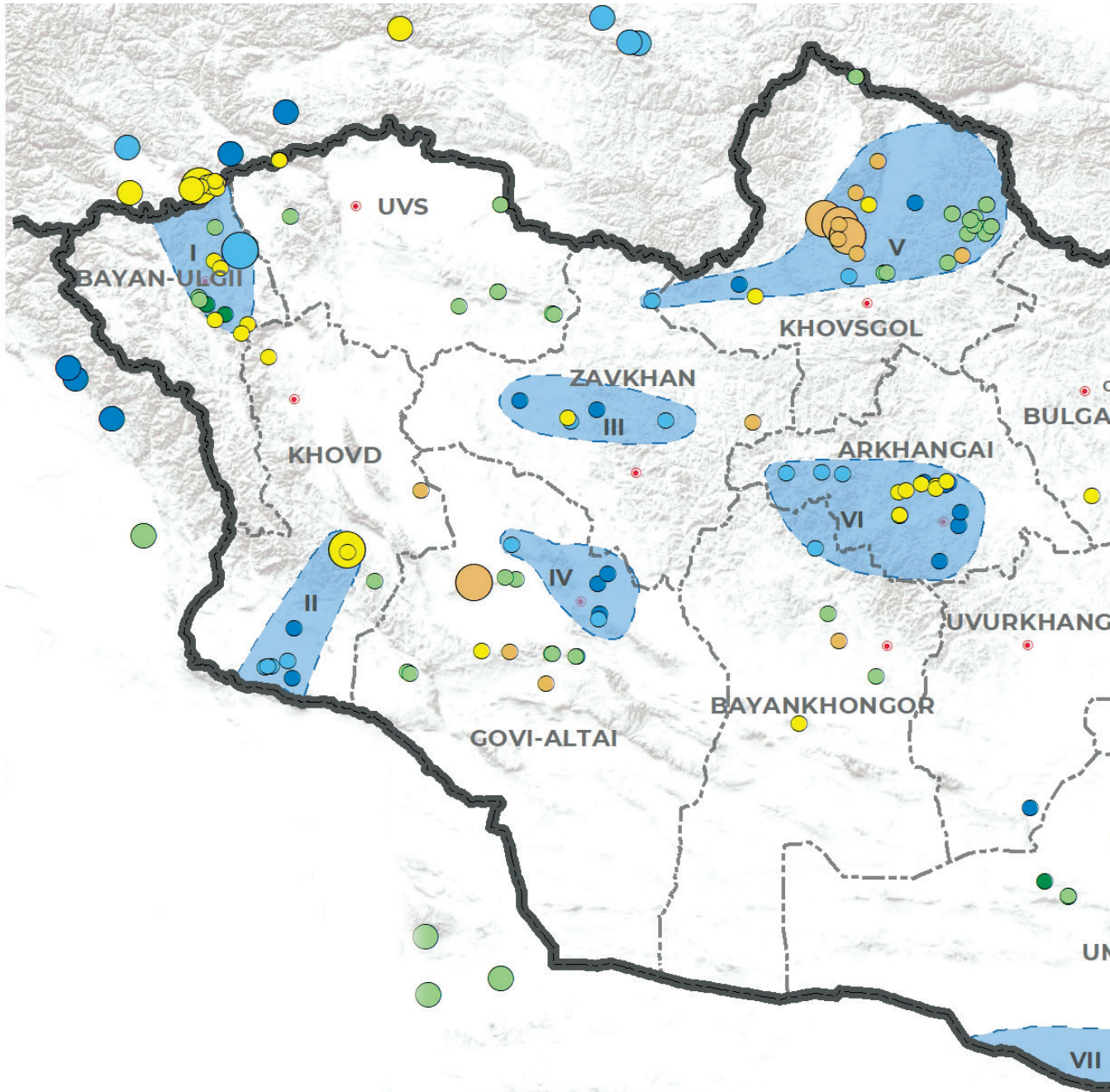
Exploration projects **14** ▶ **74.3** Mt

RESOURCES OF METALS IN ORES

Minerals	Unit	Resources
Zinc	Kt	4,725.16
Thin	Kt	1,672.26
Silver	t	16,695.14
Copper	Kt	343.77
Tungsten	Kt	19.54
Iron	Kt	8,927.22
Molybdenum	Kt	10.11
Gold	Kg	39,248.9
Arsenic	Kt	1,235.91
Antimony	t	144,419.55
Cadmium	t	15,212.19
Bismuth	t	11,053.92
Uranium	t	270.00

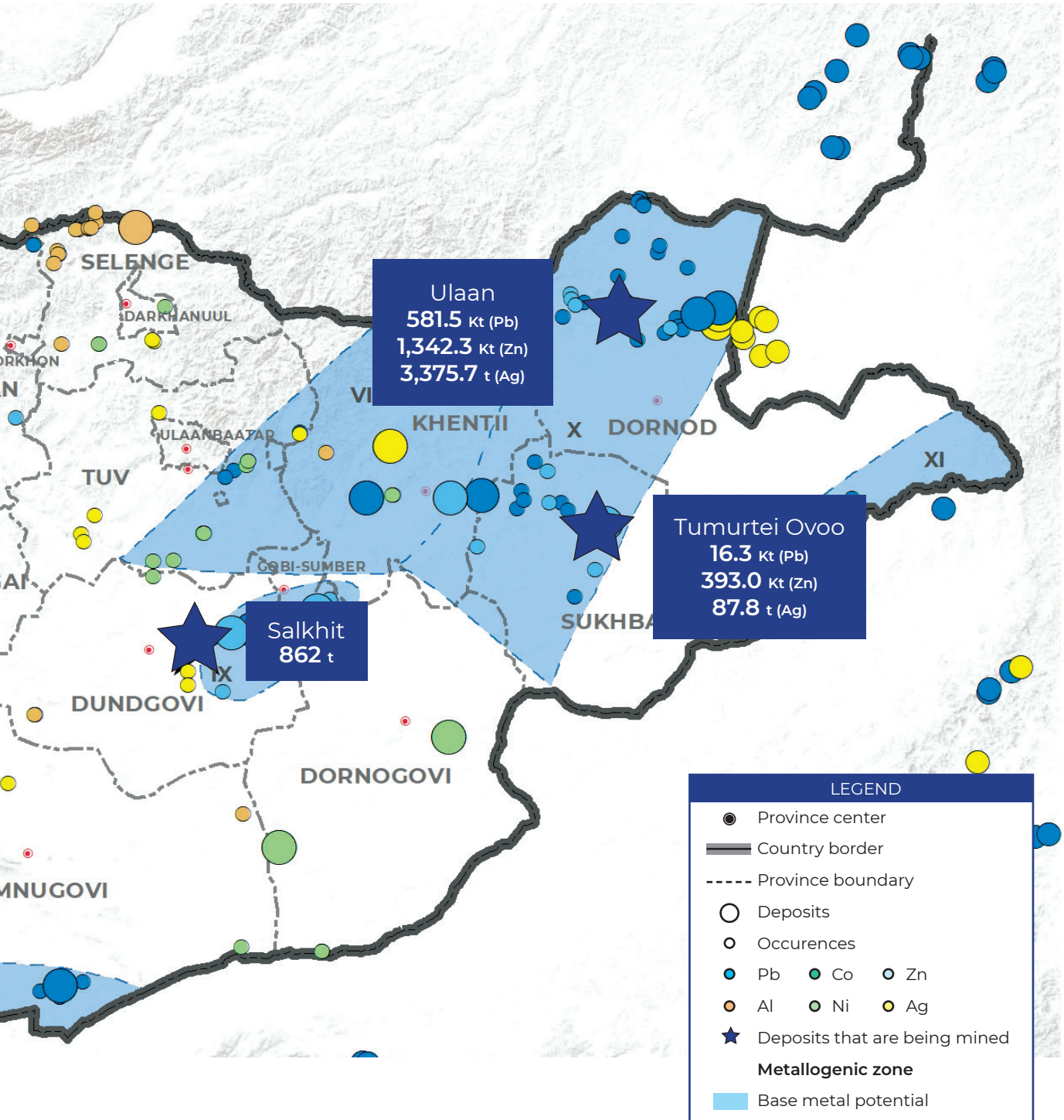
Regions of polymetallic ore deposits in Mongolia

Geological exploration of polymetals in Mongolia has been carried out since the 1950s, and about 20 deposits and 150 occurrences have been discovered and investigated.



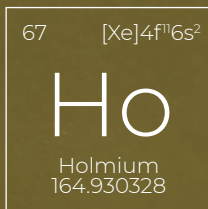
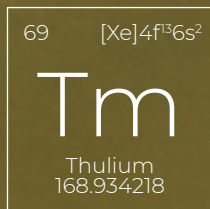
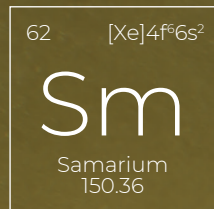
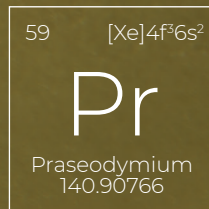
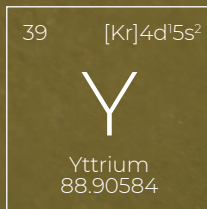
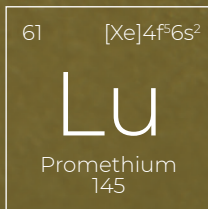
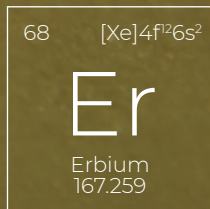
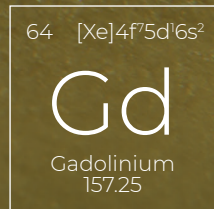
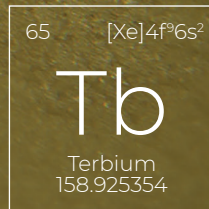
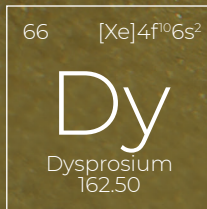
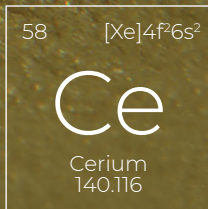
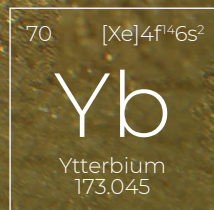
Geological exploration of polymetallics in Mongolia has been carried out since the 1950s, and about 20 deposits and 150 occurrences have been discovered and investigated.

Scale 1:12 000 000

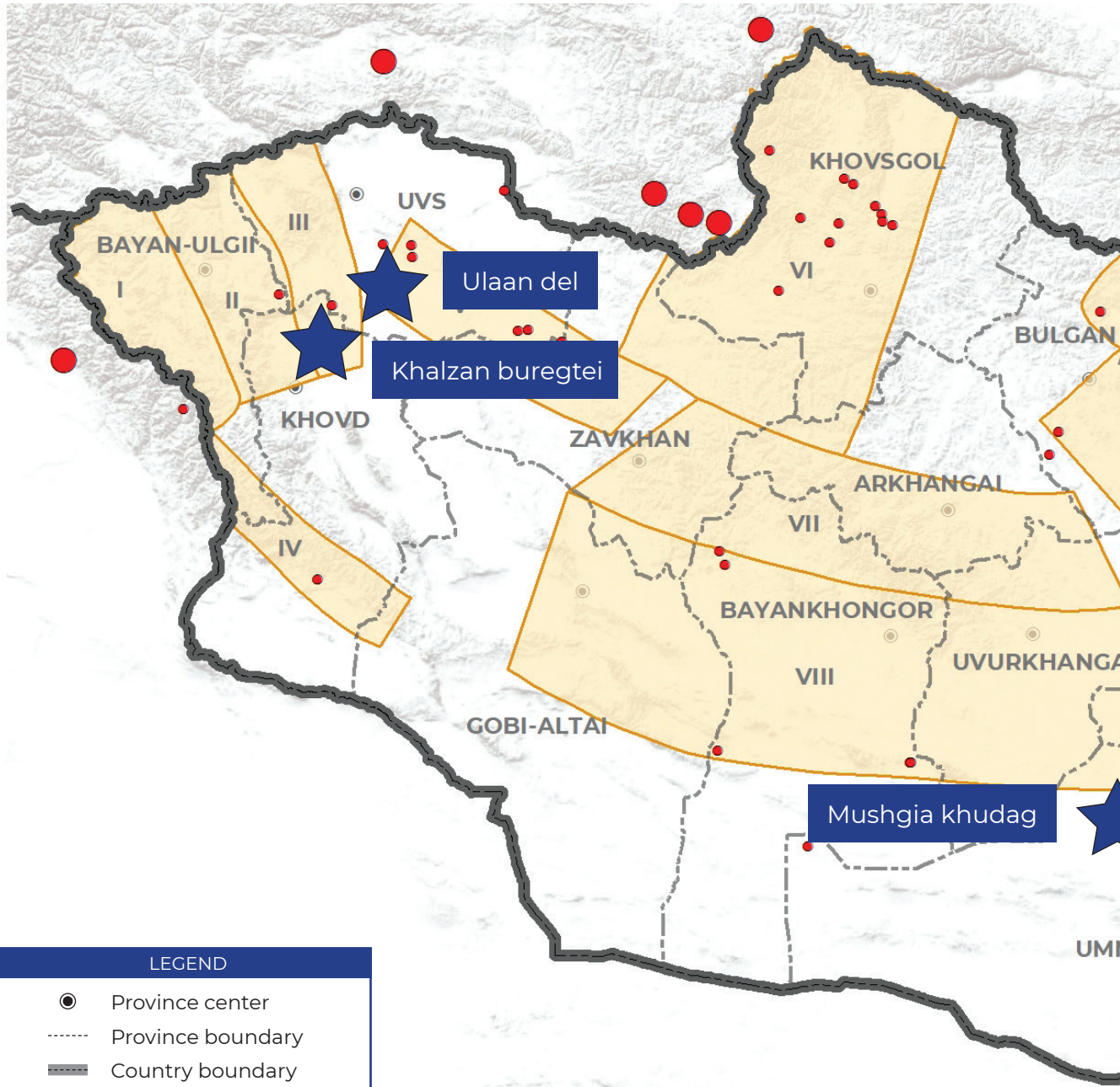




RARE EARTH ELEMENTS

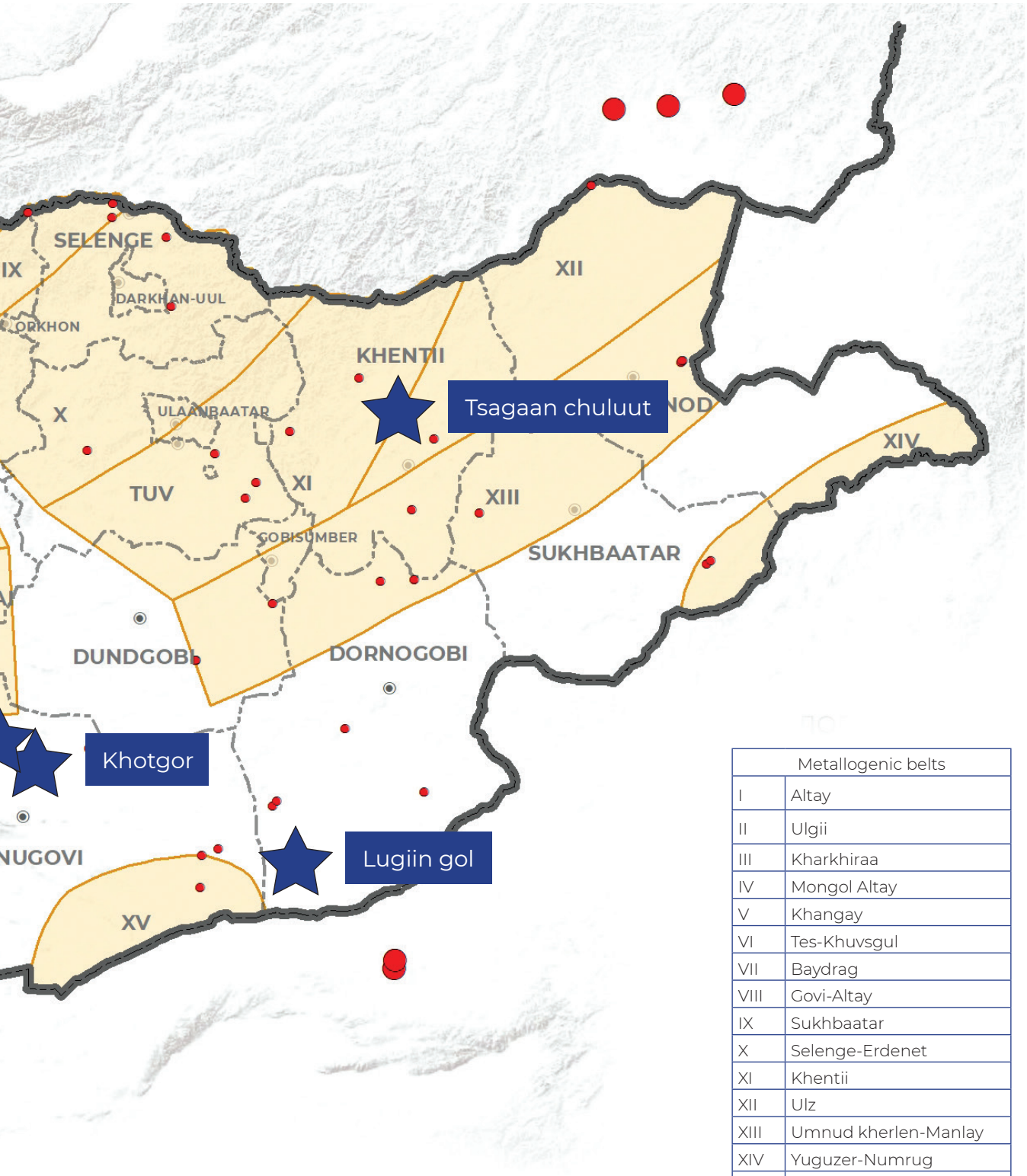


Rare Earth elements potential



LEGEND	
●	Province center
-----	Province boundary
-----	Country boundary
Deposits	
●	REE (native)
⬡	REE (placer)
Occurences	
●	REE
Metallogenic zone	
■	Rare metal potential

Scale 1:12 000 000



Metallogenic belts	
I	Altay
II	Ulgii
III	Kharkhiraa
IV	Mongol Altay
V	Khangay
VI	Tes-Khuvsgul
VII	Baydrag
VIII	Govi-Altay
IX	Sukhbaatar
X	Selenge-Erdenet
XI	Khentii
XII	Ulz
XIII	Umnud kherlen-Manlay
XIV	Yuguzer-Numrug
XV	Umnud govi

RARE EARTH ELEMENT DEPOSITS OF MONGOLIA

Project owner	Deposit name	Province, Subprovince	Valuable component average content,% g/m ³ / RE ₂ O ₃ or oxidized/	Resources, t	Reserves, t /RE ₂ O ₃ /	Dominant element
REO LLC	Lugiin gol /1982, 1990, 2009, 2013/	Dornogovi, Khatanbulag	2.67 -2.71	541,316,630	14,519.34	Light /lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium/
ECTU LLC						
Khotgor Minerals LLC	Khotgor /1983, 2002/	Umnugovi, Tsogt ovoo	1.26	135,357,200	1,213,700	Light /lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium/
Remet LLC	Mushgia khudag /1989, 2010/	Umnugovi Mandal ovoo	1.37-3.37	25,235,505	365,102.25	Light /lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium/
JSB Mining LLC						
Mongolian National Riir Yirt Corp	Khalzan Buregtei /1984, 2015/	Khovd, Myangad	TREO-0.46, Dy-0.01, Ta-0.01, Nb-0.1, Zr-0.30, CREO-0.18	268,175,530.43	1,203,142.64	Light, heavy /lanthanum, cerium, praseodymium, neodymium, samarium, gadolinium, dysprosium, erbium/
Mongolian National Riir Yirt Corp						
Mongolian Lanthanoid Corporation LLC	Khalzan Buregtei /1984, 2014/	Khovd, Myangad	(Tr+Y) ₂ O ₃ -0.28 Zr ₂ O ₃ -0.51, (HTR+Y) ₂ O ₃ -0.08 Nb ₂ O ₅ -0.07, TREO-0.44	86,143,120.0	308,548.3	
NABD LLCO	Tsagaan Chuluut /1953, 2018/	Binder, Umnu delger	Monazite – 460 g/m ³	596,701	Monazite – 274.55	Light /ceri/, uranium, thorium
Geo-Info LLC	Ulaan del /2015, 2017/	Uvs, Zavkhan	0.164	82,130.4	C-125.3	Light, heavy /lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, erbium, holmium, ytterbium/
Total				1,056,906,816	3,105,012.9 Monazite – 274.55	

URANIUM

92 [Rn]5f³6d¹7s²

U

Uranium
238.02891



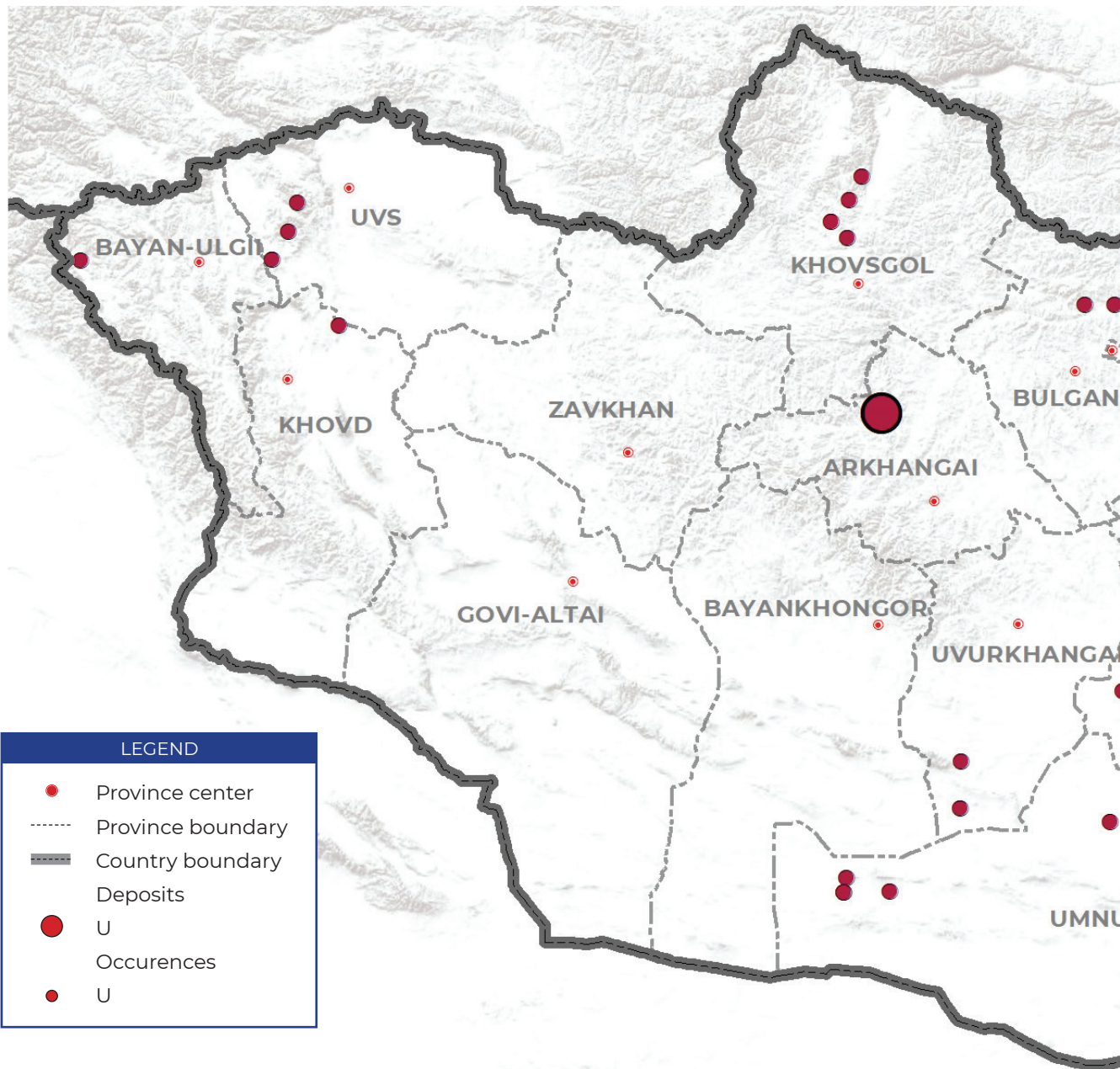
Uranium potential

URANIUM RESOURCES, 2019



Source: World nuclear association, National geological survey of Mongolia

In 2022, uranium resources are about 6.1 million tons. The total registered uranium resources in Mongolia is 192.2 thousand tons, which is 3.1% of the world's total resources.



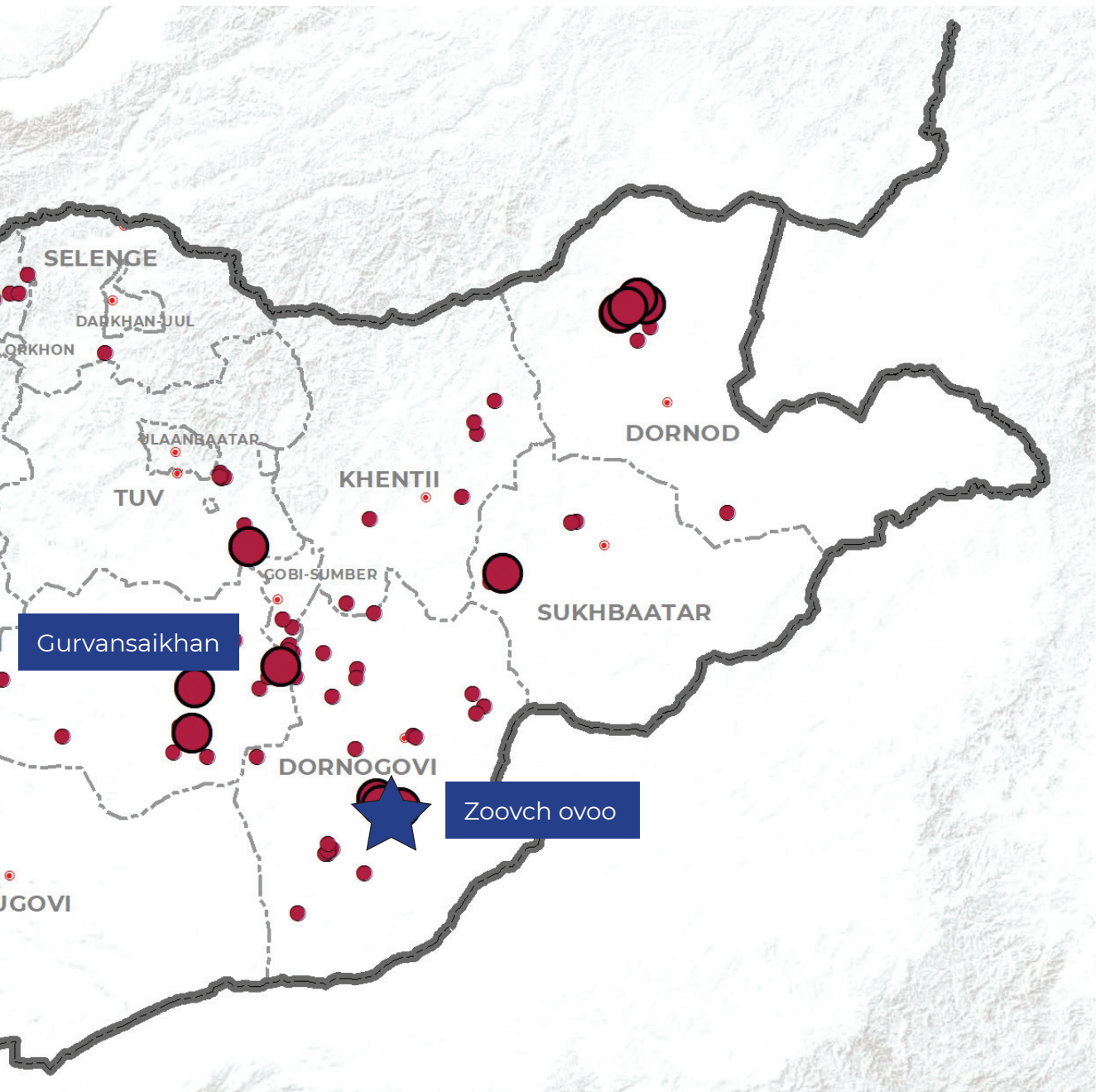
URANIUM PRODUCTION / 2020



Source: World nuclear association, Badrakh Energy LLC

Kazakhstan has become the world’s largest producer in 2020 and accounts for 40.8% of the total production, while Mongolia is conducting a pilot production at the Zuuvch-Ovoo deposit located in the Ulaanbadrakh subprovince (soum) of Dornogovi Province (aimag).

Scale 1:12 000 000



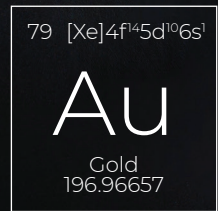
Uranium of Mongolia

URANIUM DEPOSIT RESOURCES

Nº	Deposit name	Resources (metal/tons)
1	Nemer	5,937.62
2	Dornot	27,221.0
3	Gurvanbulag	13,058.3
4	Dulaan Uul	11,896.44
5	Zuuvch Ovoo	93,290.63
6	Dalt	15,518.11



GOLD



Gold potential

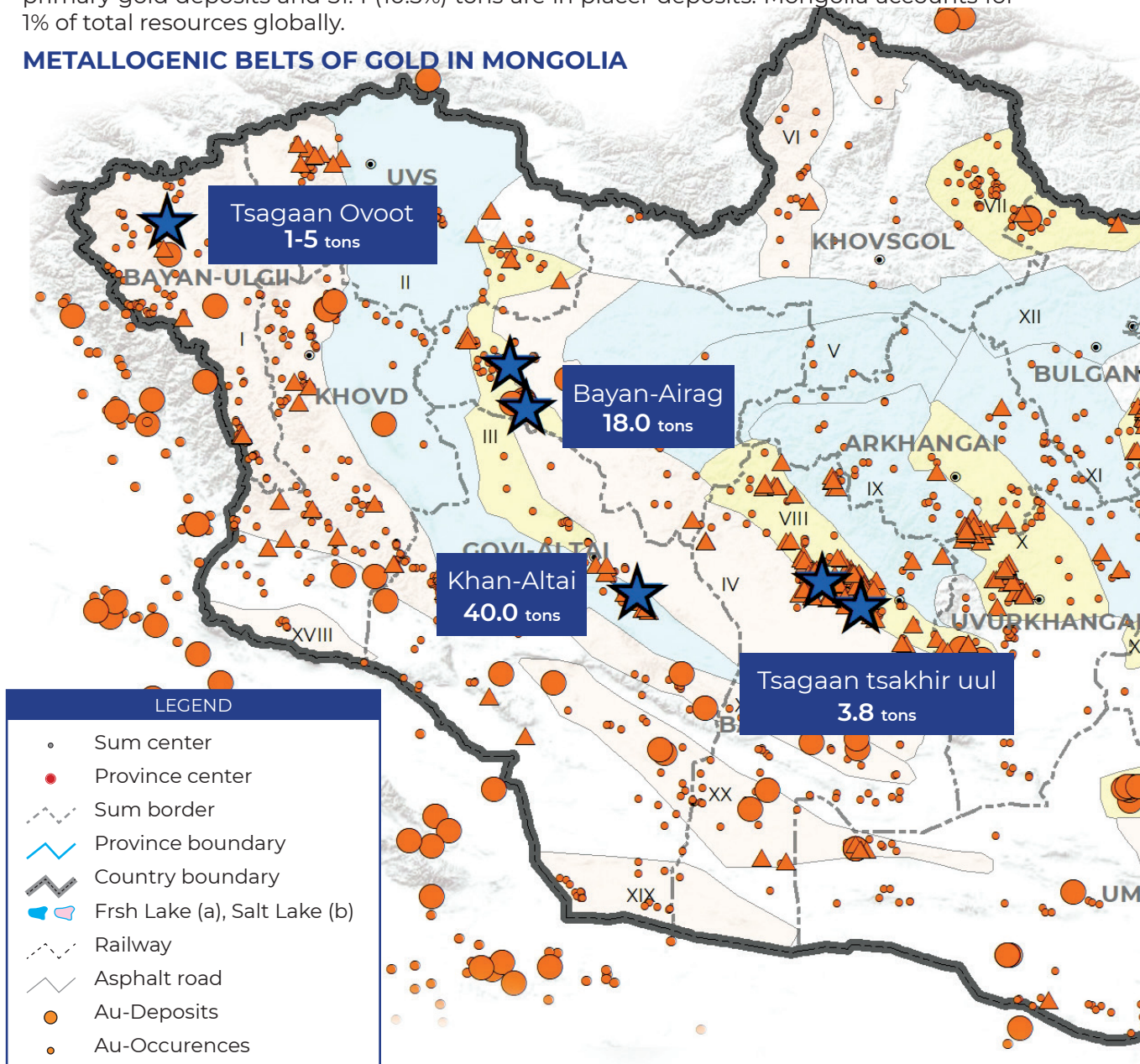
GOLD RESOURCES, 2021

RESOURCES (by Country):	1. AUSTRALIA	2. RUSSIA	3. S.AFRICA	4. USA	MONGOLIA
53.0 Kt	11.0 Kt	6.8 Kt	5.0 Kt	3.0 Kt	0.5 Kt

Source: United States Geological Survey (USGS)

The total registered gold resources in Mongolia is 490.07 tons (excluding the gold resources of the Oyu Tolgoi copper-gold deposit) of which 438.67 (89.5%) tons are in primary gold deposits and 51.4 (10.5%) tons are in placer deposits. Mongolia accounts for 1% of total resources globally.

METALLOGENIC BELTS OF GOLD IN MONGOLIA

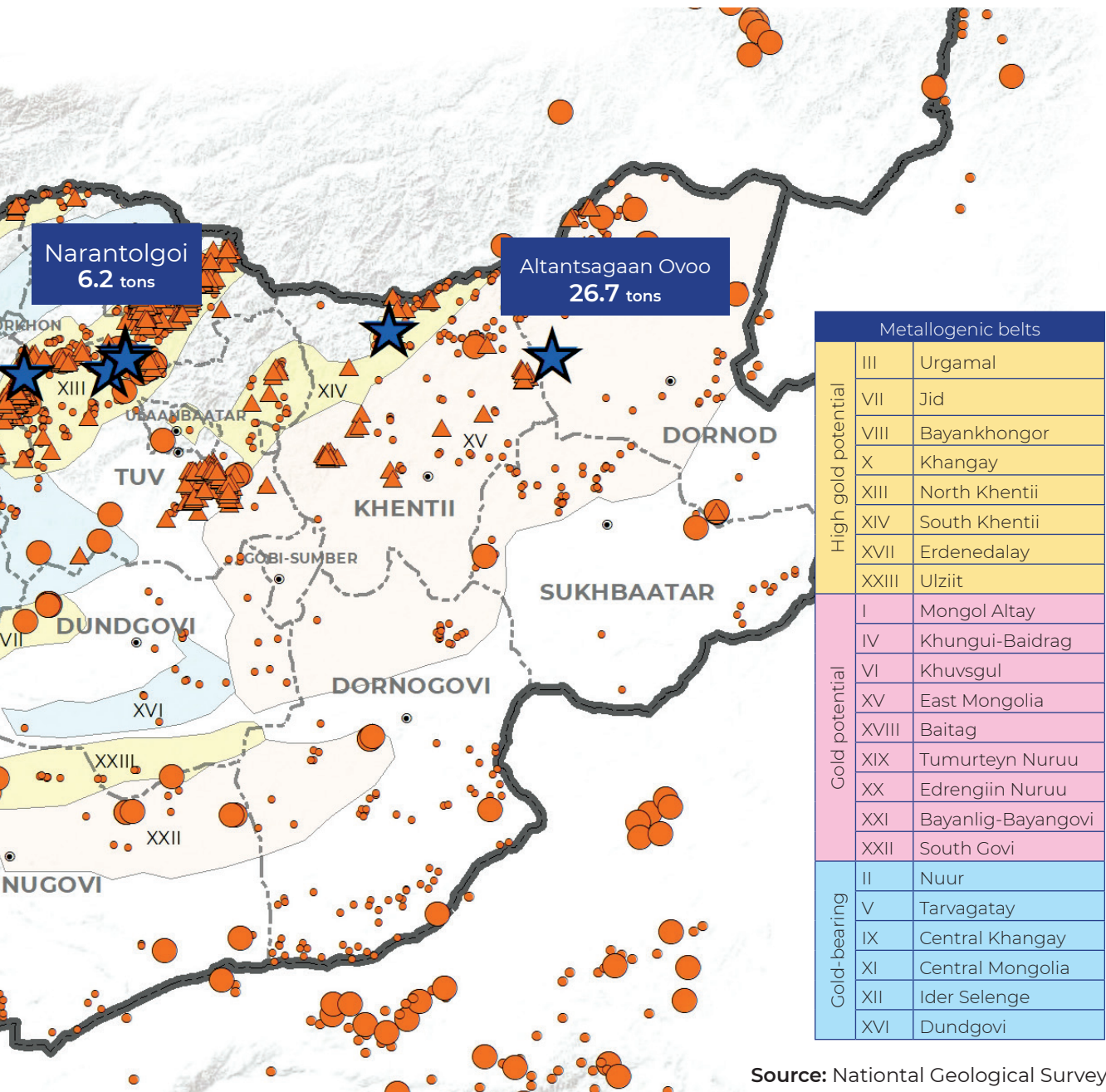


GOLD PRODUCTION, 2021



Source: United States Geological Survey (USGS)

China was the world's largest producer in 2021, accounting for 9.3% of the world's total production.

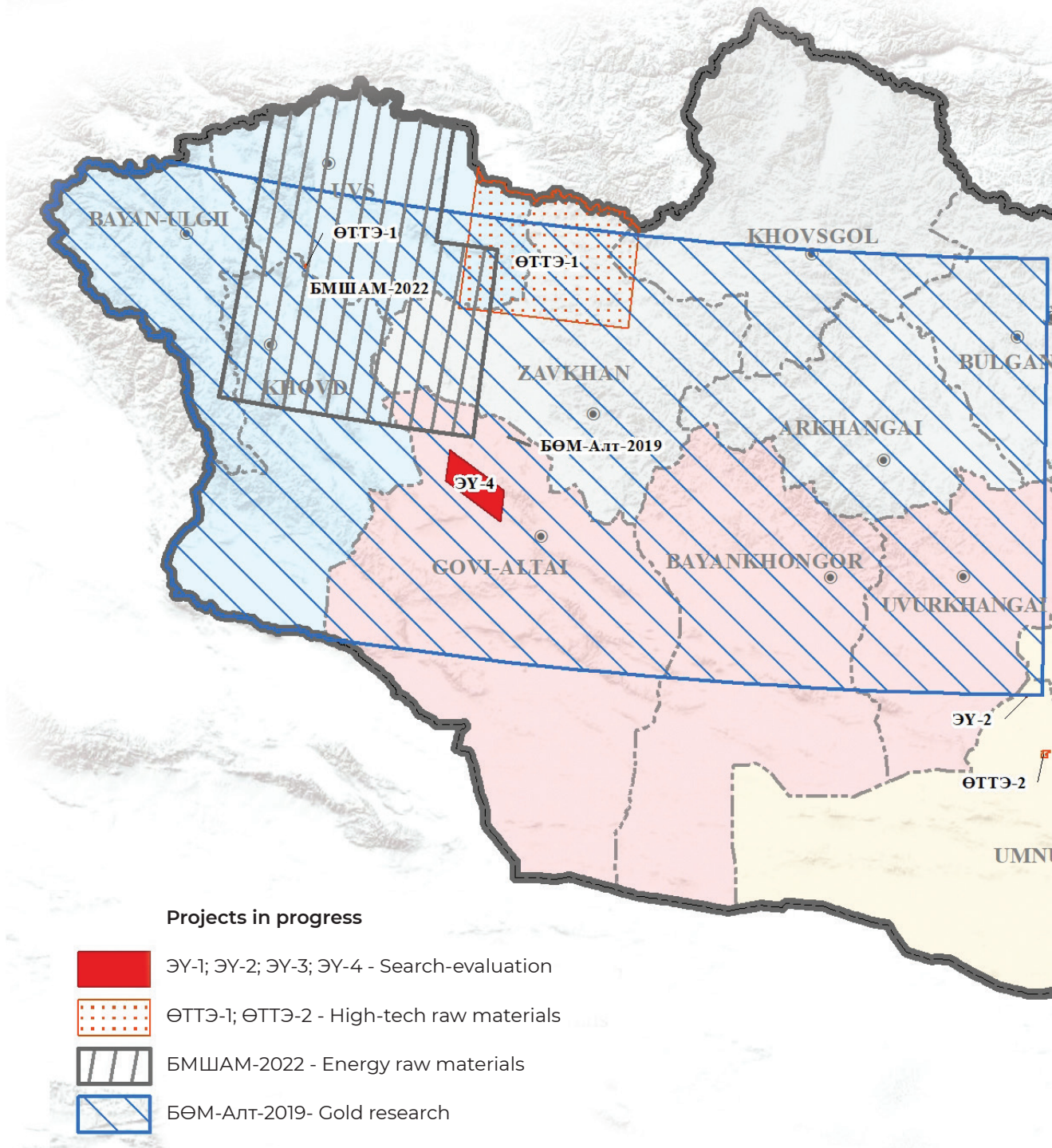


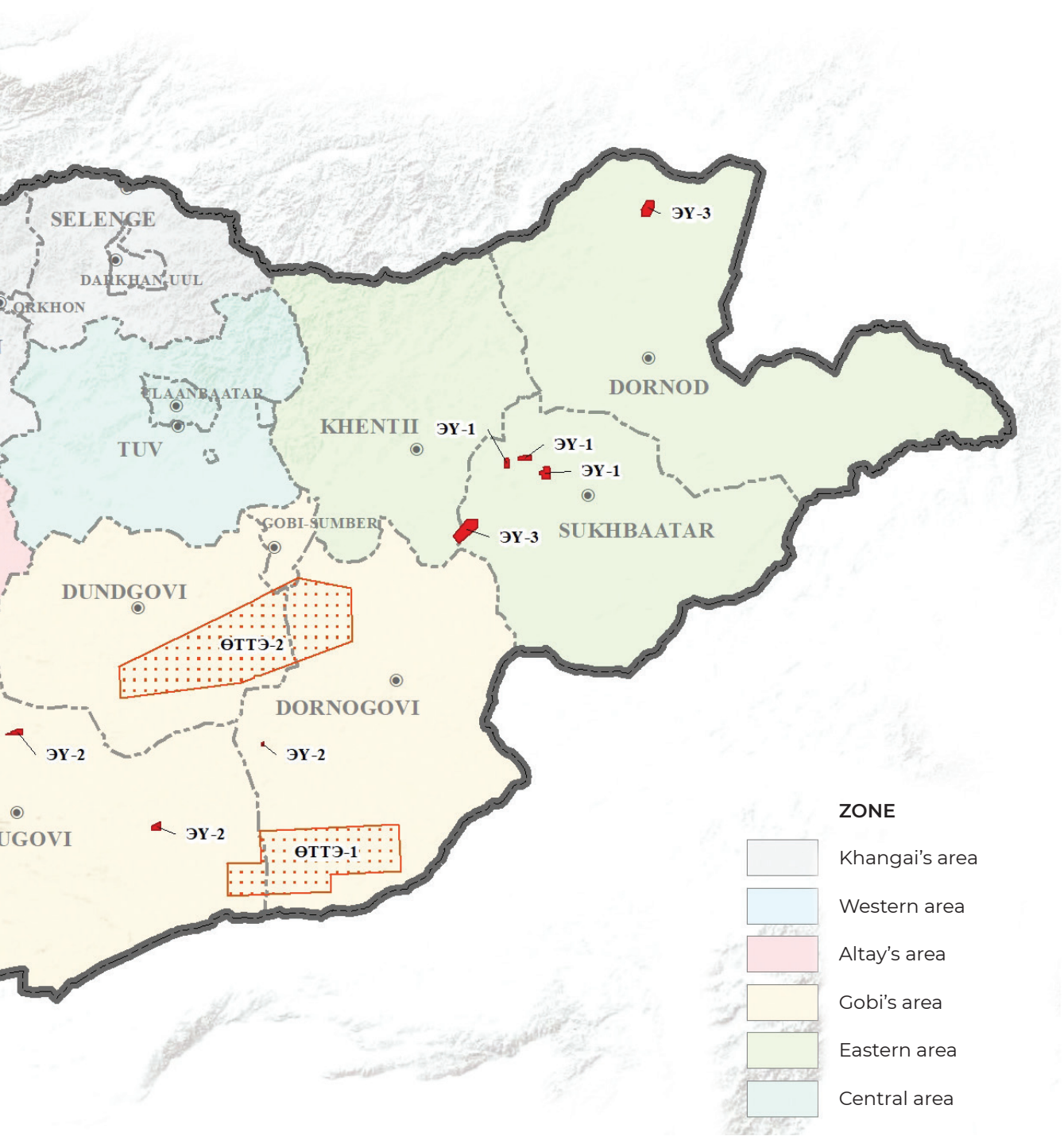
Source: National Geological Survey


State-funded geological survey

According to the basic geological surveys conducted in the eastern part of the country only, about 30 thousand tons of probable Au resources are estimated.

Hence, human and financial capital investments are needed for further studies on the ground.







PETROLEUM AND
UNCONVENTIONAL
COMMODITIES

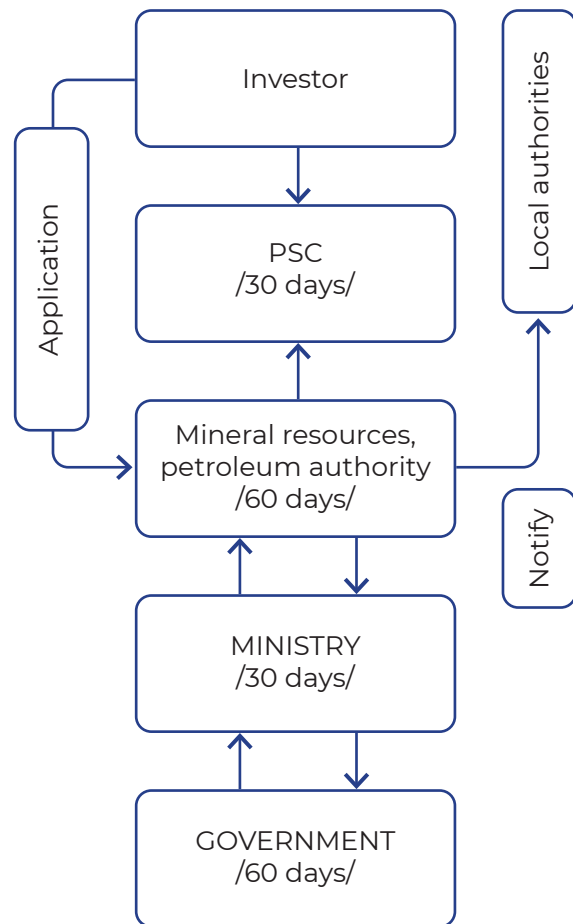
Legal environment of product sharing contract

MMongolian petroleum policy, law, regulation, and standards are clear, transparent, and understandable in compliance with international standards and with the aim of being a sustainable, long-term legal environment in the sector.

The stages of the Production sharing contract (PSC)

- ▶ Application obtained, making the negotiation and selection processes are provided within 60 days by Mineral Resources and Petroleum Authority (MRPAM).
- ▶ The negotiated draft PSC is delivered to the Ministry of Mining and Heavy Industry (MMHI)
- ▶ MMHI monitored and its proposition delivers to the government.
- ▶ The government makes a final decision within 60 days.
- ▶ If the government approves the contract, MRPAM signs the PSC within 30 days and notifies the local government.

Total 180 days.



PRODUCTION SHARING CONTRACT SUMMARY

Licence Terms

- ▶ Exploration Phase: 8 years plus two, 2-year extensions (maximum 12 years)
- ▶ Exploitation Phase: 25 years plus two, 5-year extension (maximum 35 years)

Production Split and Bonuses – negotiated.

Royalty 5% to 15% - negotiated.

Income Tax – exempt.

Oil price based on world market price for similar quality crude.

Cost Recovery of up to 40% after deducting Royalty

- ▶ All costs expensed (no depreciation) and carried forward indefinitely

Acreege Fees

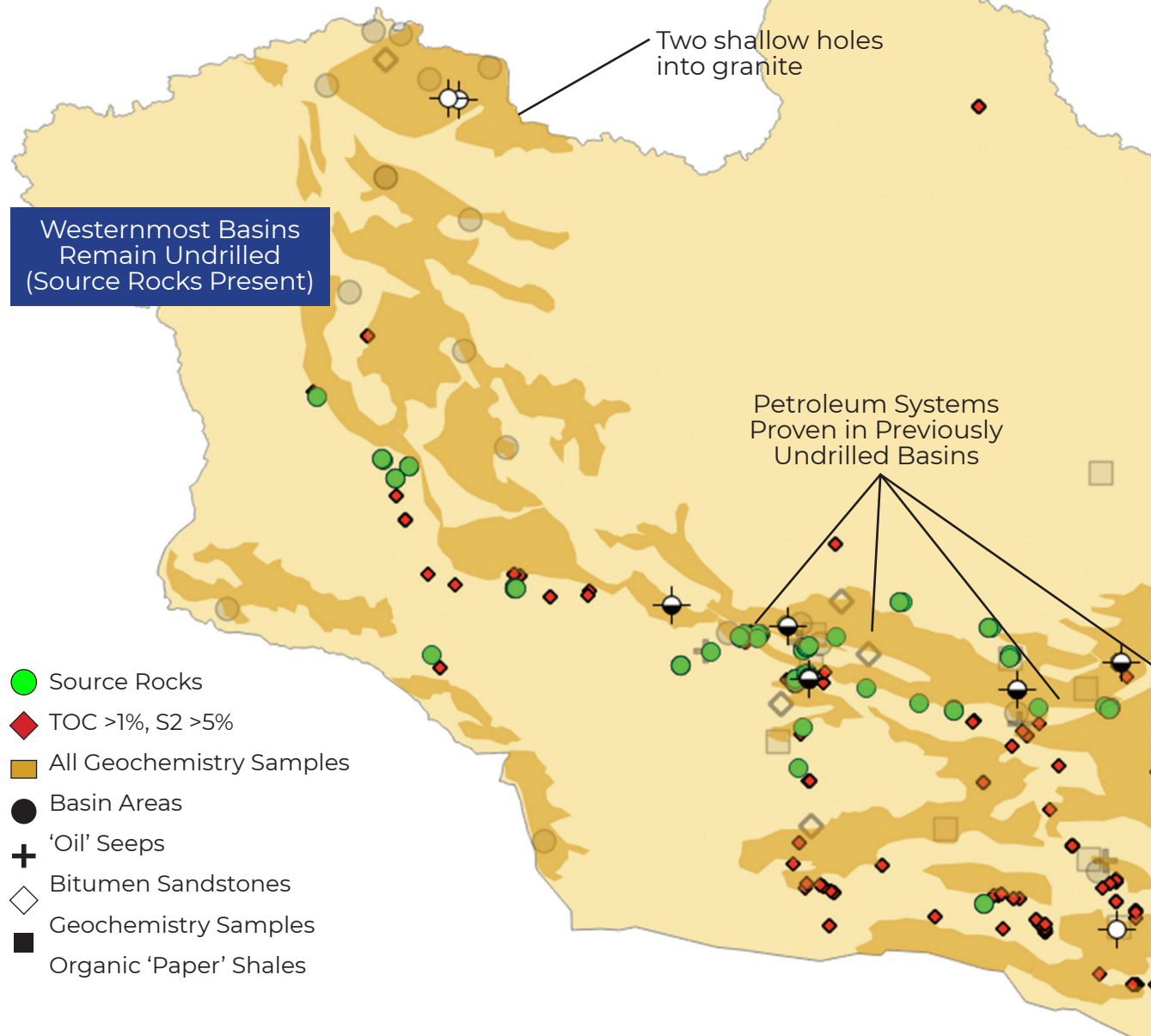
- ▶ Exploration Phase: USD 3/km², USD 8/km² in extension periods
- ▶ Exploitation Phase: USD 100/km², USD 200/km² in extension periods

Mongolian basins adjacent to proven prolific chinese basins

STATUS EXPLORATION PRE-1990

- ▶ Field work, outcrop, and boreholes suggest source rocks occur across the country
- ▶ Focus on the Zuunbayan area with few wells drilled in other eastern basins in the 1950s
- ▶ No or very little activity from the 1960s to 1990
- ▶ Petroleum Potential of Mongolia Report collates data for the first time

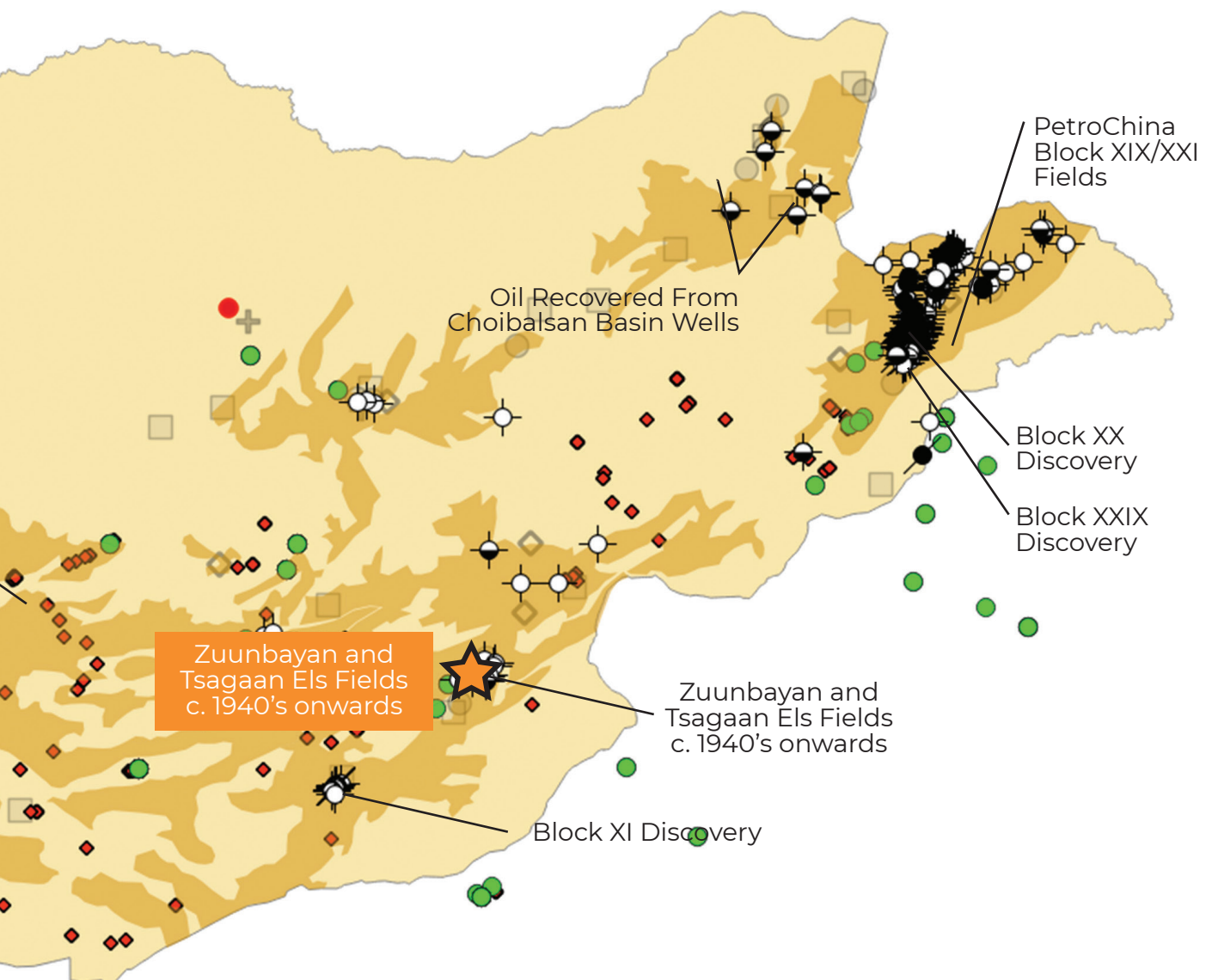
and generates international interest (BP and others do fieldwork) Source Rocks TOC >1%, S₂ >5% All Geochemistry Samples Basin Areas 'Oil' Seeps Bitumen Sandstones Geochemistry Samples Organic 'Paper' Shales Westernmost Basins Remain Undrilled (Source Rocks Present) Petroleum Systems Proven in Previously Undrilled Basin



STATUS EXPLORATION POST-1990

- ▶ Penttila's 1994 paper estimates up to ~ 6 Billion barrels of oil equivalent resources across all basins
- ▶ Soco's discoveries developed by PetroChina reached 22,500 barrels of oil per day by 2016
- ▶ Lots more fieldwork and geochemistry hint at country-wide source rock potential
- ▶ Drilling proves new accumulations and several new active petroleum systems
- ▶ Majority of basins are under-explored, especially for older plays

- ▶ Spectacular outcrops show clastic reservoirs well develop
- ▶ Sands >10m thickness proven oil bearing



Petroleum System Elements in and adjacent to Mongolia

In 2025, Mongolia will put into operation a plant with the capacity to process 1.5 million tons of crude oil per year. The supply of crude oil to the plant is very important.

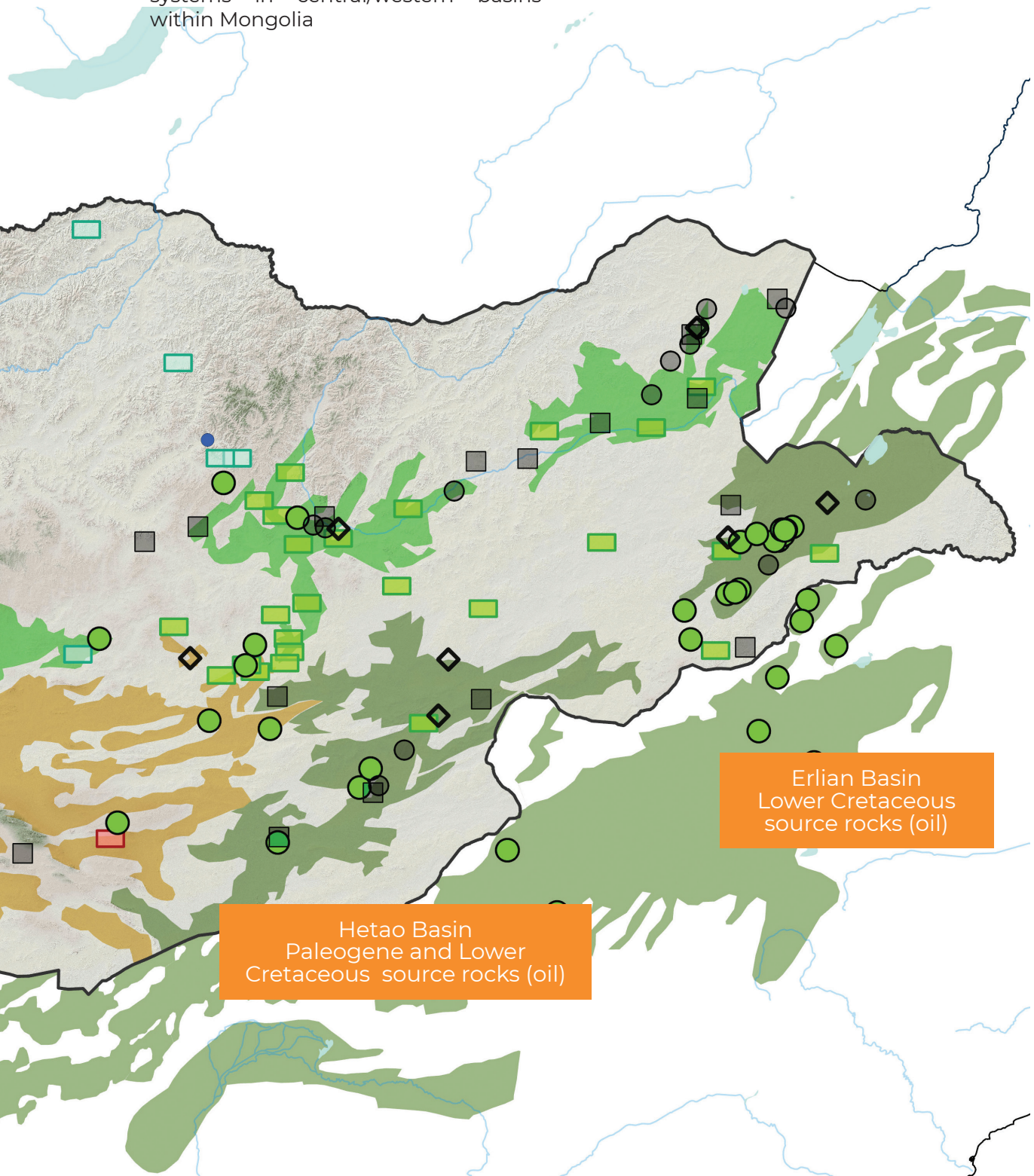
explored Mongolian basins Opportunity for new technologies (seismic imaging/drilling) to unlock potential

Cambrian to Paleogene Petroleum Systems now proven in northern Chinese Basins Similar stratigraphy exists in under



Carboniferous to Paleogene basins play an important role in and adjacent to Mongolia, where:

- ▶ Large stratigraphic range of source rocks are identified from outcrop data
 - ▶ Recent wells promise active petroleum systems in central/western basins within Mongolia
- ▶ Paleozoic coal measures preserved at depth are considered a source of gas.
 - ▶ Deeper/older basin are yet to be penetrated and could hold extensive unconventional mineral resources.



Hetao Basin
Paleogene and Lower
Cretaceous source rocks (oil)

Erlia Basin
Lower Cretaceous
source rocks (oil)

Recent tender blocks

Block X (Tukhum-north)

Block Area: 20,847.6 km²

Basin Area: c. 6,058 km² (3 areas)

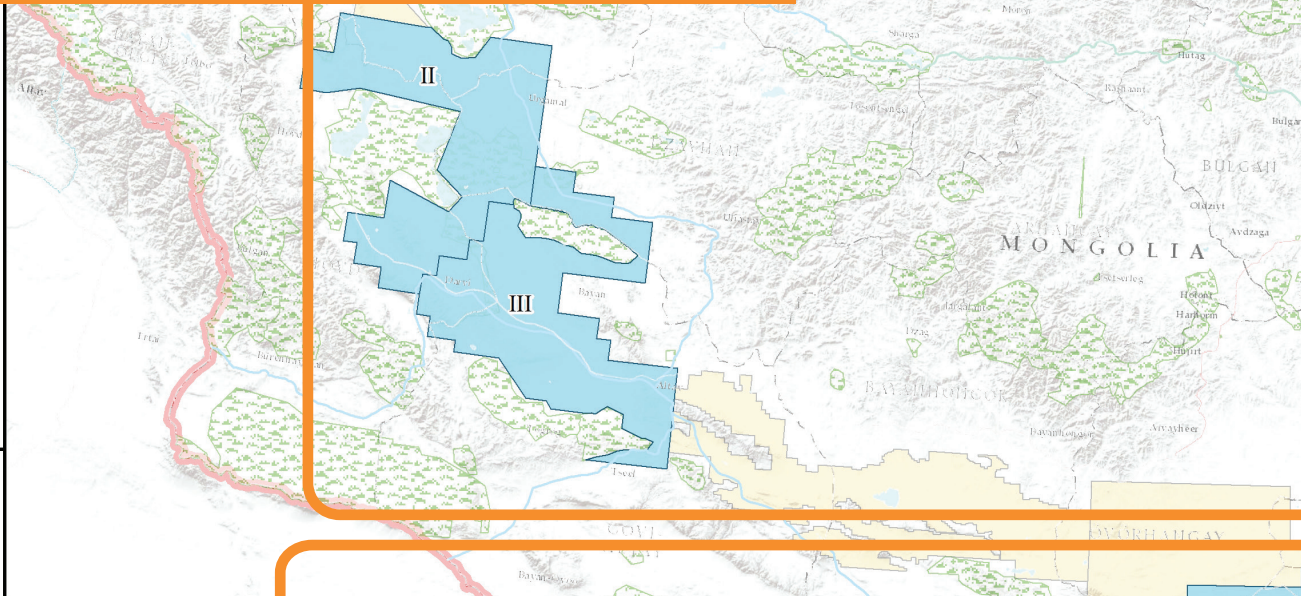
Restricted Areas: 1,276 km² area is overlapped by National Park

Previous Operator: Satellite geological Survey LLC

Award/Relinquished: July 29, 2009 / June 23, 2020

Exploration Activity1: 55242 outcrop samples of geochemical analysis, Gravity survey at 5390 point, 2D seismic survey for 1131km (2010-2011), N10-001 well TD 1982m, and N10-002 well (2011-2013)

Petroleum Systems: Lwr Cretaceous/Upper Jurassic
Triassic
Permian-Carboniferous



Block IX (Nomgon)

Block Area: 29878.0383 km²

Basin Area: c. 13292.39 km² (2 areas)

Previous Operator: Umnud Mongoliin gazar nutgiin tos LLC

Award/Relinquished: Feb 07, 2014 / Sep 05, 2022

Exploration Activity1: -

Petroleum Systems:
Lwr Cretaceous/Upper Jurassic/
Triassic/
Permian-Carboniferous

Block XIII (Tsagaan els)

Block Area: 11,590 km²

Basin Area: Unegt, Tsetserleg, Tavan Har

Previous Operator: Gobi Energy Partners GmbH (2009-2018/

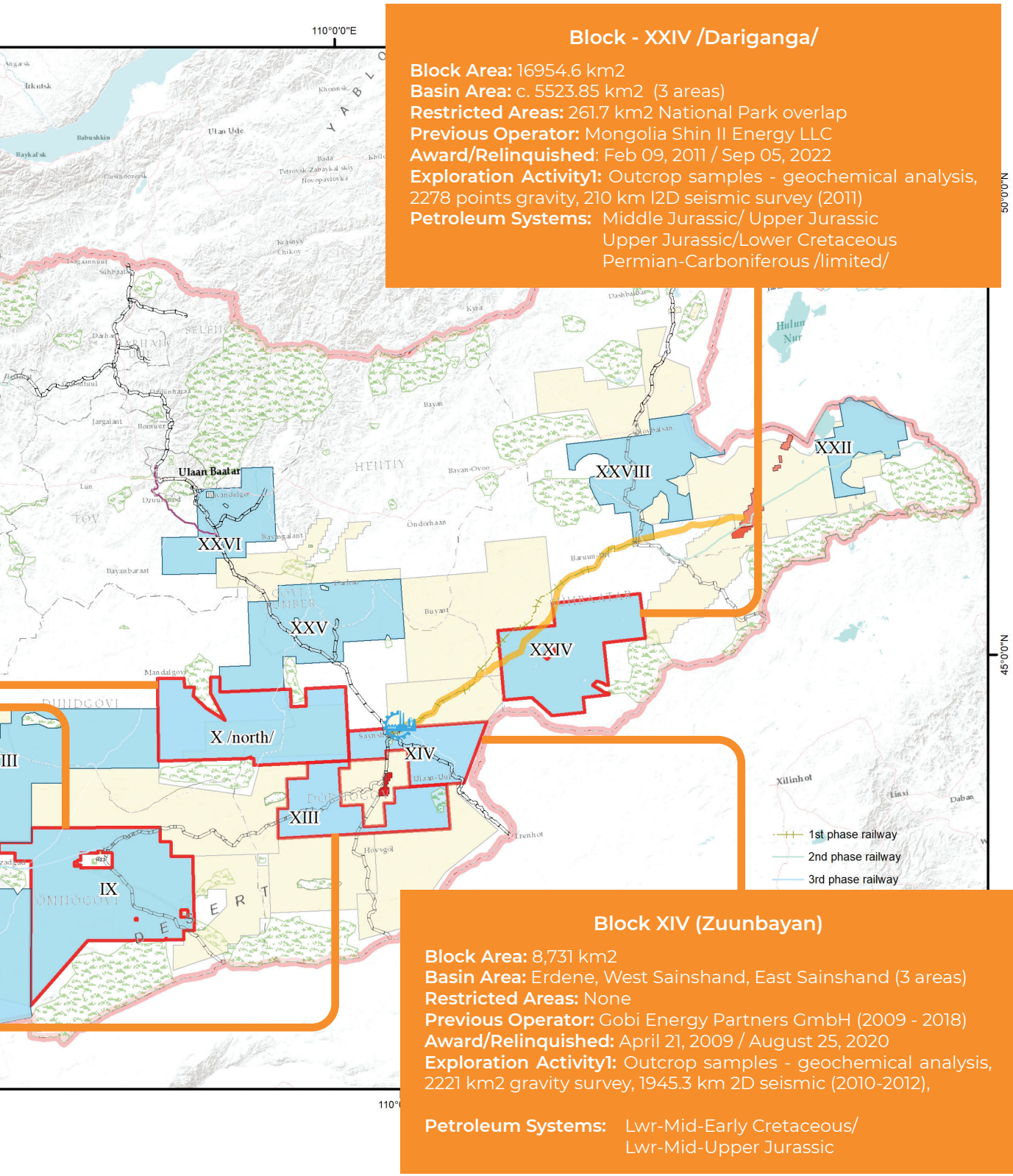
Award/Relinquished: April 21, 2009 / August 25, 2020

Exploration Activity1: Outcrop samples - geochemical analysis
1779 point gravity survey, 790.6 km 2D seismic (2010-2012), Ger chuluu A1 well TD 1097.8 m, Ger chuluu D1 806 m (2012)

Petroleum Systems: Lwr-Mid-Early Cretaceous/
Lwr-Mid-Upper Jurassic



14 Open exploration blocks 9 Valid production-sharing contracts 4 Production blocks 6 Unconventional (Coal bed methane)

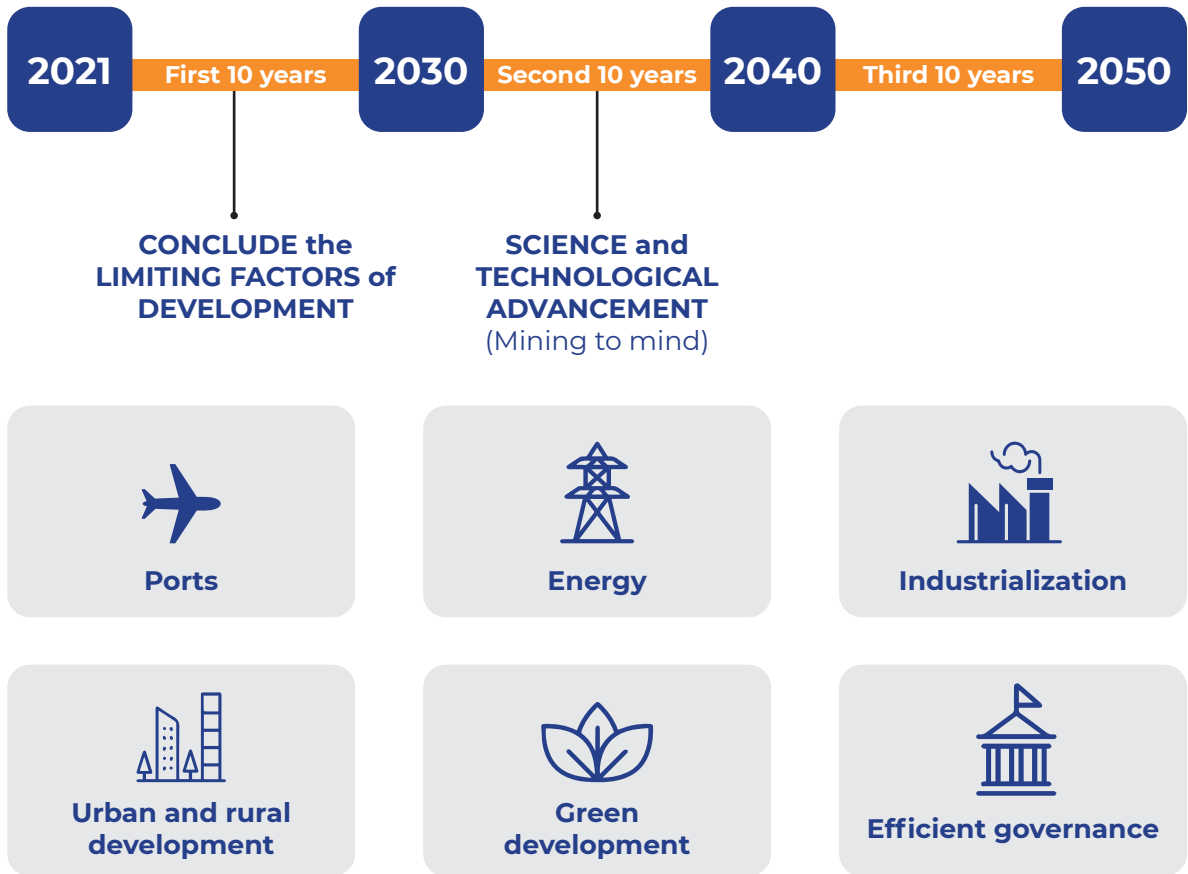


3

LEGAL ENVIRONMENT



New recovery policy



2021	Basis	Goal	2030
In 2021 43.6 trillion ₹	GDP	120-150 trillion ₹	
In 2021 4,657 USD	GDP per capita	12,054 USD	
In 2021 28.4%	Poverty level	15%	

Recent reforms in the Mineral Resources Law



No overlapping laws, gaps, or conflicts; sustainable legal environment.



Enables granting exploration licenses based on applications (not only on competitive selection).



Progressive royalty is levied on the income exceeding the income levied on the primary amount.



Increased income from local mining operations to support local development.



Reduced number of local permissions.



Amended tax laws and the abolition of taxes imposed on the transfer of exploration and mining licenses.

To remediate the below, the Ministry of Mining and Heavy Industry has been working on the new drafting of the relevant laws to fulfill the above.



CONFLICTS, GAPS, AND OVERLAPPINGS IN THE LAW OF THE MINERAL SECTOR

By the order of the Ministry of Justice and Home Affairs of Mongolia A/67 from 2017, 10 laws of mineral sectors have been reviewed and the following issues have been identified.

Regulations

The Minerals sector's legal environment is constantly improving, and the major laws related to doing business in the sector are as follows.

MINERALS LAW /2006/

- ▶ regulate prospecting, exploration and mining of minerals within the territory of Mongolia.

COMMON MINERALS LAW /2010/

- ▶ regulate relations with respect to exploration and mining of common minerals (widely spread construction rocks such as sand, gravel, brick clay, trap, pebble that are usable for road and building materials) and obtaining license, license holders' liabilities, and protection, rehabilitation of exploration field and mining area in use in the territory of Mongolia

WATER LAW /2012/

- ▶ govern relations concerning the protection and rational use and restoration of water resource and its basin

NUCLEAR ENERGY LAW /2009/

- ▶ regulate relations connected to exploitation of radioactive minerals and nuclear energy on the territory of Mongolia for peaceful purposes, ensuring nuclear and radioactivity safety, protecting population, society and environment from negative impacts of ionized radioactivity

PETROLEUM LAW /2014/

- ▶ regulate matters pertaining to petroleum and unconventional petroleum prospecting, exploration, and exploitation within the territory of Mongolia. **Petroleum Production Law /2005/ Land Law**

ENVIRONMENT IMPACT ASSESSMENT LAW /2012/

- ▶ regulate relations that arise in connection with the protection of the environment, prevention of the ecological misbalance, the use of natural resources, assessment of the environmental impact and decision-making on the start of a project Law on the fees for natural resources /2012/

COMPANY LAW /2011/

- ▶ regulate relations concerning the establishment, registration and reorganization of a company, its management and organizational structure, supervisory structure, the rights and obligations of its shareholders, and its liquidation

GENERAL LAW ON TAXATION /2008/

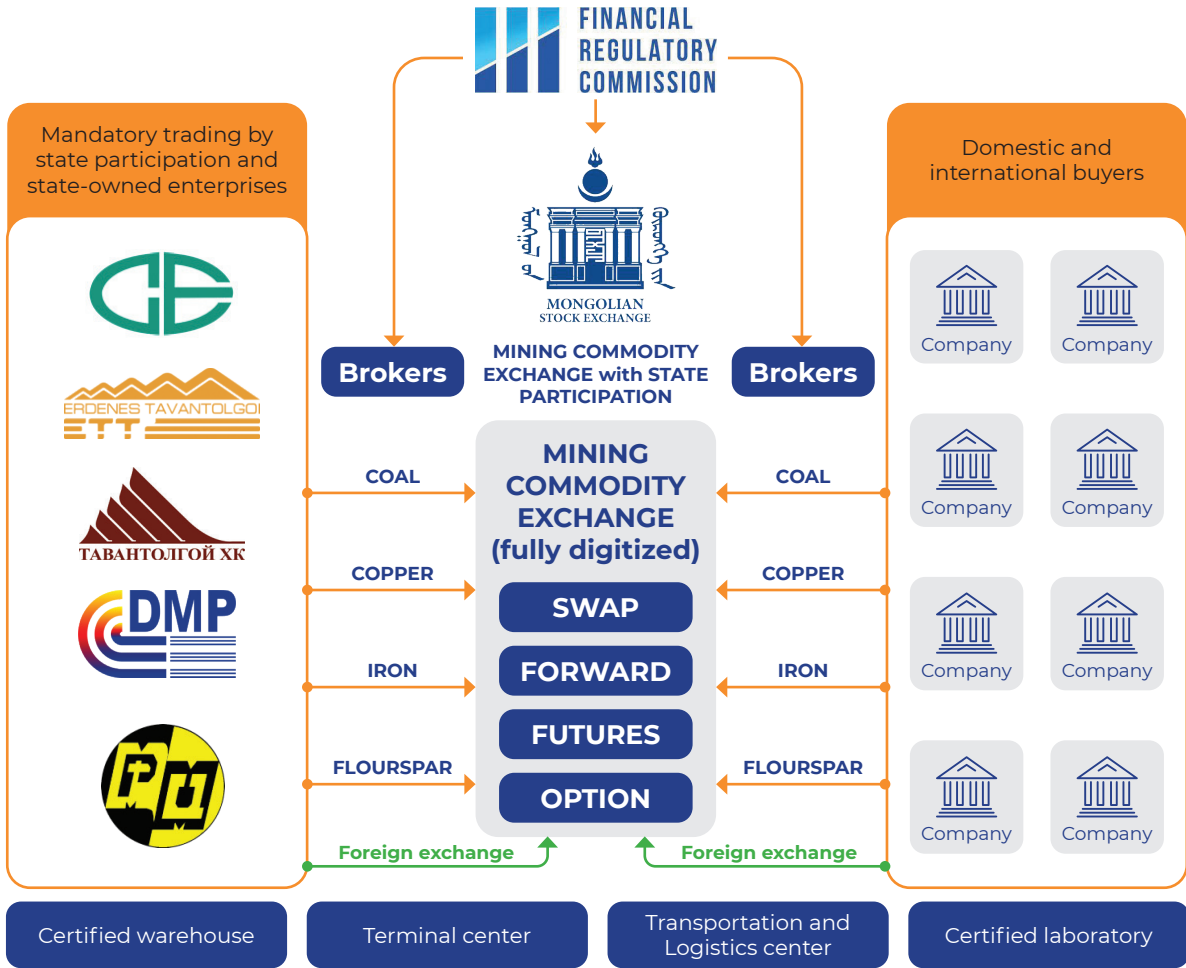
- ▶ define the tax system of Mongolia, general principles of taxes, fees, payment, also rights, obligations and responsibilities of taxpayers, legislative grounds of State Tax Administration and tax inspectors, to regulate relations arising from their implementation.

CUSTOMS LAWS /2008/

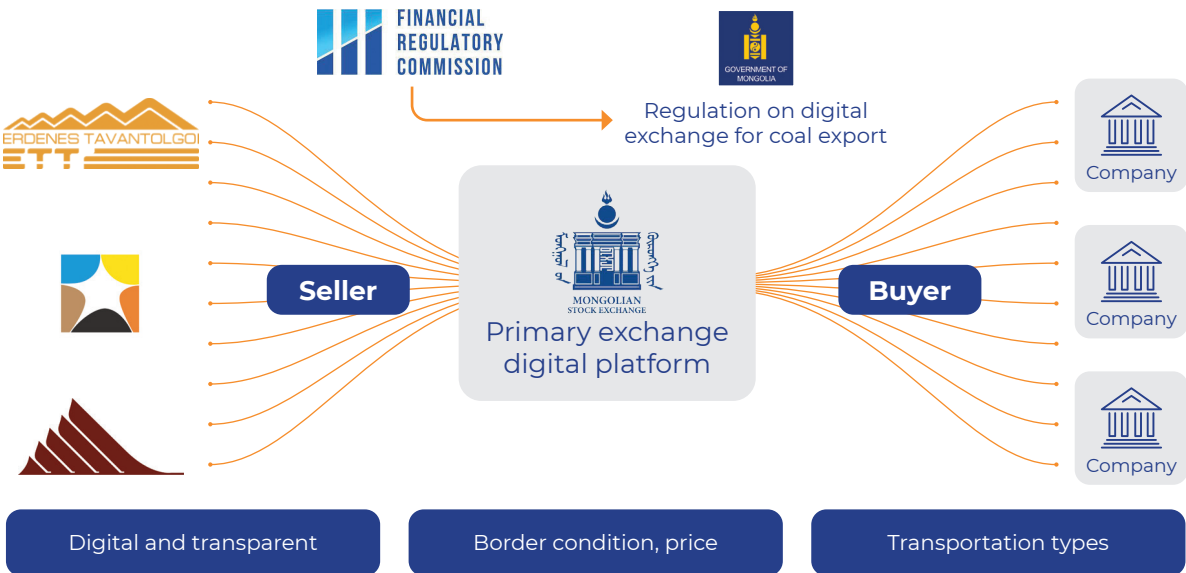
- ▶ regulate matters regarding regulations on Customs clearance and control over goods and means of transport crossing the national Customs frontier of Mongolia, as well as defining Customs procedures and their requirements, regulations on the settlement of complaints and appeals of the Customs decisions, Customs organizational structure, rights, and obligations of the Customs officers and liabilities against Customs offenses

Source: Legalinfo.mn

LAW ON MINING COMMODITY EXCHANGE
/effective from 2023/07/01/

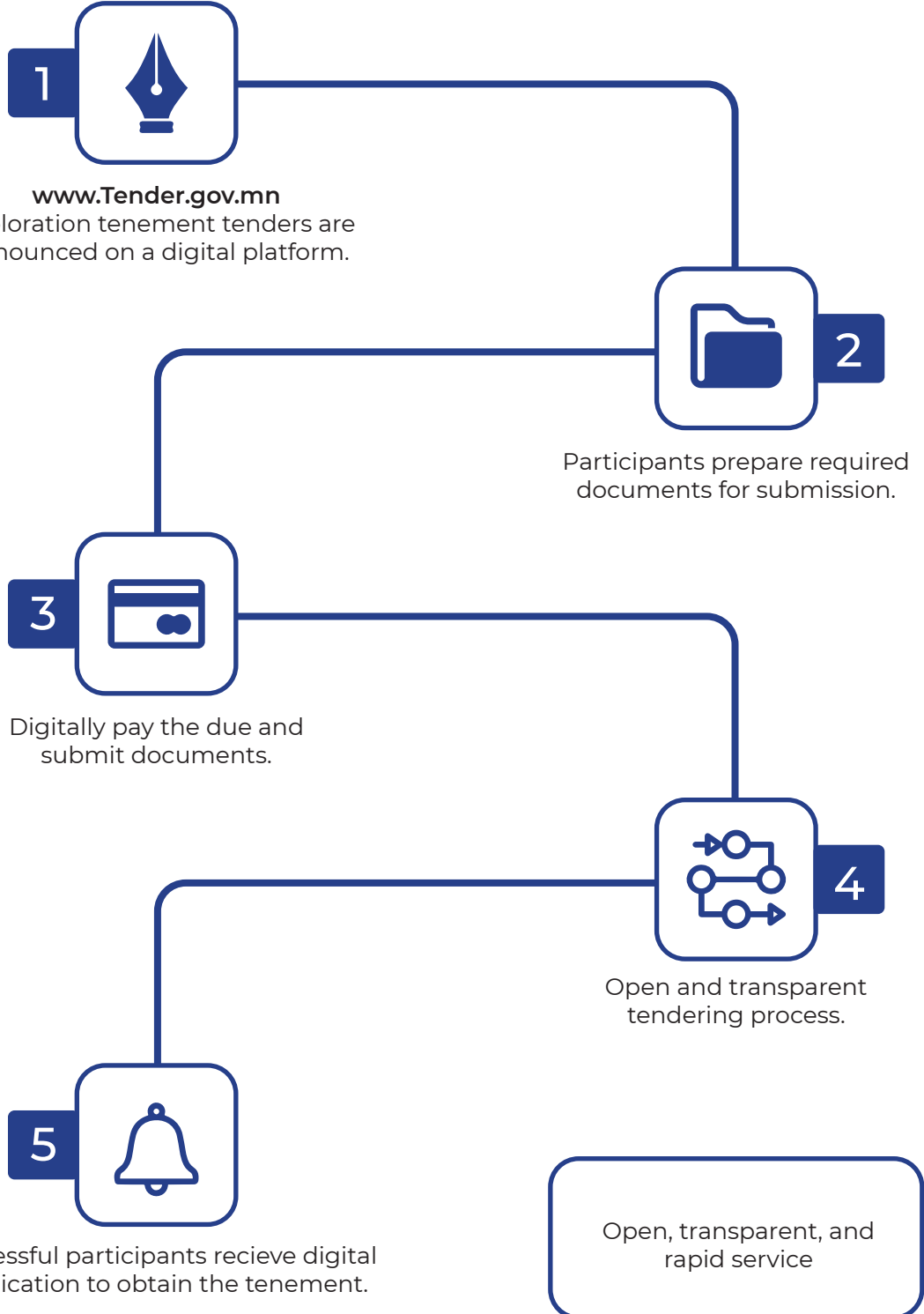


GOVERNMENT RESOLUTION #362
DIGITAL PLATFORM FOR COAL EXCHANGE



Applying for a minerals permit

TENDER PROCESS



2023: ~ 6 million hectares of land will be offered for exploration rights.

COMPANY TAXATION

Mongolia is continuously improving the tax environment through the government's commitment to abolishing the burdens of tax.

Mongolia reforms its key tax legislation

Mongolia engaged in an extensive tax reform discussion over the past months. As a consequence, key tax laws including General Law on Taxation, Corporate Income Tax Law, Personal Income Tax Law, and VAT Law revised substantially by Mongolian Parliament (the legislative body), under Government's tax reform packages. The package of amendments to the laws on taxation effective from January 2020. The approved package of tax amendments includes the following changes:

1. General Law on Taxation:

- ▶ The tax payment deadline for companies experiencing financial difficulties extended from 2 months to 24 months.
- ▶ Taxes overpaid due to unfounded requests by tax authorities will be refunded immediately, along with the principal payment and any fines paid.
- ▶ Taxpayers who have been determined to be "no risk" taxpayers, will not be audited.
- ▶ An electronic tax registration and tax information portal with taxpayer information will be created, and services provided by tax authorities will be based on the electronic system.

2. Corporate Income Tax

- ▶ The license transfer tax was decreased from 30% to 10% and will now be applied to net income instead of gross income.
- ▶ The interest income of Mongolia's commercial banks for loans and debt instruments obtained from local and foreign stock markets will be taxed at 5%.
- ▶ The tax of 10% on the financing obtained through debt instruments from initial and secondary markets has been lowered to 5%.

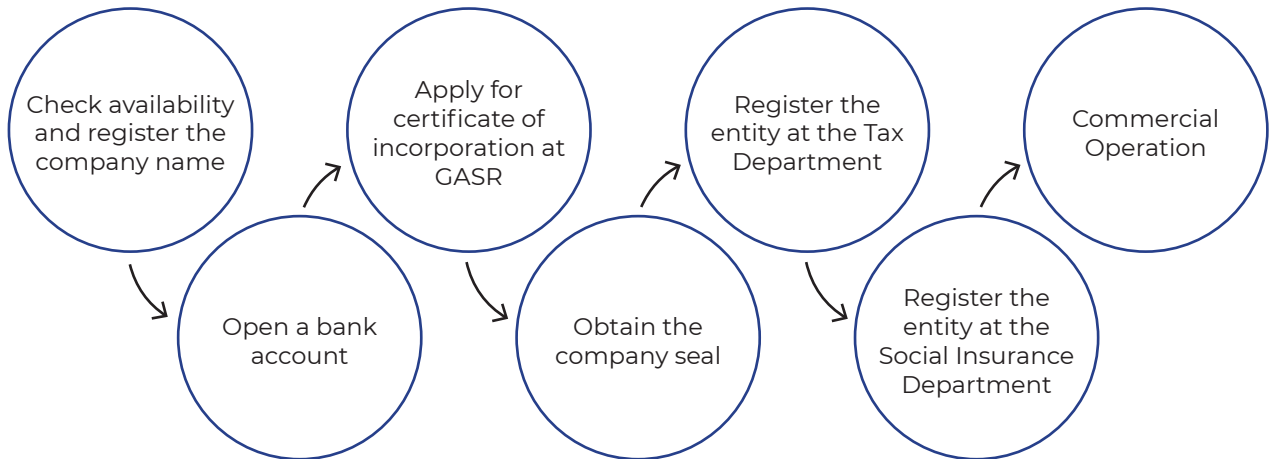
- ▶ The statute of limitations for tax audits, as well as penalties, fines, and tax payments assessed as a result of such audits, was lowered from 5 years to 4 years.
- ▶ The interest income from loans and debt instruments of Mongolia's commercial banks from local and foreign sources will be taxed at 5%.
- ▶ International regulations aligning transfer pricing rules with OECD standards (including reporting requirements) will be implemented.

3. Personal Income Tax

- ▶ A flat 10% personal income tax will be applied
- ▶ Resident tax was lowered from 20% to 15%, with interest at 10%
- ▶ The tax return for first-time homeowners was raised from 3 million MNT to 6 million MNT.
- ▶ A tax credit will be given for the difference between account interest for mortgage loans and subsidized loans.

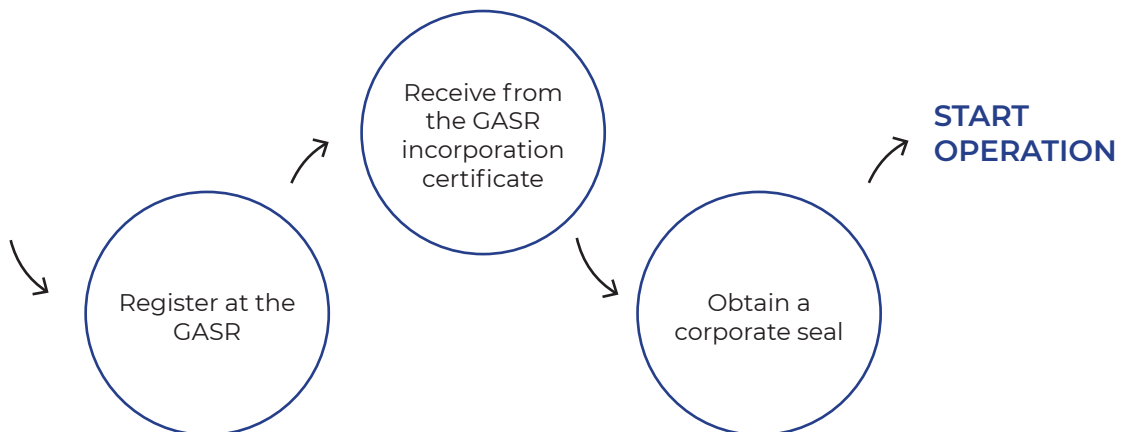
ESTABLISHMENT PROCEDURE OF A REPRESENTATIVE OFFICE OF A FOREIGN LEGAL ENTITY

The incorporation of a new business entity with foreign investment (BEFI) in Mongolia takes place at the General Authority for State Registration of Mongolia /GASR/.



ESTABLISHMENT PROCEDURE OF A REPRESENTATIVE OFFICE OF A FOREIGN LEGAL ENTITY

The establishment of a new representative office of a foreign legal entity in Mongolia register at the General Authority for State Registration of Mongolia /GASR/.



Refer to [investment-guide-2020.pdf](#) (investmongolia.gov.mn) for further details.



Source: Boroo deposit, Ikh Dashir Valley.
Pit 6 Rehabilitation, 2008 and 2009



INTRO TO ACTIVE MINING PROJECTS





ERDENET MINING CORPORATION

STATE-OWNED ENTERPRISE



VISION

World standard,
Pride of Mongolia



MISSION

We ensure sustainable development,
responsible mining and create national wealth

VALUES



Safety,
health

We will ensure
the safety and
health of each
employee



Ethics,
responsibility

We will respect
each other, work
honestly,
responsibly and
ethically



Environment

We will maintain
ecological balance
and support green
development



Collective
strength

We will make joint
decisions, work
efficiently in a timely
manner with the
participation of each
employee



Innovation

We will develop
initiatives and
create value in
innovative ways

POLICY OF SUSTAINABLE DEVELOPMENT

1. Technological policy
2. Technical policy
3. Economic and finance-accounting policy
4. Social and human development policy
5. Environmental policy

HISTORY IN BRIEF

Erdenet Mining Corporation SOE is located in the city of Erdenet, Orkhon province, in the central part of Mongolia situated in Asia. The copper-molybdenum reserve "Erdenetiin ovoo" is located 340 km to the north-west of Ulaanbaatar; 180 km to the west of Darkhan city; 60 km to the north-east from the center of Bulgan province; and 140 km from the border of the Russian Federation.

As a result of the implementation of the above projects and programs provided in the guidelines of development:



1,000 new jobs will
emerge



Ore processing capacity
will increase up to 40
million tons by 2024



Ore extraction cost up to
20 percent and ore processing cost up
to 10 percent will be reduced



End products with value
added cost will be
produced



Revenue from sales will be reached 5
trillion tugriks in 2024 and
11.4 trillion tugriks in 2026



The level of profitability and competitiveness
of EMC will be increased and
conditions for long-term stable
operation in the long run will be stipulated

ERDENET MINING CORPORATION

STATE-OWNED ENTERPRISE

PRODUCTION AND OPERATIONS

Erdenet Mining Corporation SOE (EMC) is engaged in the extraction and processing of ore, produces copper and molybdenum concentrates, and trade them under sales contracts to large international companies and corporations such as Samsung Corporation, Ocean Partners, Red Metal, Milliford, etc. EMC is one of the ten largest enterprises in Asia for the extraction and processing of copper-molybdenum ore which processes an average of 32.5 million tons of ore per year and produces more than 580 thousand tons of copper and 6.0 thousand tons of molybdenum concentrate.

EMC has four main workshops: Open-pit mine, Mineral Processing Plant, Auto transportation Facility, Repair and Mechanical Workshop, as well as other auxiliary production workshops and units. EMC also comprises 10 units that deal with social issues, including health, education, culture, sports and recreation serving its employees.

SOCIAL RESPONSIBILITY

EMC implements policies and programs aimed at ensuring social protection of its employees through social units and for these purposes it spends an average of 6-7 percent of its total costs annually. EMC provides more than 20 varieties of assistance and support to current and retired employees, as well as disabled employees who receive benefits for occupational diseases. Within the framework of social responsibility, EMC annually concludes cooperation agreements with Orkhon and Bulgan provinces and supports the policy of ensuring sustainable social-economic development of the region.

“Uurkhaichin” Program

The most important project carried out within the framework of social responsibility is the construction of a complex residential micro-districts together with a complex infrastructures for 1,300 households which include residential housing areas “Uurkhaichin -1” and “Uurkhaichin -2”, and a cottage residential area “Uurkhaichin-3”.

Uurkhaichin-1 residential micro-district, the foundation of which was laid on the slope of Mountain Bayan-Undur in 2019, was commissioned in 2021 and 300 households of employees at EMC were provided with apartments on preferential terms with a modern design solution.

Located in the fresh air, far from the city noise, the Miner-1 microdistrict consists of 6 residential buildings of 10 floors with 50 apartments in each, with a garage provided in the basement, and a shopping center on the first floor.

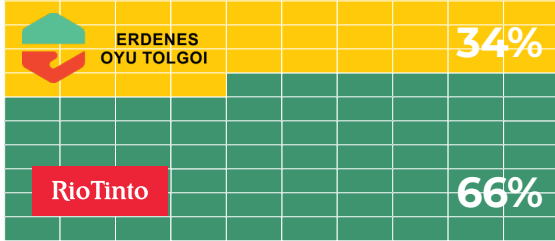
Currently, construction and infrastructure are underway for the Uurkhaichin-2 and Uurkhaichin-3 residential areas, which will be commissioned in 2022.



OYU TOLGOI, MONGOLIA'S MEGAPROJECT REASONS TO BELIEVE



OWNERSHIP



Erdenes Oyu Tolgoi LLC (EOT), established in 2011, owns 34% of the Oyu Tolgoi, copper and gold project on behalf of the Government of Mongolia.



RioTinto

A global operator for nearly 150 years

49,000 employees, 35 countries, producing iron ore, copper, aluminum, industrial minerals and diamonds – serving over 2,000 customers worldwide



Rio Tinto brings to OT global experience and expertise, access to financial markets, funding and investment, and world-class training and skills development

Despite the unprecedented challenges posed by the Covid-19 pandemic, the OT open pit and underground mine development has continued uninterrupted and is on course to reach sustainable production in the first quarter of 2023. The Mongolian people and the management team at EOT are excited to see OT reach its full potential.

COMMUNITY



22% employees from local Umnugobi communities

OT has spent \$1.15b procuring from companies in the local community since 2010



US\$6.1m invested in local community projects in 2022

US\$5m every year to the Gobi Oyu Development Support Fund for Umnugobi community project



Since 2010, over 3,700 students have enrolled in our educational programmes

ECONOMIC IMPACT

OT is Mongolia's 2nd largest enterprise, 2nd largest taxpayer and one of the largest exporter



OT is currently the single largest source of Foreign Direct Investment (FDI) in Mongolia

Supported by over 567 Mongolian companies



Taxes and royalties paid making up 10 in every 100 Tugriks of Mongolia's government budget

US\$4.9bn spent with Mongolian companies (since 2010)





OYU TOLGOI, MONGOLIA'S MEGAPROJECT REASONS TO BELIEVE

PEOPLE



Mongolia's largest private sector employer
20,000 employees



over 800,000 people/
hours of training per year

18%

employees are women – among the highest in the global mining industry

22%

employees from local Umnugobi communities

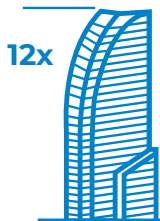
97%

Mongolians – unprecedented in emerging market mine development, a credit to Mongolia

PRODUCT



OT copper will contribute to comfortable, connected communities, clean energy solutions, AI, electric vehicles and more for generations to come



1.3 KM

OT's best ore lies underground – 1,300m underground, the height of 12 Blue Sky towers



Open pit has already produced enough copper to stretch electrical wire around the world over 1 million times



SAFETY

RT operates OT to the highest international safety and environmental standards

OT stands out on safety – outperforming Rio Tinto and industry benchmarks consistently

PROCESSES



A considerable world first development of a large-scale block cave mine from scratch



Designed with the world's most sophisticated underground monitoring system



OT is a highly water efficient mine operating well below global averages



We are exceeding water usage targets with around 90% of all water recycled

FUTURE



A game-changer for Mongolia and its partners



OT stands to be a precedent for stable future Foreign Direct Investment (FDI) inflows to Mongolia



Putting Mongolia firmly on the global stage as a top copper producing nation



Potential to produce high grade copper for 100 years from five known deposits

SIZABLE COKING COAL RESOURCES AND RESERVES BASE

Mongolian Mining Corporation (“MMC” or the “Company”; SEHK Stock Code: 975) is a high-quality coking coal producer and exporter in Mongolia. The Company owns and operates two open-pit coking coal mines - Ukhaa Khudag and Baruun Naran, both located in Umnugobi aimag of Mongolia.

MMC is majority owned by MCS Group, the largest holding group in Mongolia, and is currently one of the largest and most advanced private mining companies in the country.

MMC’s operations have grown rapidly from a green-field project in 2009 to a world-standard mining complex to date. With its premium quality coal

products, international standard project development and effective management practices, the Company has already secured its position as the largest producer and exporter of washed coal in Mongolia.

In 2010, after only one year of fast-paced operations, the Company was successfully listed on the main board of Hong Kong Stock Exchange, making it the first Mongolian company to offer its shares internationally.

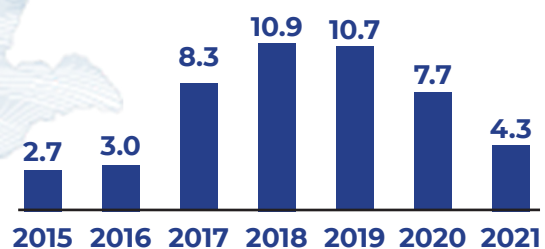
With integrated coal mining operations combined with leading edge technologies, MMC was able to reach the quickest ramp-up of mining operations in the country based on the best international practices.

COAL RESOURCES AND RESERVES (Mt)

JORC (2012) Statement	UHG	BN	THG	Pro-Forma Total
Total resources ²	572	415	89	1,076
- Above 300m	371	303	64	738
- Below 300m	201	112	25	338
Total ROM coal reserves ³	371	280	-	651
- Coking	351	269	-	620
- Thermal	20	11	-	31
Total marketable reserves ³	230	165	-	395
- Coking	162	124	-	286
- Middling	48	30	-	78
- Thermal	20	11	-	31



ROM COAL PRODUCTION (Mt)



Developing the Khundii Minerals District in Southwest Mongolia

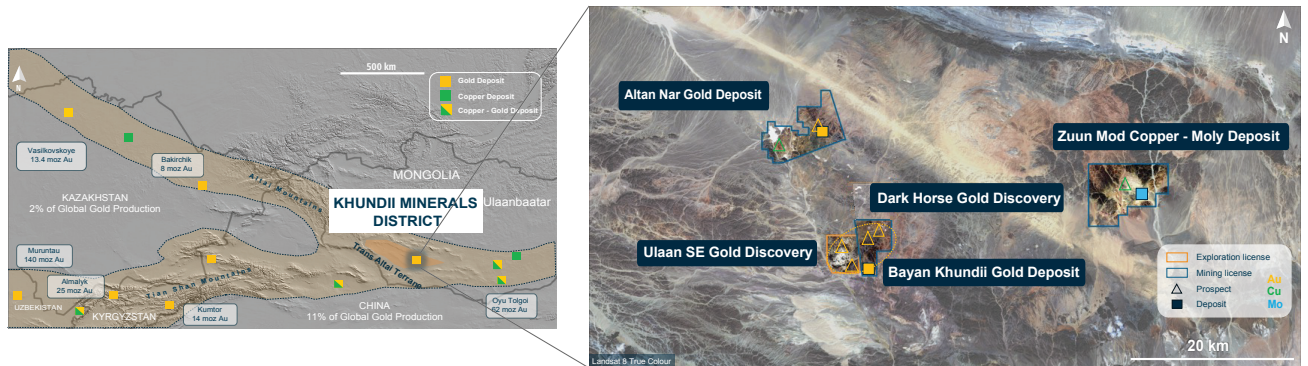
Erdene Resource Development Corporation (TSX: ERD | OTC: ERDCF | MSE: ERDN) is focused on the acquisition, exploration, and development of large, high-grade, near surface, precious and base metals deposits in southwest Mongolia.



Erdene has interests in three mining licenses and an exploration license in southwest Mongolia, where exploration success has led to the definition of the Khundii Minerals District. The Company is advancing its high-grade, open-pit Bayan Khundii gold project to production, while expanding resources in the Khundii Minerals District.

<p>First mover in unexplored portion of a prolific world-class gold belt</p>	<p>Discovered multiple high-grade, near-surface gold deposits and prospects with district scale potential</p>	<p>Shovel ready high-grade open-pit Bayan Khundii Gold Project</p>	<p>Strategic Alliance with Mongolian Mining Corporation, Mongolia's leading private miner</p>	<p>100% interest in the Zuun Mod Molybdenum- Copper deposit, one of Asia's largest undeveloped Cu-Mo resources</p>	<p>Stable shareholders base and support of leading institutions, including Eric Sprott and the EBRD</p>
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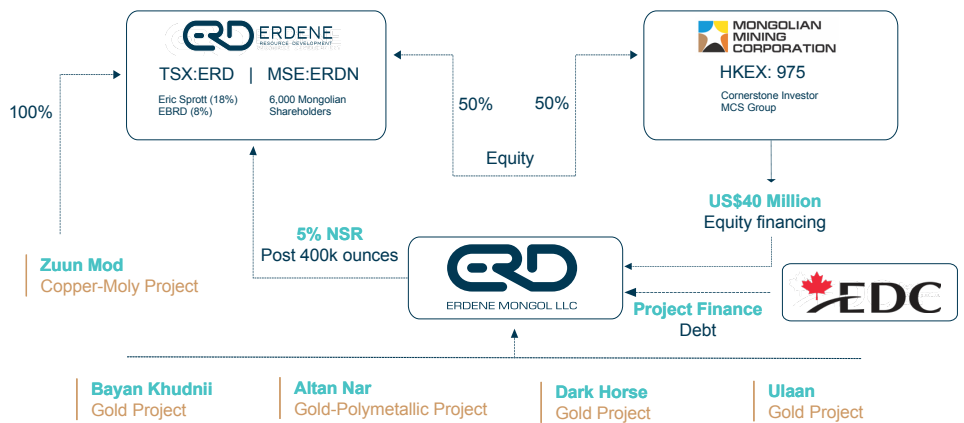
First Mover in an Unexplored Portion of a Prolific Gold-Copper Belt



Strategic Alliance with Mongolian Mining Corporation

Combining Mongolia's pre-eminent metals explorer with an exceptional national mining partner

Erdene entered a Strategic Alliance with Mongolian Mining Corporation for the development of its Bayan Khundii Gold Project in January 2023. MMC is Mongolia's largest publicly traded miner, listed on the main board of the Hong Kong Stock Exchange (HKEx:975), and is part of the MCS Group, one of the Country's leading conglomerates.





KHAN ALTAI GOLD MINE

BASED ON THE BIGGEST GOLD DEPOSIT IN MONGOLIA

Project summary

Primary gold project based on **the biggest gold deposit**, located in Mongolia in Gobi-Altai province

MV-021537 mining license is valid until **2050** which covers **6,793-hectare** area

The estimated resource of **98.58 million ton of gold ore** that contains **86.73 t of gold** as of December 2021.

2 phased development approach:

Phase I – **3 Mtpa** oxide gold ore processing operation

Phase II – **5 Mtpa** primary gold ore processing operation

Phase I economics:
Total CAPEX \$77 million, **NPV \$117 million**, Sales revenue \$749 million, EBIDTA \$364 million

Location

1,000 km

from Ulaanbaatar city

100 km

from Altai city

The mine locates in Yesonbulag, Gobi-Altai province in western Mongolia, 100 km southeast from Altai city.





MONGOLIA'S PREMIER PRECIOUS METALS COMPANY

TSX: **STGO** | OTCQX: **STPGF**

www.steppegold.com

Altan Tsagaan Ovoo (ATO) Gold Mine

Fully permitted and commenced
gold production in 2020

Phase 1:
Steady & growing
production from oxide
heap leach operation

Phase 2:
Under development;
Targeting **100k oz**
of gold per annum;
+12.5-mine life

Aggressive exploration
& acquisition programs
are planned



Scholarships
+1,600 for Mongolian
students, 100% Local
procurement

Recycling 98% of
water waste;
Achieves 92.9
implementation score
on Environmental
Management Plan

Uudam Khundii (UK)
exploration project in
highly perspective
area

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Tel: +976 7732 1914

Toronto Office:

90 Adelaide Street. W, Suite 400
Toronto, ON M5H 3V9, Canada
Tel: +1 647 697 0577

Kharmagtai Copper-Gold Project



The Kharmagtai mineral complex is located in Omnogovi Province, approximately 420km southeast of Ulaanbaatar. It is located within the South Gobi porphyry copper province hosting well known deposits such as Oyu Tolgoi copper-gold operations (120km south), the Tsagaan Suvarga porphyry copper-molybdenum development (170km east) and Xanadu's Oyut Ulaan porphyry copper-gold exploration project (260km northeast).

The Kharmagtai project includes a 1.1 billion tonne Mineral Resource and a Scoping Study confirming strong project economics with a 4-year payback and 20% IRR. A Pre-Feasibility Study will commence in 2024 along with continued discovery exploration, funded by US\$35M from a strategic partnership with Zijin Mining. The PFS will deliver a maiden Ore Reserve, uplifted economics, and a financial investment decision (FID). Initial production of copper-gold concentrate is expected late 2027, at which point Kharmagtai will be a globally significant, low-cost Mongolian producer of copper and gold.

Company profile

Ownership:

Kharmagtai is owned by **Mongol Metals LLC** (90%) and **QGX Ltd** (10%). Mongol Metals is majority owned by **Xanadu Mines Ltd** (85%) and **Ganbayar Lkhagvasuren** (15%). Since 2013, Xanadu Mines has operated exploration programs at Kharmagtai.

Mineral Resource:

1.1Bt containing **3Mt Cu** & **8Moz Au**, including a >100Mt higher-grade zone

Scoping Study and PEA:

Open pit mine, 30-yr life; **US\$630M NPV**; **4-yr payback** & **20% IRR**, producing 50ktpa copper & 110kozpa gold

Zijin Strategic Partnership:

Three phase investment with first phase completed. Detailed JV and placement agreements are being completed for shareholder vote.

- **Phase 1** (completed) = **A\$5.6M** cash at 4cps (38% premium) for 9.9% of Xanadu.
- **Phase 2** = **A\$5.7M** cash to increase to 19.99% of Xanadu.
- **Phase 3** = **US\$35M** cash invested in 50-50 JV that controls Kharmagtai

Tsagaan Suvarga copper- Molybdenum deposit



ERDENES TSAGAAN SUVRAGA LLC

Location

Tsagaan Suvarga copper and molybdenum deposit is located 560 km from the capital city of Ulaanbaatar, 65 km from Mandakh soum, Dornogobi province, and 25 km from Tavantolgoi-Zuunbayan railway line.

Deposit Reserve

Tsagaan Suvarga deposit have been registered in the Mineral resources reserve fund on 29th July 2009.

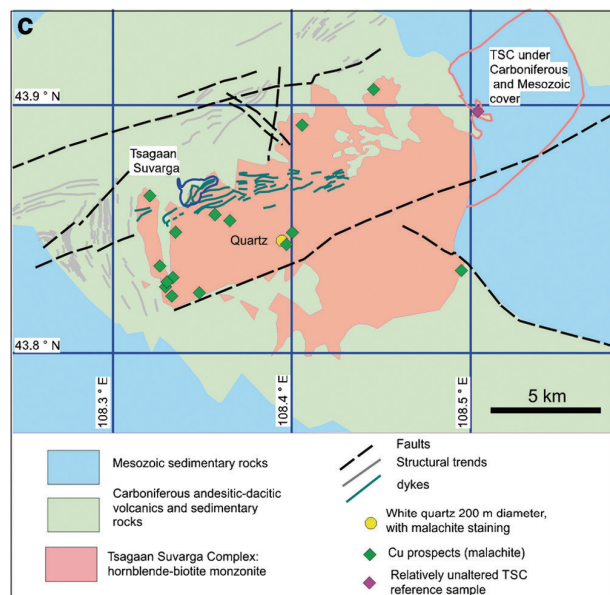
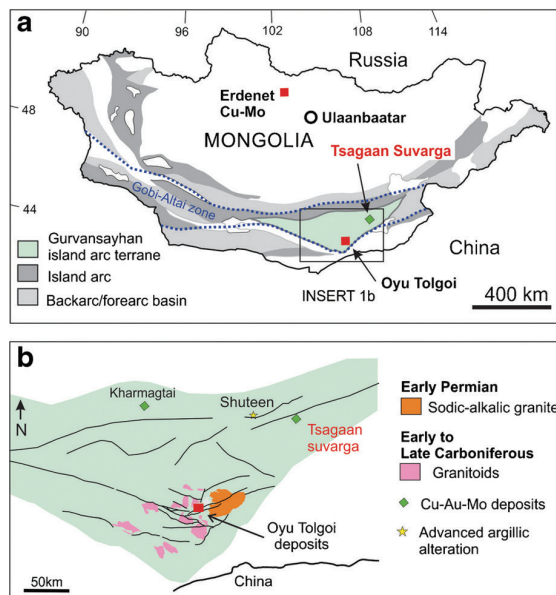
ORE AND RESERVE METALS

Reserve class	ORE unit, Kt	Copper, %	Molybdenum, %	gold, g/tn
A+B+C	267,239.6	0.643	0.026	0.044
		1,687.7 (Kt)	68.6 (Kt)	11.8 (t)

INFORMATION

PROJECT CAPACITY: During the 18 years of the project life span 14.6 Mt of ore can be extracted with the copper of 0.6% and molybdenum of 0.024% in a year. The enrichment facility will produce 320 Kt of copper concentrate of 25.6% and 5 Kt of molybdenum with 51.8% on average. The copper extraction is projected at 92% and the molybdenum at 65%.

PRODUCTION: Since the start of the project 30,186 metric drillings have been completed, 483.3 K cubic meter crust have been removed, 1049.7 K cubic meter monolithic job was conducted, and 566.4 K cubic meter of oxidized ore have been extracted.



Source: Tungalag et al., 2019

We are pleased to invite you to
The Mongolian Mining Week 2023

See you in Mongolia



MONGOLIAN **2023**
MININGWEEK
Уул уурхайн долоо хоног

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