



MINERALS AND MINING INVESTMENT GUIDE 2023 -2024



<https://miningweek.mn/>



MINISTRY OF MINING
AND HEAVY INDUSTRY

Welcome to
MONGOLIA



**MINERALS AND MINING
INVESTMENT GUIDE
/2023-2024/**

Ulaanbaatar 2024

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VISION-2050

MONGOLIA'S LONG-TERM DEVELOPMENT POLICY

L.OYUN-ERDENE
PRIME MINISTER OF MONGOLIA

It has been 30 years since Mongolia has adopted the new Constitution transitioning to a democracy. For the past 30 years Mongolia has overcome many challenges and obstacles. Thanks to democracy, we have been blessed with many valuable things such as freedom, pluralism, free press, free elections, parliamentary government with a multi-party system and a market economy.

During this period, the population of Mongolia increased from 2.2 million to 3.4 million, and the average life expectancy reached from 62.8 to 71.3. As an increase in the country's population and the world economic expansion, the gross domestic product of Mongolia which was 746.3 million US dollars in 1993, currently reached 17.1 billion US dollars with an increase of 23 times.

In the last 30 years, due to the global economic crisis, the economy fell to 1.3 percent. However, the growth of the mining sector has been accelerated by the exploitation of Oyu Tolgoi copper deposit leading to the economic growth of 17.3 percent in 2011 recorded as one of the fastest growing economies in the world.

However, the price decline in the mining product caused economic collapse and decrease in state budget, and the government eventually burdened with the debt. This shows us our economy depends on only the copper and coal price, and a few mining commodities of the world market.

Today, the mining sector represents $\frac{1}{4}$ of the GDP, 83 percent of the FDI, 94 percent of total export revenue out of which 78 percent is from coal and copper. We have spent 2.4 billion US dollars or equaling 15 percent of GDP for the last 15 years which exceeded the income.

Due to the factors that the weak competitive economy and low industrial development which does not produce value added product made the country's economy fragile and unstable depending on foreign market.

With conclusion, we need to develop macroeconomic policy ensuring economic stabilization in the medium term by calculating debt burden and cost growth and providing sustainable development in the long term to support economic growth, human development and middle-income citizens. Because of the historical need for a long-term development policy reviewing the past 30 years and envisioning the next 30 years, we have developed a long-term development policy document "Vision-2050".

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 worldwide.

Our country is strategically located at the heart of Asia and 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.

We aim to give our mineral products a competitive advantage in the global market through transparent and responsible mining practices, improved logistics, infrastructure and refining processes.

Regarding the legal environment, the Parliament of Mongolia recently passed the "Mining Commodity Exchange Law," which took 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 aligned with internationally recognized Environment - Society - Governance principles to attract more investment into our country.

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.

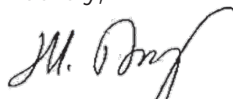
We are actively seeking opportunities to increase the number of ports, build paved roads, improve infrastructure and logistics, and enhance the competitiveness of the Minerals sector globally.

I am also delighted to announce that we as a country have increased the extent of paved roads by 70 percent, railway by 30 percent, and air transport routes by 50 percent compared to the statistics 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 Mongolia.

Sincerely,



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

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Mongolia

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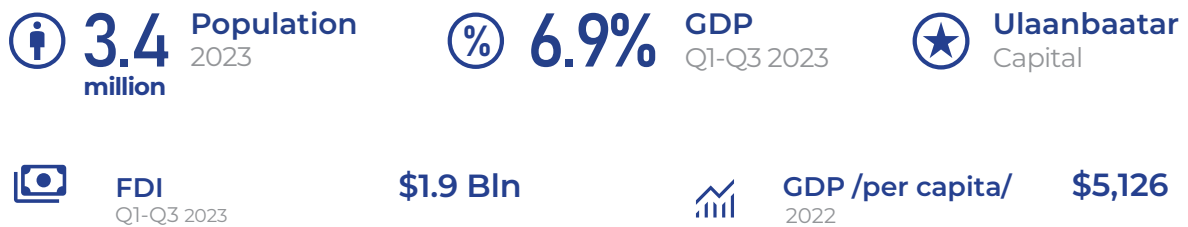


General overview

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



TOP EXPORTS 2023

Coal
\$8.9 billion

Copper Concentrate
\$2.6 billion

TOP IMPORTS 2023

Refined Petroleum
\$1.9 billion

Cars, mechanism
\$1,183.4 million

KEY TRADE PARTNERS BY DESTINATIONS / ЭКСПОРТ



Source: National Statistics Office of Mongolia,
The Central Bank 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 2023

Mongolia is the 73rd freest country out of 180.

	Mongolia
Business Freedom	66.4 ▼
Trade Freedom	74.2 ▼
Investment Freedom	50.0 -

Mongolia is ranked 15th 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 2023. 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.

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 2020, RANKED 81

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

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 Word 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

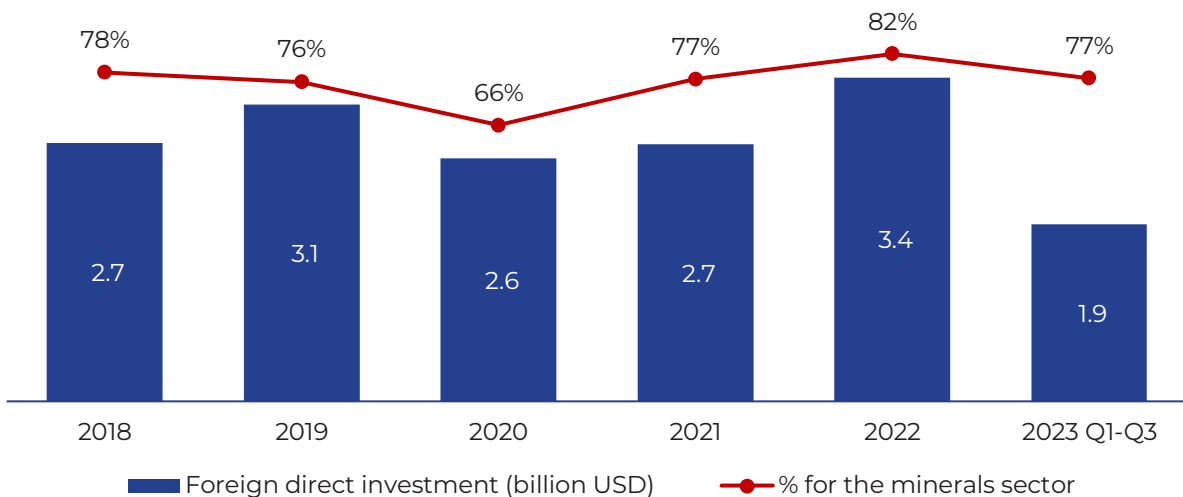
The Law on Investment provides incentives, such as tax exemptions, tax credits, longer terms to possess the land, the increased quota of foreign employees, simplified visa arrangements, and others. Only foreign state-owned entities (those with a minimum of 34% ownership of entities in the mining, media, 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 77% of the total Foreign Direct Investment is fueled into the Minerals sector.

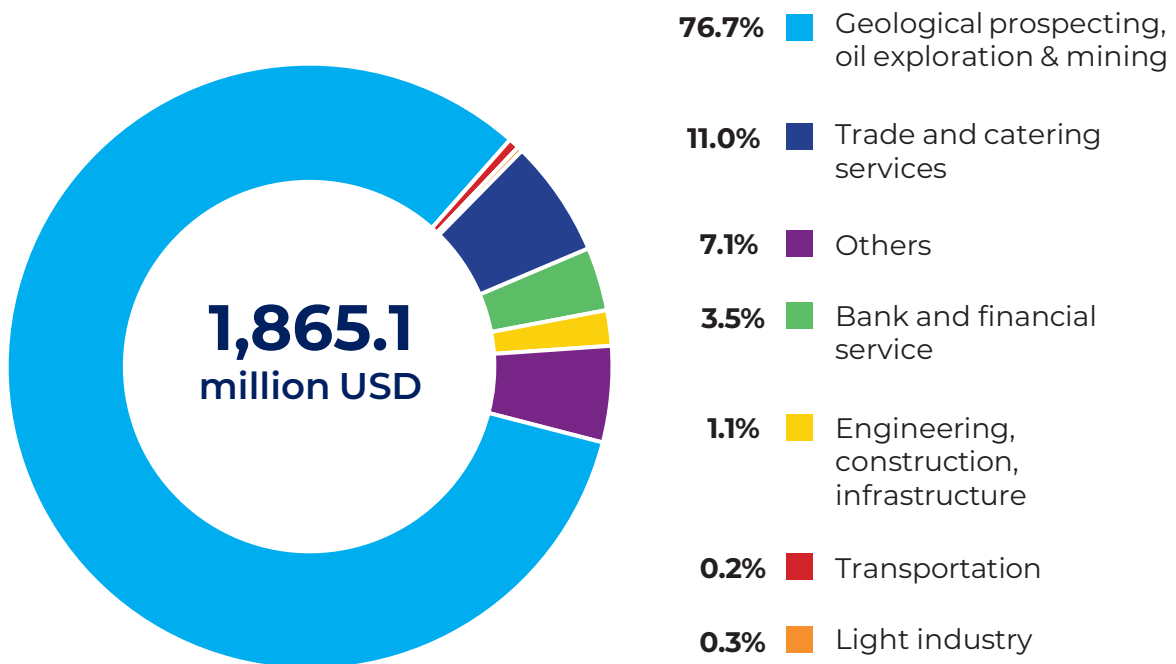


Foreign direct investment statistics

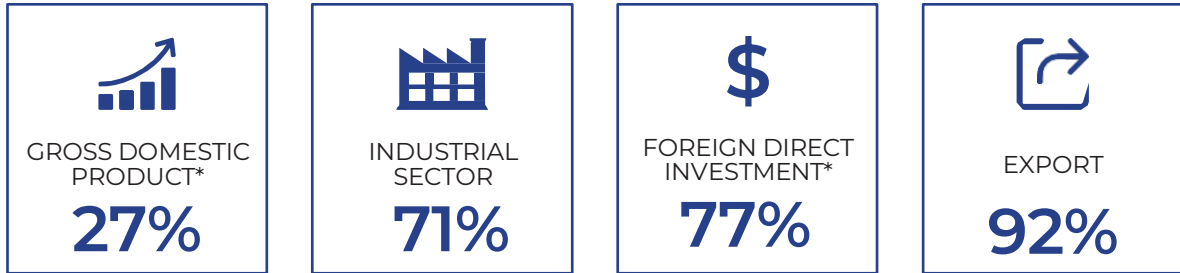
FDI inflow into Mongolia has been significantly increasing for the last few years. Between 1990 and 2023, our country saw the establishment of 11,232 companies from 120 foreign countries, resulting in a cumulative investment of 42.4 billion US dollars. From 2000-2011, Mongolia registered an intense and 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 / Q1-Q3 2023 /



Importance of the Minerals sector / 2023



Source: National Statistics Office of Mongolia, Mongolian Customs, The Central Bank of Mongolia

Note: As of the 3rd quarter of 2023

GEOLOGICAL RESEARCH, EXPLORATION





2023

Available land for exploration tenement issuance

~ 9.0 mil.he


FOR EXPORT

2023

COPPER	 	Copper concentrate	1.5 Mt
		Copper cathode	12.5 Kt
COAL	 	Metallurgical coal	69.6 Mt
		Processed coal	11.3%
GOLD	Gold extraction (Mongolbank)	Gold	17.9 t

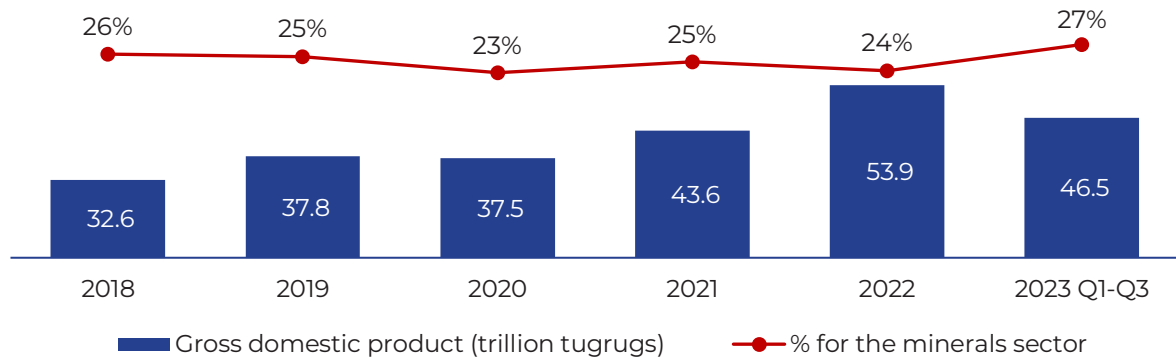
FOR DOMESTIC USE

2023

PETROLEUM		Petroleum products /imported/	2.30 Mt
STEEL	Steel products	Steel products /imported/	763 Kt

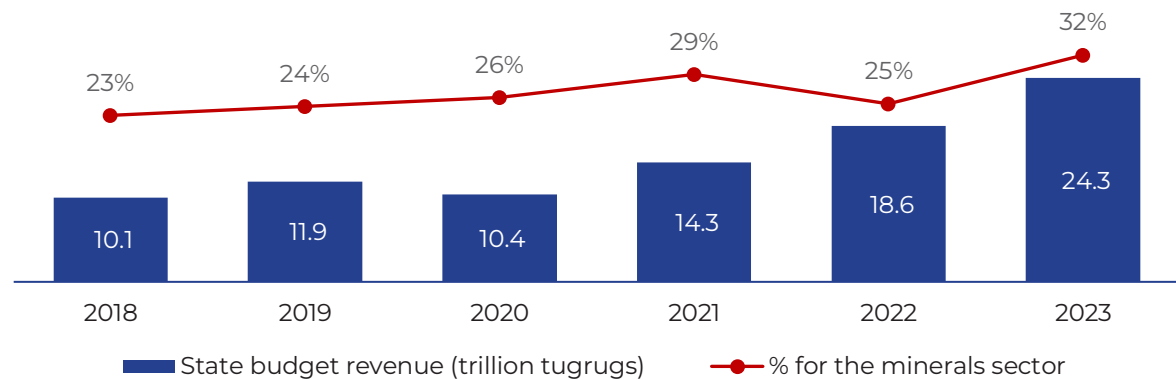
GROSS DOMESTIC PRODUCT /GDP/

The 27% of the GDP is gathered from the Minerals sector of Mongolia.



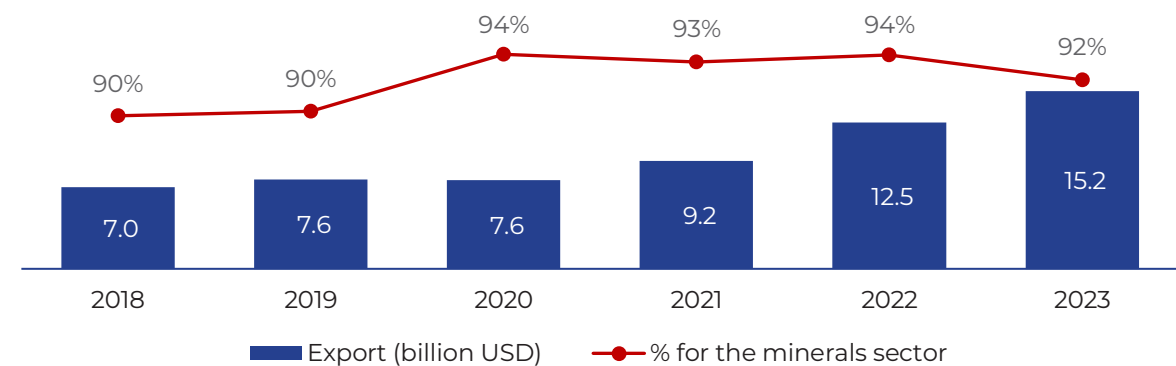
TOTAL STATE BUDGET REVENUE

The 32% of the total State Budget revenue of Mongolia is gathered from the minerals sector.



MINERALS EXPORT

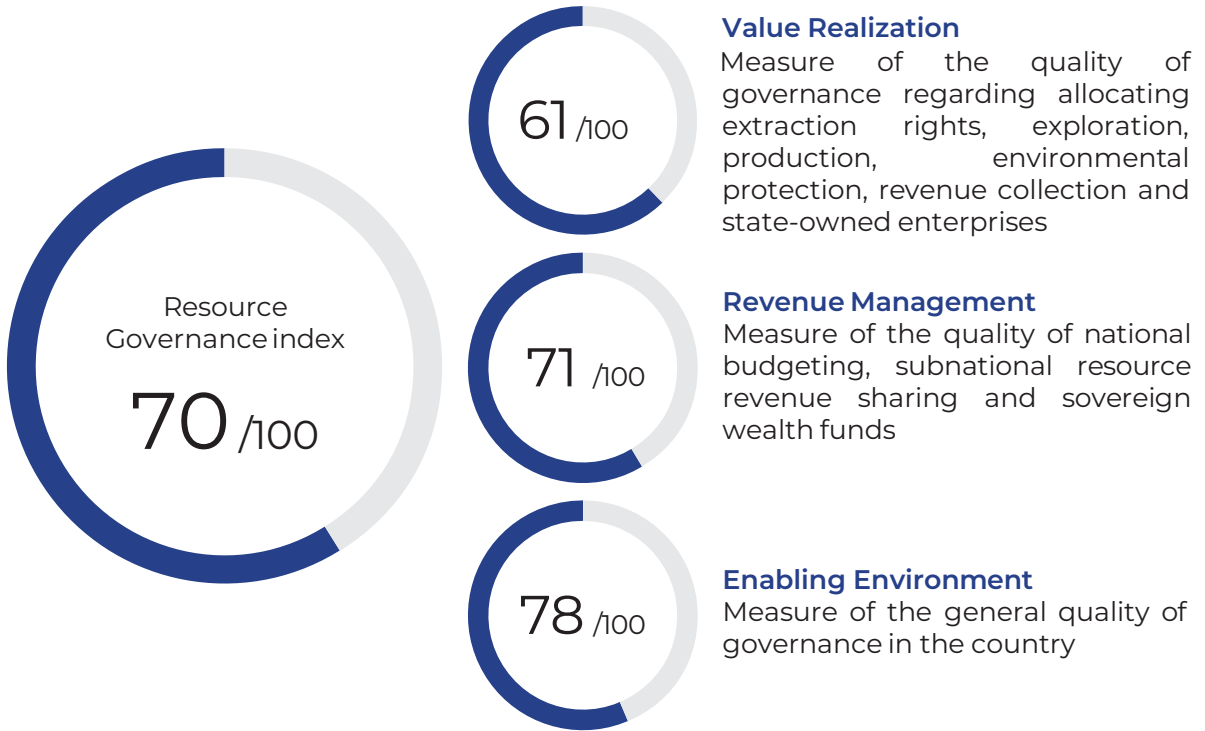
The 92% of the Minerals Export of Mongolia is the minerals sector export.



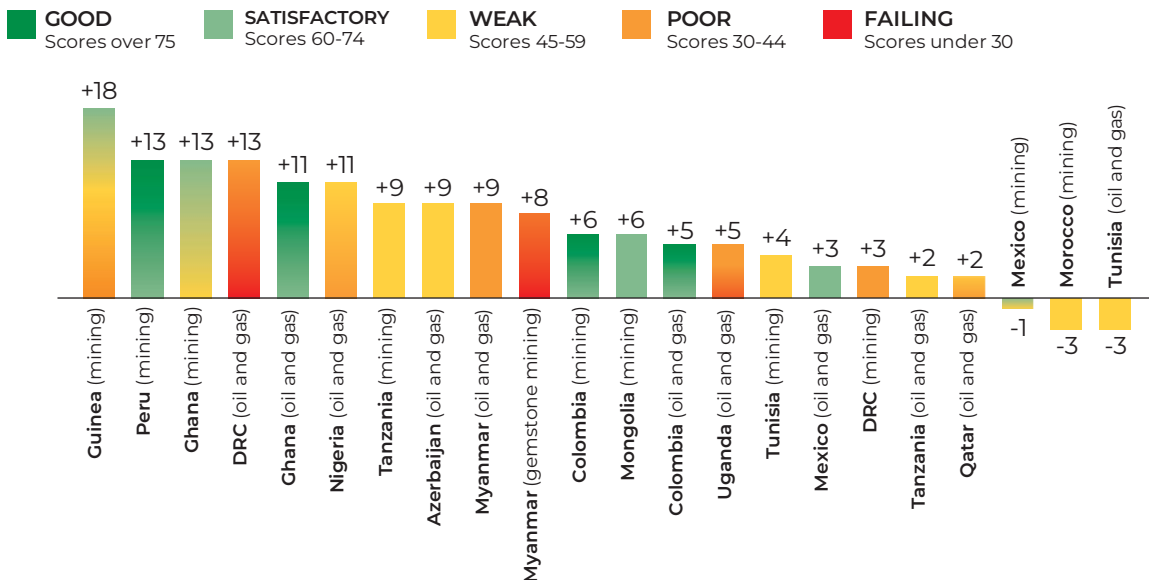
Mongolia's mining sector scored 70 out of 100 points in the 2021 Resource Governance Index (RGI), an increase of 6 points since the 2017 index. Both the value realization and revenue management

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



Infrastructure Development

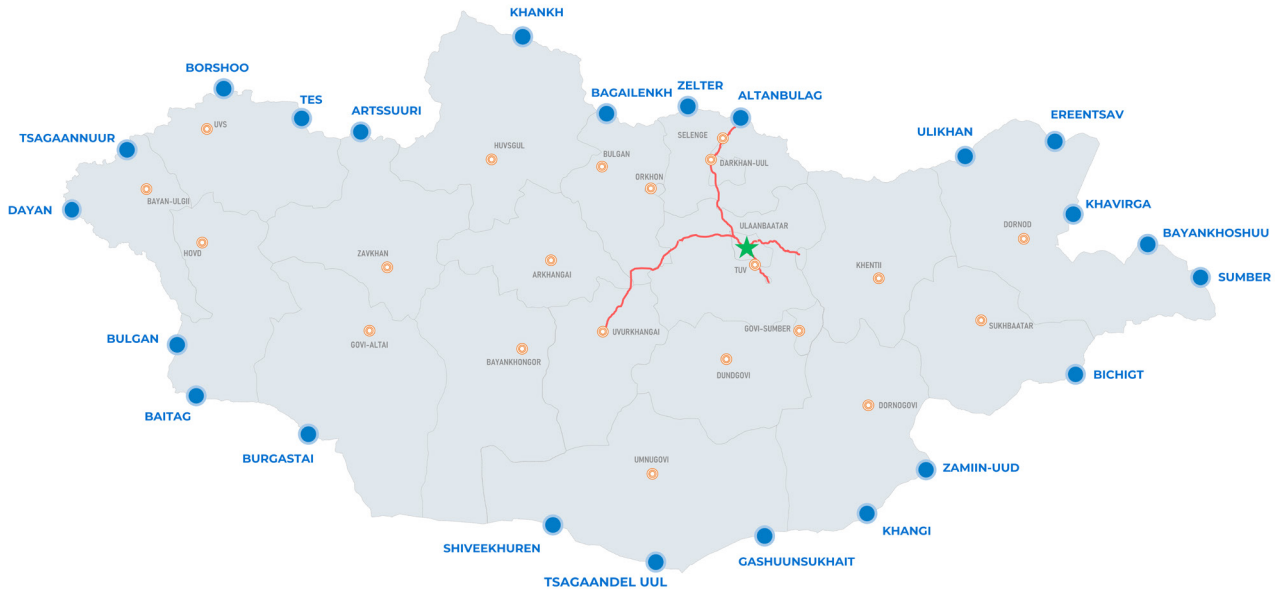


AIR TRANSPORTATION

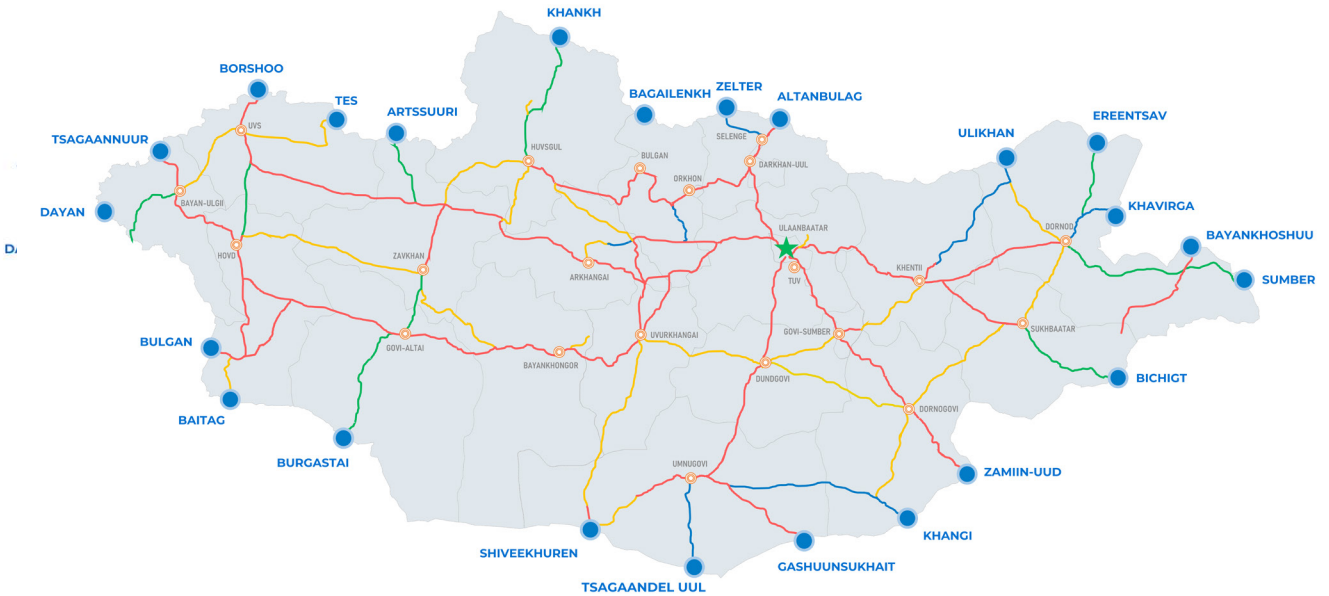


Source: Ministry of Mining and Heavy Industry,
Ministry of Road and Transport Development

PAVED ROADS 2009



PAVED ROADS 2023

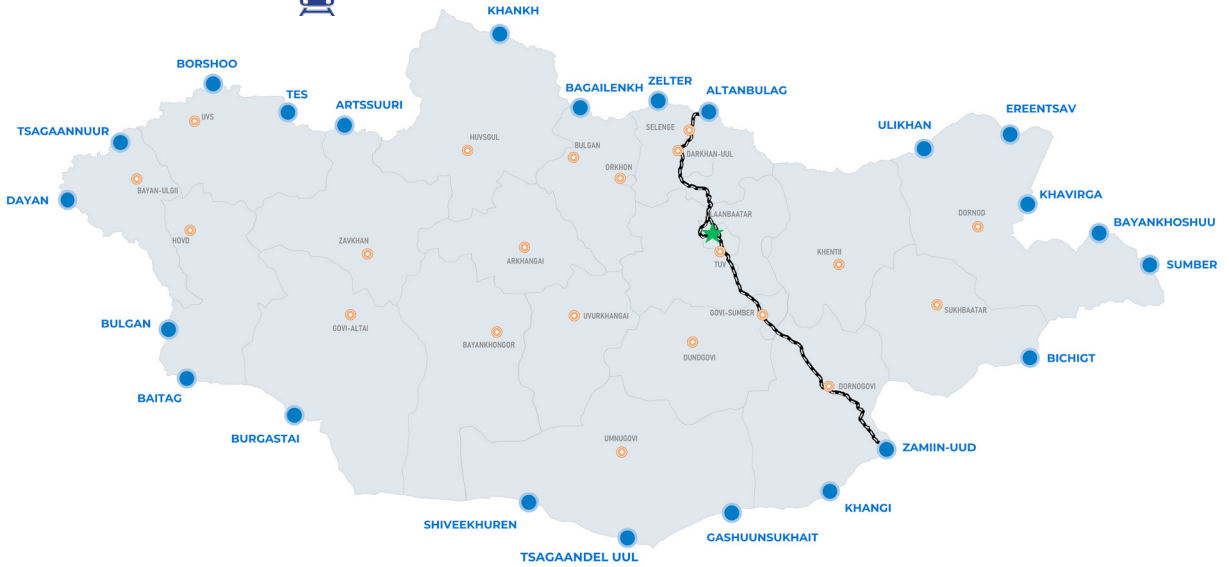


LEGENDS

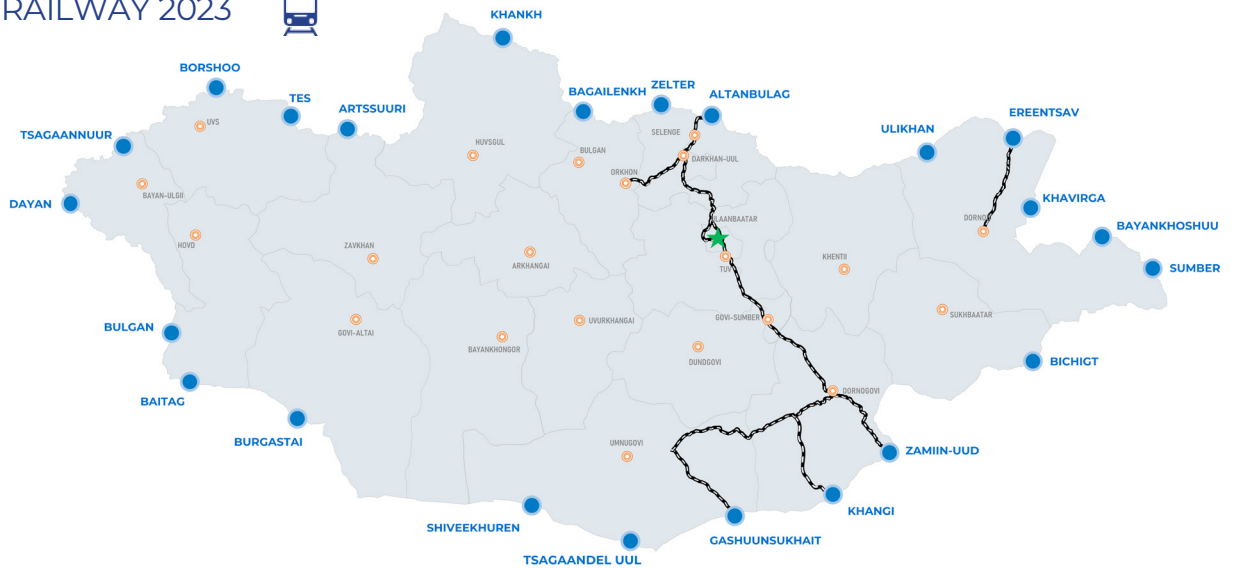
- Paved road
- Ongoing paved road
- Planned paved road
- Required paved road
- Border crossing

Source: Ministry of Economy and Development, Ministry of Roads and Transportation

RAILWAY 2009



RAILWAY 2023



RAILWAY forthcoming

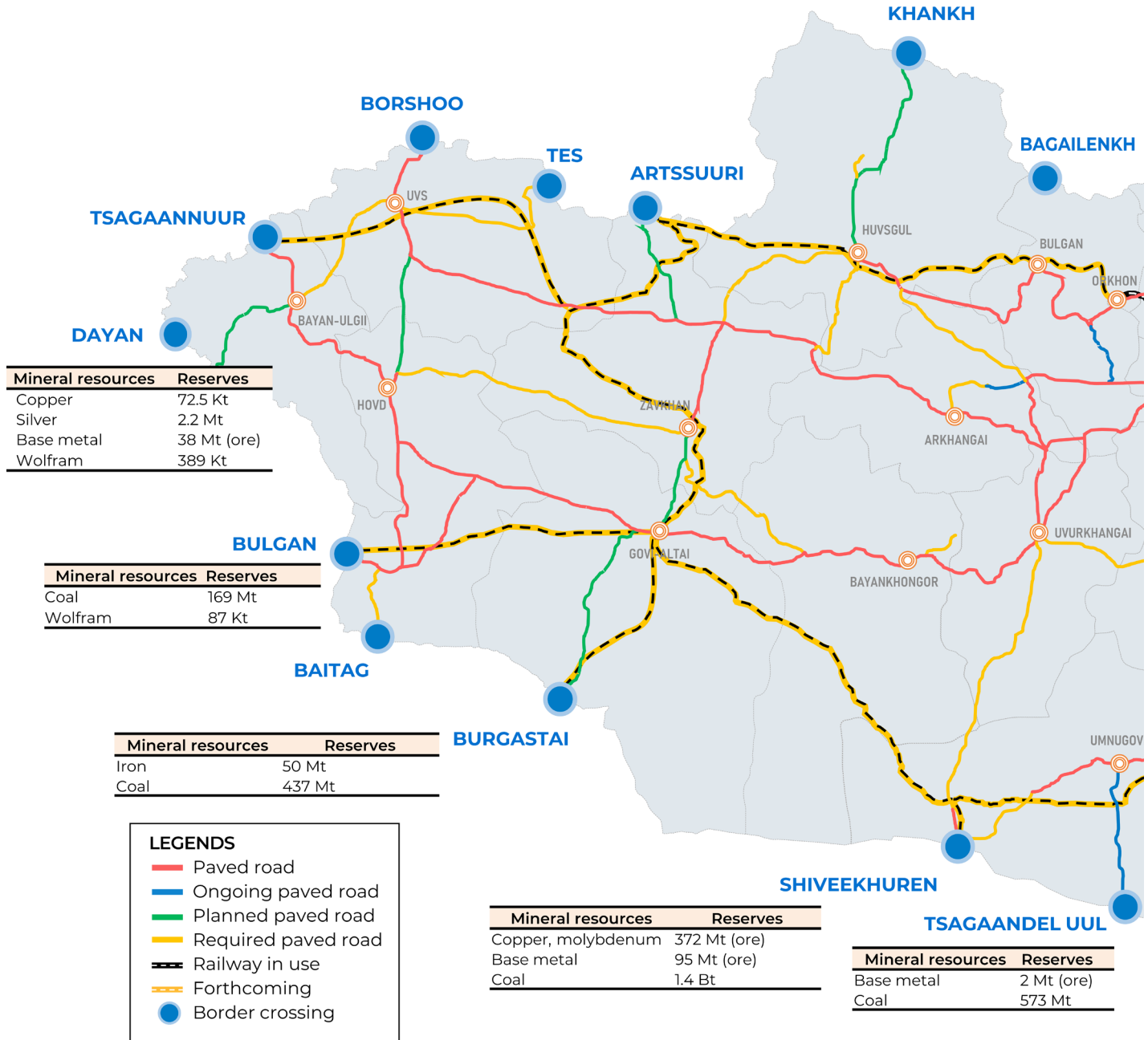


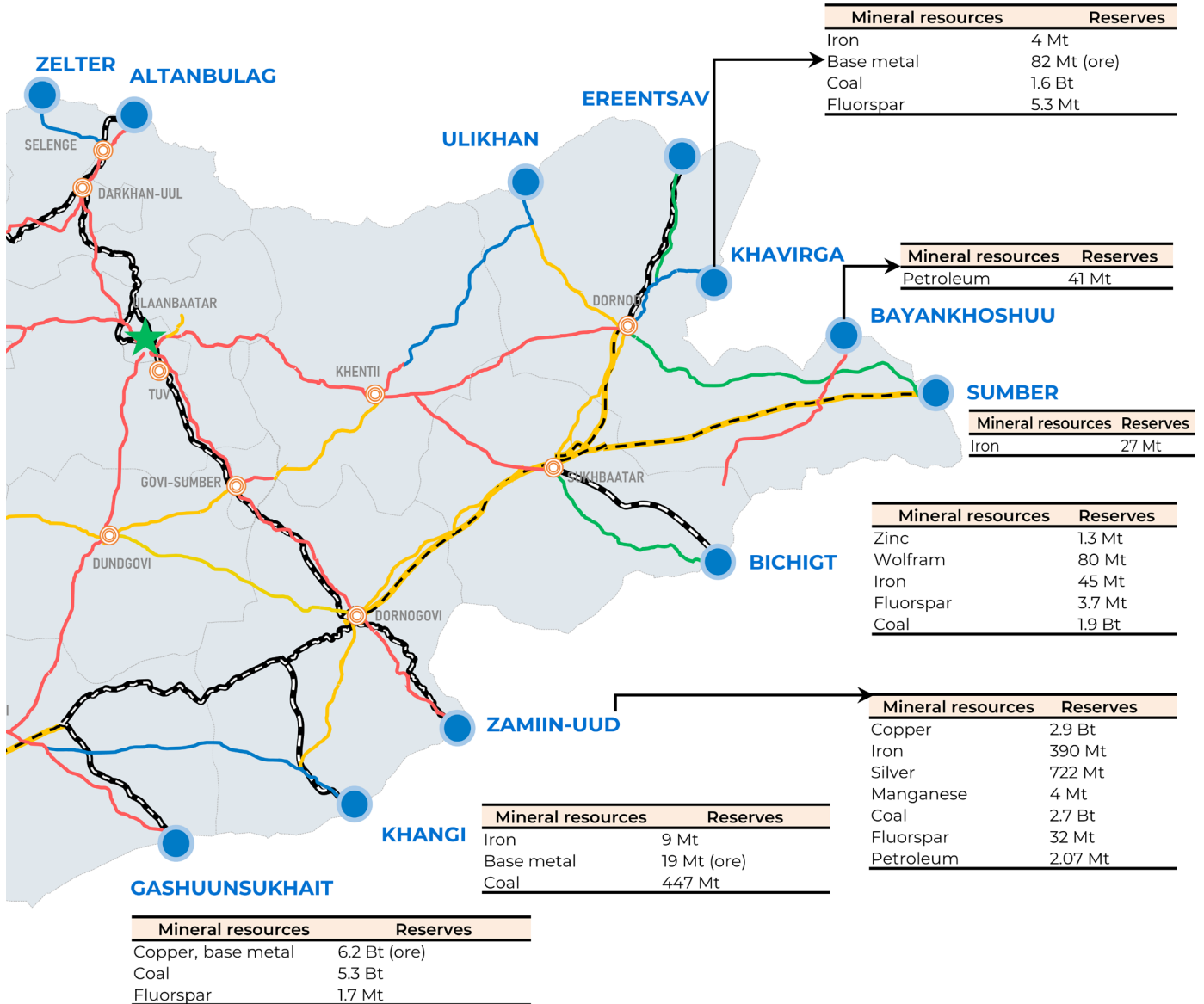
LEGENDS

- Railway in use
- Forthcoming
- Border crossing

Source: Ministry of Economy and Development, Ministry of Roads and Transportation

Port capabilities





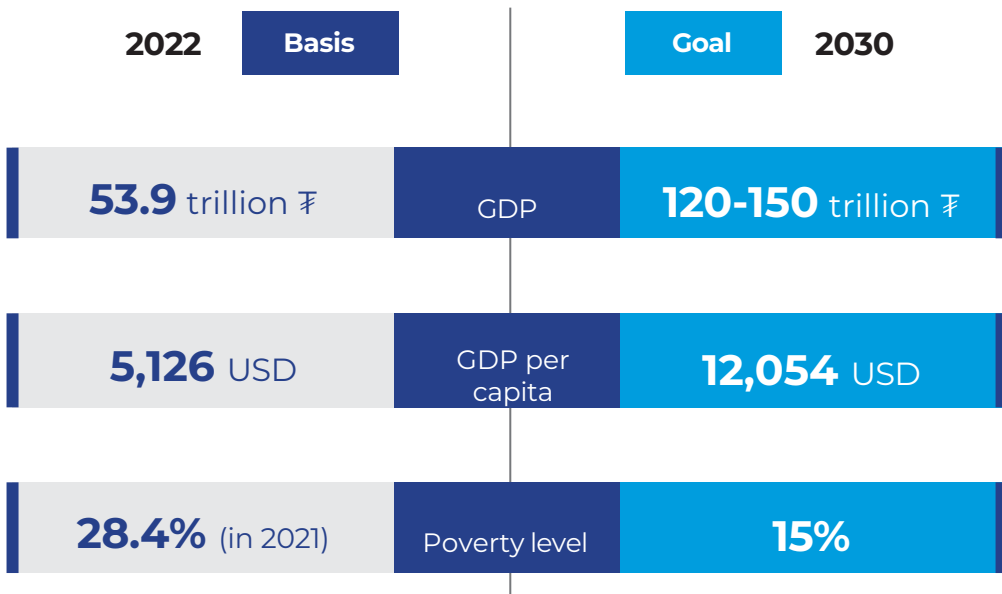
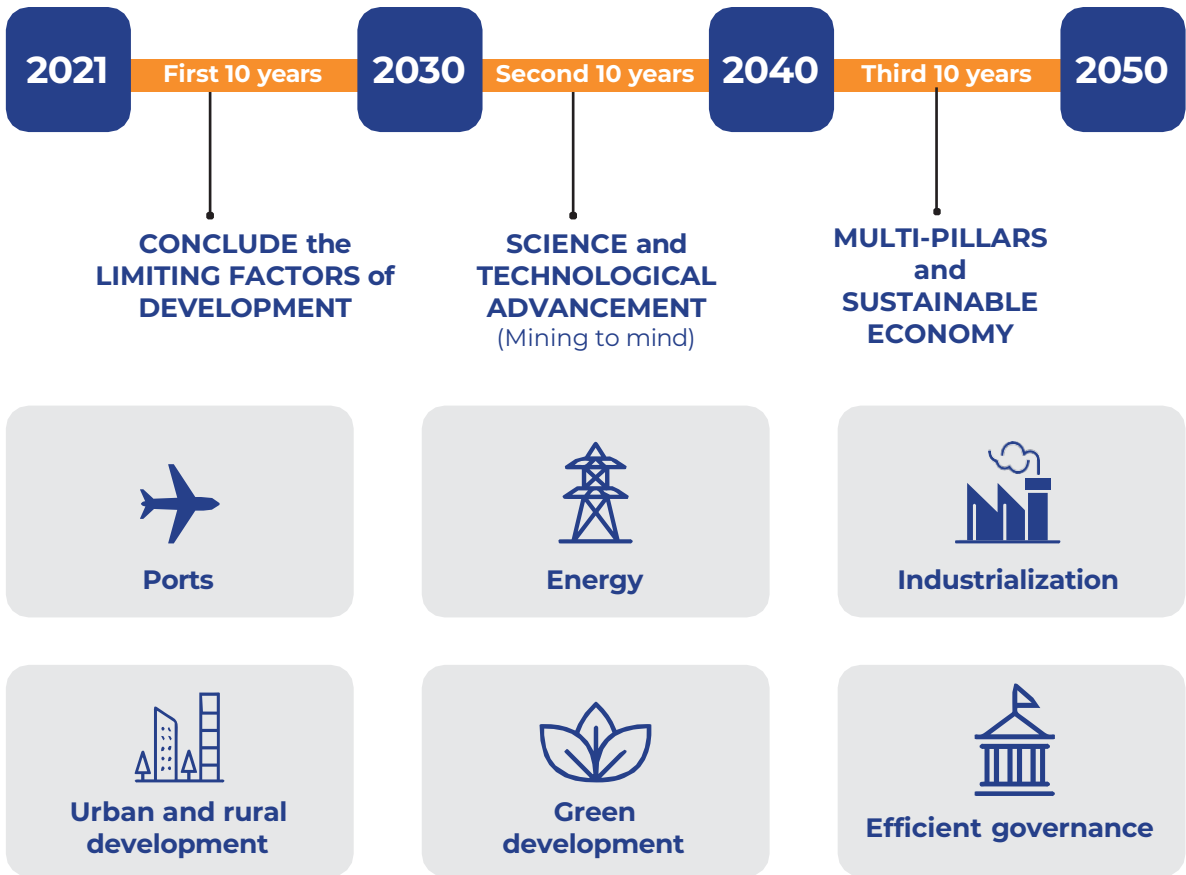
Source: Ministry of Economy and Development, Ministry of Roads and Transportation

2

LEGAL ENVIRONMENT



New Recovery Policy



Reforms and Regulations

VISION-2050

Priority economic sectors

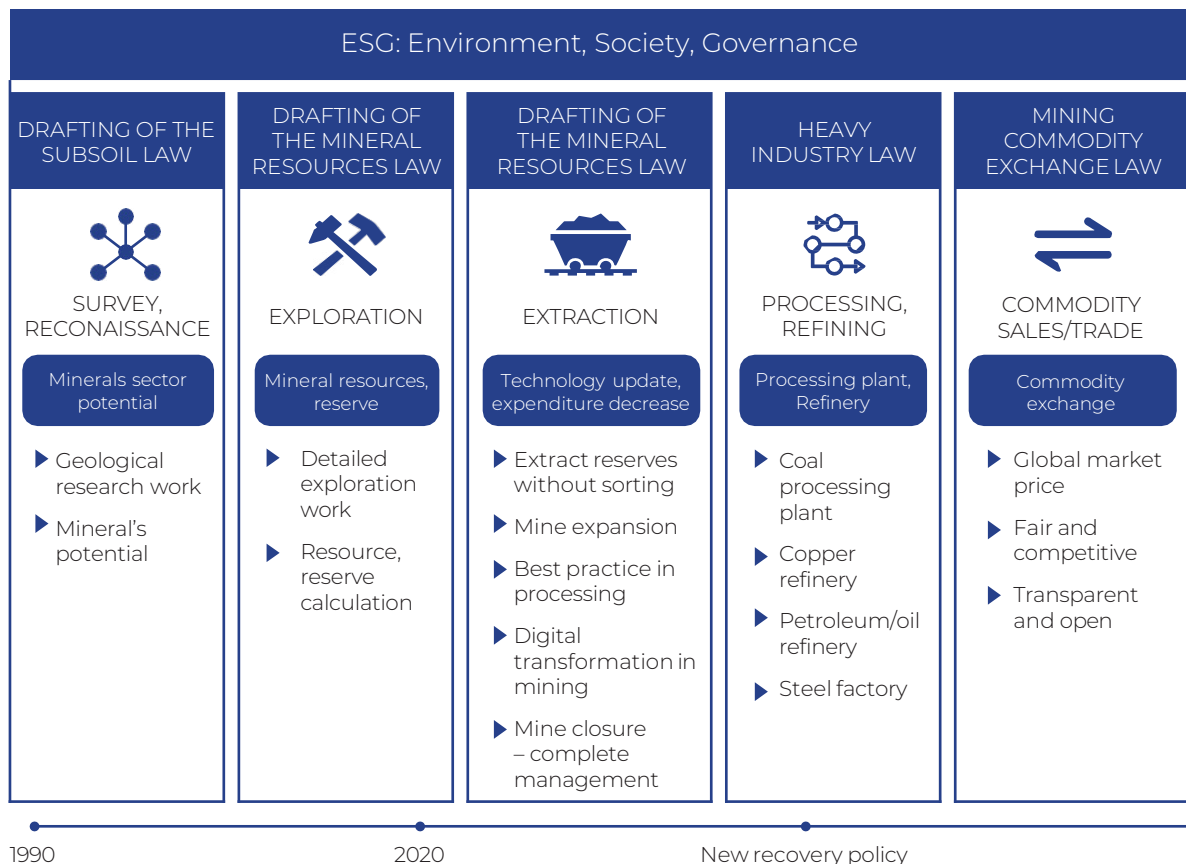
- 4.2.1. **Promote strategic mining megaprojects with value-added cost**, processing industry, agriculture, energy, transport, logistics, diversified tourism and accompanying services, small and medium enterprises, and knowledge-based creative production as priority branches of the economy.
- 4.2.13. 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



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.

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/

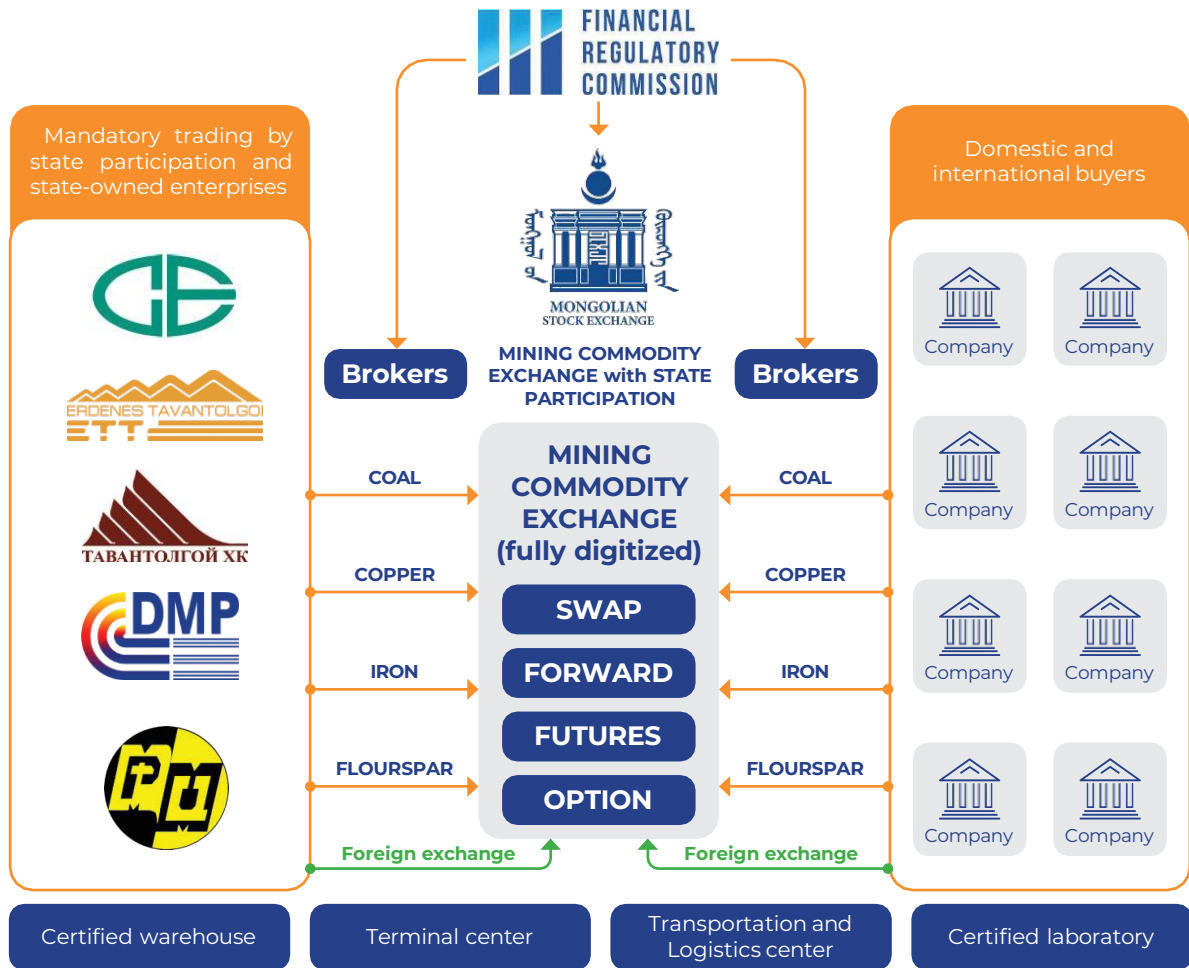
- ▶ define the tax system of Mongolia, general principles of taxes, fees, payment, also rights, obligations and responsibilities of taxpayers, legislative grounds of State Tax Administration and tax inspectors, to regulate relations arising from their implementation.

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

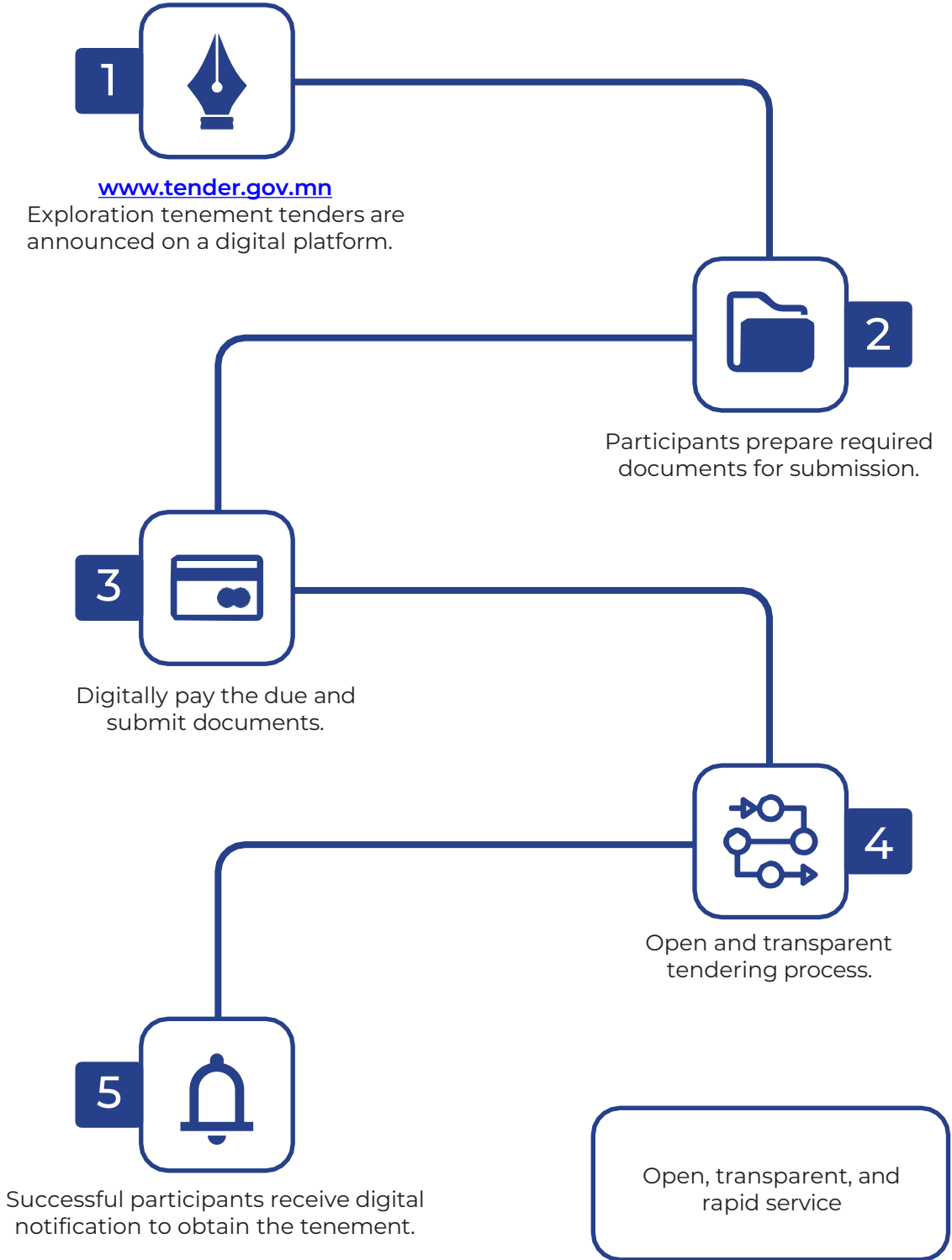
Law on Mining commodity exchange

/effective from 30.06.2023/



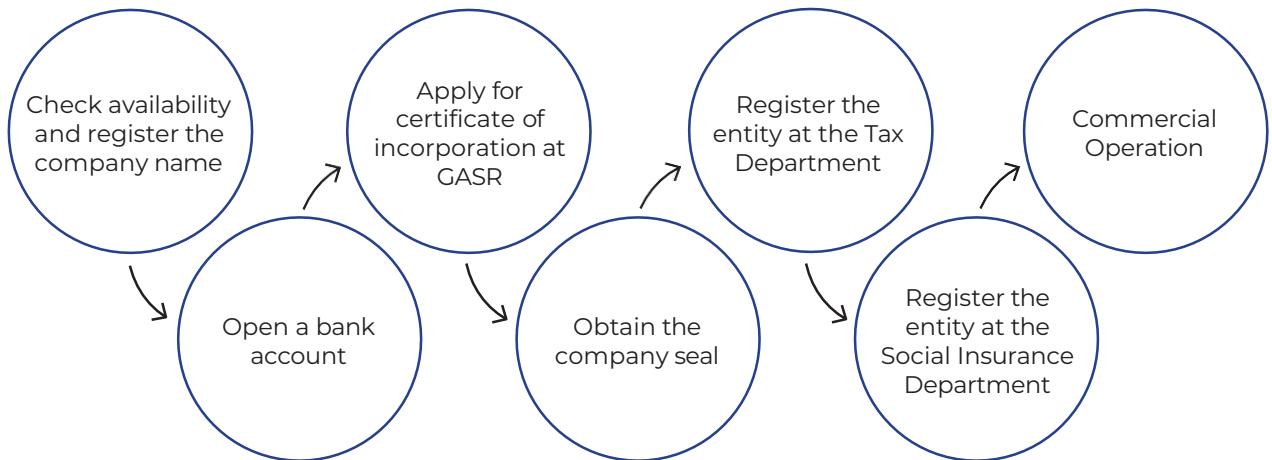
Applying for a minerals permit

TENDER PROCESS



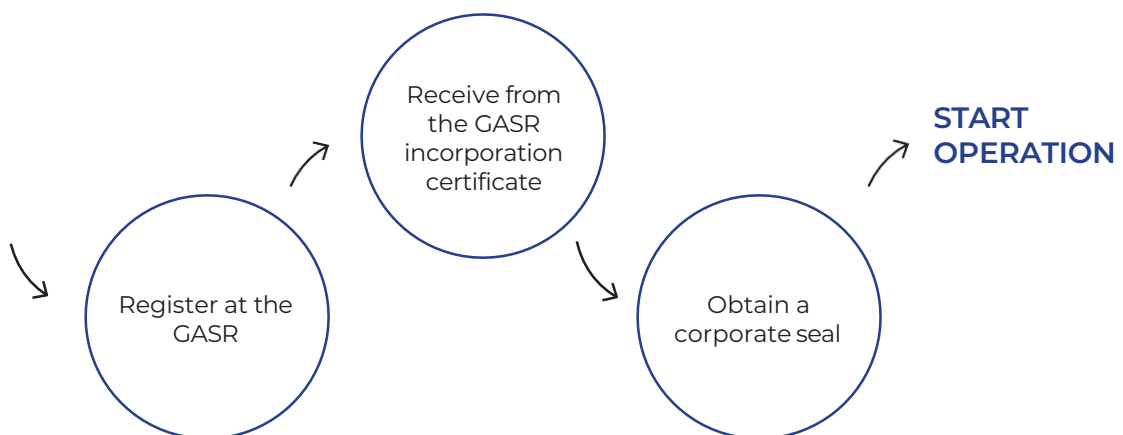
Establishment procedure of a representative office of a foreign legal entity

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.

Tax environment

COMPANY TAXATION

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

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

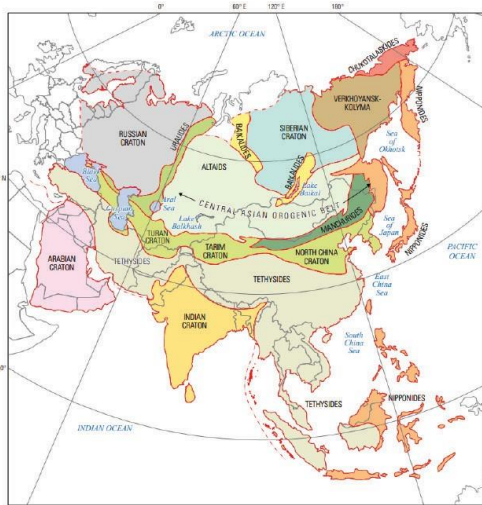
- ▶ A flat 10% personal income tax will be applied
- ▶ Resident tax was lowered from 20% to 15%, with interest at 10%
- ▶ The tax return for first-time homeowners was raised from 3 million MNT to 6 million MNT.
- ▶ A tax credit will be given for the difference between account interest for mortgage loans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



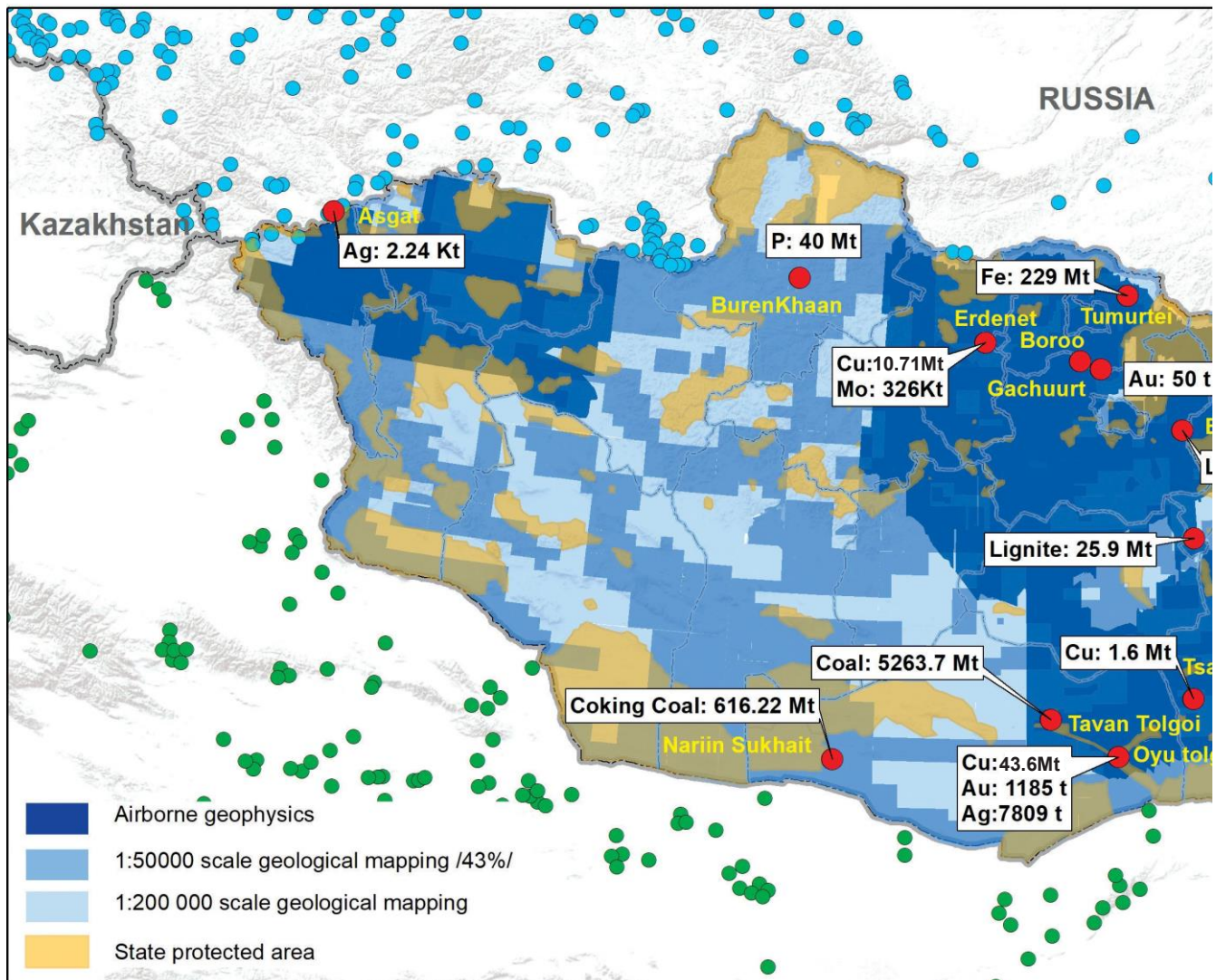
MINERALS RESERVE
AND PROSPECTIVE

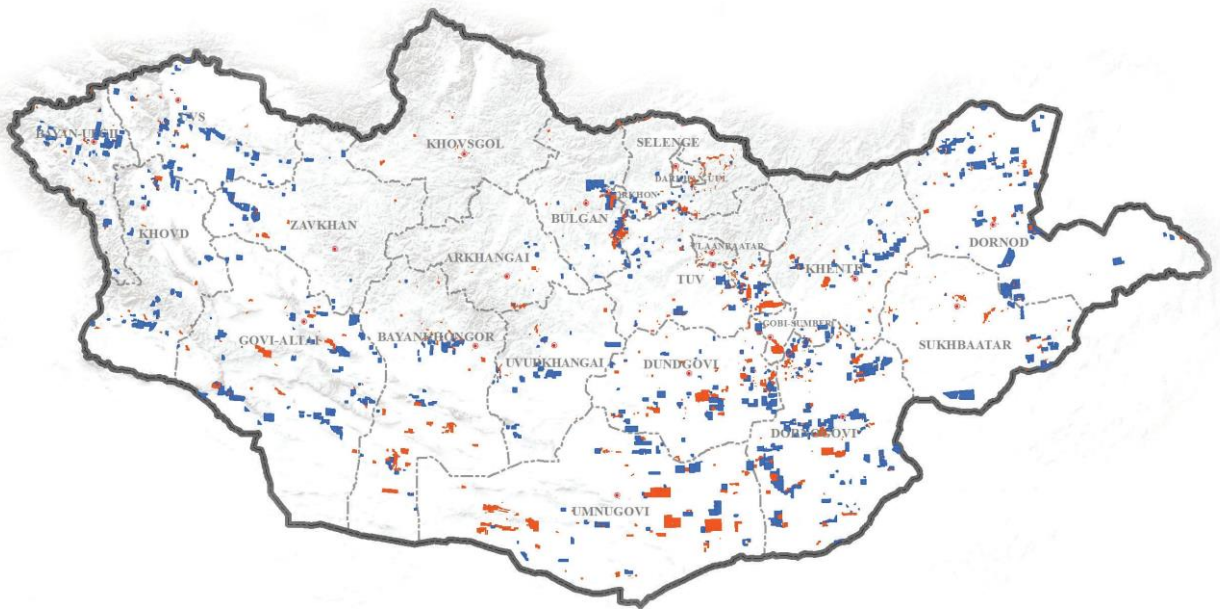
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Geological setting, Geological survey



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.

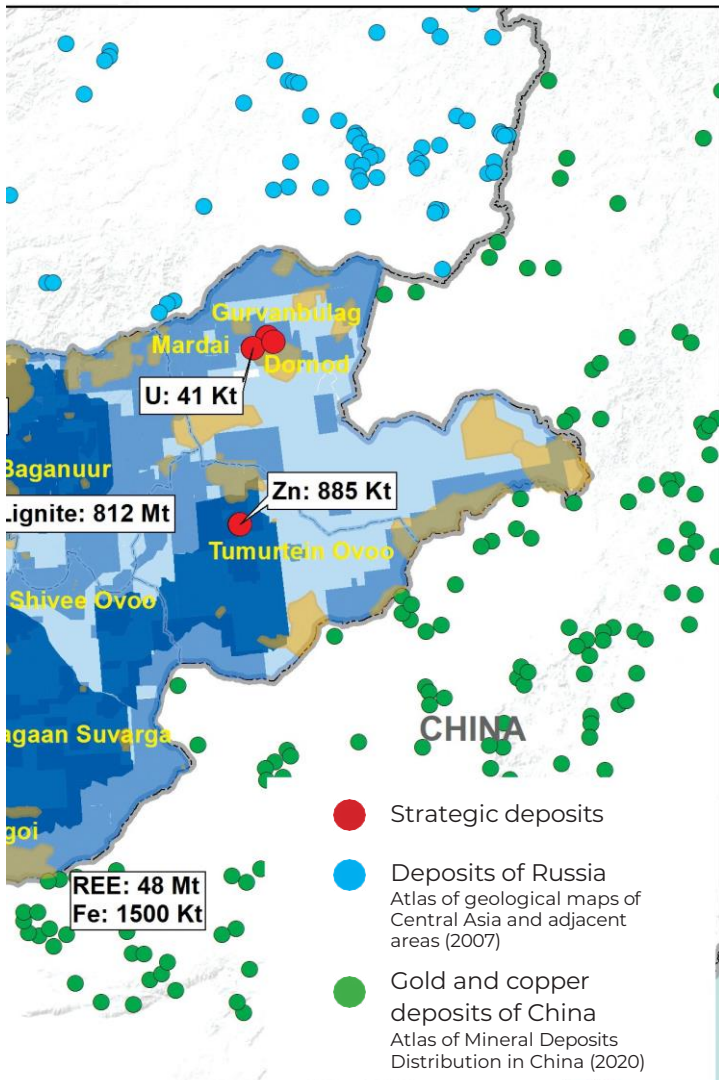




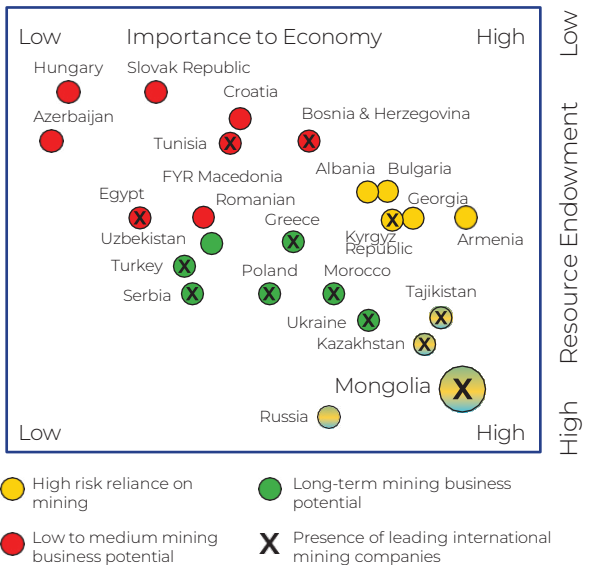
Number of provinces 0-3% Area coverage

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	34.6
Iron ore	billion tn	1.8
Gold	tn	499.5
Zinc	million tn	4.7
Fluorspar	million tn	34.2
Uranium	thousand tn	192.2
Crude oil	million tn	333.8

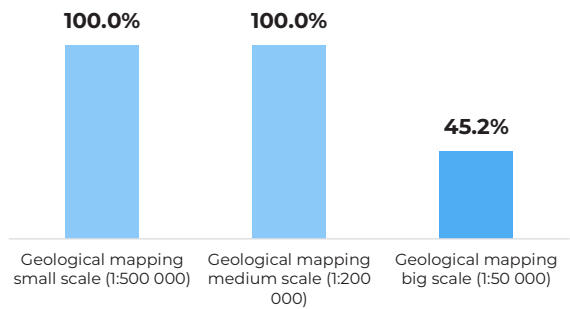
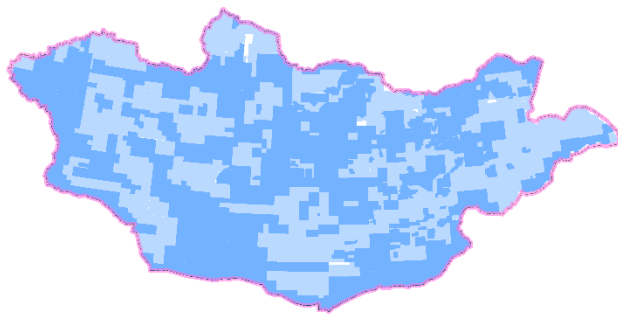


Present level of geological survey

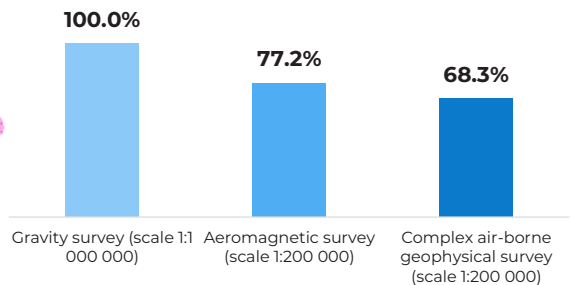
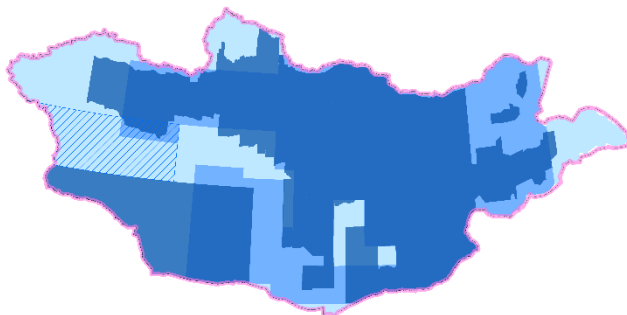
Geological surveying, or basic study at various scales, is the first step in the discovery of many of the deposits and mines that we are using and benefiting the present day.

Intensifying the basic study in Mongolia will increase the possibility of further exploration by assessing the prospect of minerals.

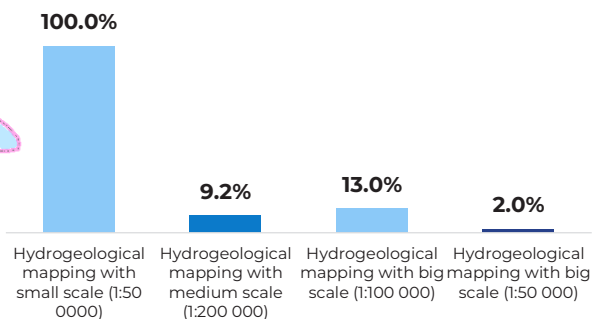
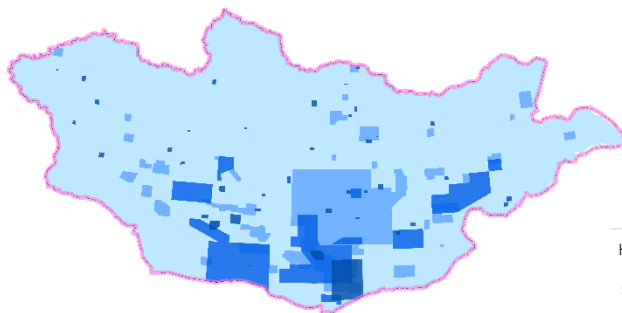
The level of basic geological study:



Geophysical survey:



Hydrogeological study:



Currently, 71 projects in 10 fields of geological study are being implemented in Mongolia.



Projects implemented with state budget funds (as of 2023)

The following electronic systems are being introduced and digitized in our operations with the aim of transparently and accessible distribution of all types of study data and information conducted in the field of geology in Mongolia to the citizens and the public, as well as making them economically viable.

01 MONGEOCOL

The application for collecting data during fieldwork

- To oversee primary geological research work funded the state
- To share relevant geo data openly

02 MONGEOMIN

The Registration System for the reserves of Mineral deposits

- Data on mineral deposits by aimag & region
- Graphic and statistical data on mineral deposit's reserve and mineral type
- Data on registration of reserves of mineral deposit

03 GEO-INFORMATION SYSTEM

The registration and enrichment of geo-information

- Register, classify and compare Geo-Information
- Manage Geo-information

04 MONGEOEXP

The fieldwork guide

- Cooperated with Ministry of Environment and Tourism
- Web-based geographic information system (GIS)
- Online and offline operating mode

05 GEOINFORMATION PORTAL

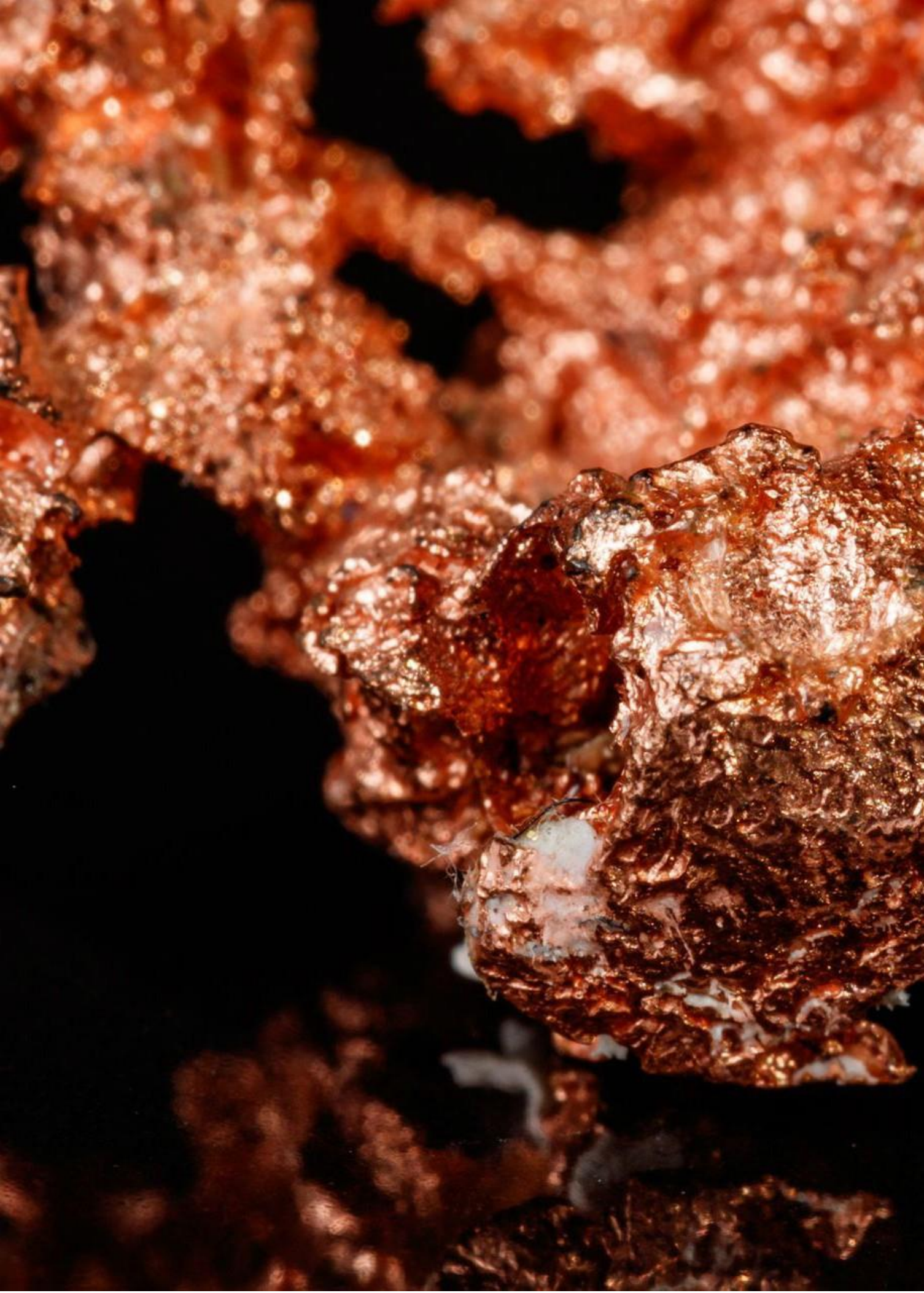
The portal for public use

- Disseminate geodata & purchase required data online
- Has data about raster, vector data, document
- Had registry

06 MONGEOCAT

Web-based Geographic Information System (GIS)

- Various raster & vectorial and their meta-data
- Search by Geographical location, aimag, region & relevant geological research work



A close-up photograph of several copper mineral specimens, likely malachite or azurite, showing their characteristic green and blue crystalline structures. The minerals are set against a dark background, highlighting their vibrant colors and textures. Overlaid on the image is the word "COPPER" in large white capital letters, and a small white box containing the periodic table entry for Copper (Cu), including its atomic number (29), electron configuration ([Ar]3d¹⁰4s¹), and atomic weight (63.546).

COPPER

29 [Ar]3d¹⁰4s¹

Cu

Copper
63.546

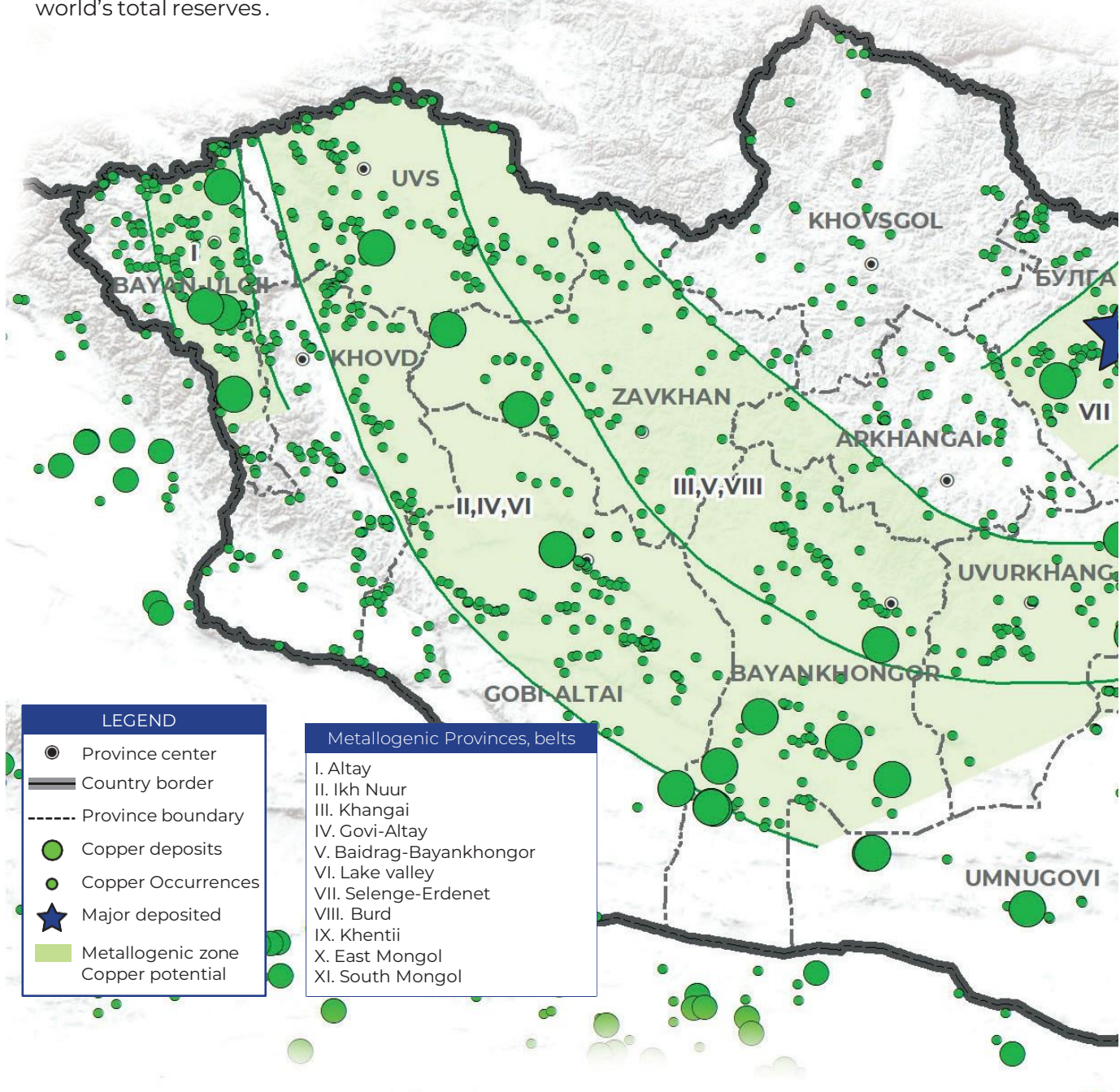
Copper potential

COPPER RESERVES IN METAL, 2022

RESERVES (by Country)	1. CHILE	2. AUSTRALIA	3. PERU	4. RUSSIA	MONGOLIA
890.0 Mt	190.0 Mt	97.0 Mt	81.0 Mt	62.0 Mt	61.4 Mt

Source: United States Geological Survey (USGS)

In 2022, copper reserves are estimated to be around 890.0 million tons. It is estimated that there are approximately 2,100 million tons of copper ore resources worldwide. The total recorded reserves for copper in Mongolia is 61.4 million tons, which is 6.9% of the world's total reserves.



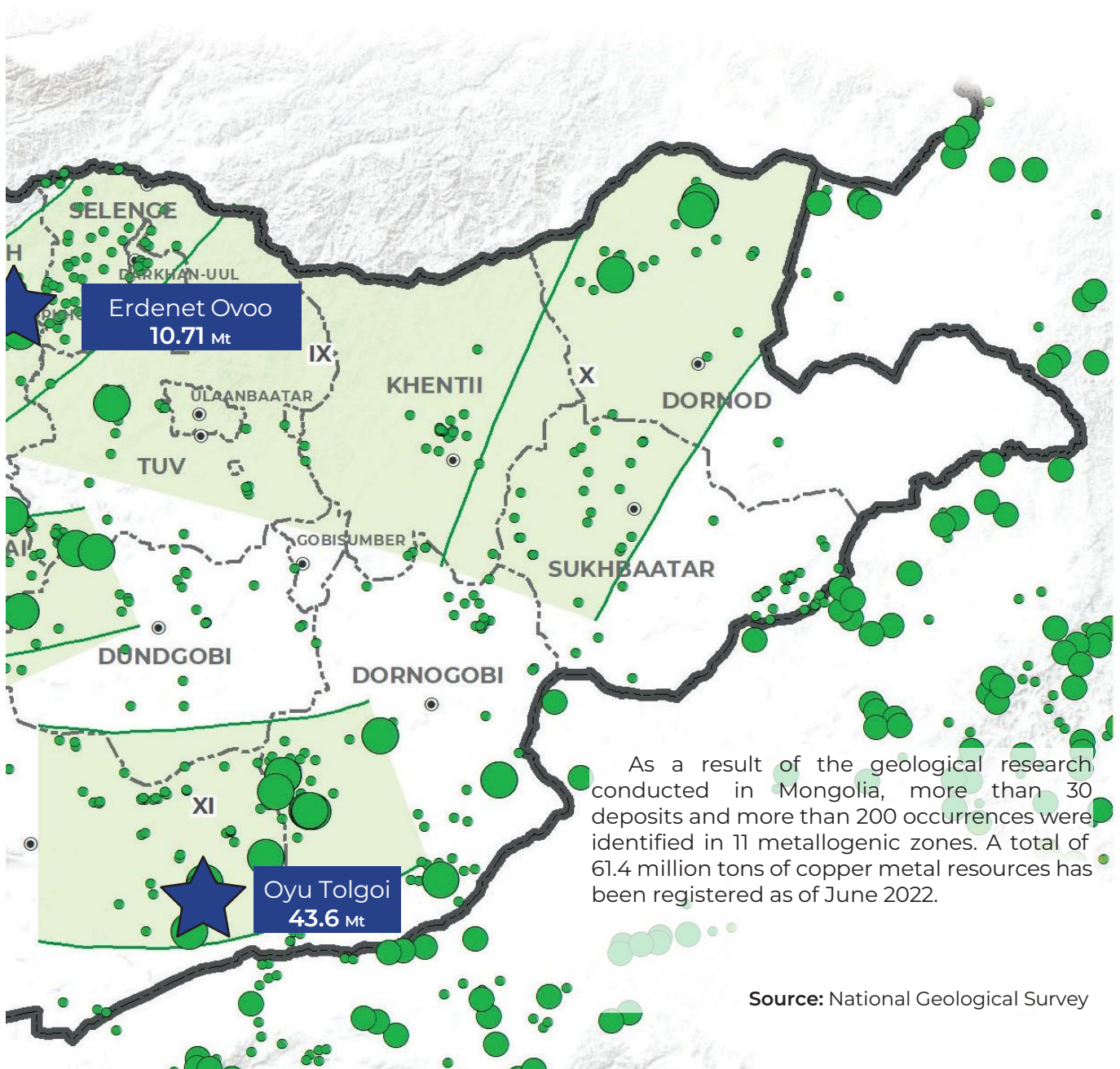
COPPER PRODUCTION IN METAL /2022

PRODUCTION (by Country):	1. CHILE	2. PERU	3. CONGO	4. CHINA	MONGOLIA
22.0 Mt	5.2 Mt	2.2 Mt	2.2 Mt	1.9 Mt	0.3 Mt

Source: United States Geological Survey (USGS)

Chile was the world's largest producer in 2022, accounting for 23.6% of the world's total production and 1.5% 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

Reserves, export

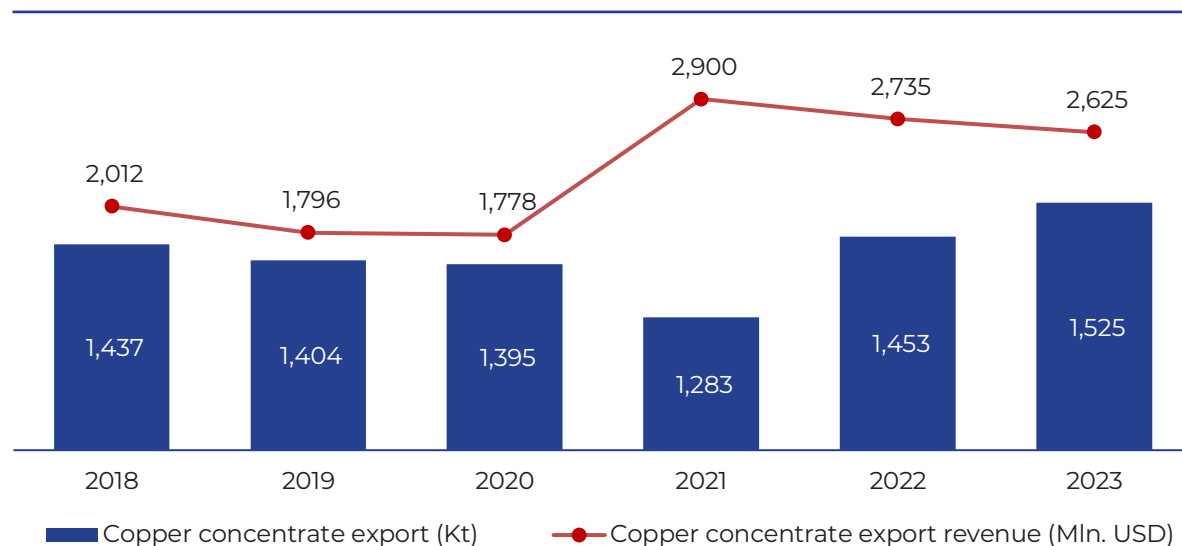
TOTAL RESOURCES OF COPPER

10,795.4 Mt **61.4** Mt
Resources (Ore) Reserves (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

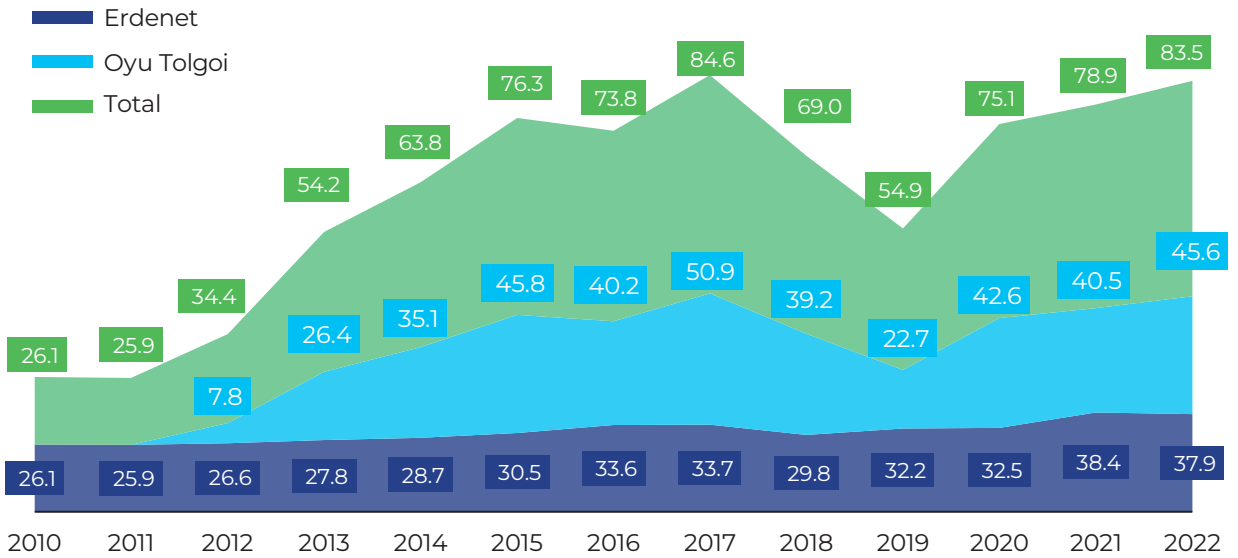
COPPER CONCENTRATE EXPORT, REVENUE /income/



Exploitation, export

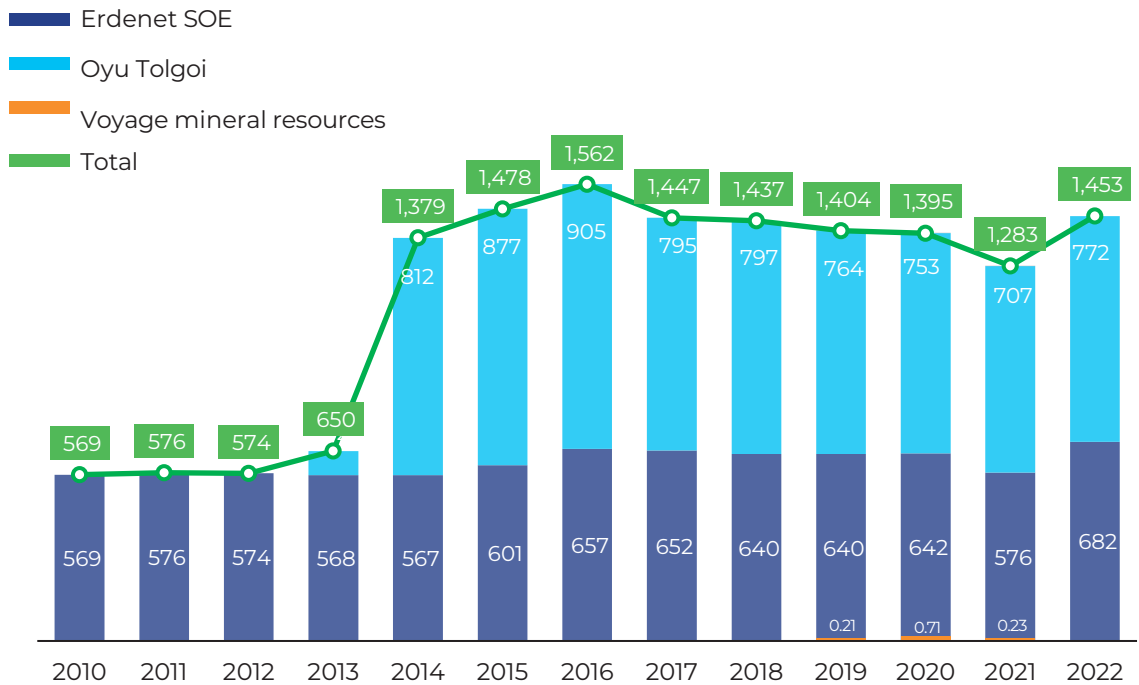
TOTAL AMOUNT OF ORE MINED

(Mt)



TOTAL AMOUNT OF COPPER EXPORT

COPPER CONCENTRATE (Kt)







COAL

C

Carbon

N

Nitrogen

O

Oxygen

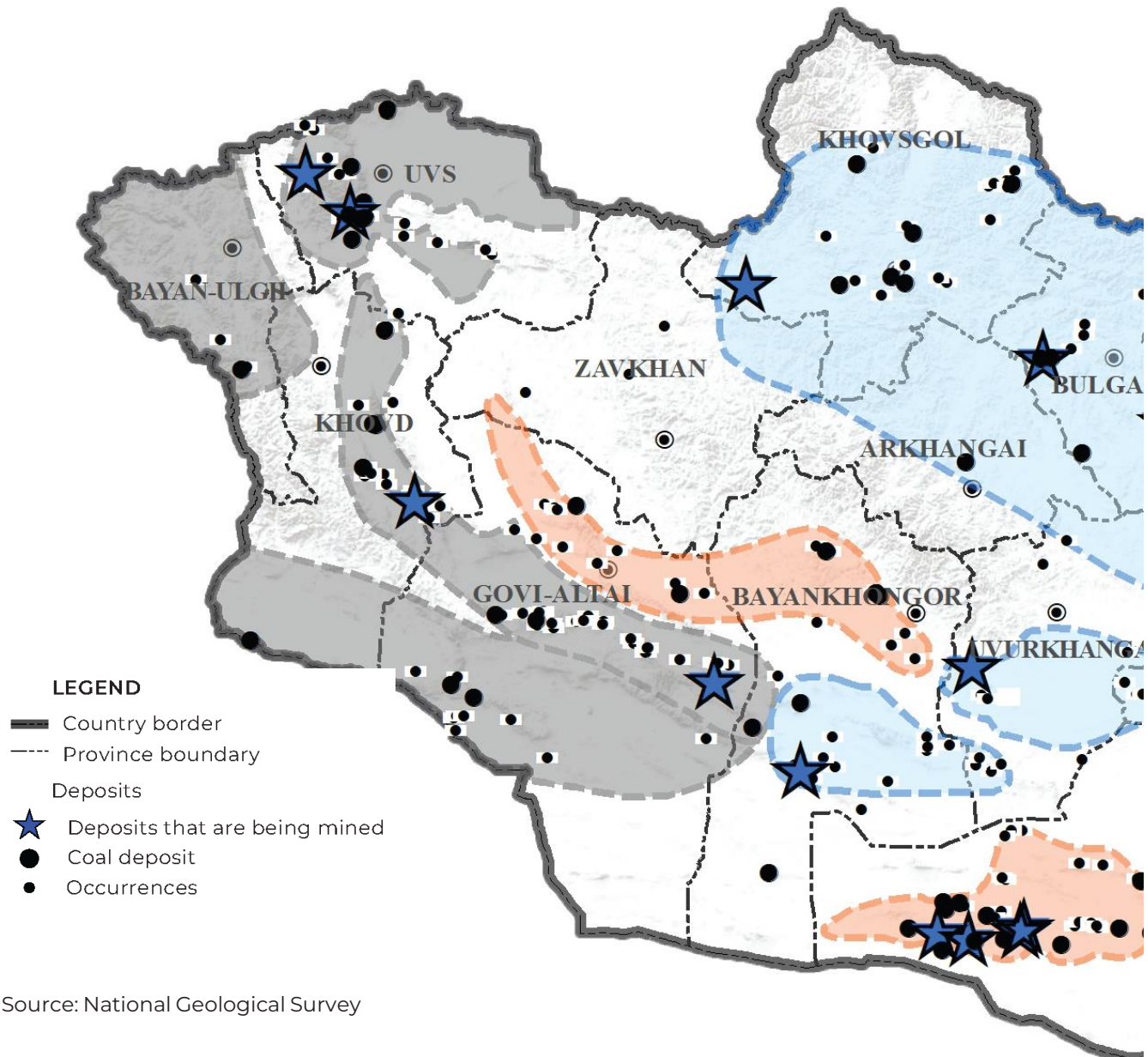
Coal potential

COAL RESERVES / 2020

TOTAL RESERVES (by Country):	1. USA	2. RUSSIA	3. AUSTRALIA	4. CHINA	MONGOLIA
1,074.1 Bt	248.9 Bt	162.2 Bt	150.2 Bt	143.2 Bt	34.6 Bt

Source: www.sxcoal.com, International Energy Agency (www.iea.org)

In 2020, coal reserves are estimated at 1,074.1 billion tons worldwide. The total registered coal reserves in Mongolia is 34.6 billion tons, which is 3.2% of the world's total reserves.



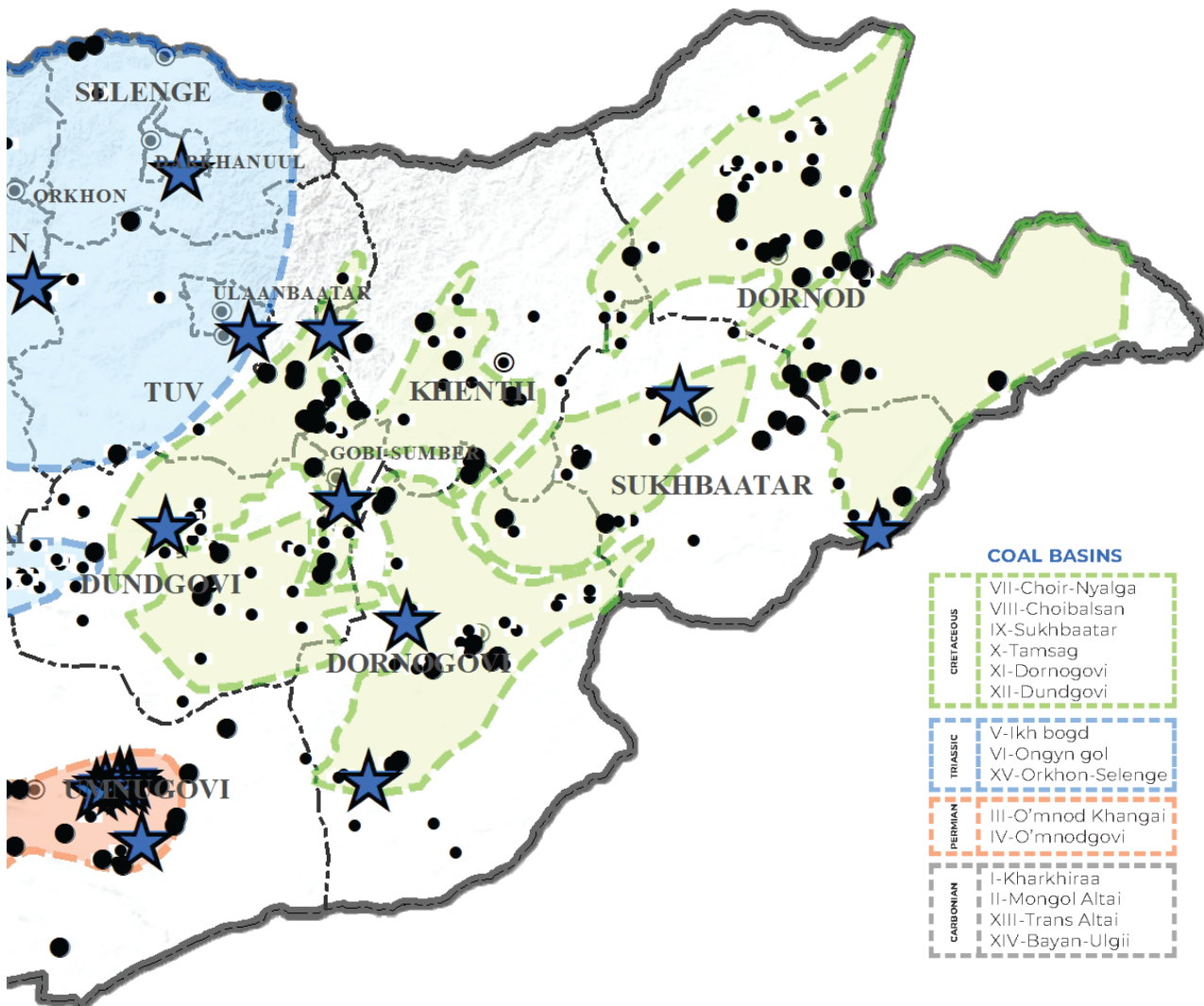
COAL PRODUCTION / 2022



Source: International Energy Agency (iea.org), MRPAM

China was the world's largest producer of coal in 2022, accounting for 50.9% of the world's total production and 0.8% of the world's total production of coal belongs to Mongolia.

Scale 1:12 000 000



Reserves, export

TOTAL COAL

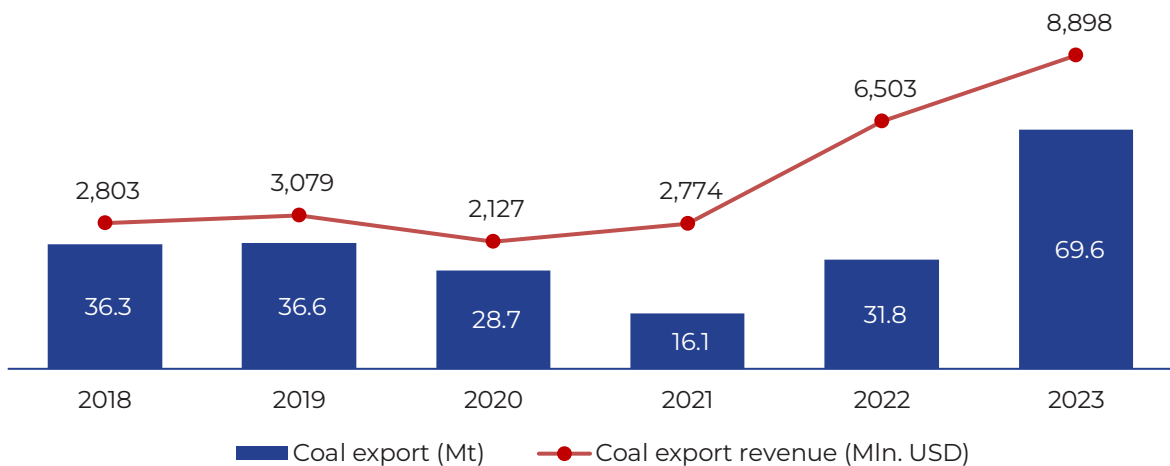
150.0 Bt
Resources

34,629.3 Mt
Reserves

TYPES OF COAL RESERVES

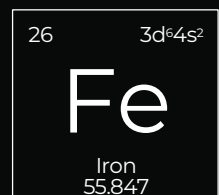
Illustrate	Reserve (Mt)
ANTRACIT COAL	73.3
COKING COAL	5,968.1
MID COKING COAL	1,321.5
THERMAL COAL	6,227.6
LIGNITE COAL	21,038.9
TOTAL	34,629.3

COAL EXPORT, REVENUE /income/





IRON



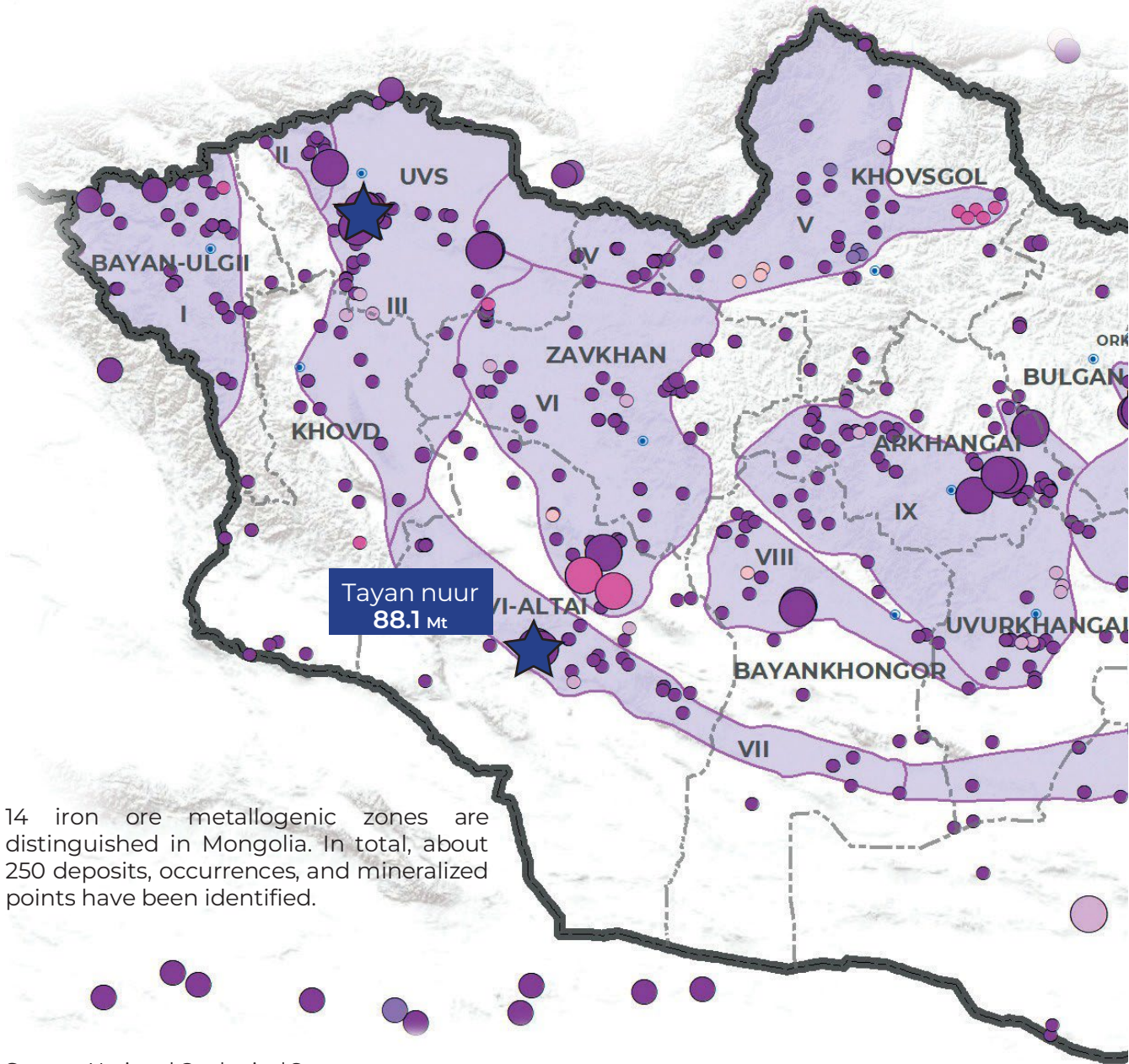
Iron potential

IRON ORE RESERVES / 2022



Source: United States Geological Survey (USGS)

In 2022, iron reserves 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 reserves.



14 iron ore metallogenic zones are distinguished in Mongolia. In total, about 250 deposits, occurrences, and mineralized points have been identified.

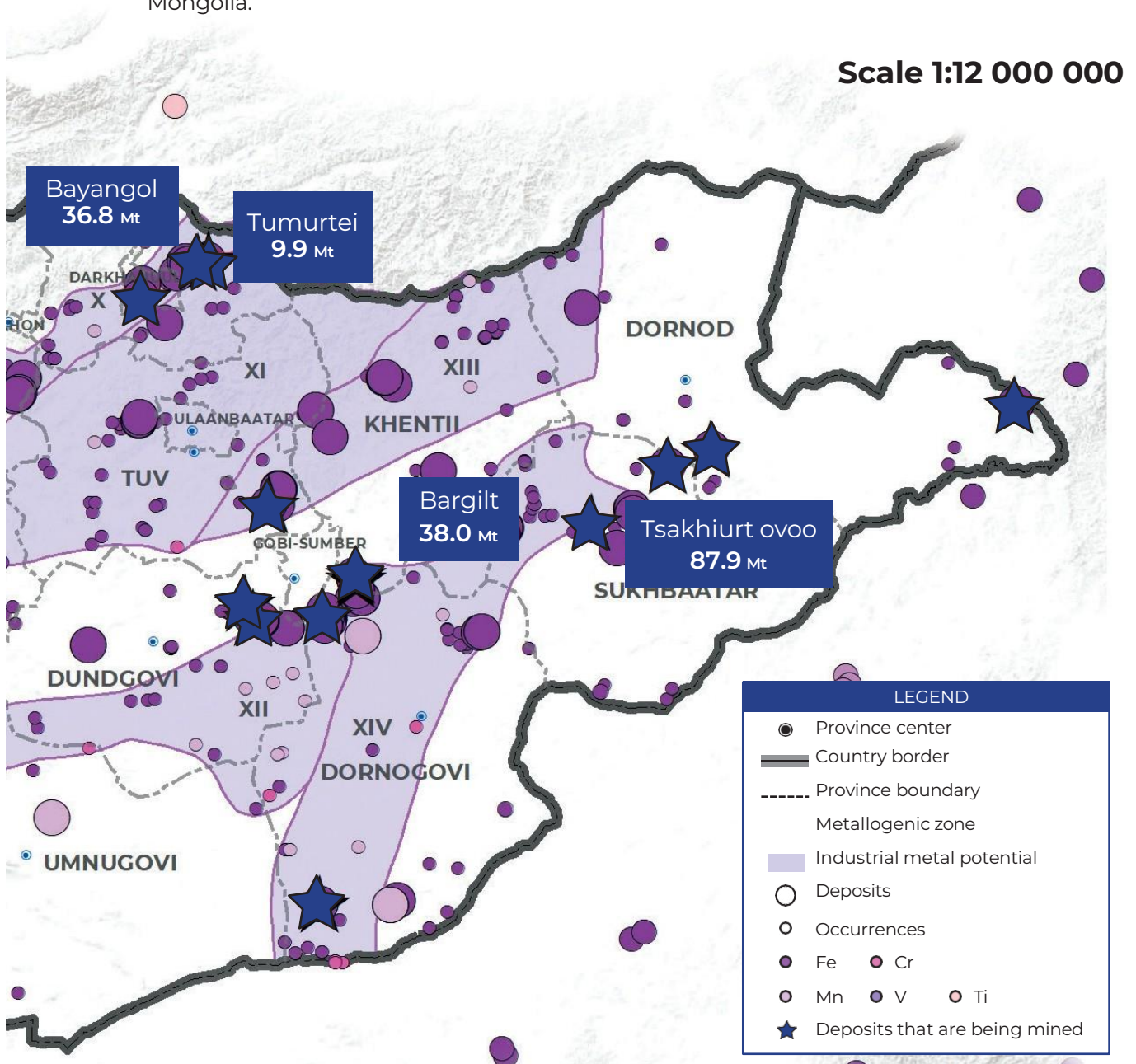
Source: National Geological Survey

IRON ORE PRODUCTION / 2022



Source: United States Geological Survey (USGS)

Australia was the world's largest producer of iron in 2022, accounting for 33.8% of the world's total production and 0.4% of the world's total production of iron belongs to Mongolia.



IRON RESOURCES

1,800.0 Mt

Iron ore resources

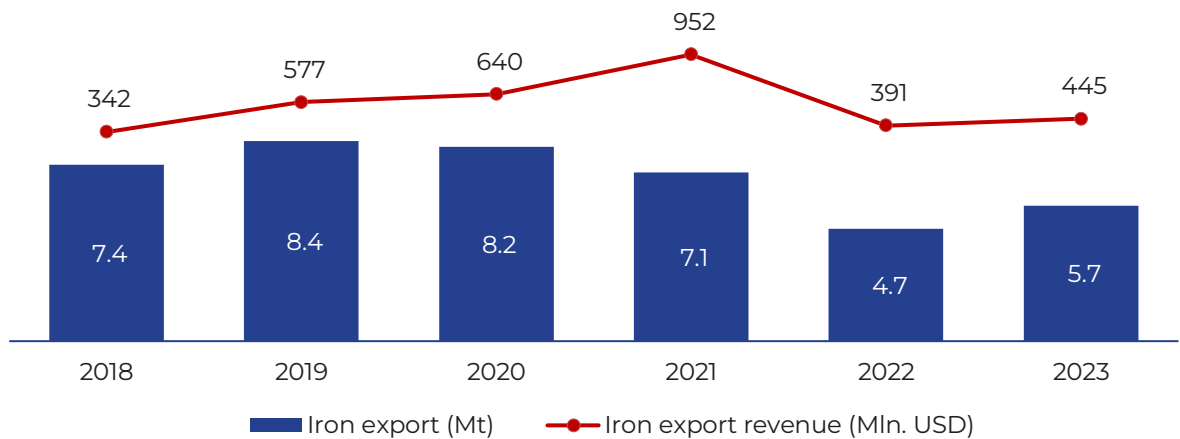
602.6 Mt

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/





SILVER

47 [Kr]4d¹⁰5s¹
Ag
Silver
107.868



ZINC

30 [Ar]3d¹⁰4s²
Zn
Zinc
65.38



LEAD

82 [Xe]6s²4f¹⁴5d¹⁰6p²
Pb
Lead
207.2

Polymetals

ZINC RESERVES / 2022

RESERVES (by Country): 210 Mt	1. AUSTRALIA 66 Mt	2. CHINA 31 Mt	3. RUSSIA 22 Mt	4. PERU 17 Mt	MONGOLIA 4.7 Mt
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Zinc reserves are estimated to be around 210.0 million tons in 2022. The total recorded zinc reserves in Mongolia is 4.7 million tons, which is 2.2% of the world's total reserves.

ZINC PRODUCTION IN METALS / 2022

PRODUCTION (by Country): 13.0 Mt	1. CHINA 4.2 Mt	2. PERU 1.4 Mt	3. AUSTRALIA 1.3 Mt	4. INDIA 0.8 Mt	MONGOLIA 63.5 Kt
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China was the world's largest producer of zinc in 2022, accounting for 32.3% of the world's total production and 0.5% of the world's total production belongs to Mongolia.

LEAD RESERVES / 2022

RESERVES (by Country): 85.0 Mt	1. AUSTRALIA 37 Mt	2. CHINA 12 Mt	3. RUSSIA 6.0 Mt	4. MEXICO 5.6 Mt	MONGOLIA 1.7 Mt
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In 2022, lead reserves are about 85.0 million tons. The total recorded lead reserves in Mongolia is 1.7 million tons, which is 2.0% of the world's total reserves.

LEAD PRODUCTION IN METALS / 2022

PRODUCTION (by Country): 4.5 Mt	1. CHINA 2.0 Mt	2. AUSTRALIA 0.4 Mt	3. USA 0.3 Mt	4. MEXICO 0.3 Mt	MONGOLIA 12.2 Kt
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China was the world's largest producer in 2022, accounting for 44.4% of the world's total production and 0.3% of the world's total production belongs to Mongolia.

SILVER RESERVES / 2022

RESERVES (by Country): 550.0 Kt	1. PERU 98 Kt	2. AUSTRALIA 92 Kt	3. CHINA 71 Kt	4. POLAND 65 Kt	MONGOLIA 34.5 Kt
--	----------------------------	---------------------------------	-----------------------------	------------------------------	-------------------------------

In 2022, silver reserves are about 550.0 k.tons. The total registered silver reserves in Mongolia is 34.5 thousand tons, which is 6.3% of the world's total reserves.

SILVER PRODUCTION IN METALS / 2022

PRODUCTION by Country): 26.0 Kt	1. MEXICO 6.3 Kt	2. CHINA 3.6 Kt	3. PERU 3.1 Kt	4. CHILE 1.6 Kt	MONGOLIA 104 t
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Mexico was the world's largest producer in 2022, accounting for 24.2% of global production and 0.4% of the world's total production of silver belongs to Mongolia.

General Information on Polymetallic Deposits of Mongolia

RESOURCES OF POLYMETALS

Mining license **5** ▶ **77.0** Mt

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

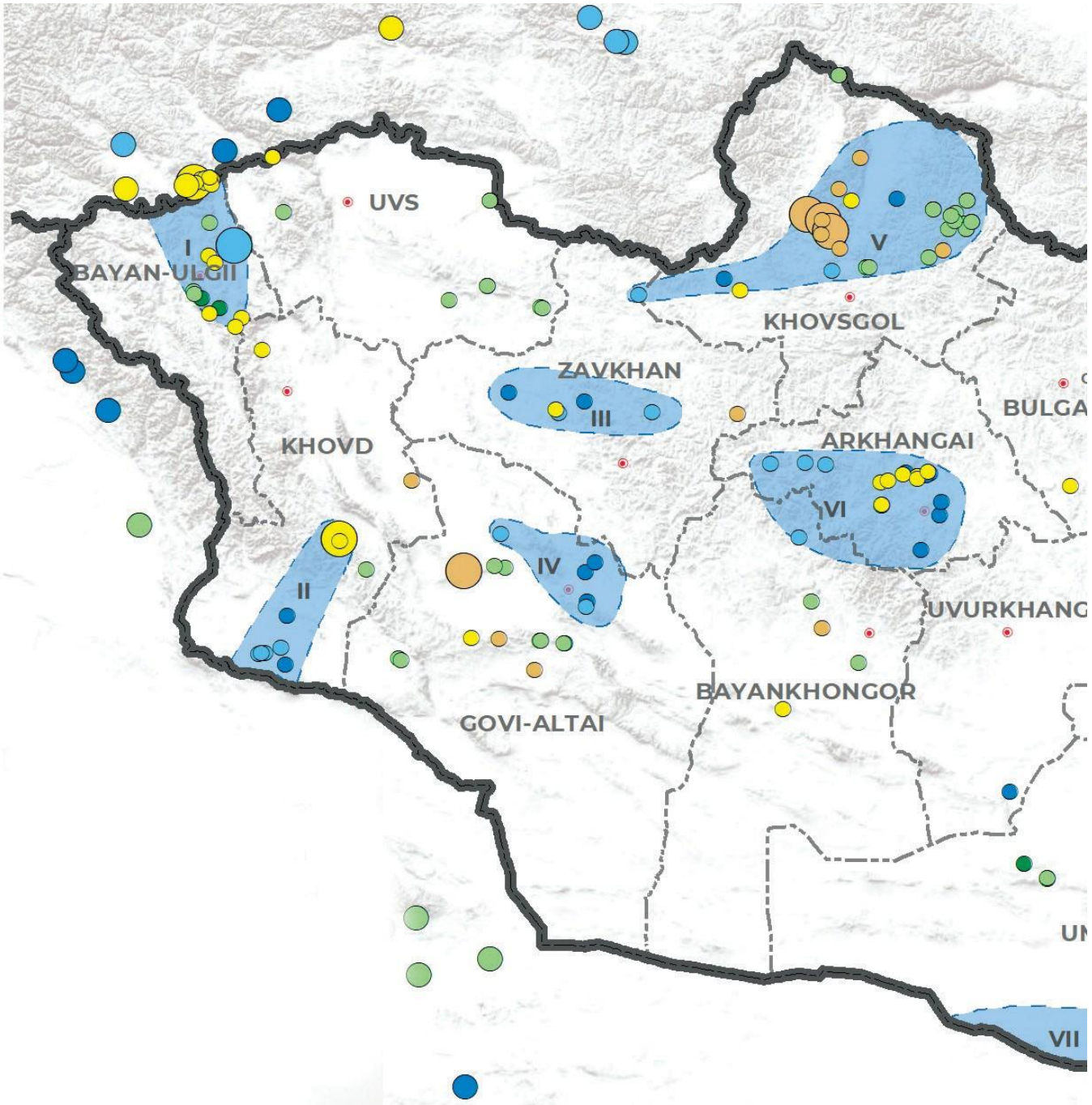
Exploration projects **14** ▶ **74.3** Mt

RESOURCES OF METALS IN ORES

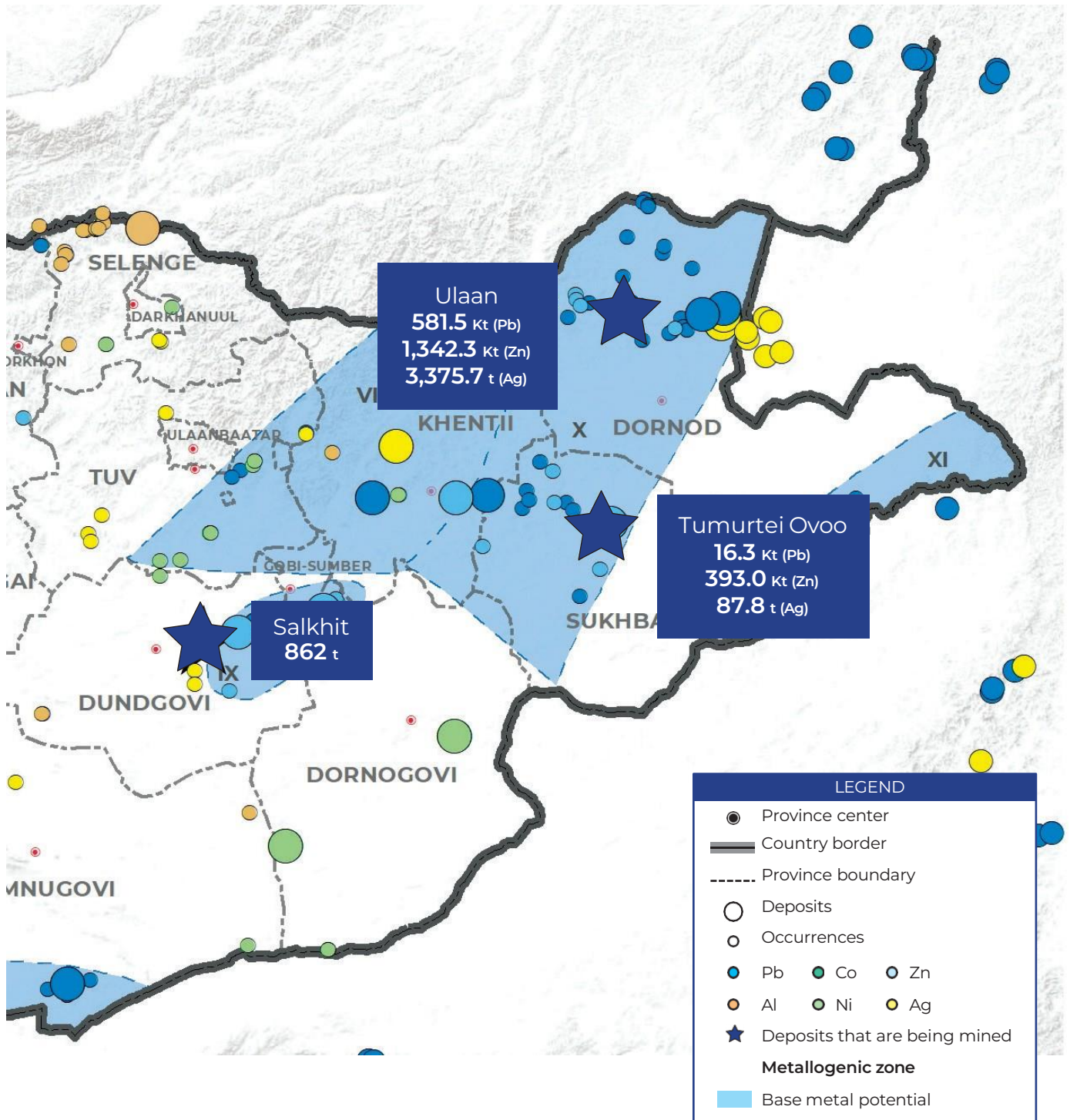
Minerals	Unit	Resources
Zinc	kt	4,725.16
Thin	Kt	1,672.26
Silver	t	16,695.14
Copper	kt	343.77
Tungsten	kt	19.54
Iron	kt	8,927.22
Molybdenum	kt	10.11
Gold	kg	39,248.9
Arsenic	kt	1,235.91
Antimony	t	144,419.55
Cadmium	t	15,212.19
Bismuth	t	11,053.92
Uranium	t	270.0

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.

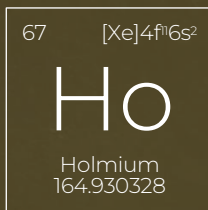
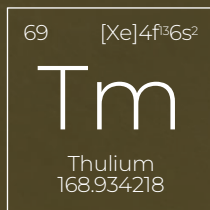
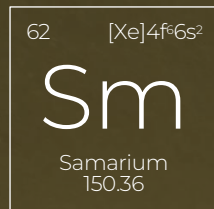
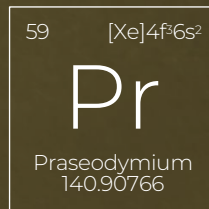
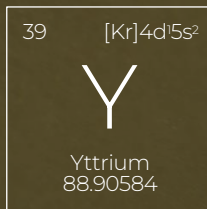
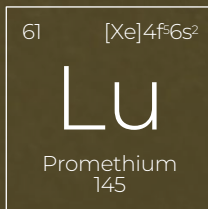
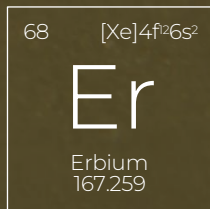
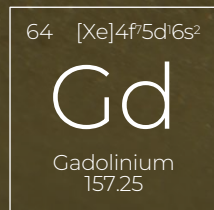
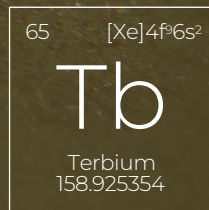
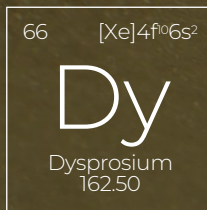
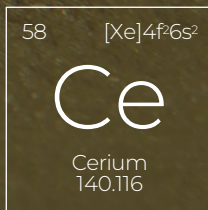
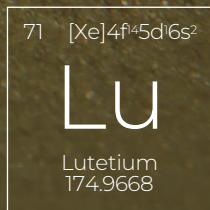
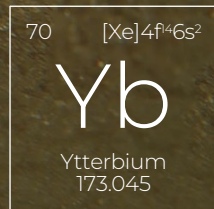
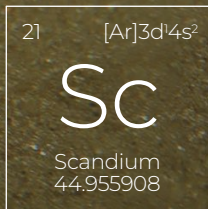
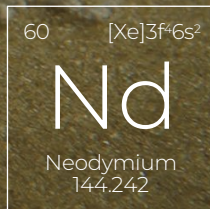


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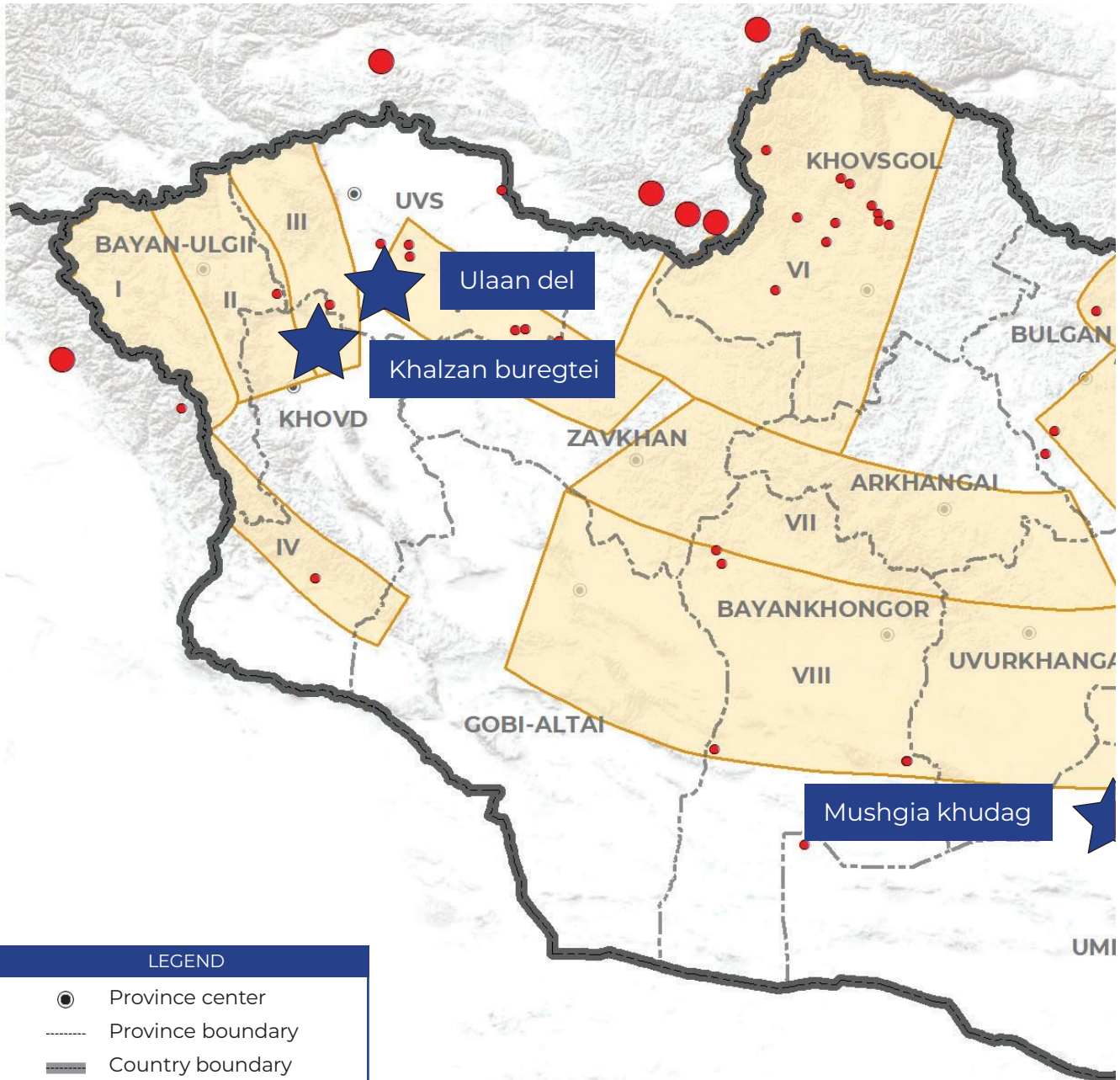
Source: National Geological Survey





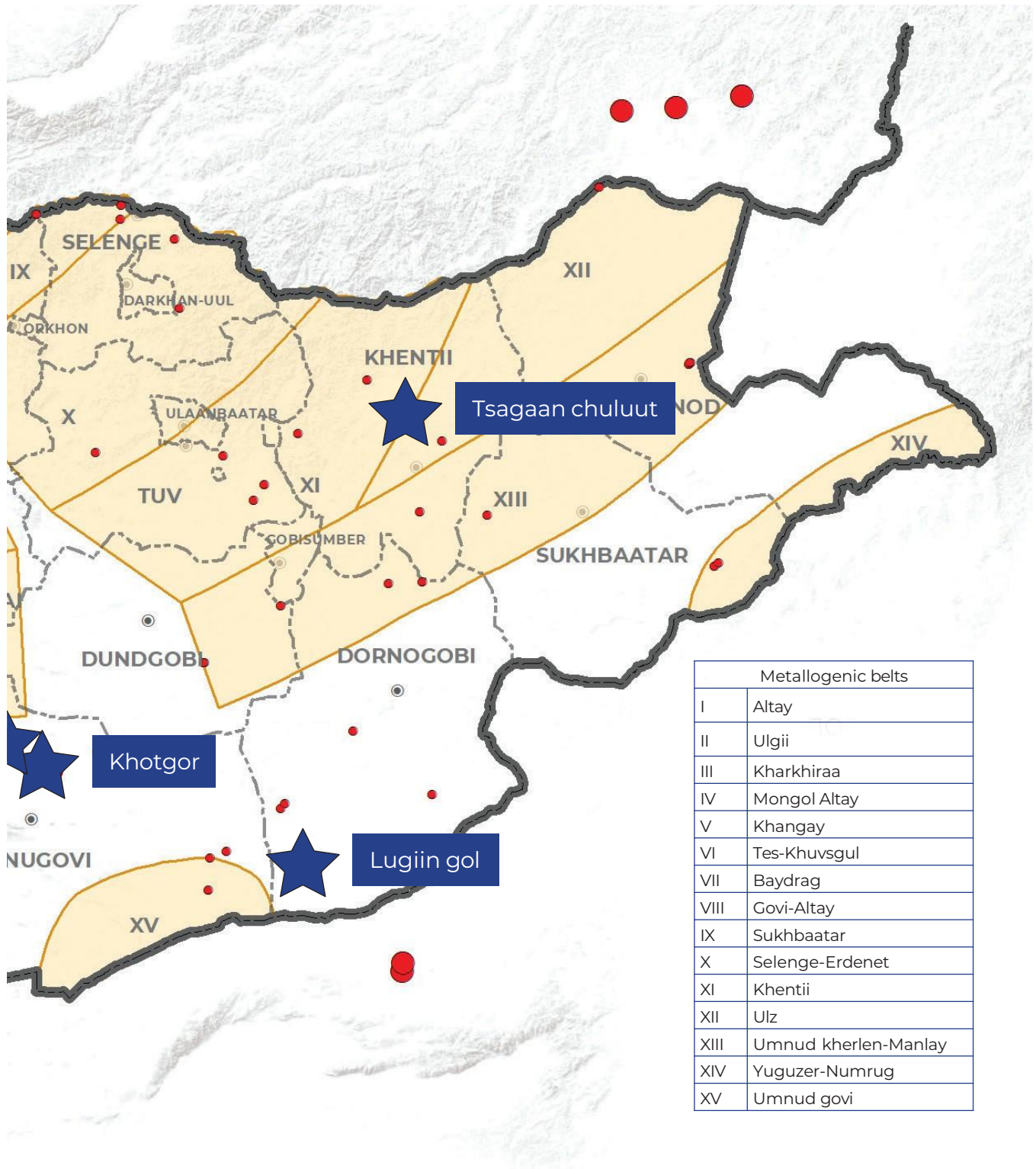
RARE EARTH ELEMENTS

Rare Earth Elements Potential



LEGEND	
	Province center
	Province boundary
	Country boundary
Deposits	
	REE (native)
	REE (placer)
Occurrences	
	REE
Metallogenic zone	
	Rare metal potential

Scale 1:12 000 000



Source: National Geological Survey

Rare earth element deposits of Mongolia

Project owner	Deposit name	Province, Sub province	Valuable component average content,% g/m ³ / RE ₂ O ₃ or oxidized/	Ore, 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	245,526,900	811,791.58	
NABD LLC	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-124.7	Light, heavy / lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, erbium, holmium, ytterbium/
Total				1,215,611,765	3,608,255.3 Monazite – 274.55	

URANIUM

92 [Rn]5f³6d¹7s²

U

Uranium
238.02891



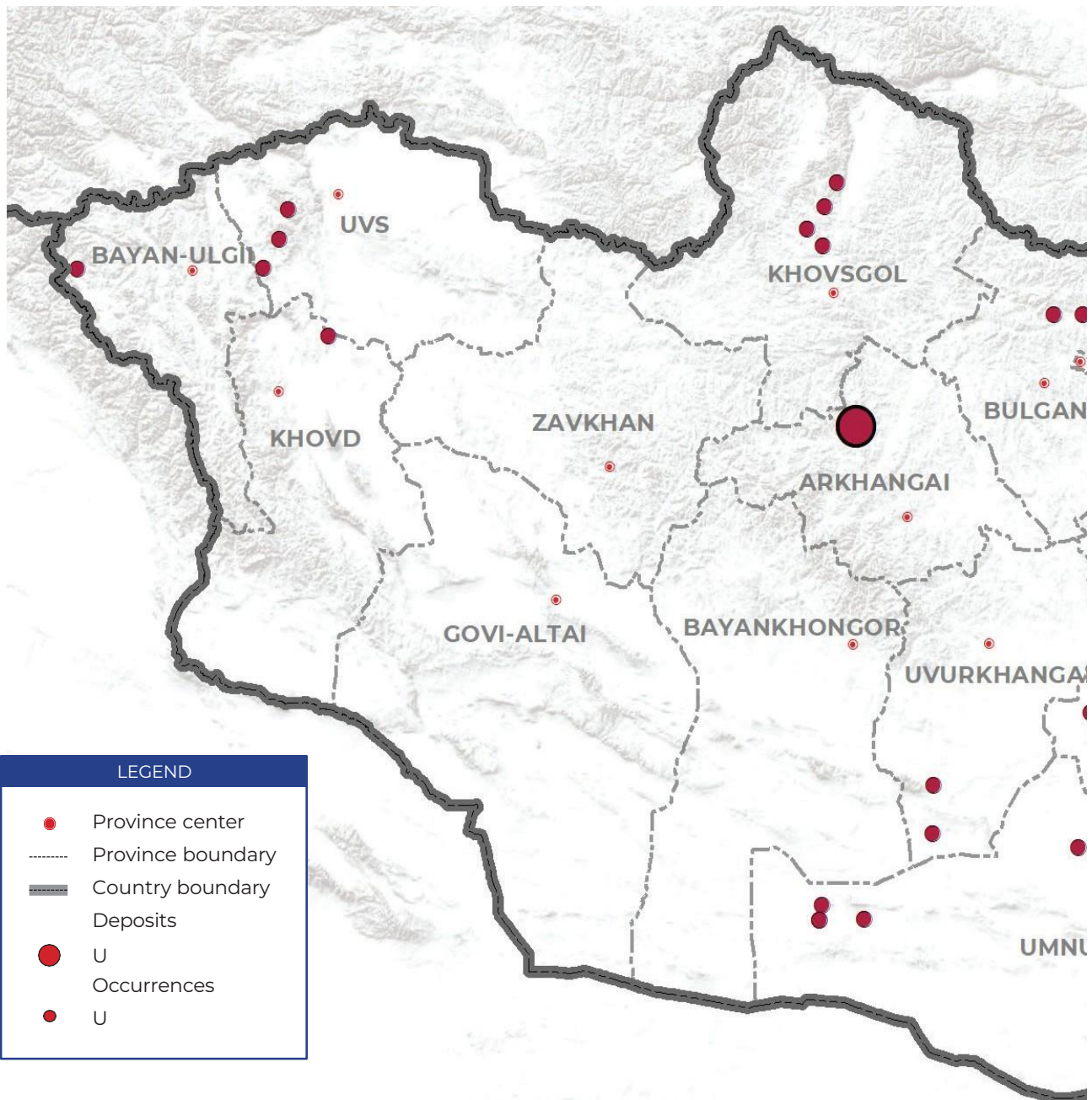
Uranium potential

URANIUM RESOURCES / 2021



Source: World nuclear association, National geological survey of Mongolia

In 2021, uranium resources are about 6.1 million tons. The total registered uranium reserves in Mongolia is 192.2 thousand tons, which is 3.2% of the world's total resources.

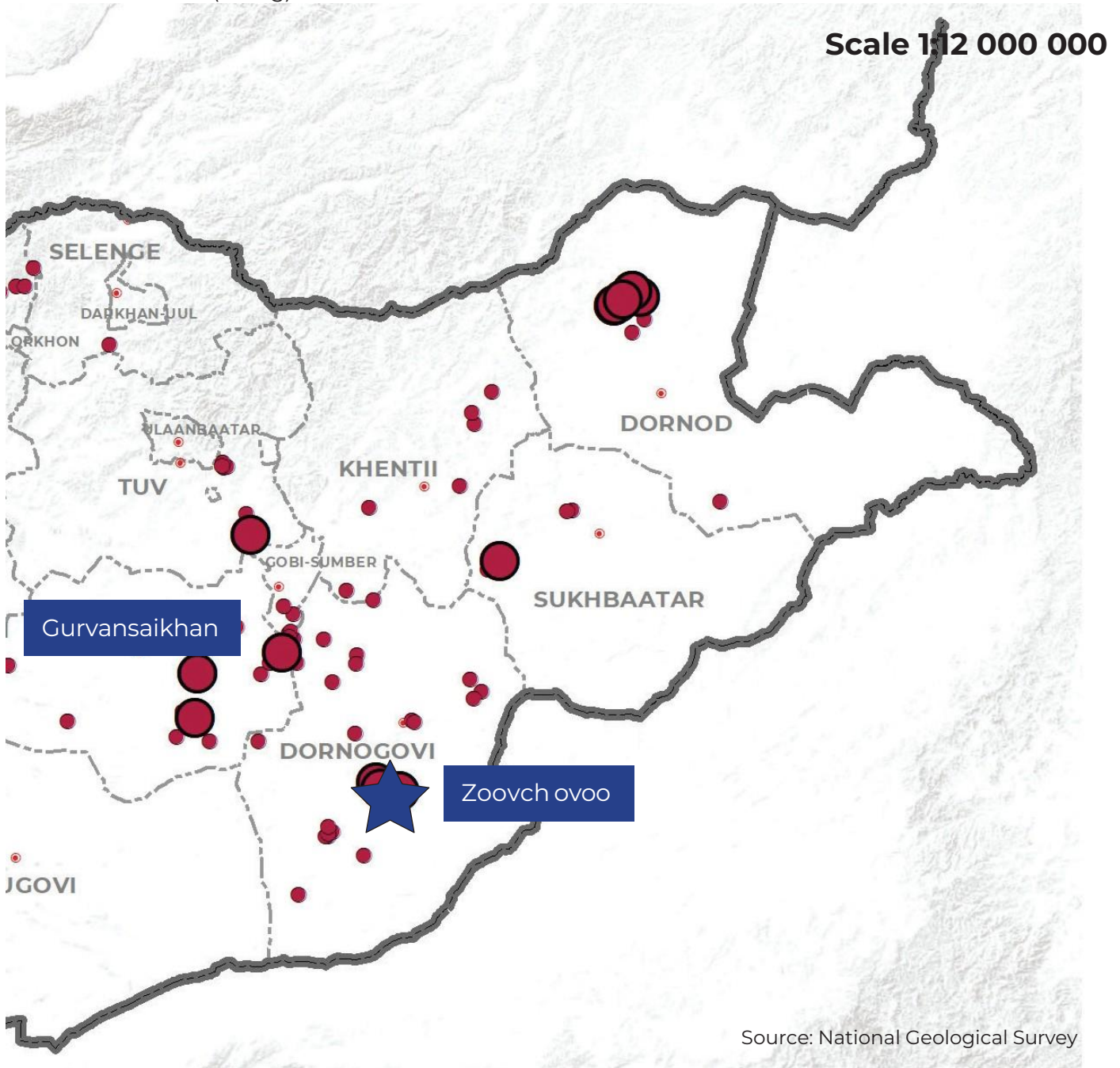


URANIUM PRODUCTION / 2022

PRODUCTION (by Country): 49.3 Kt	1. KAZAKHSTAN	2. CANADA	3. NAMIBIA	4. AUSTRALIA	MONGOLIA
	21.2 Kt	7.4 Kt	5.6 Kt	4.6 Kt	Technological pilot production

Source: World nuclear association, Badrakh Energy LLC

Kazakhstan has become the world's largest producer in 2022 and accounts for 43.0% of the total production, while Mongolia is conducting a pilot production at the Zuuvch-Ovoo deposit located in the Ulaanbadrakh sub province (soum) of Dornogovi Province (aimag).



Source: National Geological Survey

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

79 [Xe]4f¹⁴5d¹⁰6s¹

Au

Gold
196.96657



Scottsdale Gold

1 KILO
9999
FINE GOLD

Gold potential

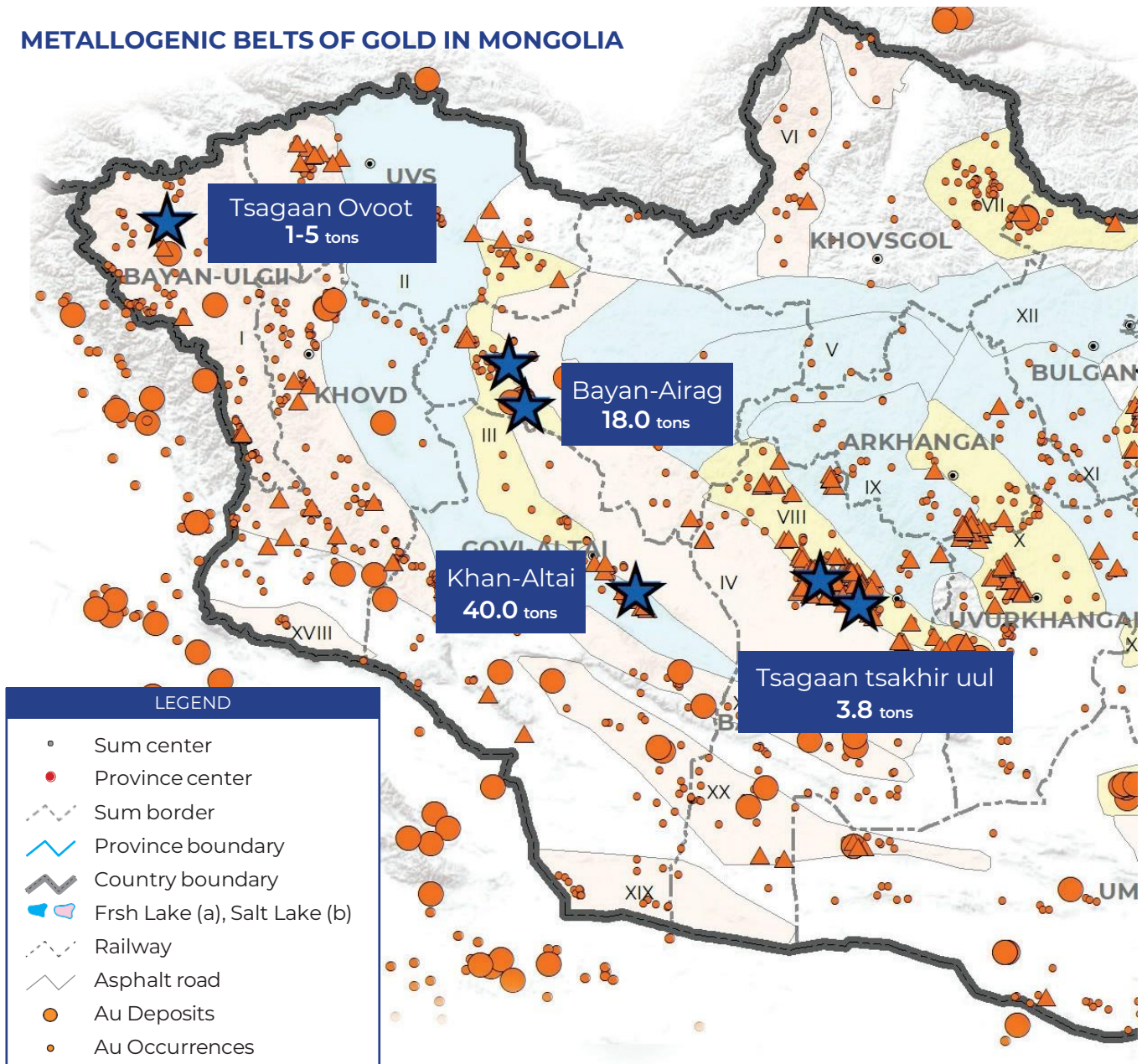
GOLD RESERVES / 2022

TOTAL RESERVES (by Country):	1. AUSTRALIA	2. RUSSIA	3. S.AFRICA	4. USA	MONGOLIA
	52.0 Kt	8.4 Kt	6.8 Kt	5.0 Kt	3.0 Kt

Source: United States Geological Survey (USGS)

The total gold reserves registered in Mongolia is 499.5 tons (excluding gold reserves of Oyu Tolgoi deposit). Mongolia accounts for 1 percent.

METALLOGENIC BELTS OF GOLD IN MONGOLIA

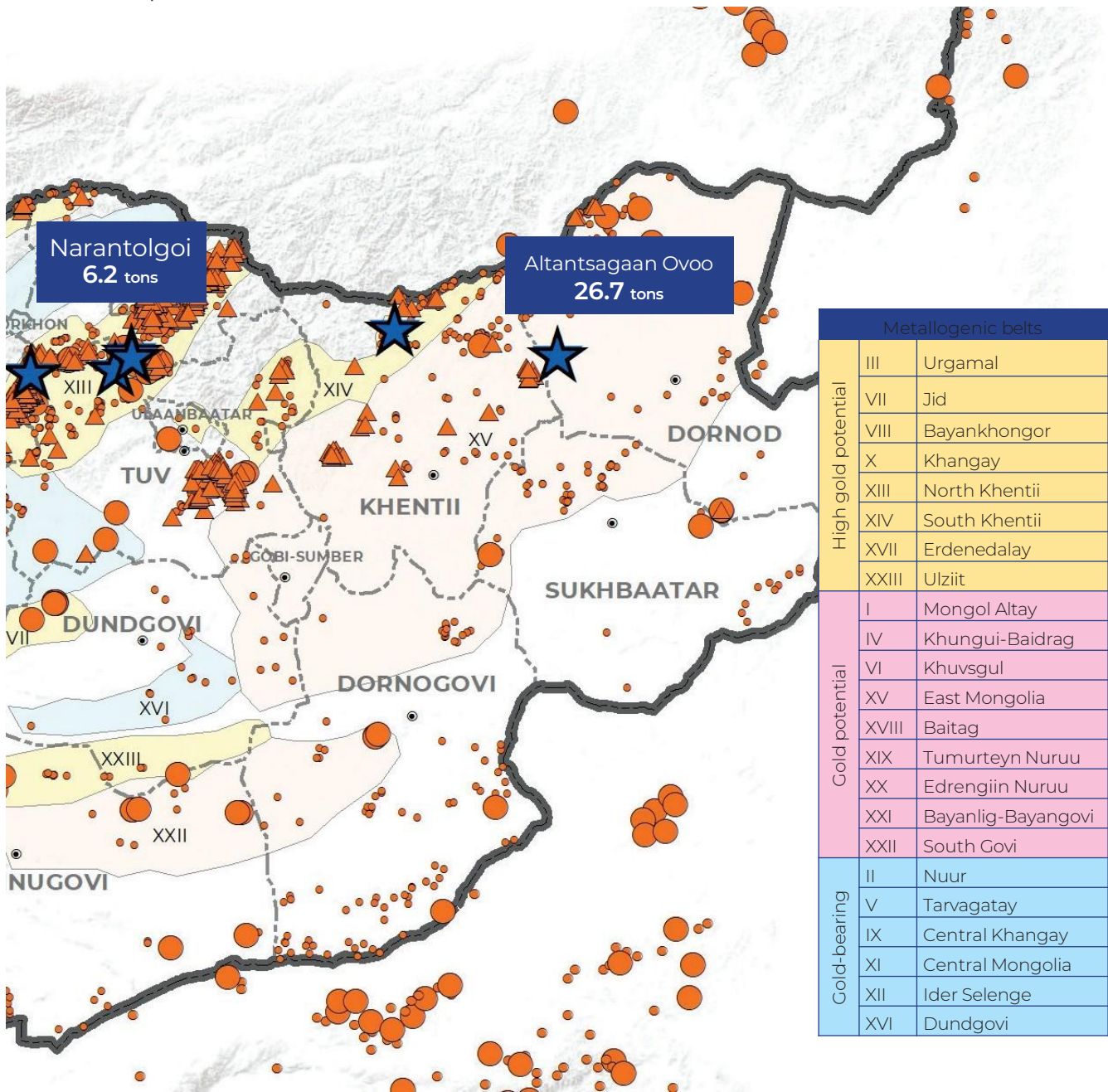


GOLD PRODUCTION / 2022

PRODUCTION (by Country): 3,100 t	1. CHINA 330 t	2. RUSSIA 320 t	3. AUSTRALIA 320 t	4. CANADA 220 t	MONGOLIA 23 t (Submitted to Mongol Bank)
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Source: United States Geological Survey (USGS)

China was the world's largest producer in 2022, accounting for 10.6% of the world's total production.

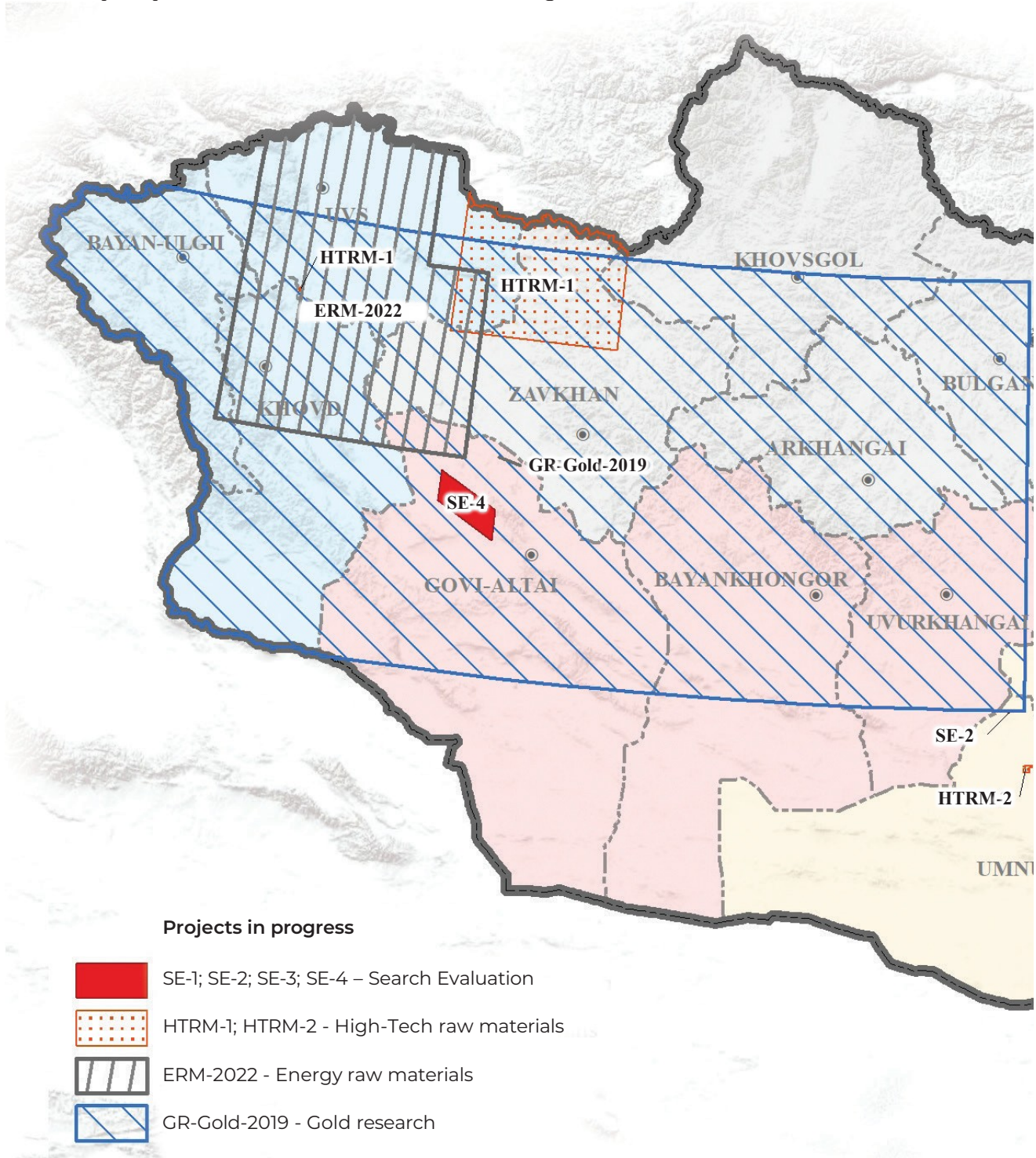


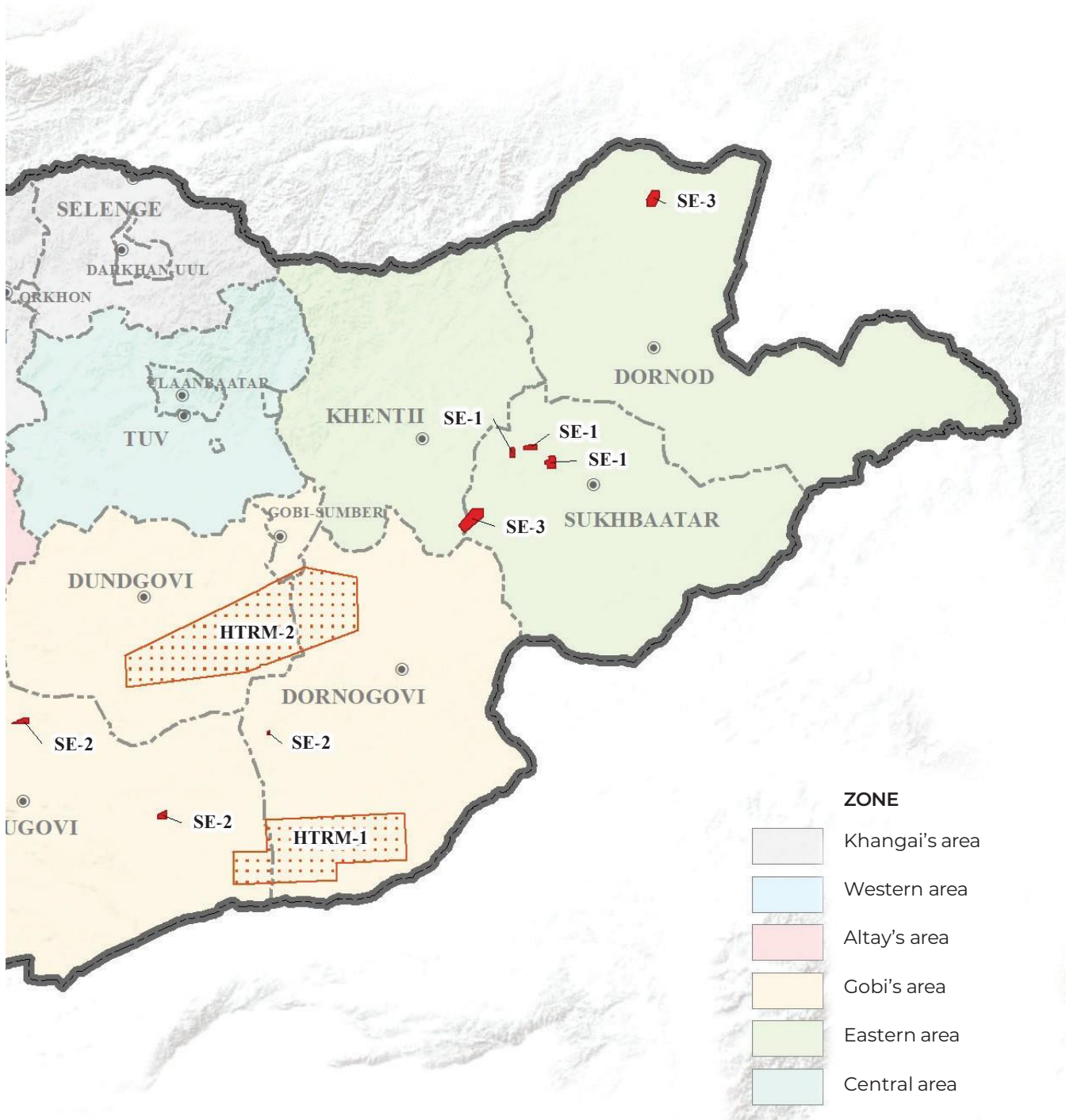
Source: National Geological Survey

State-funded geological survey

According to the basic geological surveys conducted in the eastern part of the country only, about 30 thousand tons.

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





Source: National Geological Survey



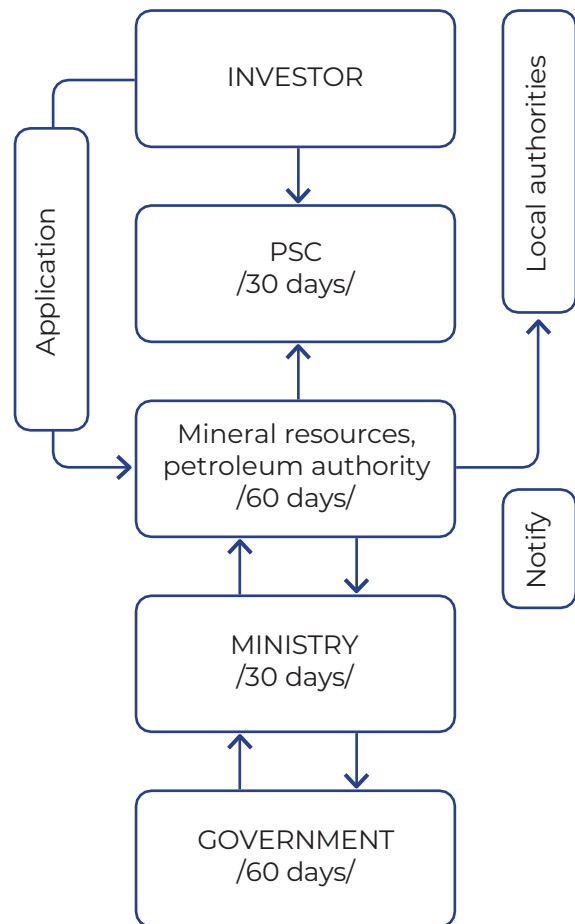
PETROLEUM AND
UNCONVENTIONAL
COMMODITIES

Legal environment of product sharing contract

Mongolian 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

License 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.
- 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

Acreage Fees

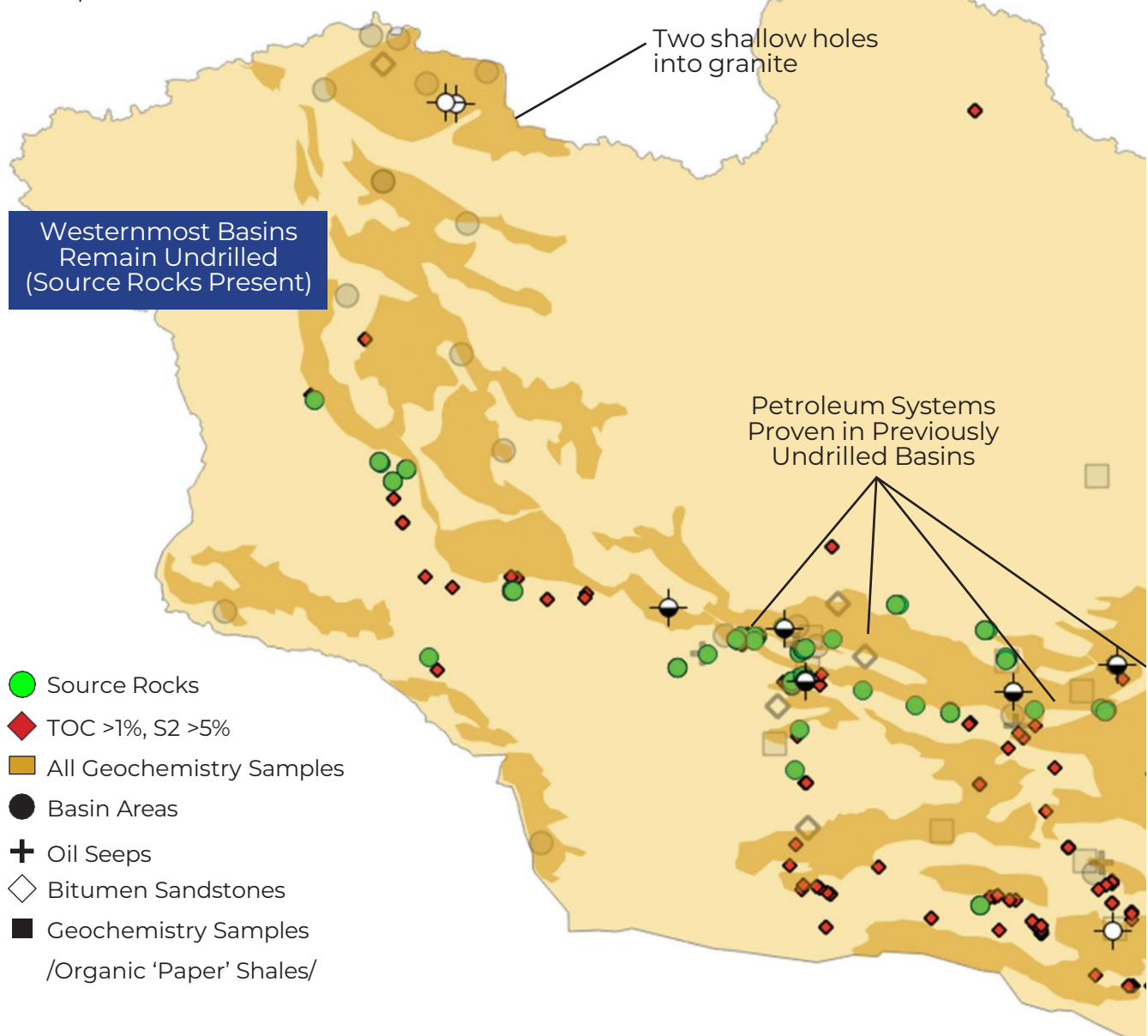
- ▶ Exploration Phase: USD 3/km², USD 8/km² in extension periods
- ▶ Exploitation Phase: USD 100/km², USD 200/km² in extension periods

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

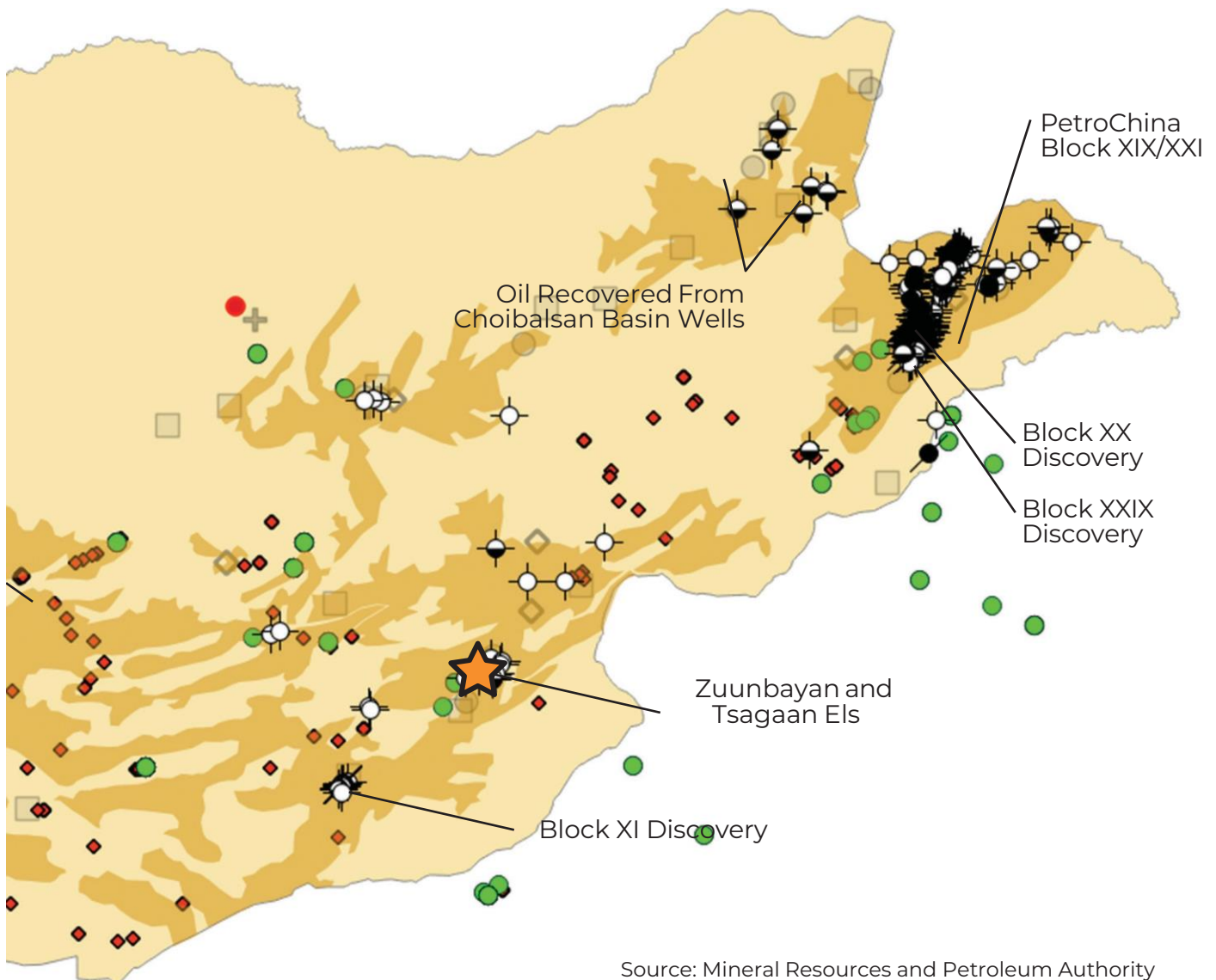
and generates international interest (BP and others do fieldwork) Source Rocks TOC >1%, S₂ >5% All Geochemistry Samples Basin Areas 'Oil' Seeps Bitumen Sandstones Geochemistry Samples Organic 'Paper' Shales Westernmost Basins Remain Undrilled (Source Rocks Present) Petroleum Systems Proven in Previously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



STATUS EXPLORATION POST /since 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



Source: Mineral Resources and Petroleum Authority

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.

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

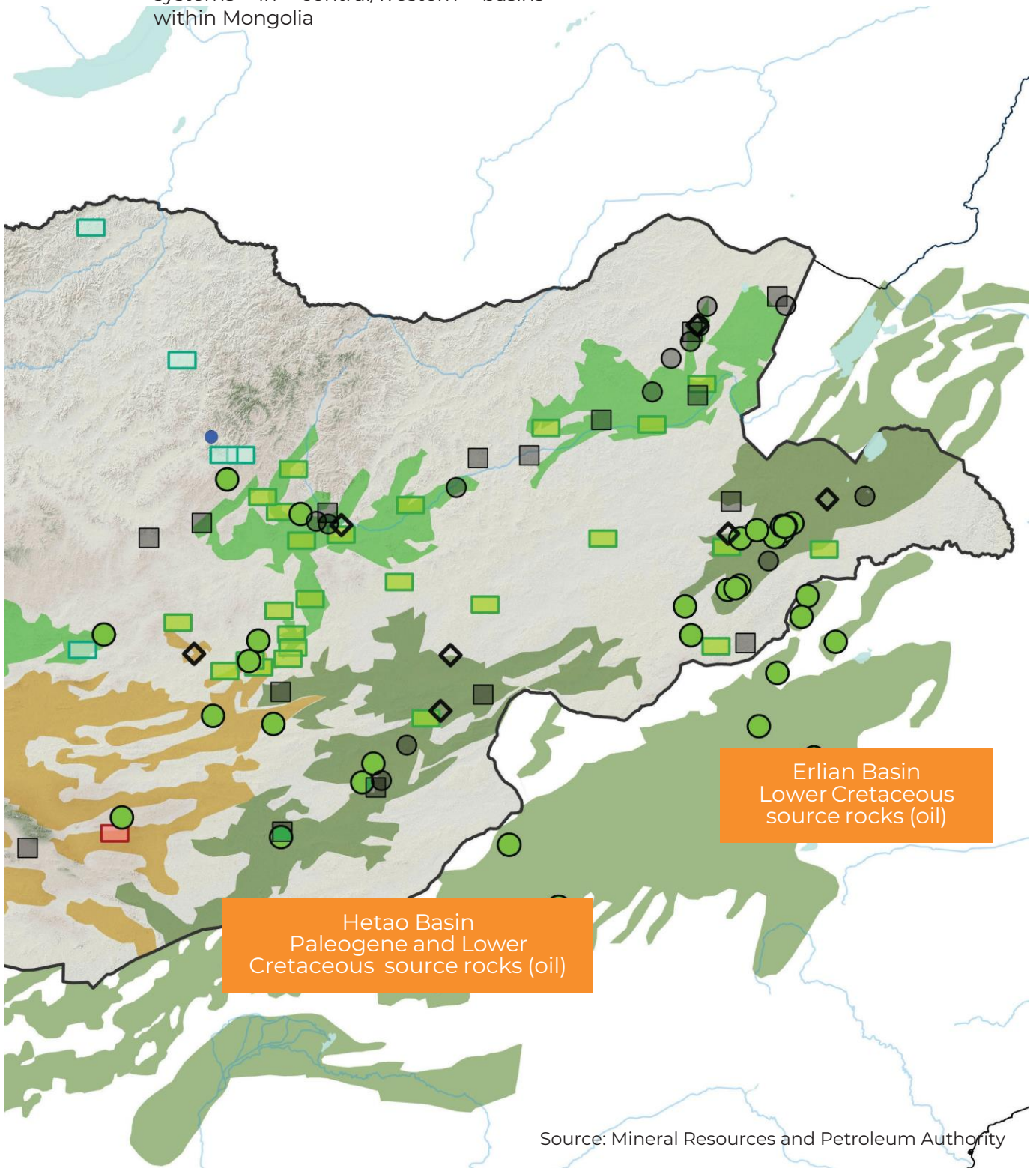
explored Mongolian basins Opportunity for new technologies (seismic imaging/drilling) to unlock potential



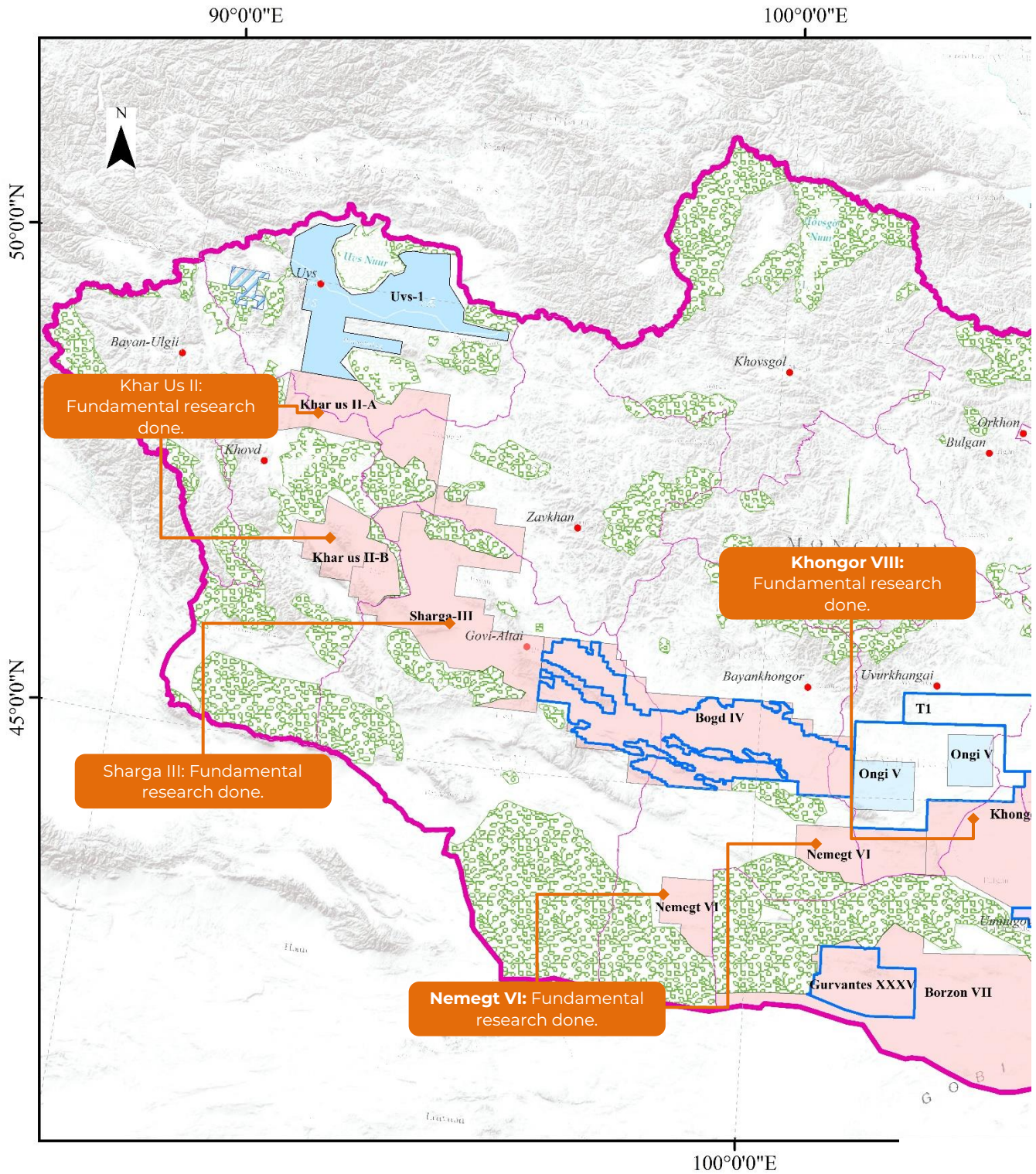
Carboniferous to Paleogene basins play an important role in and adjacent to Mongolia, where:

- ▶ 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.

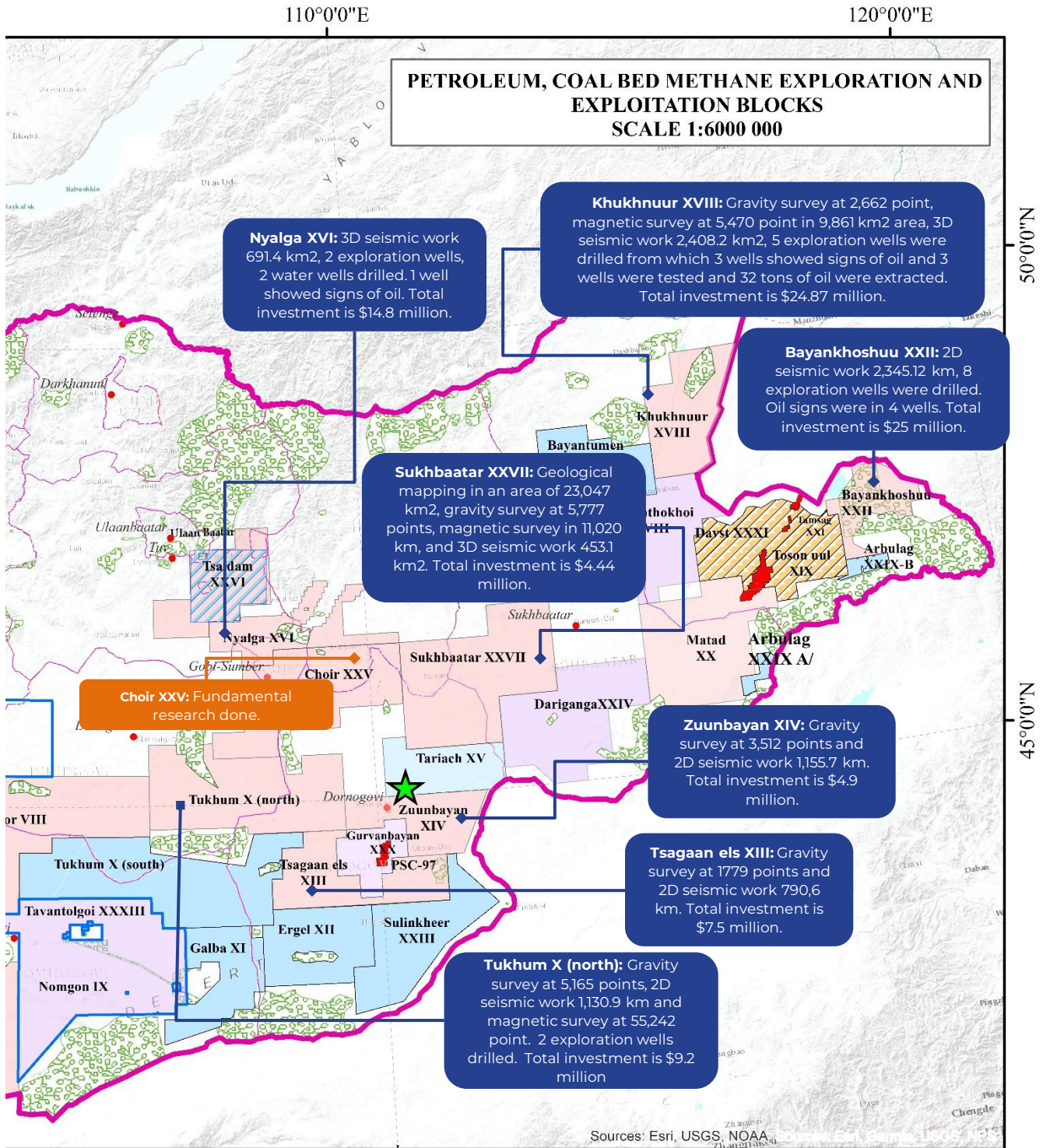


Recent tender blocks



Source: Mineral Resources and Petroleum Authority

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



Sources: Esri, USGS, NOAA

Sponsoring organization



MONGOLIAN-GERMAN TECHNICAL DEVELOPMENT PROJECT “ADVISORY SERVICES FOR SUSTAINABLE MINERAL RESOURCES MANAGEMENT“

Period: 04/2022 – 03/2025
 Partner: Ministry for Mining and Heavy Industry (MMHI)
 Mineral Resources and Petroleum Authority of Mongolia (MRPAM)
 National Geological Survey (NGS)
 Federal Institute for Geosciences and Natural Resources (BGR)

Brief description of the project and the German contribution

The German-Mongolian Technical Cooperation Project “Advisory Services for a Sustainable Mineral Resources Management” builds on previous Capacity Development Projects in Mongolia since 2014 and bilateral cooperation experience since 1992. The project aims to support transparent and efficient governance of the mining sector to enable sustainable economic development. To reach the goal the project works in three main areas.

Output 1: Promotion of Digitalization in the Mineral Resources and Extractives Sector in accordance with the Mongolian eGovernment Policy.

- The existing digital information systems in MRPAM including the Computerized Mining Cadaster System (CMCS) and the eReporting System for mining and exploration companies are being upgraded. This includes an enhanced digital data transfer and exchange to the Mongolian Extractives Industries Transparency Initiative (EITI), MMHI and the general public. The work will be finished in 2024.
- In NGS, the development of uniform standards and processes for digital mapping and geospatial data management will improve the quality of digital geologic data delivery. A geodata management scheme will be set-up and a database for 1:200 000 geological map coverage established. The work will be completed in the first half of 2024.
- The digitalization work is complemented by financial support to update some of the hard-and software infrastructure at the partner organizations (server, GIS-software, firewall etc.)

Output 2: Support the development of demand-oriented methods and instruments for partners' regulatory and surveillance functions.

- Together with MMHI and MRPAM, the development of evaluation methods for the socio-economic impact of mining in Mongolia are planned. As first step a detailed data analysis will be conducted this year.
- A second focus of work is on improving the implementation of resource and reserve classifications. For example the commodity-specific national guideline for the resources and reserve classification has been developed for final five selected minerals and presented to the public in April 2023.

Output 3: Capacity Development

Senior management and staff members of the partners and mining companies are receiving different training in relation to the projects' fields of action (in 2023 so far 8 different training activities have been organized or supported).

An aerial photograph of a mountain valley. In the foreground, a vibrant turquoise lake is surrounded by lush green vegetation and rocky terrain. A river flows from the lake towards the bottom of the frame. In the background, rugged mountains are partially covered in snow, with a layer of clouds hanging just below the peaks. The sky is a mix of soft orange and blue, suggesting a sunset or sunrise. A dark, semi-transparent rectangular box is overlaid on the middle of the image, containing the text "INTRO TO ACTIVE MINING PROJECTS" in white, uppercase letters.

INTRO TO ACTIVE MINING PROJECTS



MONGOLIAN NATIONAL MINING ASSOCIATION

Join us and create a value together

WHO ARE WE ?

Mongolian National Mining Association is an independent, non-profit NGO that serves its members and has certified membership of enterprises and organizations that provide products and services in the field of mineral resources.

The Association Board has the right and responsibility to implement the management of MNMA. 5-11 members of the Board members are elected by the general assembly for a three-year term. The members of the board are the main members of the association.

BOARD OF ASSOCIATION



OUR FOCUS



Promote responsible mining



Regulatory effectiveness



Sustainable mining



Increase competitiveness



Promote foreign & domestic investment



Develop international and domestic collaboration

M E M B E R

An enterprise that provides products and services in the field of mineral resources and will participate in regular and special meetings of the association with the right to vote. Principal members must sign an agreement to confirm their membership and implement the “Responsible Mining” program.



J O I N U S A N D C R E A T E A V A L U E T O G E T H E R



Implement a “Responsible mining codex” that helps the development of sustainable mining operation



Build up a united voice for policy advocacy for the national mining sector



Create sustainable growth in the national mining sector



Increase competitiveness of the national mining sector in the international mineral market



Create an attractive investment environment



Promote domestic & international collaboration & adopt new technologies



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 2025



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 1.1 billion \$ in 2023
and 2.2 billion \$ in 2028-2030



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

Creating Prosperity. Together.

Our Purpose

To be a partner in our nation's prosperity by creating a world leading, safe and sustainable copper business together

Our Vision

Natural wealth to enduring value, knowledge and skill

BEING A WORKPLACE OF CHOICE BY:

- Ensuring a safe, healthy, inclusive, and diverse workplace and culture
- Attracting, retaining and motivating people by creating a place where multiple generations are proud to work
- Developing globally recognised highly skilled people



People



Partnership

PARTNERING FOR PROSPERITY BY:

- Nurturing and creating trusting relationship with our shareholders and stakeholders
- Aligning with our stakeholders on mutually beneficial goals
- Leveraging our business partners to accelerate the diversification and development of the Local and National economy
- Partnering to promote sustainable development in the areas we operate

CARING FOR THE ENVIRONMENT BY:

- Finding ways to decarbonise our business as part of the planet's decarbonisation journey
- Protecting and enhancing biodiversity
- Finding better ways to mitigate the impact of our operations on land, water and air quality
- Partnering to support national water security
- Developing the business to minimise the impacts of future closure



Planet



Profit

DELIVERING SUSTAINABLE VALUE BY:

- Creating a long-term, world-leading copper business
- Delivering the best value case by optimising our strategic plan and investing in ore body knowledge
- Being the best operator by being integrated, innovative and agile; leveraging technology and continuously learning
- Improving the resiliency and stability of our supply chain, including power supply and delivering a premium product to a diverse customer base

Our Priorities

CARE

We act with care by prioritising the physical and emotional safety and well-being of those around us. We respect others, build trusting relationships and consider the impact of our actions. We look for ways to contribute to a better future for our employees, communities and the planet.

COURAGE

We act with courage by showing integrity, speaking up when something is not right and taking decisive action when needed. We are not afraid to try new things. We respond positively in difficult situations and demonstrate commitment to achieving shared goals.


CURIOSITY

We act with curiosity by inviting diverse ideas and collaborating to achieve more together than can be done alone. We are continuously learning, creatively looking for better and safer ways of doing things. We draw inspiration from others and the world around us.

Mongolian Mining Corporation (“MMC” or the “Company”; HKSE 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 (Southgobi) province of Mongolia, approximately 240 km from the Mongolian-Chinese border. MMC also owns a 50% equity stake in Erdene Mongol LLC, which holds a license of Bayankhundii gold deposit in Bayankhongor province of Mongolia.

In 2010, the Company was successfully listed on the main board of Hong Kong Stock Exchange and has “B” rating from Fitch and “B3” rating from Moody’s.

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 operation to date. With its Coal handling and preparation plant (“CHPP”) in operation at Ukhaa khudag since 2011, MMC is the first and the largest washed coal producer of the country. Specifically designed to maximize the coking coal product yield and water re-use, it ensures continuous production and reliable use in the remote and environmentally challenging Gobi region.



2,372
(2023)

Total employees

~40%
(2023)

**Local employees
percentage**

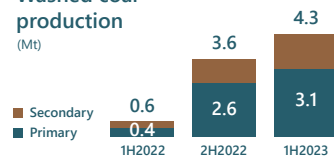
Man-hours worked

3.8 million
(1H2023)

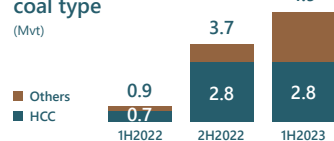
LTIFR

1.78
(1H2023)

**Washed coal
production**
(Mt)



**Sales volume by
coal type**
(Mvt)





ERDENES MONGOL GROUP

About us

Erdenes Mongol LLC, was established in 2007 as Mongolia's principal state-owned enterprise responsible for representing the government's ownership in matters involving strategically significant mineral deposits.

Our mission

The primary objective of Erdenes Mongol Group is to unlock the economic potential of strategic and significant state-owned deposits by increasing the supply of value-added products and services by the Group companies to the market, resulting in enhanced returns.

Main operations

Erdenes Mongol Group serves as the holding company for 30 different legal entities which are grouped into Copper & Metals, Fuel & Energy, and Infrastructure & Logistics groups. Our group is the largest player in the mining industry, engaged in exploration, mining, beneficiation, and refining of gold, silver, copper, coal, and other minerals, and together we account for a substantial share of Mongolia's resource sector. The pivotal role of overseeing and directing the operations of its subsidiary companies is with "Erdenes Mongol" LLC.

Strategic objectives



We aim to introduce a group-wide ERP system as a part of a wider resource management strategy with a view to reduce unproductive expenditures across the Group by improving service quality and productivity,



We will also implement a focused project management strategy in order to better evaluate and prioritize investments into various projects undertaken by our group companies.



We will leverage the existing mineral resources and production facilities of our group companies to transition into the production of value-added materials which in turn will serve as the basis of developing industrial and technological chains.



Also, we will focus on establishing an infrastructure basis for the industrial chains to be developed and improving existing sales and logistics operations across the group which in turn will allow competitive and transparent pricing of our products.



Contact us

Email: info@erdenesmongol.mn
Phone: +976 7555-3399

ERDENES MONGOL GROUP

2023 YEAR SALES FIGURES

COAL MINING (ton)

35.4M

COAL SALES (ton)

36.6M

COPPER CONCENTRATION PRODUCTION (ton)

599.6K

COPPER CONCENTRATION SALES (ton)

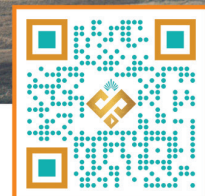
603.5K


IRON CONCENTRATION PRODUCTION (ton)

2.2M

IRON CONCENTRATION SALES (ton)

1.7M





DEVELOPING A HIGH-GRADE KHUNDII MINERALS DISTRICT

- **First mover** in an unexplored portion of one of the **world's great mineral belts** – unparalleled discovery potential for large, high grade, gold and copper deposits
- **Powerful Alliance** – uniting **Erdene with Mongolia's leading miner backed by one of Mongolia's largest conglomerates**
- **Bayan Khundii Gold Project** – **high grade gold development moving rapidly to first gold**
- **Multi-million ounce potential** – multiple high grade gold discoveries adjacent to the Bayan Khundii Gold Project and significant exploration upside in district
- **Zuun Mod Molybdenum-Copper Porphyry Complex** – **a sleeping giant**





BUILDING MONGOLIA'S LEADING GOLD PRODUCER

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

www.steppegold.com

Steppe Gold is now merging with Boroo Gold LLC to create
the leading and largest gold producer in Mongolia.

On the completion of the deal, the Company is increasing its production from **30Koz to +160Koz** AuEq per annum by 2026, with ATO Phase 2 Expansion coming on stream.

30Koz — 2024 —> 60Koz — 2025 —> 90Koz — 2026 —> 160Koz

Altan Tsagaan Ovoo (ATO) Gold Mine

Phase 1:

Steady & growing production from oxide heap leach operation

Phase 2:

Secured landmark project financing of **\$150M** & under development

Strong Mongolia presence

- Headquartered in Mongolia, management with proven track record
- Strong social license to operate & strong financing
- 99% Mongolian nationals & 75% from the local region

Exciting portfolio with huge upside

- One of the largest exploration packages in Western Mongolia
- One of the world's highest-grade deposits with of 2.5Moz at 1.65g/t in Peru
- Near-term production target of 200Koz per annum & resource base of ~5Moz AuEq, with a combined mine life of beyond and ongoing exploration at all projects

Head office:

Shangri-La office, Suite 1201, Olympic Street 19A,
Sukhbaatar District 1, Ulaanbaatar 14241, Mongolia
Tel: +976 7732 1914



ZUUVCH OVOO URANIUM MINING Project between Mongolia and France

Badrakh Energy is a French-Mongolian joint venture established between Orano Mining and Mon Atom, both being state owned company respectively. It is committed to the development of uranium deposits in southeastern part of Mongolia.

BADRAKH ENERGY SHAREHOLDERS

Orano Mining **66%**

34% Mon-Atom LLC



PILOT TEST

From July 2021 to December 2022 Badrakh Energy LLC conducted an in-situ recovery or ISR pilot test for uranium extraction at the Zuuvch Ovoo deposit. This world-class deposit was discovered by exploration subsidiary of Orano group back in 2010. All technical aspects of uranium recovery and processing have been addressed and the pilot has been successfully undertaken. The pilot also demonstrated that young Mongolians can operate ISR technology safely with no impact on environment, human and animal health.

PROJECT NEXT STEP

Orano is committed to conclude a mutually beneficial Investment Agreement with the Government of Mongolia to ensure sustainable future of the Zuuvch Ovoo project, which is expected to last for more than 40 years. The Agreement will be made compliant with Mongolian legislation, it will be made public upon final approval by the government.

Badrakh Energy LLC adheres to best-practice standards with an excellent record on the environment, health and safety as well as community integration and dialogue. As part of its corporate social responsibility the company has undertaken commitment to plant 5 mln trees in support of "One billion trees" national program.



<http://www.badrakhenergy.com>



<http://www.facebook.com/badrakhenergy>

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 1.3 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 **Zijin Mining** and **Ganbayar Lkhagvasuren** (15%). Since 2013, Xanadu Mines has operated exploration programs at Kharmagtai.

Mineral Resource:

1.3Bt containing 3.4Mt Cu & 8.5Moz Au, including a >125Mt 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 completed.

- **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



MINISTRY OF MINING AND
HEAVY INDUSTRY



MONGOLIAN NATIONAL
MINING ASSOCIATION



MONGOLIAN ²⁰²⁴
MININGWEEK
Уул уурхайн долоо хоног

October 07-10, 2024
Ulaanbaatar

We are pleased to invite you to
The Mongolian Mining Week 2024

See you in Mongolia

Register here



www.miningweek.mn



@miningweek