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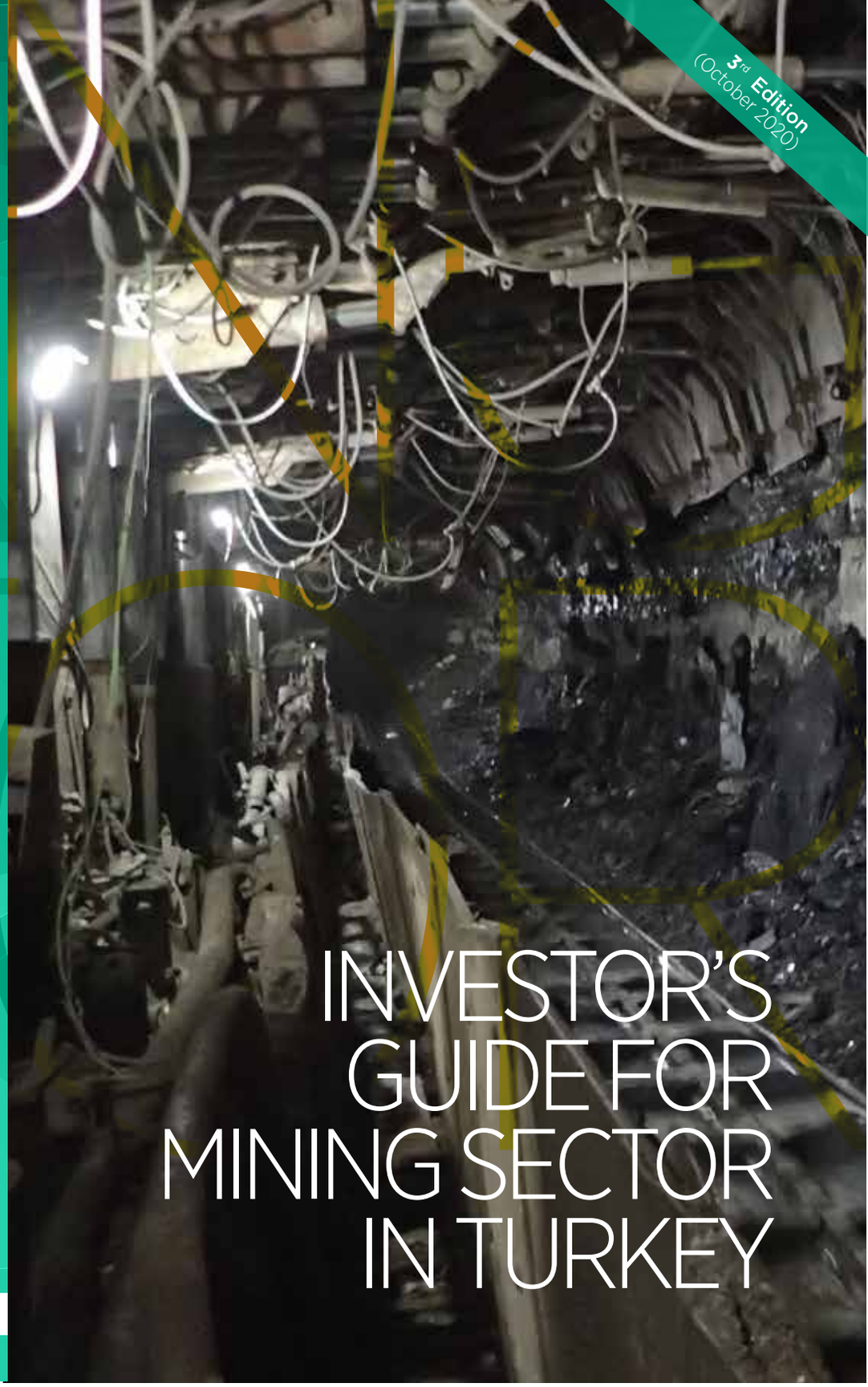

3rd Edition
(October 2020)

INVESTOR'S GUIDE FOR MINING SECTOR IN TURKEY

FOREWORD

Since late 2019, the world has entered into a heightened period of volatility, uncertainty, complexity and ambiguity due to the COVID-19 pandemic. This new period requires uninterrupted flow of energy and market stability more than ever with increasing digitalization and home-based work. As Turkey, we felt the necessity to maintain and strengthen the resilience of the energy and mining sectors rapidly. There has been a greater need to adjust our policies, products and services to the new normal. The pandemic showed us that having flexible market structures in supply and demand plays a great role to tackle tough situations as we encountered.

Turkey continues to be an island of stability and growth with nearly 5,3% annual economic growth between 2002-2019. During this economic boom period, mining sector has gone through a reform and restructuring process. Ensuring non-discriminatory access to mining exploration and operation activities mobilized sizeable private sector investments. Since then number of foreign investors in Turkey's mining sector have drastically increased.

Turkey's mining sector is in a transition to ensure safety, license assurance, simplification of license application, and reduction of bureaucracy to mobilize further investments in an environmentally friendly attitude. We aim to increase the mining sector's share in GDP in the medium term. Accordingly, Turkey announced its new National Energy and Mining Policy Strategy in 2017 which is built upon three main pillars: (i) reinforcement of security of supply, (ii) localization through renewable and domestic sources and (iii) enhancement of predictability in the market. Cross-cutting these pillars; market reforms, utilization of clean resources, deployment of new technologies and new infrastructure investments are the main objectives of our policy. In the scope of these objectives, the lithium stock in the boron mine has become producible with the new production method developed with the R&D studies. At the pilot production facility established in Eskişehir, lithium will be produced from boron waste as of the end of the year and 500 tons of production is aimed with mass production. This Strategy introduced a new framework for conceptualizing the progress we have already achieved long ago into a more structured and clear pathway.

Political stability and good governance have eased the movements of private sector investments in the field of mining. Turkey has achieved remarkable progress in creating a regulatory framework to enable attractive opportunities.

In 2020, despite the COVID-19 outbreak, Turkey has ensured rapid recovery from restrictions and continued to be a safe harbor and a leading actor in its region for further investments. Taking this opportunity, I would like to invite all investors to take part in Turkey's lucrative mining sector.

Fatih DÖNMEZ
Minister of Energy and Natural Resources

WHY INVEST IN TURKEY?

Turkey's Macroeconomic Overview

Over the past decade, Turkey has emerged as a strong regional player with global ambitions to be one of the top ten economies in the world. As of end-2019, Turkey is the 13th largest economy (GDP at PPP terms) in the world, **with an impressive annua l growth rate of 5.3% in the 2002-2019 period.** Strong market fundamentals, such as a youn g and dynamic population with an average age of 32.4, a well-educated work force, increasing rates of employment over the years, a growing middle-class, and a unique geographical location, have all helped transform Turkey into one of the fastest growing and outstanding economies in the world.


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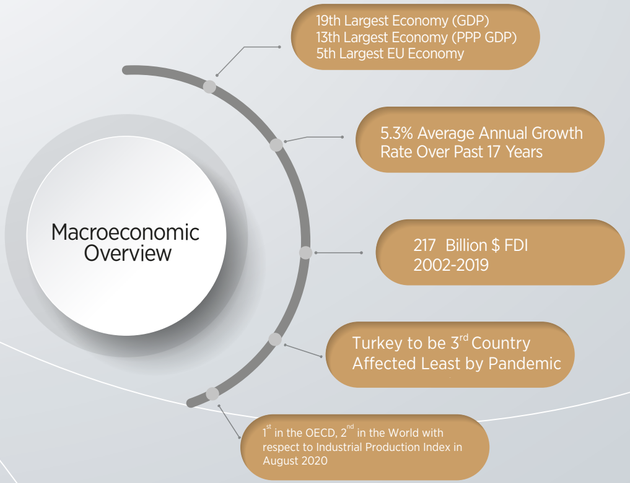
Turkey is taking actions to improve its economic fundamentals. For instance, a series of government measures is set to reduce the current account deficit, with one such measure being that international investments can be used as leverage to support the localization of technologies and products. In addition, in priority sectors where Turkey is dependent on imports of intermediate goods, international companies are being attracted to the country to produce these goods locally.

An example of this is the energy sector, which had a very high external dependence a decade ago. With the implementation of various measures, it is expected that the localization rate in the sector could rise to over 65% in the coming 5 to 10 years.

Turkey enacted the Foreign Direct Investment Law in 2003, enshrining equal treatment for all investors, both foreign and domestic, and providing them with certain guarantees, such as international arbitration, guarantee of profit transfer, and protection against expropriation. The economic development and structural reforms have made Turkey one of the most attractive destinations for FDI. FDI inflow to Turkey amounted to USD 219 billion in the 2002-2019 period. In the same period, **to al FDI inflow to the energy sector stood at about USD 24.5 billion.** Similarly, **the number of companies with foreign capital in Turkey reached 74,227 as of December 2019, up from 5,600 in 2002.**



WHY INVEST IN TURKEY'S MINING SECTOR?

Mining Potential in Turkey

There are 70 different types of minerals produced in Turkey. Turkey is ranked 10 th in the world in terms of mineral diversity, holding 0.4% of world metalic mineral reserves, 2.2.% industrial raw material reserves, 1% of coal reserves, and 0.8% of geothermal energy potential. Furthermore, the mineral potential of Turkey has not been fully discovered yet, meaing additional reserves are yet to be discovered. Hence, an average of 1 million meters of drilling is carried out every year to determine the reserves of mining assets.

- 73% of World Boron Reserves 59% of Global Boron Trade in 2018
- 0.4% of World Metallic Mineral Reserves
- 2.2% of Industrial Raw Material Reserves
- 0.8% of Geothermal Energy Potential
- 40% of global natural stone reserves
- 1% of Coal Reserves

GEOLOGICAL MAP OF TURKEY

Turkey is ranked **10th** in global mineral diversity*

*Source: General Directorate of Mineral Research and Exploration (MTA)

MINING LICENSES

Around **5,600** Mining Exploration Licenses

7.4 million hectare licensed for exploration

14 million hectare total licensed area

Around 6.5 million hectare licensed for operation

Around **10,000** Mining Operation Licenses

TRACK RECORD OF COAL MINING

397 Coal Licenses

97.4 Million Tons Coal Production

20.66 Billion Tons Coal Reserves

Investment Opportunities in Mining Sector

Turkey, as part of the Alpine Orogeny belt, has very diverse and dispersed mineral reserves. On-going mineral research studies are enabling Turkey to increase the number of mineral resources that have been discovered and add to the estimates of the country's mineral reserves. With the Airborne Geophysical Survey Project, magnetic, magnetic gradiometry and radiometric measurements are being carried out to scan the areas which are impossible to reach overland. Above mentioned geophysical studies, which can be completed in 250 years by land from the whole country, will be completed in 3 years with this project. The projec will deliver geophysical maps of Turkey that will support the exploration activities. Contributing to mining exploration operations in the history of Republic of TURKEY, which will be carried out for the first time abroad by foreign companies belonging to the General Directorate of Mineral Research and Exploration, aerial geophysical studies were done in Republic of Uzbekistan and Republic of Sudan in 2019.

Geophysical map of Turkey to be prepared by Airborne Geophysical Survey

FOREIGN TRADE VOLUMES* of MAJOR MINE PRODUCTS IN TURKEY

IRON
FOREIGN TRADE VOLUME
30.6 million tons
$7 billion
29 million tons $6.7 billion
1.6 million tons $362 million
14.5 million tons

COPPER
FOREIGN TRADE VOLUME
532 thousand tons
$2.3 million
344 housand tons $2.1 billion
188 thousand tons $176 million
4 million tons

GOLD
FOREIGN TRADE VOLUME
333 tons
$13.2 billion
289 tons $11.2 billion
44 tons $2 billion
39 tons

CHROME
FOREIGN TRADE VOLUME
1.6 million tons
$444.3 million
187 thousand tons $53 million
1.4 million tons $391.3 million
8.7 million tons

ALUMINUM
FOREIGN TRADE VOLUME
2.34 million tons
$ 1.62 billion
838 thousand tons $1.54 billion
1.5 million tons $77.8 million
2.9 million tons

HARD COAL
FOREIGN TRADE VOLUME
38.2 million
$3.6 billion
38.1 million tons $3.6 billion
57 thousand tons $6 million
1.8 million tons

NATURAL STONE
FOREIGN TRADE VOLUME
7.6 million tons
$1.8 billion
57 thousand tons $29 million
7.5 million tons $1.8 billion
13.8 million tons

FELDSPAR
FOREIGN TRADE VOLUME
6.3 million tons
$220 million
29 thousand tons $2.7 million
6.3 million tons $217 million
9.5 million tons

2019

Import Export Domestic Production

*Foreign trade volume is the sum of import and export volumes.

Source : MAPEG,MTA

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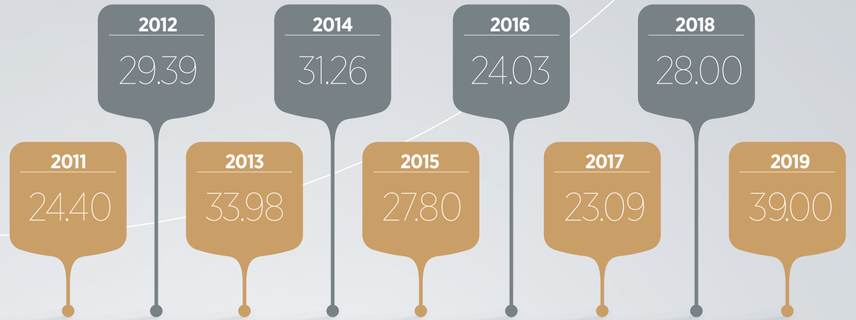
Gold

Turkey is located on the Tethyan Metallogeny belt and in active tectonic zones. The country has 7,000 metric tons of estimated gold reserves. However, due to limited geo ogica explorations up until now, it is estimated that there is still a great amount of gold that has yet to be discovered and extracted.

TURKISH GOLD PRODUCTION | **TONS**



It is aimed to increase the production to 100 tons in the next 5 years.

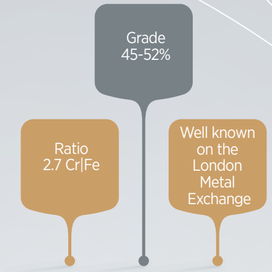
GOLD MINES MAP OF TURKEY

Proven Gold Deposits

Gold Mines in Operation

Chromite

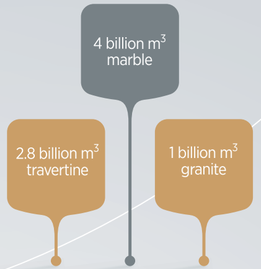
Ore deposits of chromite in Turkey are commonly formed in Alpine type. Ore deposits of chromite concentrated in six different regions are used in the industrial sector and are also exported. Ministry of Energy and Natural Resources (MENR) plans to introduce a tender model for estimated chromite reserves with the condition that the contractor will also build a ferrochrome by-/end product facility. Turkish chrome, with its ratio (2.7 Cr/Fe) and grade (%45-52), is well known on the London Metal Exchange (LME).



CHROMITE RESERVES MAP OF TURKEY

Natural Stone

Turkey exports decorative stones all around the world. In recent years, exports of natural stones to China, Europe, India, the Arabian peninsula, and the USA have significantly increased. Turkey has 40% of the world's natural stone reserves with 4 billion m^3 of marble reserves, 2.8 billion m^3 of travertine, and 1 billion m^3 of granite reserves. Turkish natural stone has an important role in world architecture. In 2016, Turkey ranked the 3rd in natural stone exports worldwide.



Turkey has **40%** of global natural stone reserves*

1. Marmara Island 2. Bursa 3. Bilecik
4. Denizli - Uşak 5. Afyon 6. Antalya - Isparta
7. Kayseri 8. Mersin 9. Silifke 10. Adıyaman 11. Elazığ

NATURAL STONE RESERVES MAP OF TURKEY

TURKISH NATURAL STONE PRODUCTION (1000 tons)

2011	2012	2013	2014	2015	2016	2017	2018	2019
17,700	15,900	15,000	15,800	20,700	19,500	19,100	18,200	13,800

*Source: MAPEG

Incentives

The mining sector in Turkey is supported through two mechanisms

General investment support provided by the Ministry of Industry and Technology

Investment support directly provided by the Ministry of Energy and Natural Resources

Investment Incentives

The mining investments in Turkey are promoted in several ways, such as:
VAT exemption
Discount on taxes
5th region extra incentives[1]

Incentives Referred to in Mining Law

The incentives referred to in the Mining Law provide

Discount on royalty fee and rate of property permit
Assurance about mining license and premium support for workers operating in underground coal mines

By-/End Product Conditional Tender Model

By means of new amendments in the Mining Law, mining license tenders will be made on the condition that by-/end product facilities shall be built. In this tender model, the profit of the investors is maximized while indigenous mineral resources are converted into by-/end products within the country. Tenders will be made according to each mineral group and the facility properties.

[1]Turkey is divided into six economical regions in terms of investment incentives and mining investments can benefit from 5th region incentives irrespective of their locations.

50% Lower Forest Land Value*

*For the first ten years of operation

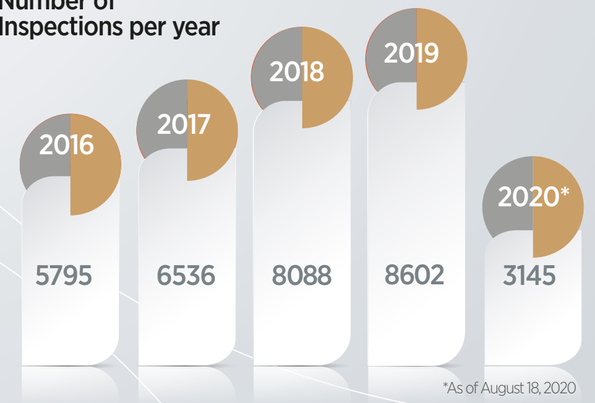
Technical trainings for mining employees by **MAPEG Academy**
Simulation trainings and exams by **Mining Virtual Reality** (VR) software

Safe Mining with frequent mine inspections

Reduction of Red Tape
Development of **e-Mine** software by **2019**
Delegation of authorities/duties Prime Ministry Circular* **repealed**

*PM Circular (2012/15) used to require pre-approval by the Prime Ministry for granting mining licenses.

Number of Inspections per year



*As of August 18, 2020

High risk mining sites
4 inspections per year

Medium risk mining sites
2 inspections per year

Low risk mining sites
1 inspections per year

Foreign Investment in Mining Sector

As of August 2020, 100 companies with foreign shareholders hold a total of 535 mining licenses in Turkey. Aggregate, cement, marble, gold, lead-zinc-copper, silver, and chrome are the major minerals and mines that foreign investors are interested in.

Major Foreign Investors	Field of Activity	Country of Origin
Eldorado Gold (Tüprag)	Gold	Canada
Alacer Gold (Anagold)	Gold	Canada
First Quantum Minerals (Çayeli Bakır)	Copper-Zinc	Canada
Cementir Holding (Çimentaş)	Cement	Italy
Sivomatic	Bentonite	Netherlands

100 Companies with Foreign Shareholders

535 Mining Licenses*

* As of August 2020

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Mining Policy Framework

The framework of mining activities in Turkey has been designated by the Mining Law and the related regulations.

Main Principles of Mining Legislation

01 Safety First

02 Exclusion from Land Rights

03 Environmental and Land Permits in line with EU Acquis

04 Royalty fee between 1 to 8%

05 License Assurance

The main principles that these regulations designate are as follows

Safety first
Mining rights are excluded from landrights
Getting environmental and land permits (harmonized with EU legislation)
Carrying out mining activities within licensed boundaries
Royalty fees based on production (between 1% and 8%)
License assurance (very hard to cancel licenses) and duration (up to 50 years and more with the President's approval)

In addition to the above, the Turkey Geoscience Data and Core Data Bank (TUVEK)[2] has been established in order to archive, publish, and put into service the geoscience data (drill cores, chip samples, and hand specimens) generated by the public and private sector during the mineral prospecting, exploration, and production stages. The National Resources and Reserves Reporting Committee (UMREK)[3] designates the minimum standards and best practice principles for public reporting of mineral exploration results, mineral resources, and mineral reserves with the purpose of informing investors, financial institutions, and the stock market.

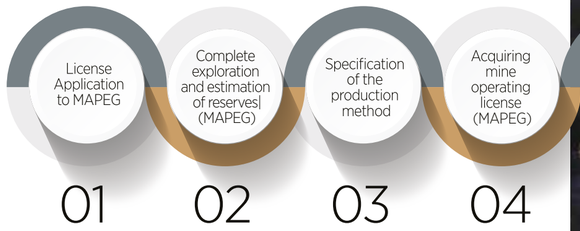
National Resources and Reserves Reporting Committee (UMREK) is a participating society of the Committee for Mineral Reserves International Reporting Standards (CRIRSCO)

[2] For further information please visit **http://kbb.ankaref.com**
[3] For further information please visit **http://www.umrek.com.tr**

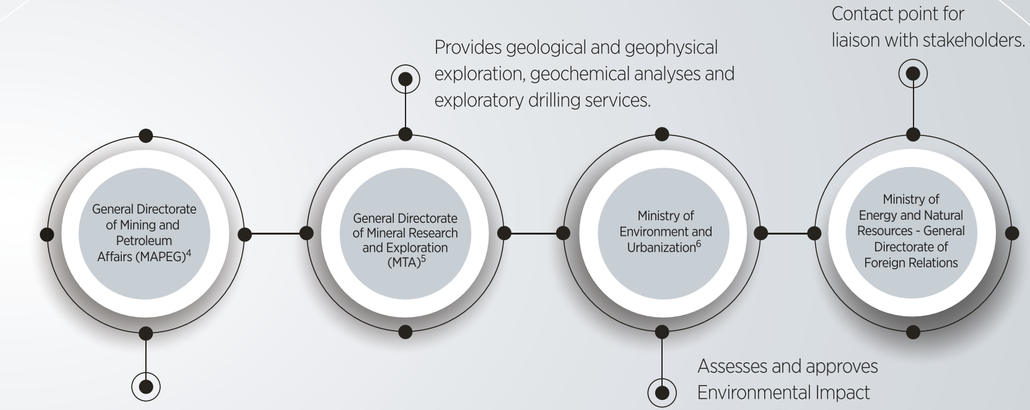
HOW TO INVEST IN MINING SECTOR?

In order to be involved in mining activities in Turkey, a legal/natural entity should progress through eight main phases

I. Application for a license to General Directorate of Mining and Petroleum Affairs-MAPEG (via e-Mine system)
II. Complete exploration activities within the period of the exploration license and provide an estimation of the mineral reserves (MAPEG)
III. Specify the production method with the operation project
IV. Acquire a mine operating license (MAPEG)
V. Acquire environmental permits (related institutions)
VI. Assign a technical supervisor (through MAPEG by the investor)
VII. Acquire a shipment slip
VIII. Proceed with the production stage (MAPEG)



WHO ARE MY STAKEHOLDERS?



The investor may be required to obtain clearance on certain issues relevant to the functional responsibility areas falling under the competence of the following institutions:

- Ministry of Agriculture and Forestry[7]
- Ministry of Culture and Tourism[8]
- Local Institutions and Municipalities

[4]For further information please visit **www.mapeg.gov.tr**
[5]For further information please visit **www.mta.gov.tr**
[6]For further information please visit **www.csb.gov.tr**
[7]For further information please visit **www.tarimorman.gov.tr**
[8]For further information please visit **www.kultur.gov.tr**

FAQ

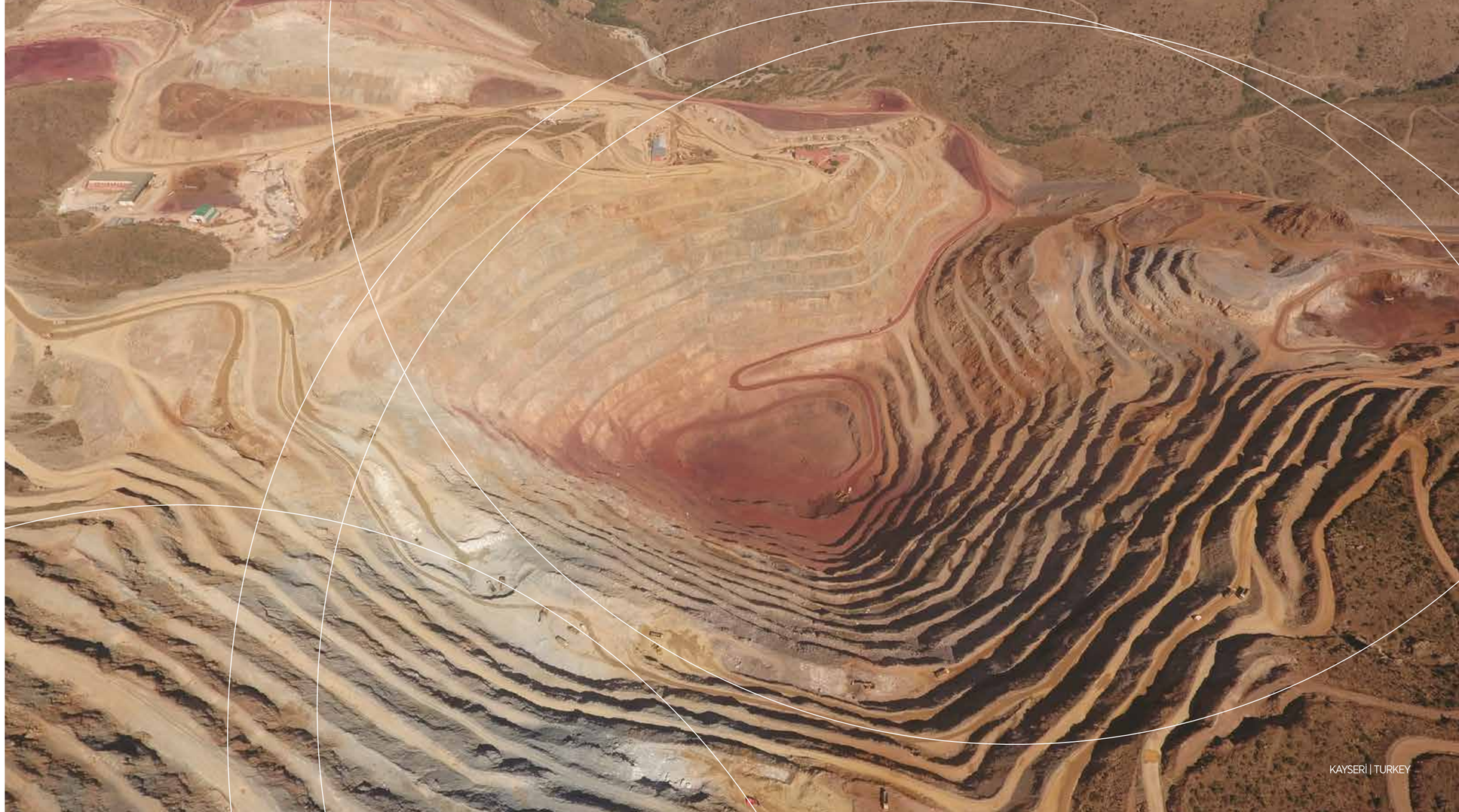
Where should I apply for a mining license?
You should apply to the General Directorate of Mining and Petroleum Affairs for a mining license.

What are the stages from application for a license to mining?

- Direct application for a mining license or purchasing by a tender.
- The period for mineral exploration (between one and seven years)
- The period for mine operation (minimum 10 years, and upon request, may be extended to 50 years in total without further operation).

What are the fees to be paid to for a mining license?
Mining license holders have to pay two annual fees to the state:

- Annual license fee (related with the license group and the license area).
  Exploration - USD 250 to USD 3,500
  Operation - USD 2,500 to USD 220,000
- Royalty fee (varies from 1% to 8% and depends on the dispatch shipment amount of production).



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