

01/09 - 06/09

2023

CHARLEROI,
HARNES,
LOOS-EN-GOHELLE, WALLERS-ARENBER,
BRUAY-LA-BUISSIÈRE.

LAUNCHING POST MINING NETWORK

France, Belgium, Germany, Spain, Portugal, Italy, Switzerland, UK, Estonia, Slovenia, Czech Republic, Hungary, Poland, Romania, Ukraine, Greece, Turkiye, USA, Chile, Brazil.



PROFESSIONAL DEVELOPMENT ASSOCIATION OF MINING ENGINEERS



TURKIYE MINING SECTOR & POST MINING ACTIVITIES

Metin AKTAN, PhD

Secretary General of the Board

Mining Engineers Prof Devt. Association (PDAME)

September, 2023

Paris, France

Halim Demirkan

Chairman of the Board

Mining Engineers Prof Devt. Association (PDAME)

AGENDA

1. WHY INVEST IN TURKIYE?

2. INDUSTRY FORECAST

3. TURKIYE MINING INDUSTRY FORECAST

4. POST-MINING ACTIVITIES OF TURKIYE

5. DISCUSSION

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WHY INVEST IN TURKIYE?

Connectivity with key markets through road, rail, sea and air..



Follow and cover markets in 16 time zones from New York to Tokyo



9/11/2023

10 REASONS TO INVEST IN TURKIYE

Benign R&D Ecosystem



Opportunities



Robust Economy

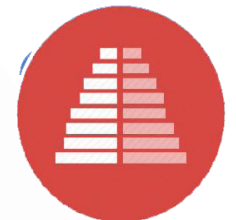


Domestic market + EU



Strategic Location

Lucrative Incentives



Favorable Demographics

Liberal Investment Climate



Continuous reform process..



Skilled workforce with cost advantage

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TURKIYE INDUSTRY FORECAST



17th LARGEST
economy in the world and
6th largest in Europe



STRATEGIC LOCATION TO
ACCESS 1.5bn PEOPLE
and \$27Trillion GDP
within 4-hr flight distance



REGIONAL MANAGEMENT
CENTER



Strong and sustainable
economic growth; resilient
to global economic
headwinds



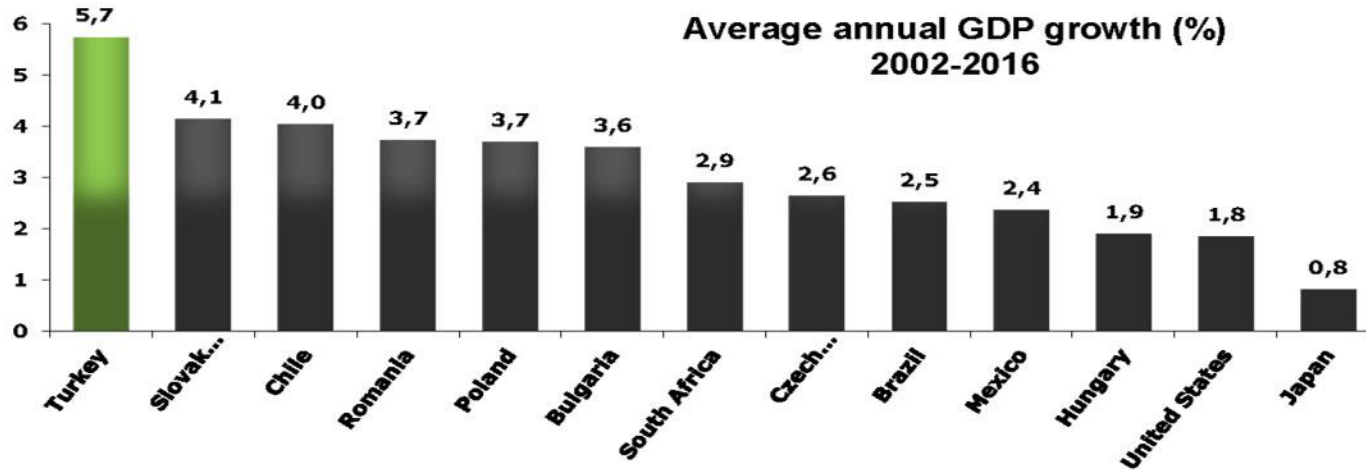
83 million population
with half **under age 31**;
\$9.2K Income per capita



129,2 Mtoe PRIMARY ENERGY
CONSUMPTION IN 2015
Import Dependence by 75 %
\$38bn ENERGY IMPORT
20% of total imports;
30% decrease due to low oil prices

4th fastest growing economy in G20

\$856bn GDP in 2016



RANKS 51ST OUT OF 140
COUNTRIES

At World Economic Forum Global
Competitiveness Index 2015-16

[OECD review](#)
[WEF Index](#)

AGENDA

1. WHY INVEST IN TURKIYE?

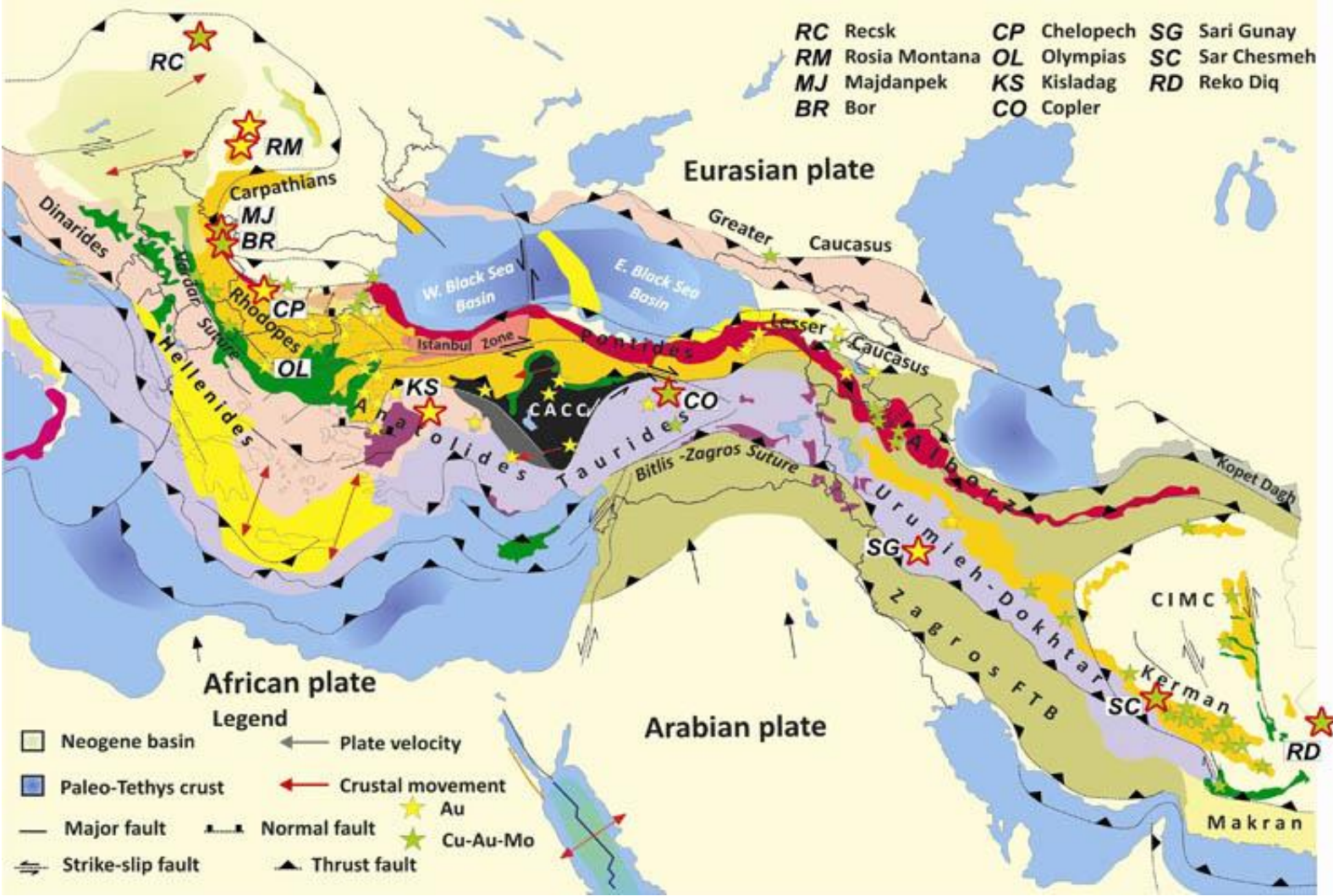
2. INDUSTRY FORECAST

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TURKIYE MINING INDUSTRY FORECAST



Tethyan belt is formed as a result of the collision of African and Indian plates with Eurasia

Turkiye is an important part of the Tethyan-Eurasia Metallogenic Belt within the Alpine-Himalayan orogenic system

- Deposits of Turkiye are mainly result of Alpine- Himalayan orogenic system
- Due to collision of 3 continents with different geologic and tectonic settings
- Turkiye has high likelihood of having porphyry gold and copper deposits such as Kışladağ and Çöpler

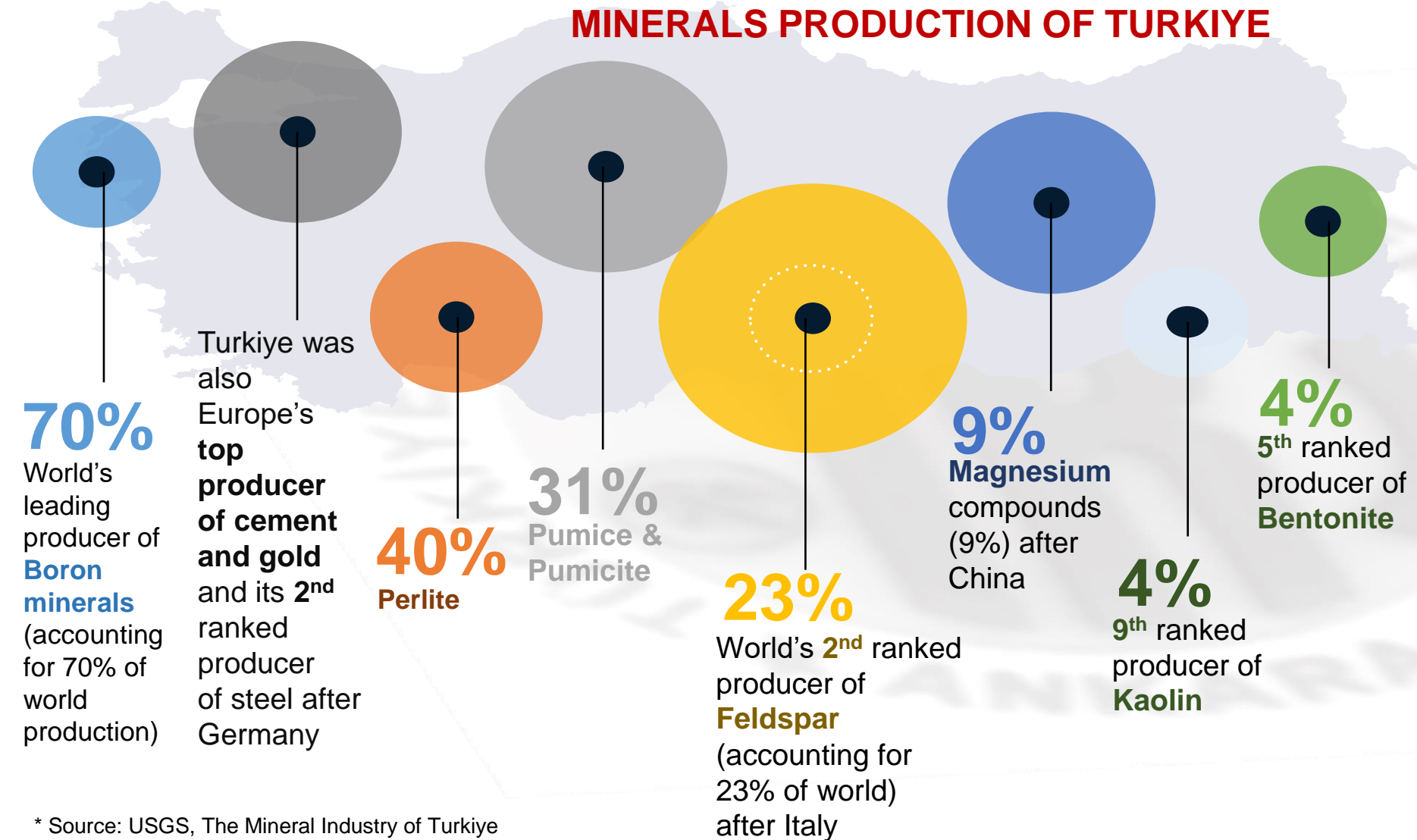
Tethyan belt is one specific kind of ophiolite extending from the western Mediterranean via the Alps to southeastern Europe, through Turkiye, the lesser Caucasus, Iran and the Himalayas to China.

Source: The University of British Columbia MDRU

Turkiye stands as a very promising region for miners and explorers as the least explored portion of Tethyan Belt.

TURKIYE MINING INDUSTRY FORECAST

MINERALS PRODUCTION OF TURKIYE



#4

producer of **Chromium** (10%) and **Cement** (2%)

Reserves & Resources

- 01 Estimated 77 globally traded mineral commodities have been identified in Turkiye
- 02 **World's largest reserves of boron & perlite**
- 03 World's 3rd largest reserves of barite
- 04 **World's 4th largest reserves of magnesite and feldspar**

* Source: USGS, The Mineral Industry of Turkiye

TURKIYE MINING INDUSTRY FORECAST

COAL



Coal mining in Türkiye will be a key area of growth over the next few years, substantial coal demand growth for electricity generation in the country.

Booming domestic demand for electricity, strong growth in steel production and domestic governmental support will make the Turkish mine sector more reboot than other European players.

CHROMITE



Turkish chromite mining is well established sector in Türkiye, it has recently been fortified by the rising commodity prices and demand.

MINING IN TURKIYE

**Ongoing New Mining
Legislation embraces
Significant Developments for
Mining.**

GOLD



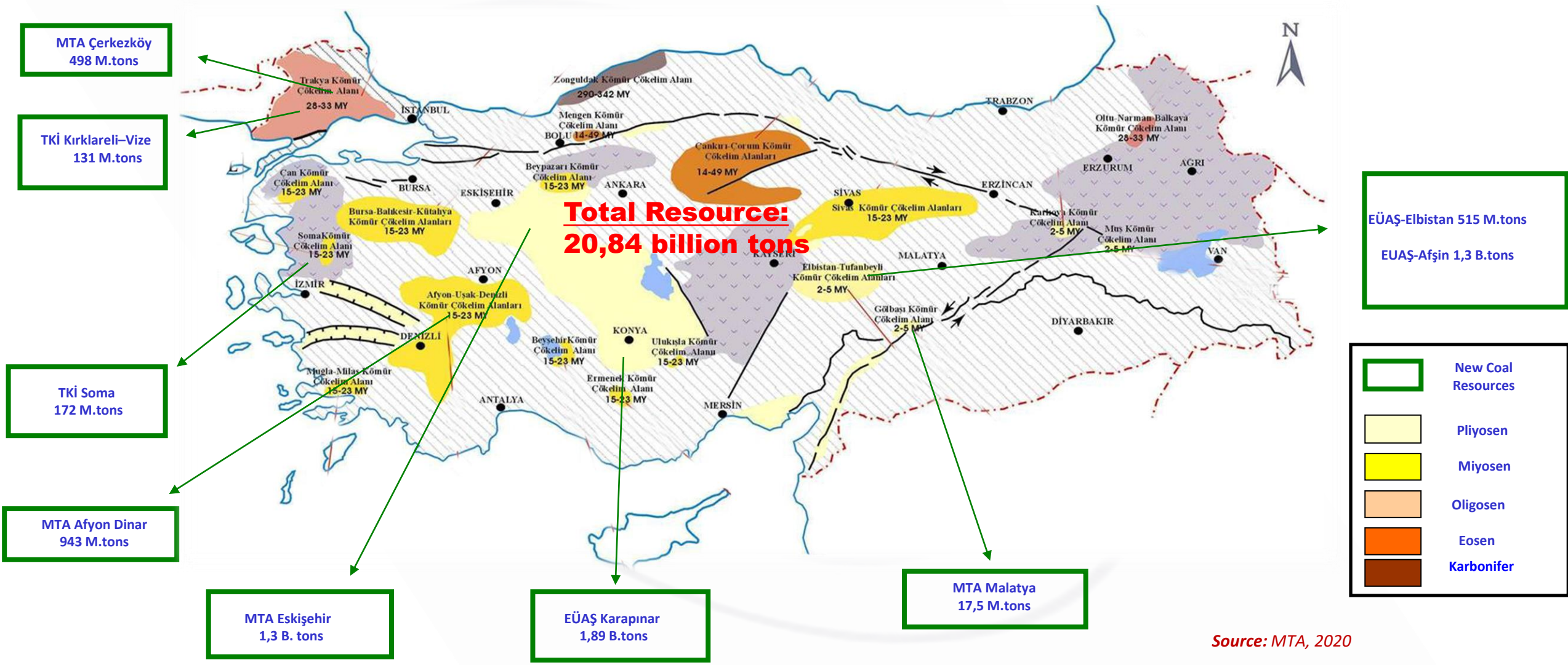
Türkiye's gold sector will experience solid growth over coming years on the back of a strong pipeline of new projects and improving gold prices. It is expected Türkiye's gold sector to receive the largest share of mining industry investment as several companies bring their projects into production.

COPPER



Türkiye has three important copper reserves: the East Black Sea, Southeast Anatolia and Thrace. There is excellent potential for both Cyprus-type and Kuroko-type VMS deposits in Türkiye, especially in the productive north-eastern Black Sea coast area (the Pontide Belt).

COAL RESOURCES OF TURKIYE



Source: MTA, 2020

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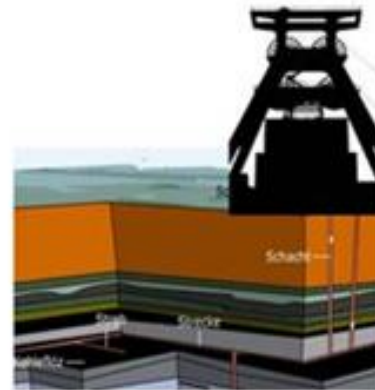
POST-MINING

Life cycle of Coal Mining

**Pre-Mining
(Exploration)**



Mining



Post-Mining



Depleted field



Long Period

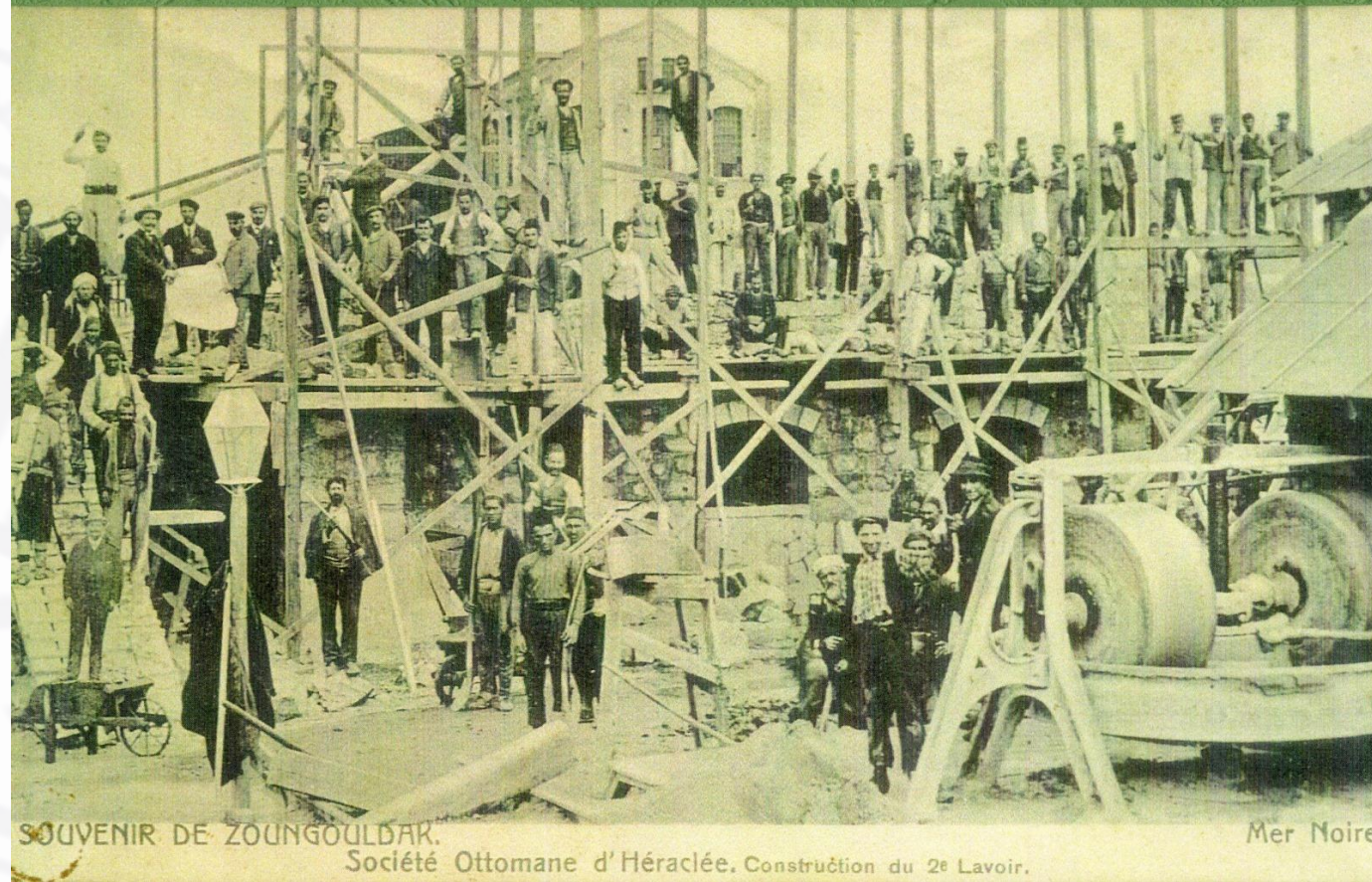
Eternity

POST-MINING



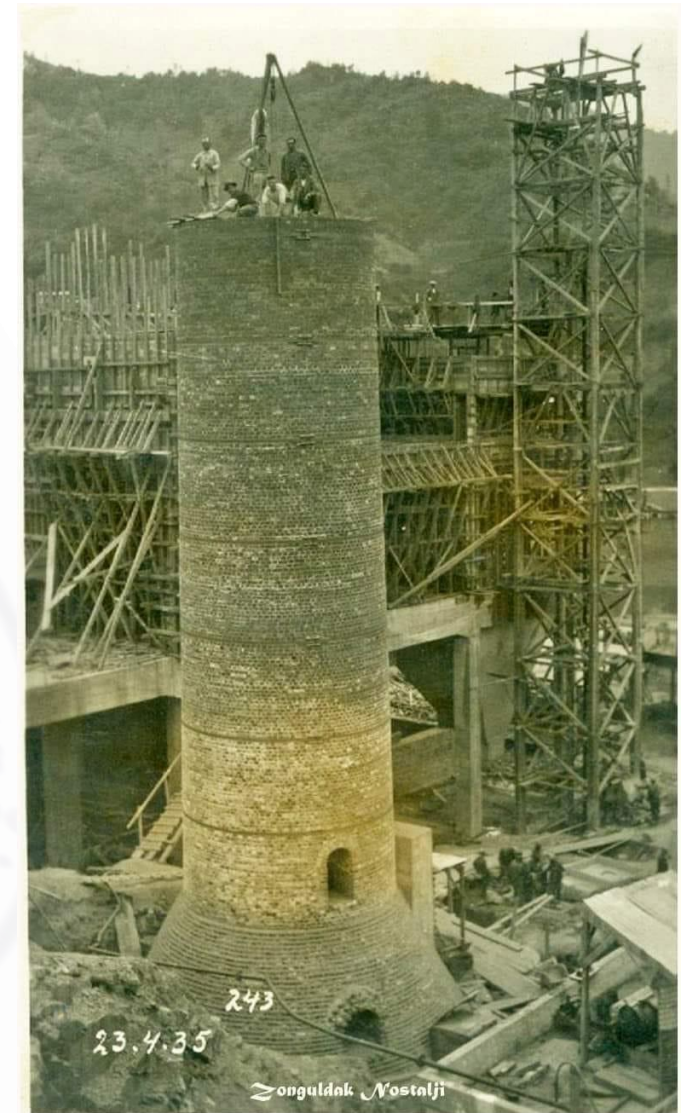
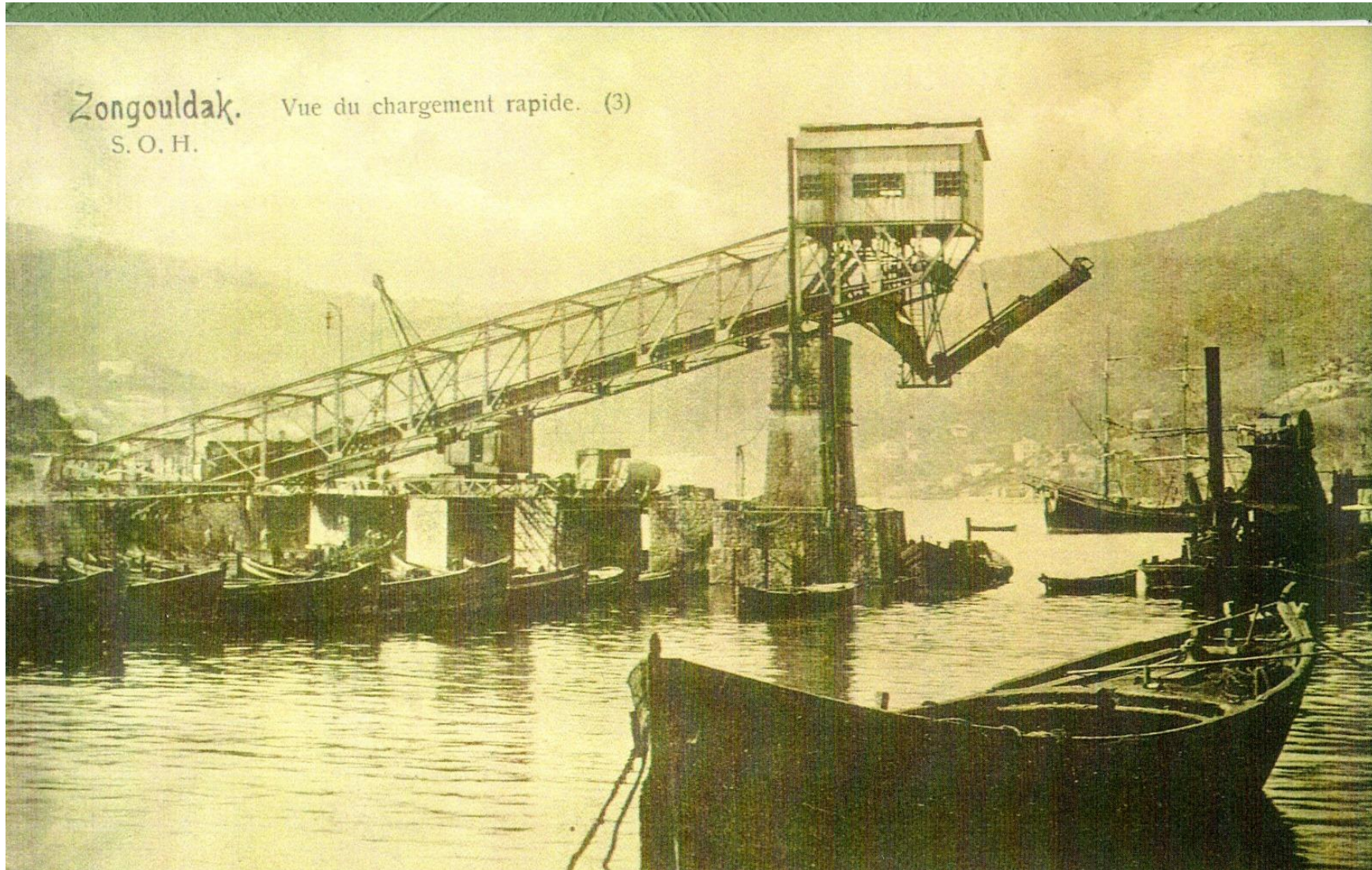
Creating Renewable Energy, an Opportunity of Post-Mining. 1 Photovoltaic plant on a mud pond; 2 Heat from mine water; 3 Windmill on a dump











The screenshot displays the website 'Madencilik Türkiye Dergisi...' with a sidebar menu on the left and a map of Turkey on the right. The sidebar menu includes the following categories:

- Türkiye Maden Sahaları Rehabilitasyon Bilgi Bankası' sektörün hizmetinde!
1.725 görüntüleme
4 Ağustos tarihinde yayımlandı
[PAYLAŞ](#)
- Doğaya Geri Kazandırma
 - Ağaçlı Ocakları
 - Avcıkoru Maden Ocakları
 - Bucak Mermer Ocağı
 - Çan Linyitleri Geneli
... 25 öğe daha
- Ekonomiye Kazandırma
 - Bal Gibi Madencilik Projesi
 - Çan Linyitleri Lavanta Yetiştiriciliği
 - Çankırı Tuz Madeni Müzesi
 - Efeler Kuloğulları Linyit Madeni
... 5 öğe daha
- Maden Müzeleri
 - Zonguldak Maden Müzesi
 - MTA Tabiat Tarihi Müzesi
- Projeler
 - Sorgun Ekopark Projesi

The map shows various post-mining activities across Turkey, represented by icons such as trees, mountains, and buildings. The map is titled 'Bu harita bir kullanıcı tarafından oluşturuldu. Kendi haritanızı nasıl oluşturacağınızı öğrenin.' and includes a search bar and navigation controls.

Source: <https://madencilikturkiye.com/turkiye-maden-sahalari-rehabilitasyon-bilgi-bankasi/>

← Kışladağ Altın Madeni

Maden Türü
Altın

İşletmecisi
Özel Sektör

Ekonomik Yönu
Tarım (Nohut, Buğday, Badem)

Dikilen Ağaç Sayısı/Ürün Çeşidi
50 bin fidan

Açıklama
Kışladağ Altın Madeni'ni çevreleyen 64.000 m2 alanda, 2018 yılında başlanan çiftlik projesi sayesinde; nohut, buğday ve badem gibi ürünler, organik olarak yetiştirilerek bölgedeki tarımsal üretim desteklenmektedir.

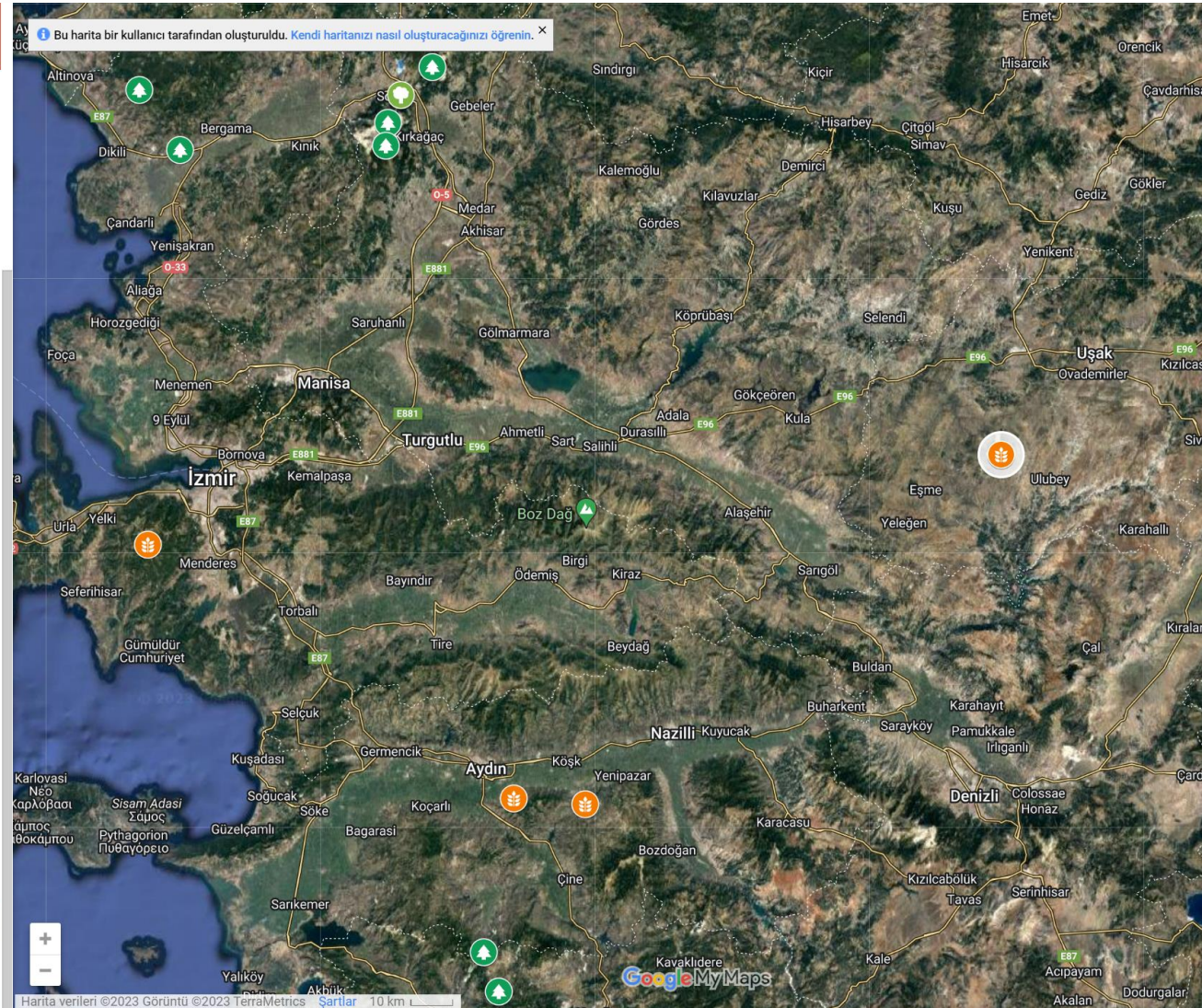
Kışladağ Altın Madeni'nde 2006 yılından bu yana faaliyeti biten alanların rehabilitasyonu yapılmaktadır. Her yıl mevsim şartlarına ve bölge koşullarına göre fidan dikimi ve yeşillendirme çalışmaları yapılmaktadır. Bugüne kadar farklı türlerde yaklaşık 50.000 fidan dikimi yapılmıştır. Kışladağ Altın Madeninde toplamda 600.000 m2'nin üzerinde alanda rehabilitasyon çalışması tamamlanmıştır.

Ayrıca altın ocağının 60 hektarlık pаса alanına toplam 40 bin adet tavşanak, biberiye ve kekik dikildi.

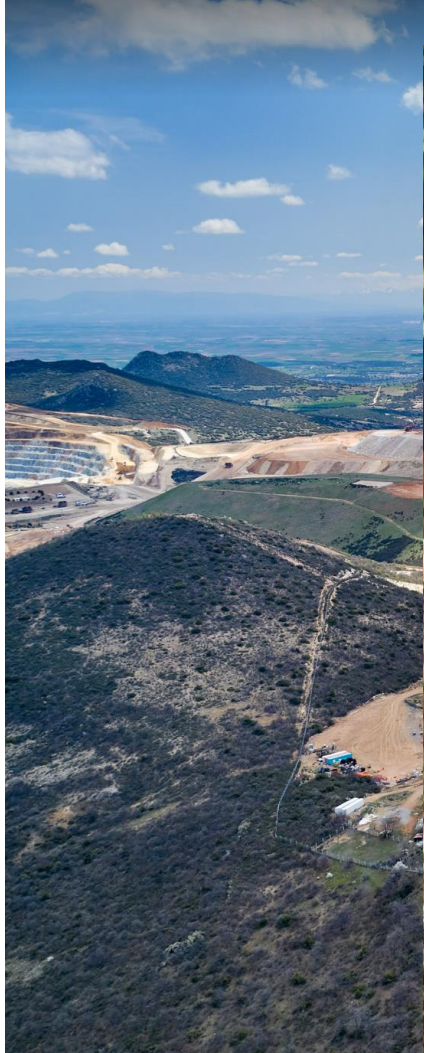
Kaynak
<https://www.tuprag.com.tr/tuprag-tarim/>

Linke Erişim Tarihi
21.07.2023

4 fotoğraf



Kışladağ Gold Mine, UŞAK



Efemçukuru Gold Mine, İzmir



11.09.2023

POST-MINING ACTIVITIES OF TURKIYE

- **Olive trees were planted by Turkish companies Aydın Linyit Madencilik and Zetay Tarım in the abandoned mine sites in Aydın province's Efeler district.**
- Aydın Linyit Madencilik first planted olive trees in 2004 on an area of 330 hectares (815 acres) and had its first harvest in 2007. An olive oil factory was established in the region in 2014 for the processing of olives. Around 36 tons of olive oil were produced last year as the company aims to produce 50 tons of oil in 2021. Olives collected from the trees in the field are processed in the factory and the oil is being exported to many countries, including Japan, the United States, Canada, Germany, France and Norway. The area also has 3,000 fig trees.
- Olives are now being harvested in the fields where coal, which was once called black diamond, was extracted, while the olive oil produced in factories is getting international awards for its high quality.





Stratonikeia Ancient City, Eskihsar Open Pit Mine



Ancient rock tombs, Eskihsar Open Pit Mine



Eskihsar Open Pit Mine

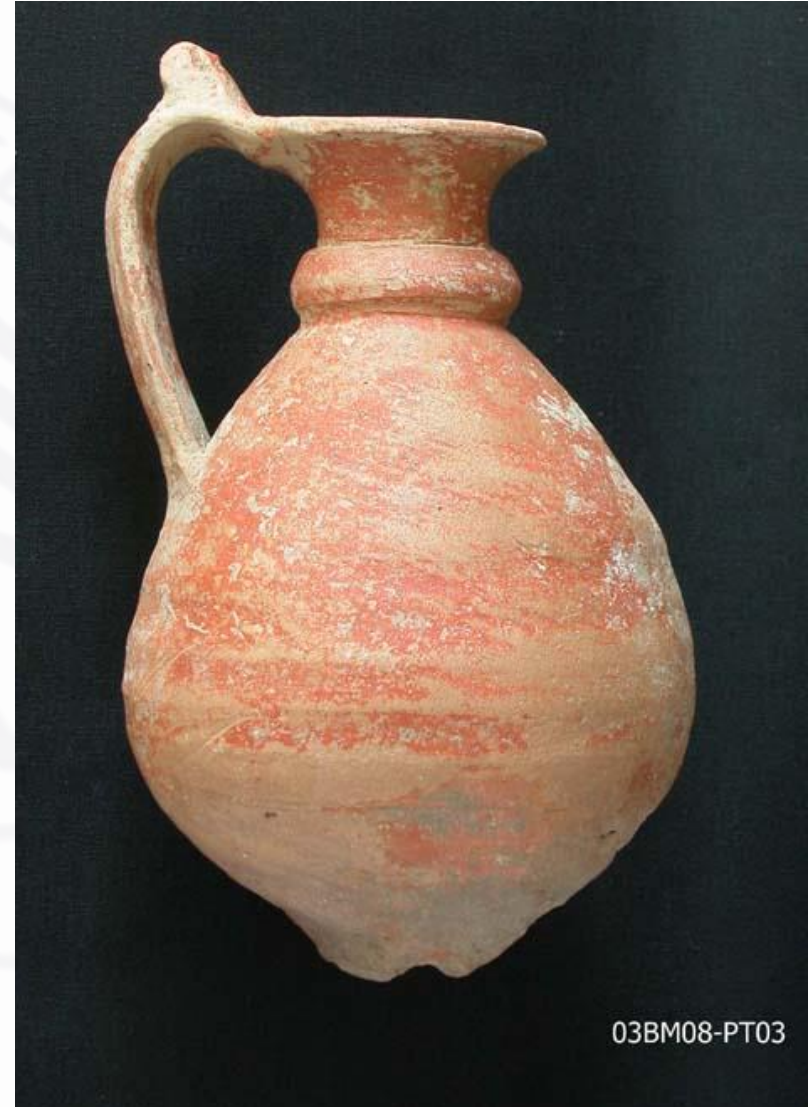


Seyitömer Tumulus

Stratonikeia Ancient City, Eskihisar Open Pit Mine



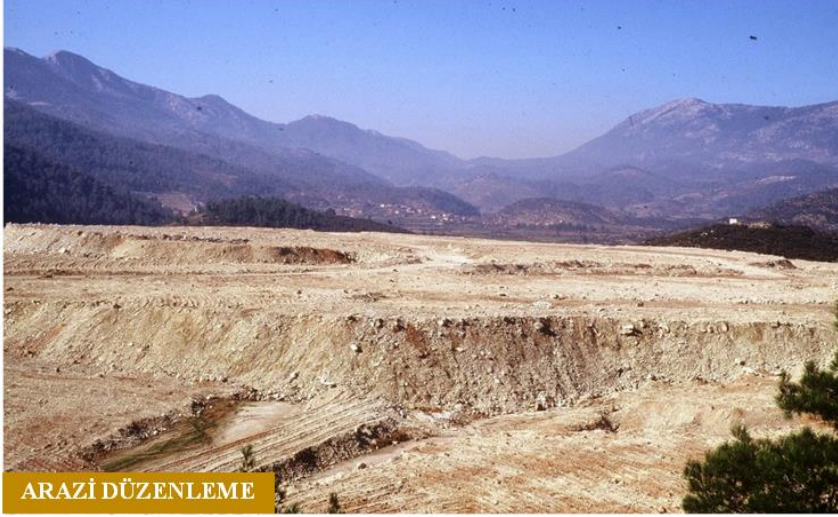
03BM10-PT01



03BM08-PT03

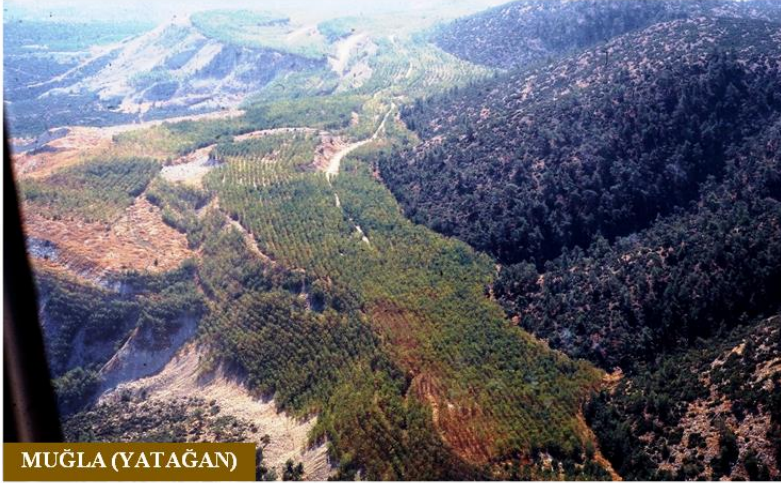
KÖMÜR MADENCİLİĞİ SONRASI AĞAÇLANDIRMA SÜREÇLERİ

Reclamation
after coal
mining, west
part of
Turkiye.



FARKLI İLLERDE YAPILAN AĞAÇLANDIRMA ÇALIŞMALARI

Reclamation
after coal
mining, west
part of
Turkiye.





POST-MINING ACTIVITIES OF TURKIYE

YATAĞAN (MUĞLA) AÇIKOCAK KÖMÜR SAHASI AĞAÇLANDIRMASI

Reclamation
and
apiculture
after coal
mining, west
part of
Turkiye.



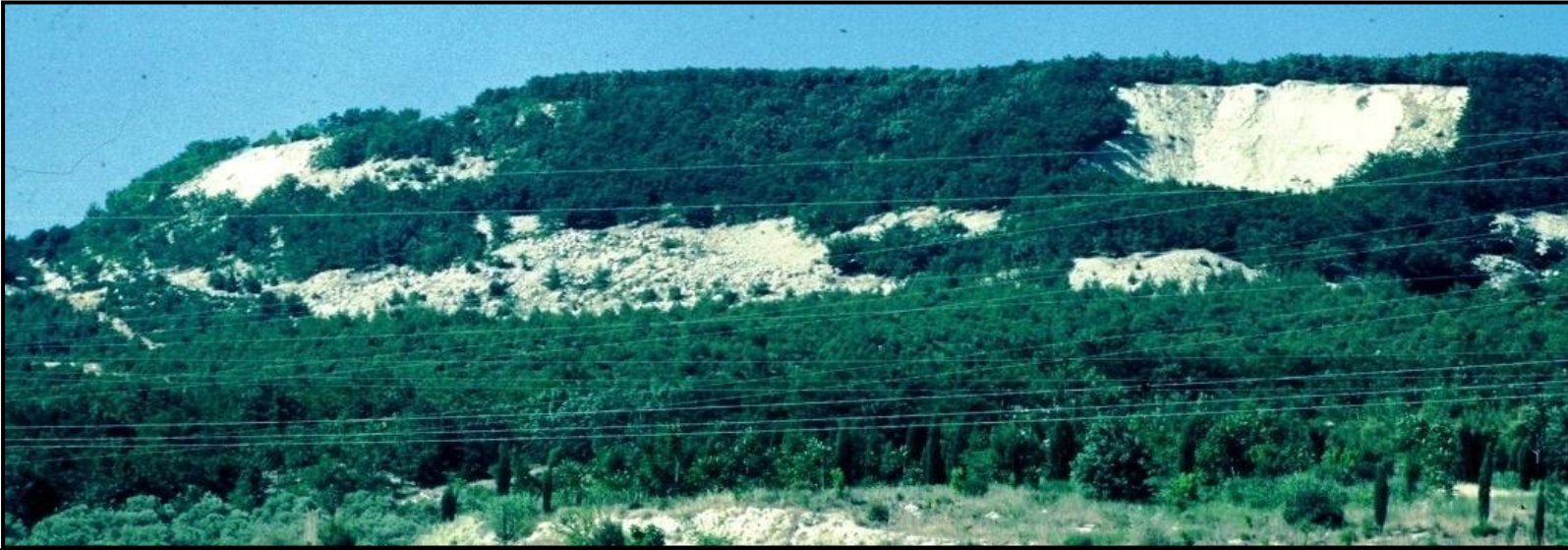
POST-MINING ACTIVITIES OF TURKIYE

YATAĞAN (MUĞLA) AÇIKOCAK KÖMÜR SAHASI AĞAÇLANDIRMASI



POST-MINING ACTIVITIES OF TURKIYE

YATAĞAN (MUĞLA) AÇIKOCAK KÖMÜR SAHASI AĞAÇLANDIRMASI



MUĞLA (YATAĞAN) AĞAÇLANDIRMA SAHASI DÖNEMLERİ



Mustafa Bozođlan (Çevre Müh. İ.T.Ü. - 86) (Ekim 1992) Yatađan,



Muđla (Yatađan) (1995)



Muđla (Yatađan) (1998)



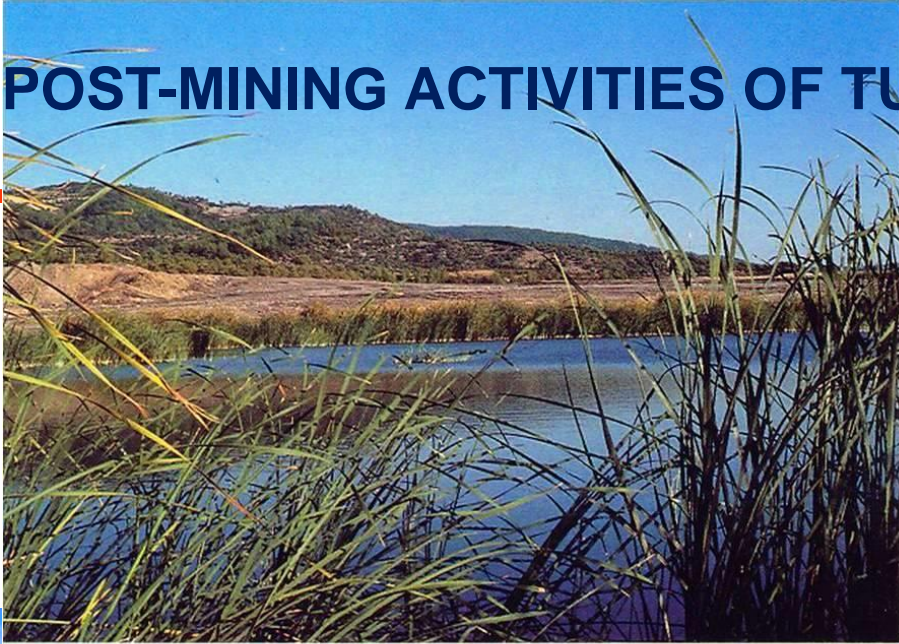
Muđla (Yatađan) (2007)

Reclamation
after coal
mining, west
part of
Turkiye.

MUĞLA (YATAĞAN) AĞAÇLANDIRMA SAHASINDAKİ ÜRETİM FAALİYETLERİ

Apiculture
after coal
mining, west
part of
Turkiye.





Mustafa Bozođlan (Çevre Müh. İ.T.Ü. - 86) (Ekim 1992)

Sekköy, Muđla



Fotograf ve Düzenleme: Mustafa BOZOĐLAN (Çevre Müh. İ.T.Ü. 86) (13.11.2009) GELİ MUĐLA/MİLAS-SEKKÖY YAYLIKTEPE GÖLÜ



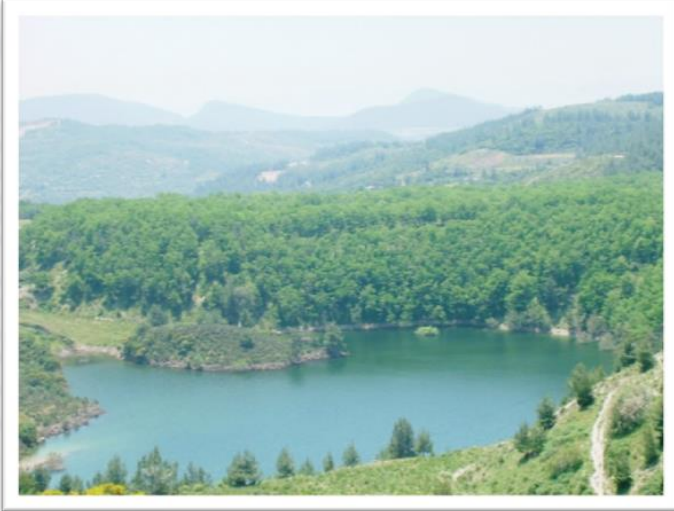
**GELİ Sekköy
Yaylıktepe Coal
Mine, The Lake
after mining, 2009**

GELİ Sekköy Yaylıktepe Kömür Ocağı Gölü 2002



Fotoğraf ve Dışavermiş: Mustafa BOZDOĞAN (Çevre Müh. E.İ.Ü. 80 (13.11.2009) MUĞLAMİLLAS-SEKKÖV YAYLIKTEPE GÖLÜ VE AĞAÇLANDIRMA

MUĞLA (SEKKÖY-İKİZKÖY) AĞAÇLANDIRMA ALANLARI



**GELİ Sekk y Yaylıktepe
Coal Mine, Reclamation
and The Lake after
mining, 2009**

MUĞLA İLİNDEKİ AĞAÇLANDIRMA SAHALARINDAN ELDE EDİLEN ÜRÜN

Planting Olive Oil



A coal mining city, Kütahya. Famous for roasted chickpea.



Turkiye has been one of the fastest growing economies among EU and OECD member countries. Mining is an important economical area for our country.

Post-mining is an important challenging for the country.

We are establishing an executive and advisory board of the "International Post Mining Symposium", which we will jointly organize on 22-24 May 2024 in Zonguldak (Northern Turkey).

Executive Officer, Chairman of the Board Halim DEMİRKAN. We propose it to consist of Assoc. Dr. Mehmet BİLEN from University Of Zonguldak Bulent Ecevit and Mrs. Prof. Béatrice MARIOLLE, Director of the Chair Post-Mining.

DISCUSSION

In Turkey, post-mining applications are predominantly made as landscape reclamation and there are very successful examples. Industrial heritage practices are abundant in Zonguldak, where the French also have a mining past. Therefore, we are holding the symposium in Zonguldak. Archaeological sites in a few operations are also supported as post-mining activities.

Therefore, we are holding the symposium in Zonguldak. Archaeological sites in a few operations are also supported as post-mining activities. As an association, it is expected to bring the advanced stages of post mining to the agenda of Turkey, to introduce the current applications in Turkey and to present the applications in their own countries from the members of our association in Paris.

The Advisory Board will consist of mining experts from Turkey who have worked on these issues, and architects who have worked on industrial heritage in mining (Gül KÖKSAL, University of Grenoble). We propose to include Mrs. Margarita DEKİNA and Mrs.Rebekah RADRKE as members of the Advisory Board.

Post Mining Period in Turkey

After mining in our country; mostly done with landscaping, afforestation, creating vineyards, planting lavender and olive trees. Archaeological excavations such as TKİ, Industrial heritage applications such as TTK are also rare examples. Preparations for the use of open pit steps for solar energy generation, of which the reserve has been exhausted, are also on the agenda recently.

Our mining and environmental legislation also focuses on these activities for post-mining. "Regulation on Reintroducing Degraded Lands to Nature through Mining Activities" and "Mining Law (Article 32)" regulate activities on this subject. It is observed that the arrangements are made only on the rehabilitation of the landscape and environment.

Executive Board

Halim DEMİRKAN (MMMGD/TR)
Béatrice MARIOLLE (Post Min. Ass./FR)
Mehmet BİLEN (Zonguldak BEU/TR)
Onur AYDIN (Madencilik Türkiye Mag./TR)

Advisory Board

Abdülkerim YÖRÜKOĞLU (Prof/Gazi Uni./TR)
Alaattin ÇAKIR (Dr/Zonguldak BEU/TR)
Caner ZANBAK (Prof/Turkish Miners Ass./TR)
Ekrem Murat ZAMAN (Private Comp./TR)
Emin ULU (MsC/Private Comp./TR)
Funda KERESTECİOĞLU (Ass.Prof/Yıl.Tek. Uni./TR)
Gül KÖKSAL (Ass. Prof/Grenoble Uni./Fransa)
Levent YENER (Private Comp./TR)
Margarita DEKİNA (Project Man./ENSAPLV/FR)
Mehmet CANBAZOĞLU (Prof/Retired/TR)
Mehmet KAYA (Private Comp./TR)
Nazlı Arslan (Res. Ass./Yıldız Tek. Uni./TR)
Rebekah RADRKE (Prof/Kentucky Uni, USA)
Rüstem ÇETİNKAYA (Chairman/İMİB/TR)
Sabri KARAHAN (MsC/Private Comp./TR)
Selahattin ANAÇ (Dr/Private Comp./TR)
Şenol Hakan KUTOĞLU (Prof/Zonguldak BEU/TR)
Vedat OYGÜR (Dr/Retired/TR)



About Symposium

Adverse reactions to mining activities are primarily due to the environmental impacts of the activity.

The appearance of the quarry, which is called visual pollution, the appearance of the waste dam or stock areas and the negative effects that may be on the environment are the first phenomena that stand out.

Although negative examples attract more attention; It is a fact that the good practices in our country cannot be explained to the public. It is necessary to announce afforestation, olive groves, vineyards, lavender fields and landscaping in areas where mining has ended and to draw attention to good practices during and after mining. It is thought that this will be beneficial for raising awareness among those who are against mining.

In developed countries, rehabilitation and land reclamation issues have been resolved as an activity during and after mining; industrial heritage, evaluation of architectural structures, socio-economic activities, psycho-social support.

In addition to these, it is thought that intellectual circles can be reached by revealing the contributions made to the studies in the fields of industrial heritage and archeology and presenting mining together with culture and art.

International Post Mining Activities Symposium will be held in 22-24 May 2024 together with Mining Engineers Professional Development Association (MMMGD) and Paris-based Post Mining Network Association, Zonguldak Bülent Ecevit University and Madencilik Türkiye Magazine.



INTERNATIONAL POST MINING SYMPOSIUM

22-24 MAY 2024
ZONGULDAK/TÜRKİYE

Organisation

Mining Engineers Professional Development Association
Paris Post Mining Network Association
Zonguldak Bülent Ecevit University
Madencilik Türkiye Magazine



Zonguldak City & Summary of Zonguldak's Mining History

Zonguldak is a province located in the Black Sea Region of Turkey with a population of 600,000. The province is known for its history, forest assets, and natural beauty, as well as its coal mines. Zonguldak, which is one of Turkey's significant coal production centers, has historically stood out for its mining activities. The provincial center, the city of Zonguldak, attracts visitors with its sea view and natural beauties. The Black Sea climate prevails in the region, resulting in a mild and humid climate. Zonguldak not only possesses a mining history and cultural heritage but also stands out with its beautiful coastline and natural areas.

The history of the Zonguldak hard coal basin began with the discovery of coal on 1829 and the determination of the basin boundaries in 1848 and its inclusion in the treasury of the Ottoman Empire. Until 1865, Galatalı Sarrafs (jewellers-bankers), the British and various private companies had a say in the management of the basin. In 1856, the bank was founded with British capital and other partners, and in 1863, the French also became one of the partners and the bank was renamed as "Ottoman Bank". The basin was governed by Dilaver Pasha, who was in charge of the Ottoman Empire Navy between 1865 and 1908, and the first legal arrangements for the regulation of business life were made during this period.

In 1896, Societe d'Heraclee Osmanlı A.Ş. was established in partnership with the Ottoman Bank, 2 Investment Funds with French Capital and 3 other investors. The production facilities were constructed in this year.

The management of the basin was transferred to the Ministry of Forestry and Mining, Trade and Industry in 1908. The Germans had a say in the management of the Zonguldak coal basin between 1914 and 1918, and the French between 1919 and 1921. On 21 June 1921, French soldiers left the basin and the management of the basin was left to the newly established Republic of Turkey.



However, the mining activities continued until 1937. Between 1935 and 1940, as a result of expropriation efforts, all mines in the Zonguldak basin were nationalised. In 1984, Company was restructured as the Turkish Hard Coal Corporation (TTK) under the Ministry of Energy and Natural Resources. TTK continues its preparation and production activities in 5 hard coal operating establishments.

There are still many buildings in Zonguldak that are and will be considered as industrial heritage. Topics such as a museum where visitors can experience the underground coal mine, a technology valley under construction, the evaluation of French workers' pavilions that are at the idea stage are on the agenda. In addition, a coal geopark was arranged.

French Traces in Zonguldak



Post Mining Practices from Turkey

Rehabilitated Field After Coal Mining



Olive Oil Production From Coal Mining Area



Agriculture Practices from a Gold Mine



Zonguldak Mine Museum



1. Mining activities (businesses) that will be the subject of post mining in mining regions, their information, figures, activities carried out or planned to be carried out, application examples
2. Legislation and guidelines (guide) in countries,
3. Website or database where local projects can be accessed (if any)
4. Mining companies that can be included in the project (if any), their fields of activity, their status regarding post mining,
5. Information of public institutions related to mining and post-mining.

6. Companies operating in post mining,

7. Information about the people of the region (population, distance to settlement, alternative business areas, etc.)

8. Research needs (chromium waste, marble rubble, impact of tailings dams and disposal of hazardous ones)

9. The latest technologies applied

10. Literature study and reference



Merçi!

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