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# ULUSAL KOP BÖLGESEL KALKINMA SEMPOZYUMU

24-26 Ekim 2022 KONYA



**9. ULUSAL KOP BÖLGESEL KALKINMA SEMPOZYUMU**  
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**Yayın Yönetmeni**

Prof. Dr. Hüseyin DEVECİ

**Editörler**

Prof. Dr. Osman Nuri ÇELİK

Prof. Dr. Muazzez ÇELİK KARAKAYA

Prof. Dr. Hüseyin DEVECİ

Doç. Dr. Farabi TEMEL

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**KONYA**

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**An overview of the geology and economy of lithium production**  
**Alican Öztürk, Bilgehan Yabgu Horasan**

**Konya Technical University Faculty of Engineering and Natural Sciences Department of Geological Engineering, Konya. [aozturktr@gmail.com](mailto:aozturktr@gmail.com)**

**Selçuk University Sarayönü Vocational School, Department of Environmental Protection Technologies Department, Konya. [bilgehanvabgu@gmail.com](mailto:bilgehanvabgu@gmail.com)**

**Abstract**

Demand for lithium has grown significantly over the past decade as it has become key in the development of industrial products, particularly batteries for electronic devices and electric vehicles. Lithium is considered a critical metal due to its high economic importance, although it has low supply risk and possible substitutes depending on its applications. Much of its economic importance lies in being a material for the manufacture of batteries for portable information technology devices, laptop computers and mobile phones, and a key component for electric vehicles.

In parallel with the development of our country, lithium, whose need is felt rapidly and whose price is constantly increasing, is met through imports. Lithium (Li), which is an indispensable raw material for high technology and many industries, whose importance is increasing in the 21st century, is a metal with the lowest density with its specific gravity of 0.5 gr/cm<sup>3</sup>. Lithium, which makes up about 0.004% of the earth's crust; is found in nature as a mixture of lithium-6 and lithium-7 isotopes.

The use of lithium in rechargeable batteries, accumulators, nuclear power plants and air conditioning systems in recent years has increased the importance of this metal and made it a strategic mineral.

Lithium minerals are generally found in granite pegmatite-aplites, hectorite type clays, playa lake sediments and geothermal fluids in nature. Our country is very rich in pegmatite-aplites, playa/saline lake settings and geothermal waters.

The decrease in fossil fuel resources and the difficulty of extraction, and the constant and increasing concern about the safety of oil resources have directed industrialized countries to lithium. In addition, lithium has received worldwide financial and political support due to the efficiency of its technology and environmental cleanliness.

Lithium-based battery technology and other applications in limited areas in the coming years, including applications in grid electricity storage and the nuclear power industry, will undoubtedly increase the demand for lithium resources.

**Keywords:** *Economy, Energy, Geology, Critical raw materials, Lithium*