UKRAINE

Critical Minerals Portfolio
Titanium

- Ukraine is one of the 10 leading countries in the world in terms of proven reserves of titanium and provides 7% of its world production.

- 28 fields and more than 30 ore occurrences have been discovered so far. The main titanium-containing minerals are ilmenite, rutile. Zirconium is often a coproduct.

- Currently, titanium is mined at six heavy-mineral sands fields, ~900,000 tons of concentrate are produced thereof. There is an ongoing privatization of two deposits. Together with United Mining&Chemical Company.

- Ukraine's domestic consumption is near 10%. It is possible to process up to 50 thousand tons of concentrate into the sponge inside of the country with the following production of titanium metal abroad.
UMCC – Ukraine offers largest titanium ore producer in Europe for sale

The privatization auction will be held on December, 20 2021

Investment teaser (privatization)
As of today lithium is not mined in Ukraine. Its reserves account for near a one third of those proven in Europe.

There are three explored fields with a lithium oxide content of 1.1–1.3% and one promising area for further exploration. There are also several lithium ore occurrences.

Implementation of one project at the stage of production and primary processing requires $150–250 million of investments.

One petalite field is licensed by UkrLithiumMining LLC. The reserves are approved according to JORC classification.
Rare and rare earth metals

- Rare and rare earth metals are usually coproducts of other mineral deposits within the Ukrainian Crystalline Massif

- Reserves of tantalum, niobium, and beryllium are discovered in six fields. Tantalum and niobium extraction in non-commercial volumes is carried out only as a coproduct of titanium

- The projections of rare earth production are related to the development of the Novopoltavske apatite ore field and potentially several other ore occurrences

- There is one beryllium field in Ukraine (Perzhanske) with reserves of 15.3 thousand of BeO, containing also tantalum, niobium, zirconium, tin, molybdenum, lithium, zinc, etc. A production license for this deposit was issued in 2019 to the BGV Group
There are 12 silicate nickel fields in Ukraine, which contain cobalt as a coproduct. The cobalt reserves are up to 9 thousand tons.

Ukraine's industry, precisely the Pobuzhsky ferronickel plant, imports nickel and cobalt raw materials.

The main prospects for the development of cobalt are related to Kapitanivske and Prutivske deposits, which have been operated by private investors since 2019.
Ukraine is one of the world’s five leading countries in terms of graphite reserves, which are about 19 million tons of ore with a natural graphite content of 5-8%.

There are six known fields, one of which currently produces annually 5,5 thousand of graphite concentrate, and was acquired in 2021 by the Australian public company Volt Resources.

The Ukrainian BGV Group and the Turkish ONUR Group are operators of 3 licenses. Several promising ore occurrences available for purchasing.

In order to develop the innovative potential of graphite, the European Commission initiated a scientific research program Graphene Flagship.
Coking Coal

Critical raw materials for the European Union and Ukrainian metallurgy

- As of today, Ukraine and the EU meet the needs for coking coal through domestic production by 25% and 32%, consuming 14 and 53 million tons annually, respectively.

- In Ukraine there has been designed a technical project for the construction of the Lubelska mine (#1–2) in the Lviv region. Its reserves account for > 150 million tons of coking coal (JORC).

- Construction of a mine with an annual design capacity of 8 million tons is estimated at $1 billion.
Critical raw materials opportunities in Ukraine

Virtual data-room of geological reports

Nadra.gov.ua

Metal ores
Sustainable and Green mining

- All mining projects in Ukraine have to meet high national and global standards in health, safety and environment (HSE)

- Ukraine implemented EU procedure of environmental impact assessment, which fully complies with the Directive 2011/92/EU

- Local budgets receive up to 30% of the royalty paid from the extraction of minerals. Mining companies are obliged to report according to EITI

- Following EU Association Agreement, Ukraine officially announced to join the European Green Deal Initiative, including commitments to reduce CO2 emission
Strategic Partnership between the European Union and Ukraine on Critical Raw Materials and Batteries

Kyiv | July 13 | 2021

Get more information:
Ukrainian Geological Survey/ geo.gov.ua
Ukrainian Geological Company/ ukrgeol.com
Nadra of Ukraine / nadraukrayny.com.ua
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