

## Section 01. Innovations in Engineering

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### **Promising Deposits at the Territory of Ukraine**

20,000 deposits and 111 exposures of mineral resources have been prospected in Ukraine. Black coal, oil, gas, iron ore and manganese ore, native sulphur, rock salt and potash salt, aggregates, and mineral waters are of the greatest economic value.

In its possession Ukraine has powerful and diverse (but not universal) raw-materials base which has started rapid development since the end of past century basing upon black coal from Donets Basin and iron from Kryvbas.

In Ukraine, reserves of certain types of mineral raw materials are excessive (e.g. uranium and iron) while prospecting reserves of oil and gas are insufficient. Thus, raw material for fuel and energy complex, and agroindustrial complex (that is all coal grades, oil, gas, phosphates and other types of mineral fertilizers) should be among the promising mineral resources of Ukraine.

Non-ferrous metals and alloying metals (copper, nickel, cobalt, vanadium, and molybdenum) as well as certain rare elements and trace elements (beryllium, niobium, tantalum oxide, lithium, germanium, and scandium) also belong to the group. The mineral resources are actual for machine-building, transport, and other industries.

It is worth mentioning prospects to mine facing stones (granites, gabbro, and labradorite) being export Ukrainian commodities long since.

All deposits of precious metals should score an advantage. Not only gold and silver are meant but also platinum-group metals, complex sulphide copper-nickel ore, rare metals, organics containing in marine sediments as well as other types of mineral raw materials demand for which is high but proved reserves are not available.

Full-field development of primary deposits and technogenic waste is of primary importance for Ukraine with its huge extraction scale of manganese iron ore in Kryvyi Rih and Nikopol basins, black coal and lignite in Donetsk and Dnipropetrovsk coal fields; land condemnation to store refinement tailings as well as melting slag and furnace clinker from Mykolaiv Refinery and Pobuzia Nickel Plant, thermal power plants, and other residual products containing gold, silver, germanium, scandium, and other rare and trace elements to be extracted. The above should result in the development of new deposits.