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Polish demand and supply of mineral raw materials in the light of the European Green Deal

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The European Green Deal (EGD) is a development strategy aimed at transforming the European Union into a the world's first climate-neutral area. The way to achieve this goal is a low-emission energy transformation, which should end in 2050, but the first milestones should be achieved already in 2030. Following the dynamically accelerating EU climate and energy trends will be a significant transformation challenge for Poland. The strategies proposed in the EGD will have a significant impact on key areas of the national economy (energy system, construction, industry, transport, households), including the level of supply and demand for many mineral raw materials. The most visible changes will be registered in the group of fossil fuels, but also regarding metallic raw materials, which will be associated with the development of advanced technologies for renewable energy sources.

A crucial breakthrough in the Polish energy transformation was the country's accession to the declaration of resignation from the coal exploitation, which Poland signed during the World Climate Summit in 2021. According to the social contract, the last hard coal mine in Poland will be closed by 2049. Thus, for the first time Poland was on the list of countries that officially confirm the withdrawal from coal. The resignation from this raw material is also included in the Polish Energy Policy 2040, according to which hard coal will be replaced by natural gas, nuclear energy and renewable energy. As a consequence, an increase in demand for both natural gas and nuclear fuels, should be expected. It should be noted that Poland does not have its own fossil nuclear fuel sources, and the domestic extraction of natural gas covers only 13% of the demand. In both cases an increasing demand for fuels should be assumed in the coming decades. Crude oil is also in the group of fuels sensitive to changes resulting from EGD. The main sector of the Polish economy in which petroleum products are consumed is transport. The development of electromobility, the use of biocomponents and alternative fuels will be the most important factors influencing changes in the level of demand for crude oil in the next 10-20 years.

The EGD strategy will play an important role in changing the structure of demand for metallic raw materials, both in terms of their quality and quantity. It should be emphasized that Poland has the largest copper ores deposits in Europe. In recent decades, the Polish production has accounted for nearly 50% of the total copper ore concentrates production and for more than 20% of the total refined copper production in the EU. Development of demand for this raw material is related to the scale of use of refined copper, among others in renewable energy (wind power and

photovoltaics) and electromobility, which are the pillars of EGD. Unfortunately, practically all other metals important in development of renewable energy sources in Poland (e.g. cobalt, nickel, manganese, lithium, REEs, silicon) are completely deficit for the Polish economy due to lack economically feasible domestic sources.