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## KGHM Polska Miedź and Grupa Azoty – industrial synergy

KGHM Polska Miedź S.A. and Grupa Azoty have signed a letter of intent for cooperation in research and development. It marks the beginning of synergy between the chemical and mining and metallurgy industries at a world-class level. The cooperation agreement provides for development of technologies for physical, chemical and thermal processing of minerals. Both companies are international leaders in their industries.

"KGHM is Europe's only producer of rhenium and ammonium perrhenate from its own resources. We also rank among global leaders in copper and silver production. We are interested in finding a wide range of possible applications for our products and are constantly on the lookout for new solutions to be used in our process line. The mining and metallurgy industry and the chemical sector are mutually complementary. I hope that our cooperation will help us fully exploit the potential of the state-owned public companies, so important for the Polish economy," said Radosław Domagalski-Łabędzki, CEO of KGHM Polska Miedź S.A.

"Although the Polish chemical sector is growing faster than the national industry average, it is essential to constantly strengthen its competitive position. In this context, the project of cooperation between Grupa Azoty and KGHM is extremely promising and offers an opportunity to leverage various synergies in the production, processing and reception of raw materials. Grupa Azoty understands innovation not only as construction and commissioning of production units, but also as a search for synergies, combination of initiatives, potentials and concepts to maximise efficiency, profits and strength of the entire Polish economy," said Wojciech Wardacki, President of Grupa Azoty Management Board.

At present, the chemical sector represents nearly 17% of the total value of output sold in Poland. The chemical industry also accurts for a significant share in the national GDP and exports (more than PLN 80bn in 2016). The Polish chemical segment is growing faster than the average growth rate of the Polish industry. National economic growth is inextricably linked to the condition of the chemical industry – between 2010 and 2016, the volume of output sold in the chemical sector in Poland grew at an average annual rate of 5.7%, compared with

the total industry growth of 3.8%.

The cooperation will cover, among other areas, the manufacture of catalysts using rhenium, which will enhance the catalyst performance and thus improve process parameters, the application of lithium in cathode materials, and testing of physical and chemical methods for beneficiation of minerals.

The joint activities will also involve a review of macroeconomic parameters of potential projects to develop magnesite deposits and testing of highly biodegradable anti-dust and anti-caking agents at KGHM's "Żelazny Most" Tailings Storage Facility. Grupa Azoty ranks among top corporate groups operating in the chemical and fertilizer industry, being Europe's second largest manufacturer of nitrogen and compound fertilizers.

Both Grupa Azoty and KGHM Polska Miedź have the expertise and infrastructure required to conduct industrial research. Testing technologies in target environment guarantees reliable results. The agreement was signed on November 16th 2017 at the 590 Congress 'Let Us Free the Polish Potential' in Rzeszów.

The Grupa Azoty Group is the undisputed leader of the fertilizer and chemical market in Poland and one of its key players in Europe. It is the European Union's second largest manufacturer of nitrogen and compound fertilizers and the third largest manufacturer of PPA6. Its other products, including melamine, caprolactam, oxo alcohols and titanium white, enjoy an equally strong standing in the chemical sector, with a wide range of applications across various industries. In May 2017, the Group announced its updated strategy until 2020. The key development areas include finalising the Group's consolidation, reinforcing its leadership in agricultural solutions in Europe, strengthening the second operating pillar through expansion of the non-fertilizer business, and generating and implementing innovations to accelerate growth in the chemical sector.

KGHM Polska Miedź S.A. is one of the largest and most significant enterprises in the Polish economy. Over the decades of operation, KGHM has become highly competent in copper mining, processing and metallurgy. At present, it is one of the largest producers of copper and silver, with an extensive portfolio of exploration, growth and production projects in Poland, Canada, Chile and the US.