

Strategies for Copper Cathode (*Katoda Tembaga*) Development in Driving the Electric Vehicle Revolution in Indonesia

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PT Freeport Indonesia (PTFI) has just completed the construction of a copper processing and refining facility (smelter) in the Special Economic Zone (KEK) JIPE Gresik, East Java. Occupying an area of 100 hectares¹, this smelter is the largest single line design copper smelter in the world, capable of processing around 1.7 million tons of concentrate per year. Cumulative investment for this Project reaches US\$3.67 billion or around 58 trillion Rupiah. The smelter is not only important for PTFI but also for Indonesia, as it may contribute significantly to the development of the electric vehicle industry in the country.

The Importance of Copper Cathode in the Electric Vehicle Ecosystem

Copper cathode is a derivative of copper, which is an essential raw material in the manufacture of electric vehicle batteries², a component at the heart of the renewable energy-based transportation revolution. Copper cathodes, which are produced through a process of electrolysis, play a vital role as the hub of the lithium-ion cell within the battery. The high electrical conductivity of the copper cathode allows electric current to flow efficiently, thus minimizing energy loss during battery charging and discharging. It is expected that with the PTFI copper smelter the supply of copper cathode will be able to meet the needs of the electric vehicle industry in Indonesia, without the need to rely on imports from abroad.

Regulations Related to Copper Cathode in Indonesia

Indonesian government has established various regulations that support the development of the domestic copper cathode industry:

- **Prohibition on Copper Cathode Exports:** Minister of Trade Regulation Number 22 of 2023 on Goods Prohibited from Being Exported as last amended by Regulation of the Ministry of trade Number 10 of 2024 (MTR 22/2023)

regulates several goods that are prohibited for export by a company. Under this regulation, copper cathode with a content below 99.9% Cu with tariff post ex 7403.11.00 are included as goods in the mining sector that are prohibited for export. This policy aims to ensure a steady supply of this raw material for the domestic industry.

- **Import Duty Rates:** Decree of the Minister of Finance Number 128/KMK.01/2003 of 2003 on the Amendment of Copper Cathode Import Duty Tariff (Decree of MoF 128/2023) sets the copper cathode import duty rate at 5%⁴. This tariff is expected to support the domestic copper cathode industry and reduce dependence on imports. With more domestic copper cathode production, businesses in Indonesia, especially battery manufacturers, can utilize the supply without the need to import copper cathode from overseas.

¹ accessed through <https://www.cnbcindonesia.com/news/20240802085127-4-559778/hitungan-hari-pabrik-terbesar-dunia-ri-siap-produksi-katoda-tembaga>

² accessed through <https://www.antaranews.com/berita/3395553/freeport-ungkap-tembaga-jadi-komponen-penting-dalam-ekosistem-ev>

³ MTR 22/2023, Section IV of Annex 1.

⁴ Decree of MoF 128/2023, Article 1.

- **Standard Classification of Business Fields (Klasifikasi Baku Lapangan Usaha or KBLI):** Based on information obtained through Online Single Submission (OSS), the KBLI for a company running a business in the field of copper production is KBLI 24202, which includes business activities for refining, smelting, alloying, and pouring non-ferrous metals in basic forms (ingots, billets, slabs, rods, pellets, blocks, sheets, pigs, alloys and powders) such as brass ingots, aluminum ingots, zinc ingots, copper ingots, tin ingots, brass billets, aluminium billets, brass slabs, aluminium slabs, brass rods, aluminium rods, brass pellets, aluminium pellets, bronze alloys, nickel alloys and anti-friction metals (bearing metals) as well as rare earth metals and rare earth metal alloys (the 15 lanthanide elements added to scandium and yttrium).

Further, for a company engaged in copper cathode production, the relevant KBLI is **24202C**⁵, according to Presidential Regulation Number 10 of 2021 on Investment Business Fields as last amended by Presidential Regulation Number 49 of 2021 (PR 10/2021).

Electric Vehicle Development and Impact on the Copper Cathode Industry

The trend of electric vehicles in Indonesia is increasing along with government support and infrastructure including improved charging. One of the important incentives is tax relief through Minister of Finance Regulation Number 8 of 2024, which sets Value Added Tax of electric vehicles at only 1%. This is expected to encourage massive adoption of electric vehicles in Indonesia. The International Energy Agency (IEA) also predicts that the sales of electric vehicles will increase by 21% in 2024⁶.

As the demand for electric vehicles increases, the need for quality batteries will also increase. This makes it necessary to increase the production of copper cathode as a key element in the supply chain of the electric vehicle industry. PTFI's smelter project in Gresik comes at the right time, providing a great opportunity for businesses in the electric vehicle battery sector to partner with PTFI to secure their copper cathode supply.

Further, the business field of electric vehicle battery production, especially the production of components such as copper cathodes, can also be a promising business opportunity with facilities based on PR 10/2021. In addition, PR 10/2021 also does not limit the amount of share ownership by foreign business entities in the business sector with KBLI 24202C.

Strategic Implications and Future Prospects

PTFI's establishment of a copper smelter in Gresik is not only a strategic move for the company, but also an important contribution in supporting the development of the electric vehicle industry in Indonesia. The support from the regulation, along with the huge market potential, should make copper cathode production one of the most promising sectors in the future. With the synergy between government, industry, and business players, Indonesia is on track to become a major player in the global electric vehicle revolution, with copper cathode as an important foundation.

⁵ PR 10/2021, Annex 1.

⁶ accessed through <https://www.gaikindo.or.id/penjualan-mobil-listrik-global-bisa-capai-17-juta-unit-tahun-ini/>

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The article above was prepared by Dentons HPRP's lawyers

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