SUCCESSFUL CASES OF THE STATE OF MINAS GERAIS/ BRASIL

INDUSTRY

Case Boston Metal do Brasil

A sustainable solution that gives new value to mining waste and metallurgical slag

Boston Metal do Brasil is a wholly-owned subsidiary of Boston Metal, a US-based company that is commercializing Molten Oxide Electrolysis (MOE) technology to decarbonize steel and transform how metals are made.

Patented by Boston Metal, Molten Oxide Electrolysis (MOE) is a technology developed at the Massachusetts Institute of Technology (MIT).

It has the potential to eliminate up to 10% of global CO2 emissions (which come from traditional steel production) and will revolutionize the metallurgical sector.

In Brazil, we use industrial waste (mining tailings and metallurgical slag) to produce high-value metals.

Three Business Units: Distinct Markets, Strong Synergies

- Green steel - The simplest and most scalable path to green steel powered by clean electricity.
- High-Value Metals - Turning liabilities into assets by efficiently extracting valuable metals from mining waste.
- Critical Materials - Onshoring advanced manufacturing of critical materials and securing supply chain for MOE steel.

Molten Oxide Electrolysis

- Profit from Waste - MOE is a sustainable and profitable solution to extract high-value metals from low-concentration materials that are currently considered waste.
- Efficient Solution - Eliminate multiple steps from the traditional ferroalloy process with an efficient single-process solution from a wide variety of raw materials.
- Flexible Technology - MOE is modular, scalable, can be customized for various metals and uniquely sized with several cells.

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Boston Metal do Brasil: High-value metals

The first commercial application of Molten Oxide Electrolysis (MOE) technology extracts high-value metals (niobium, tin and tantalum) from metallurgical waste. The pilot plant is already in operation, with revenue expected in late 2024.

Boston Metal do Brasil in Numbers

- ~US$6 million investment in pilot plant
- ~US$136 million investments in full plant
- + 100 employees expected

Strategic location

We chose Minas Gerais as the location for our first high-value metal recovery plant, using Molten Oxide Electrolysis (MOE).

As its name implies, the region has a vocation for mining and metallurgy, being internationally renowned for its production of metals (gold as a Portuguese colony, iron until then).

In addition, there is a qualified labor available and an abundant supply of clean and sustainable energy, an important factor for our operation.

Smart solution for mining waste

- Problem - Mining operations generate more than 100 billion tons of solid waste every year, which is expensive to store and treat.
- Opportunity - However, this mining waste often harbors valuable resources. The concentrations of metals in the waste range from 0.1% to 15%. The challenge lies in its efficient recovery.
- Solution - Empower mining companies to extract value from waste, promoting a circular economy in the metals industry.
- Benefits - Reducing the financial liability of waste and contributing to environmental sustainability. This transforms a waste problem into a revenue source.