

THE BRAZILIAN CERAMIC TILE INDUSTRY, INCREASINGLY SUSTAINABLE AND COMPETITIVE WITH ITS LOW CARBON FOOTPRINT

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The ceramic tile industry is highly dependent on energy and occupies the 2nd position as the largest consumer of natural gas in the civil construction material industry in Brazil. In the 1990s and at the turn of the century, the industry engaged in production and technological innovation, cleaning up its energy matrix, previously predominantly coal and oil, by changing over to natural gas. This option for gas, together with the optimization of production processes and the use of biomethane, has contributed to the reduction of carbon emissions. It was an important and big step as, in addition to reducing the footprint by changing the matrix, technological innovations and investments in production parks promoted healthier growth for the industry, enabling a greater volume of production and productivity. Therefore, the current scenario of the ceramic tile industry in Brazil is solid, involving products complying with quality and the implementation of high technology, fully aligned with the sustainability challenges of our society.

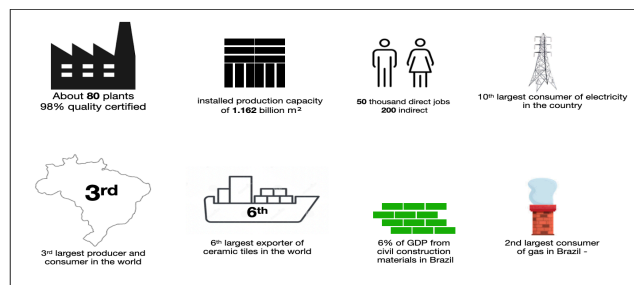
In this paper, all sectoral actions are reported in relation to carbon management, such as the production of greenhouse gas inventories of the entire Brazilian industrial park. The inventories serve as diagnostics for decision-making on actions to mitigate this environmental impact, boosting the technological, strategic and management evolution of companies. Brazil stands out for its commitment and adherence to the UN SDGs (Sustainable Development Goals), the ESG (Environmental, Social and Governance) criteria and the competitive challenge of this industry, seeking to meet the needs, which are increasingly complex and challenging, of the consumer market, as well as against products (from other classes of materials) competing with ceramic tiles.

In addition to diagnoses and actions in relation to greenhouse gas emissions, the current macro-scenario of other interfaces of the Brazilian ceramic tile industry is outlined in relation to its other environmental impacts, such as: particulate emissions, good mining practices, water use (water footprint), material recycling and solid waste generation.

1. INTRODUCTION

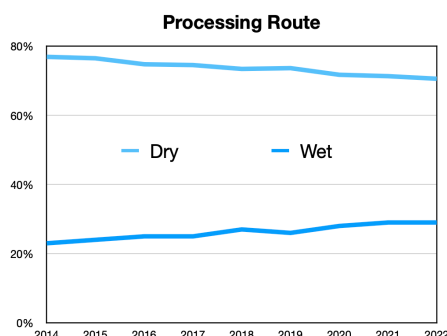
The ceramic tile industry, just like the others, has to attend the actual environmental milestones, not only regarding ESG requirements adherence criteria, but also, and more importantly, to survive in a long-term perspective.

2. THE BRAZILIAN CERAMIC TILE SECTOR



3. WHY BRAZILIAN TILES ARE SUSTAINABLE WITH A LOW CARBON FOOTPRINT

- Brazil has two usual production methods (dry and wet), and to be noted is the market gain by the dry process over the years



- Use of natural gas as the main fuel in the manufacturing process, leaving behind the use of heavier fossil fuels such as coal and fuel oil.
- Recently, in 2022, a program began to replace natural gas with biomethane, produced from the digestion of by-products from sugar and ethanol production in the state of São Paulo.

4. CARBON FOOTPRINT OF BRAZILIAN CERAMIC TILE PRODUCTION

