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An Assessment Focused on the Waste Energy Recovery by Co-processing of Oil Spilled in the Blue Amazon

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ABSTRACT

In August 2019, an oil spill from marine shipping occurred in the area known as Blue Amazon—a vast maritime space of 5.7 million km²—between the northeast and southeast regions of Brazil. It collected more than 5000.00 tons of waste from the coast, treated, and applied as a Refuse Derived Fuel (RDF) in co-processing industries. In such context, this article presents an analysis focused on the co-processing of waste material in a cement kiln from the oil spill on the Brazilian coast. This study is predominantly theoretical and bibliographical since it is presented secondary data obtained from external access to public documents, dissertations, thesis, official reports, and scientific articles. It was observed that the application of waste as a substrate in industrial processes, either as a fuel or as thermal power generation, proved to be technically and economically viable, in addition to having the capacity to replace fossil fuel derivatives and reduce greenhouse gas emissions. Moreover, RDF shows to be a promising application of waste-to-energy since it allows the energy recovery of the amount of waste that would previously be disposed of in landfills without being recycled or treated.

Keywords: Oil spill; Blue Amazon; Co-processing; Waste-to-energy; Refuse derived fuel