

HYDROTHERMAL CARBONIZATION (HTC) OF RESIDUES, A PATENT ANALYSIS WITH PATENTSCOPE

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Research related to the environment and energy has been expanding along with a growth in scientific knowledge. In this sense, the use of the hydrothermal carbonization technique (HTC) for the treatment of waste and at the same time generates a value-added fuel product is very promising. The HTC is a treatment with multiple advantages, it is a simple process that operates at low temperatures, the need to treat the raw material is eliminated, energy and storage space are saved, treatment times and the carbon footprint are low and, furthermore, a high calorific value biochar is generated that can be used as fuel among other applications.

In this article, an evaluation of patents was carried out using the Patentscope's tool of the WIPO (World Intellectual Property Organization) website to map research activities and trends regarding the HTC technique applied to waste treatment. The search was carried out by keywords and by CIP (international patent code), registering 108 applications to date.

The results indicate that the annual production of patents, led by China with 68 applications in total, had a notable growth in recent years. Meanwhile, the rest of the countries that follow do not exceed 10 applications. There is no dominance in terms of the patenting activity of any institution or company in terms of number of applications. The total contribution of the institutions is 60% of applications, with the Chinese Academy of Sciences having the most with 4 applications. Even so, the amount of applications and the countries involved are low. Hence, it has a great potential to be explored.

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