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## WATER FOOTPRINT ASSESSMENT OF THE ETHYL ALCOHOL PRODUCTION

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### Abstract

Water is essential for development and its use for the industrial and agricultural sector has grown to exceed natural supplies in many parts of the world. Businesses have become more aware of the water-related risks of their products, facilities and/or supply chain and started to consider the water accounting tools useful for identifying the “hotspots” related to water use and its social and environmental impacts, improving operational efficiency and communication with stakeholders.

The main objective of this study is to consider the application of the water footprint instrument in industry. In order to achieve this objective, the description of the technological processes for the studied industry has been done; the water footprint for the alcohol production industry has been assessed by identifying the *blue*, *green* and *grey* water footprints for growing maize. The specifications of the water footprints related to both operational and supply chain within the business have been done and according to these results, recommendations for an efficient use of water resources in the alcohol industry context have been developed.

The water footprint assessment has identified where the water was used in the ethyl alcohol production and what type of water was used, being distributed as follows: 93% *green* water, 5.6% *grey* water and only 1.4% *blue* water. The results reveals that 98.6% of the total water footprint is linked to the indirect water use in the supply chain, and only 1.4% belongs to the direct water use in the company’s operational stage.

*Key words:* water footprint, alcohol industry, sustainable production

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