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Transforming an industrial district into an Ecological Industrial Park: a methodological proposal

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Abstract

The Industrial Ecology (IE), by its principles and instruments, such as Industrial Symbiosis (IS) and Ecological Industrial Park (EIP), enables the connection of productive activities and the acquisition of environmental, social and economic benefits. In the scope of IE and the operation of Industrial Districts (IDs), this article aims to present a methodology for the transformation of an ID into an EIP. Initially, a synthesis of the concepts of IE, IS and EIP is presented. Then, the methodology proposed for the transformation of an ID into an EIP is described, structured in the evaluation of the potential of enterprises of an ID to compose an EIP and in the proposition of suitable scenarios for the conversion of the district into an EIP. By way of validation, the proposed methodology is applied to the José Vieira de Mendonça Industrial District, located in the Municipality of Vespasiano, Minas Gerais state (MG). It is noticed that the methodological proposal presented here for the conversion of IDs into EIPs, while announces itself as gradual and inspiring of an IE culture's establishment in the scope of IDs, allows the integrated and collaborative incorporation of sustainability practices into its operation, which can result in gains both for the district itself and for the environments where it is located.

Keywords: *Industrial Ecology, Ecological Industrial Park, Industrial Symbiosis, Industrial District, Brazil*
