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INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

“INTEGRATING CLEANER PRODUCTION INTO SUSTAINABILITY STRATEGIES”

Web-Based Application for Calculation and Analysis of Environmental Sustainability in Emergy

FRANÇA, W. L. M. ^{a*}, DEMETRIO, F. J. C. ^a GIANNETTI, B. F. ^b, ALMEIDA, C. M. V. B.

a. *Universidade Estadual do Maranhão, São Luís*

b. *Universidade Paulista, São Paulo*

*Correspondencia do autor, wellington.franca@ibge.gov.br

Abstract

This paper presents a software on the web, client/server model of four layers, for calculation and analysis of environmental sustainability indexes using emergy as a tool. The first layer is formed by a MySQL database stored on a web server Apache. In the layer of business rules are developed routines calculation and analysis of the indices in emerging resource considered, using the programming language PHP. Through a form on the presentation layer, the user provides the primary data input about renewable resources, non-renewable, transformed, exported and imported from any regional system and receives as output, environmental analysis emergy in the form of graphs, thematic maps and tables with calculated values of indicators. Internet browsers represent the client layer. The tests indicated that the PHP and MySQL open source technologies associated with an environmental assessment methodology showed how computational tools can contribute to the sustainable development of a region.

Keywords: *emergy, resource, web application, sustainable development*