
Introduction

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Biographical notes: L.E. Velázquez is an internationally recognised Professor/Researcher in sustainability issues. Actually, he is the founder and the Director of the Sustainable Development Group at the University of Sonora. He holds a Doctoral in the major of Cleaner Production and Pollution Prevention in the University of Massachusetts Lowell. He has 22 years of experience as an Industrial Engineer, and since 1994, he has conducted several studies in sustainability, cleaner production and pollution prevention.

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Nora E. Munguia received her Doctoral degree from the University of Massachusetts Lowell in the field of Cleaner Production and Pollution Prevention. She received her Undergraduate degree in Industrial Engineering from the University of Sonora; she received her Master's in Business Industrial Administration from the University of Sonora. She currently is a Professor/Researcher in sustainability issues in the University of Sonora, Mexico. Her most recent work involves cleaner production and pollution prevention in the maquiladora industry. She also has worked on population and development issues, particularly those related to women.

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1 Introduction

This paper serves as introduction to the special issue of the *International Journal of Environment and Sustainable Development* on 'Cleaner production initiatives and challenges for a sustainable world' which is based on selected paper presented in the Third International Workshop Advances in Cleaner Production held in Sao Paulo, Brazil in 2011.

Much has been written about successful sustainability initiatives around the world; not surprisingly, most of them are conducted in Europe and North America. Having this in mind, the International Workshop Advances in Cleaner Production Series promotes the divulgation of good practices not only in the developed world but also among Latin-American countries. For this reason, this special issue includes four contributions from Brazil and two more from Europe focusing on several topics within the field of cleaner production and pollution prevention.

Traditionally, experts in cleaner production have promoted the prevention, elimination, reduction of environmental risks at the source. However, this concept has evolved to incorporate occupational issues as a real pathway to achieve sustainability; this makes sense because any intervention at the source may lead to keep safe both environment and works.

Sustainability lobbyists in governmental agencies and corporations have recently adopted this approach of cleaner production; for this reason, the third edition of the Advances in Cleaner Production International Workshop targeted at stimulating the debate under the thematic of 'Cleaner production initiatives and challenges for a sustainable world'.

The Advances in Cleaner Production International Workshop Series is a multi/interdisciplinary forum for promoting, divulgating, and increasing the stock of knowledge in this field. Although there are many stakeholders, the main organisers are

from the post-graduate programme of production engineering at the Paulista University in Sao Paulo, Brazil.

Since 2007, on a biennial base, key sustainability leaders from academia, corporations, small business, and government agencies gather in Sao Paulo in order to share good practices that have increased their competitiveness and protect the environment.

In 2011, the conference was held for the third time with the attendance of more of 150 representatives from countries such as Brazil, Mexico, Italy, Argentina, Sweden, the USA, Germany and others.

2 Content

This special issue includes six contributions, four from Brazil and two from Europe, focusing on several topics within the field of cleaner production and pollution prevention.

Rapôso, César and Kiperstok show an analysis of the process of manufacturing upholstered furniture at the furniture cluster in the State of Alagoas, Brazil. They collected data through interviews with employees and from direct observation in the company selected for the study case. Their findings revealed the need for the future application of life cycle assessment in one of the upholstered pieces of furniture to broaden the scope of analysis and improve the efficiency of production through cleaner environmental practices.

Morejon, de Lima, da Rocha and Possa propose a new model of municipal solid waste management. They claim in their article that waste is an indicator of socioeconomic development of a nation. In this context, they analyse a model of urban solid waste management based on a proven methodology and technology. They diagnosed and identified advantages and disadvantages of conventional models as well as the opportunities for a new management model from cradle to grave; this is from the collection, transport, use and to the final disposal of urban solid waste.

El-Deir, da Silva and Jacob promote the university socio-environmental responsibility concept as the way by which universities relate with environment and its stakeholders. In this article, authors argue that this concept must be fostered within higher education institutions on the base that activities under this concept aggregated value to the teaching-learning process elevating the solidarity feeling in the academic community of the Federal Rural University of Pernambuco.

Almeida, Frimaio, Bonilla, da Silva, and Giannetti from the Paulista University, present an Emergy study conducted in the São João landfill in São Paulo, Brazil. The study combined an analysis of transformities, Emergy indicators and the net Emergy yield ratio in order to establish long-term sustainability and measure global environmental stress. Almeida and his colleagues found very convenient the Emergy investment to the use of biogas because is not expensive and consequently results advantageous. Moreover, they found the implementation of the project for environmental compensation does not change the Emergy investment significantly, although the energy recovery is high. They conclude justifying the effort invested in developing MSW-to-energy plants because its relevancy to policy makers in a highly sensitive sector to accomplish sustainability goals such as the recovery of energy.

Slee, Feliciano, Nijnik and Pajot adopted a bottom-up approach to explore the activities in the rural land sector in Scotland with particular focus on forestry in order to promote the reduction of air emissions that contributing to climate change. They concluded that additional forestry in North-east Scotland would provide a renewable energy resource that into the foreseeable future would displace fossil fuels for sustainable bio-materials. They also claim that the greatest barrier impeding the land use sector's enhanced contribution to climate change mitigation is the formal and informal institutional arrangements which subvert tree planting even where it is economically rational and cost-effective.

Finally, Bekteshi, Kabashi, Šlaus, Zidanšek and Podrimqaku present a model for short and long term emission reduction scenarios to analyse pollution, population, non-renewable resources and industrial output of post-2015, that could establish a foundation for undertaking actions to mitigate climate change, taking into account both their environmental and economic consequences. By analysing this parameters, authors conclude that the impact of short term pollution emission reduction is more significant related to population and non-renewable resources, and less significant regarding industrial output. The long-term impacts of pollution emission reduction on industrial output are small regardless of the applied scenario.

3 Remarks

The articles in this special issue of the *International Journal of Environment and Sustainable Development* cover a wide range of cleaner production hand-on initiatives. Successes and failures are shown as a way to improve sustainability initiatives around the world, therefore, it is expected that findings in this articles provide insight for enriching the actual stock of knowledge towards approaching to defeat the challenges for a sustainable world.