



## Editorial

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### **Sustainable Consumption and Production in a Resource Constrained World**

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Sustainable consumption is defined by UNEP as “the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life-cycle so as not to jeopardize the needs of future generations”. Over the 20th century, the world increased its fossil fuel use by a factor of 12 whilst extracting 34 times more material resources. Nowadays, each person in the EU consumes 16 tons of materials annually, 6 tons of which are wasted, with half going to landfill. Trends show that the era of plentiful and cheap resources is over. This means that human population cannot continue to expand indefinitely expecting to live at per capita levels of consumption and production practiced by developed population. At the same time it is important to note that consumption goods are not equal in their environmental impacts, and informed choices by consumers can make a difference in terms of production decisions. Improving the reuse of raw materials through industrial symbiosis approach, exchanging information on routes to resource efficiency between partners in value chains and across the sectors, avoiding, wherever possible, the use of dangerous chemicals and promoting green chemistry can help to protect key resources like soil and water, and make others, like materials, safer, easier and less costly to recycle and reuse. This leads to sustainable production which is defined as “the creation of goods and services using processes and systems that are non-polluting, conserve energy and natural resources, are economically efficient, are safe and healthy for workers, communities, and consumers, and are socially and creatively rewarding for all working people” (Lowell Center for Sustainable Production).

The Europe 2020 Strategy and its flagship initiative on “A Resource Efficient Europe” set the EU on the path to this transformation. A milestone for boosting efficient production is: “By 2020, market and policy incentives that reward business investments in efficiency are in place. These incentives have stimulated new innovations in resource efficient production methods that are widely used. All companies and their investors can measure and benchmark their lifestyle resource efficiency. Economic growth and wellbeing is decoupled from resource inputs and come primarily from increases in the value of products and associated services”.

However, actual progress in sustainable consumption and production is insignificant. Ineffectiveness of the above mentioned strategies became particularly visible during the global economic crisis. New challenges for sustainable production strategy and macroeconomic system, systems for development and promotion of sustainable innovations, problems in sustainable consumption to ensure continuous increase of living quality have been discussed at the second international conference “Sustainable consumption and production: how to make it possible” held in Kaunas, September 29-30, 2011. More than 60 original scientific papers were presented in plenary and four thematic sessions on sustainable consumption, sustainable production and innovation, corporate social responsibility, efficient use of energy and resources.

- It has been stated at the conference that to promote sustainable consumption and production there is a need:
- To develop the common methodological approach to enable the private sector to assess, display and benchmark the environmental performance of products, services and companies based on comprehensive assessment of environmental impacts over their life-cycle;
  - To ensure better understanding of consumer behavior and provide better information on the environmental footprints of products, including preventing the use of misleading claims, and refining eco-labeling schemes;
  - To extend producer responsibility to the full life-cycle of the products they make;
  - To focus public research funding on key resource efficiency objectives.

Experience gained in implemented projects in Lithuania and abroad that focused on practical application of cleaner production, eco-design, sustainability management and reporting, sustainable innovations has clearly demonstrated that improvement in production efficiency and products is accompanied by a “rebound” effect, when increased production efficiency and reduced product prices lead to increased consumption and no total gains in terms of reduced impact to the environment are achieved. Companies will strive to increase the production level as long as there is a market for their products. This leads to a conclusion that sustainable industrial development without incorporation of consumption aspects (consumers and consumption habits) is not possible. Consumers will not change their consumption habits as long as sustainability awareness is low and there is no sufficient information concerning production and product environmental performance. Awareness and capacity building activities (information campaigns and training programs) are needed for both producers and consumers.

To overcome barriers and to ensure progress in the area of sustainable consumption and production a model of a system of sustainable consumption and production has been proposed at the conference. The model corresponds to the type II model in accordance with the industrial ecology concept (minimal material exchange between human activities and environment). The objective of the sustainable consumption and production system model is to minimize energy and material use as well as waste output, and to eliminate the “rebound” effect.

The selected papers of the international conference “Sustainable consumption and production: how to make it possible” are published in this issue of the journal.