
Editorial

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Biographical notes: Academy Fellow, Docent and Research Director Dr. Jouni Korhonen, from Åbo Akademi University (Finland), is the Editor-in-Chief of *Progress in Industrial Ecology – An International Journal* (PIE), Inderscience Publishers and the Industrial Ecology Subject Editor of the *Journal of Cleaner Production*, Elsevier Science.

The last issue of this volume completes the second successful year of *Progress in Industrial Ecology* after the journal's extension from four issues to six issues a volume. We have an exciting set of articles in this issue. The papers address some of the critical challenges in the fields of industrial ecology, corporate sustainability management and corporate environmental management.

Ras *et al.* provide an important contribution to interorganisational environmental and sustainability management. Because of the systems approach inherent in the theory of industrial ecology and the fact that the physical flows of materials and energy cross human-made boundaries and borders, holistic systems approaches are important for all sustainability science. The need for systems analysis is also highlighted through the social dimension of sustainable development. Issues such as climate change mitigation cannot be solved without cooperation between developed and developing countries. The poorest countries of the world are increasingly vulnerable to negative social and environmental impacts associated with global production and consumption patterns.

Supply chain management is one of the tools that can also be utilised in environmental and sustainability management to enhance and coordinate cooperation among the many actors in product value chains. The most difficult challenge in such interorganisational management seems to be the organisation of cooperation between actors and organisations along a given product chain that extends national and continental borders. Interesting examples of questions important for product chains covering both developed and developing countries are analysed in the contribution of Ras *et al.*

Ketola and Pataki continue the theme of studying organisations in relation to their external environment. Cases from Hungary and Finland are considered. The environment of companies focused upon is the macrostructural social and political changes in these two countries. Privatisation and EU membership, among other macrolevel societal changes, are analysed for their effects on corporate environmental and sustainability management.

Jacobsen takes a fresh approach to by far the most often cited topic in industrial symbiosis, eco-industrial park or industrial ecosystem case studies in the field of industrial ecology – the Kalundborg industrial symbiosis in Denmark. Unlike the many previous studies of the Kalundborg materials recycling and energy cascading interorganisational business network, Jacobsen focuses on social factors affecting the behaviour of the participating companies. Up to now, industrial symbiosis (as industrial ecology in general) has mainly been studied with approaches looking at the physical flows of materials and energy. This article is at the heart of the aims and scope of *Progress in Industrial Ecology*. The journal wants to bridge industrial ecology and materials and energy flow studies to business studies, studies of management and organisations and towards social sciences.

The empirical results on materials and energy flows over time in Finland show interesting aspects of the impacts of consumption on sustainable development and eco-efficiency in the paper by Hoffren and Hellman. Consumption is increasingly promoted alongside production in the literature on cleaner production, industrial ecology and eco-efficiency. Honkasalo takes a critical approach to eco-efficiency and relates it to the consumption of work: human work, work performed by technological systems and work performed by natural ecosystems including their services and life-supporting functions. Opportunities in eco-efficiency in terms of substituting products with services, increasing the role of information and communication technology, dematerialisation, *etc.*, are compared with limitations of eco-efficiency including the rebound effects and challenges of equity in the increasingly globalised world.

We thank the authors, the many reviewers and the readers of *Progress in Industrial Ecology*. Responses to the contributions in this issue are encouraged for publication in the journal.