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## Editorial

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**Biographical notes:** Dr. Jouni Korhonen is Academy Fellow, Docent and Research Director at the University of Tampere School of Economics and Business Administration. Dr. Korhonen is also the Editor-in-Chief of *Progress in Industrial Ecology: An International Journal (PIE)*, Inderscience Publishers and the Industrial Ecology Subject Editor of *Journal of Cleaner Production*, Elsevier Science.

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### Six issues in a volume

This issue of *Progress in Industrial Ecology (PIE)* is the third issue of Volume 3. This volume includes six issues. The journal has been extended from four issues a year to six issues a year. The increased number of published peer-reviewed articles shows that the journal has generated interest, discussion and debate in industrial ecology research and in the discourse on sustainable development.

At this stage, we want to thank our editorial board and the editorial team, the many reviewers, authors and readers for working together and contributing to the journal. PIE contributes to the unique profile on *Energy, Environment and Sustainable Development* of Inderscience Publishers, a section that includes some 25 titles and is one of the special sections among the over 200 journals published by Inderscience.

### PIE contributes to the International Sustainable Development Research Society

Another important development is the acceptance of PIE as one of the supporting journals of the *International Sustainable Development Research Society (ISDRS)*.<sup>1</sup> This society builds upon the 12 year history of the annual *International Sustainable Development Research Conference*. This conference is an event held annually at different countries and host organisations; in 2005, the conference was held in Helsinki, Finland and in 2006 at Hong Kong. The conferences have included around 500 participants from all continents of the world. It is very important that industrial ecology is reflected within the broader debate in sustainable development research. This is in line with the objective of the journal – bridging the dominant engineering and natural science aspects of industrial ecology to social sciences, policy studies and business and management studies.

### Introducing the papers

Issue 3 of Volume 3 includes six papers. Our review and editorial processes accepted the papers, all of which contribute to the links between classical industrial ecology and the more recent aspects in the field that address the policy, business and management dimensions of industrial ecology. We decided to publish the work of Indrianti and colleagues in two parts. The authors propose a management framework designed to foster the implementation of policies for industrial by-product and waste utilisation. The approach is applied to policy instruments that combine a tax on the use of virgin materials and subsidies that enhance the utilisation of waste-derived materials as substitute for virgin resources. The authors suggest that the key to this approach is the transparent cooperation between the government and the industrial actors that utilise the waste-derived resources. A bidding process involving the different actors that utilise waste materials is offered as a practical way to implement the approach. The authors reflect upon game theory aspects and consider the relation and the balance of cooperation and competition in the interaction among industrial actors and between industry and government. We find these contributions as important for making progress in industrial ecology research. Here, the studies on the physical flows of materials are considered for their potential to be applied in decision-making and implementation of public environmental policies.

The paper by Kapur presents scenarios describing alternative futures in case of copper flows. The Inter-governmental Panel of Climate Change (IPCC) scenarios are used as the background and basis of scenario construction. The IPCC approach is among the key references and guidelines in international and national policies for controlling climate change. Important issues addressed in Kapur's contribution are copper resources availability and energy and water use associated with copper utilisation. The author finds a large potential for by-product and waste utilisation and discusses the energy use implications of this alternative. Scenario studies are now commonly used for the planning of strategic sustainability, environmental and energy policies. It is important to use scenarios for considering the possible outcomes of the implementation of different policy instruments. However, scenarios can also be used in efforts aimed at increasing organisational learning and capacities for sustainability innovations, *i.e.*, the 'process function of scenarios' (Wiek *et al.*, 2006). The scenario process can foster 'thinking out of the box' in brainstorming sessions and may enable thinking beyond the constraints and restrictions of the current situation (*i.e.*, creativity).

Gabriel and Kreißig have completed a critical evaluation of Life Cycle Assessment (LCA) studies of drinking water installations in Europe. The message is timely and fruitful as the authors show the different ways in which the results of LCA can be interpreted. LCA results can be used in different ways, and some of these ways may not necessarily be optimal in the light of sustainability. Two widely known studies are assessed and radically different results are observed in the studies. The authors present criteria with which these differences can be understood, *e.g.*, the definition of physical or spatial system boundaries in the LCA applications.

The paper by Raggi and Petti addresses the potential of services to contribute to societal dematerialisation. Some authors have argued that modern eco-efficiency discussion largely ignores the substitution of physical products with immaterial services and mainly concentrates on efficiency increases of existing production cultures and product systems (Welford, 1998). Others have argued that we should not only look at

the potential to substitute less resource intensive products for products that are more resource intensive. We should also focus on 'cultural substitutions', *e.g.*, finding substitute cultures and new world views for the basic organisational cultures, lifestyles or neo-classical economics cultures dominant in modern economic systems (Robért *et al.*, 2002). Raggi and Petti aim to combine environmental management approaches and quality management approaches. By making this link transparent, the corporate environmental management research community may be better acknowledged within the mainstream research communities of business studies, management and organisational studies. The quality management philosophy of customer satisfaction can be bridged to sustainability philosophies that address societal needs in a broader sense.

We find the six articles in this issue as important contributions to industrial ecology. We invite responses to these contributions for publication in the journal.

### References

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- Wiek, A., Binder, C. and Scholz, R. (2006) 'Functions of scenarios in transition processes', *Futures*.

### Note

- 1 [www.isdrs.org](http://www.isdrs.org)