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**Author**

Gros, Xavier E.

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## **Review: Materials Matter: Toward a Sustainable Materials Policy**

By Ken Geiser

Reviewed by Xavier E. Gros  
*Mitsui Babcock Ltd., Scotland*

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Ken Geiser. *Materials Matter: Toward a Sustainable Materials Policy*.  
Cambridge, MA:MIT Press, 2001. 479 pp. ISBN 0-2625-7148-X (softcover).  
US\$24.95. Recycled, acid-free paper.

At a time when the United States is refusing to ratify the Kyoto Protocol, at a time when European researchers are rediscovering that copper is more appropriate than steel to help fight food-related diseases due to its inhibitory properties, *Materials Matter* examines the environmental pollution caused by industrial materials and illustrates the advantages and shortcomings of the material industry by focusing on environmental and economical aspects. It shows that the emergence of a new culture that is trying to develop materials respectful of the environment is more a trendy aspect developed for economic or policy reasons rather than to show consideration for the planet and its inhabitants.

*Materials Matter* is the eighth addition to the Urban and Industrial Environments series, and is a rich volume that may at first impress by its size. Divided in four sections, each one made of three to five chapters, the book reaches nearly 500 pages. But this bulky volume is easy to read and provides a comprehensive historical and scientific study on a wide range of materials. *Materials Matter* is not a publication of academic nature, as its jargon-free style makes it accessible even to the non-specialists, while the history of materials makes the book interesting on a general level. The presentation of only useful diagrams and tables and the mixing of data within the text make it more enjoyable to read (rather than a volume overloaded with graphs), while notes and an extensive bibliography provide materials for further reading.

The first part presents an historical background on materials development, production, market globalization, health damage caused by handling and disposal of toxic substances, and gives an insight into the economy of industrial materials. The policies for the management of natural materials resources are addressed in Section Two. It is shown that since material manufacturers are more interested in profit than environmental protection, environmental directives have to be proposed and implemented by the government. However, Geiser rightfully suggests that policies should evolve in time to follow materials availability, waste generation, and other factors that may affect existing regulations. A hope would be to identify the right

balance between a strong and flexible policy to reach a sustainable material system. Section Three discusses alternative materials strategies currently in use, their advantages and limitations. Geiser discusses recycling and reusing, but also presents less well-known topics such as the manufacture of biobased materials. In all cases, each chapter contains realistic examples and down-to-earth views on these topics. The final section proposes alternative sustainable material policies for a sustainable material economy to thrive.

By showing that the increase in environmental degradation is linked to an increase in materials consumption, and with the United States consuming a third of the world's non-energy materials, Geiser appeals to the common sense of industrials to focus on more efficient and less wasteful production processes rather than disburse fortunes to manage toxic materials and clean polluted sites.

Several issues are raised that still have to be answered worldwide. For example, as "all industrial materials became waste," it remains unclear with whom the responsibility for disposal and recycling lies. As new materials are being developed, their disposal and recycling become more complicated and lead to new challenges.

This publication could benefit all, as the author proposes natural alternatives to materials that release toxic substances when disposed of, and gives recipes to start working on environmentally friendly production processes. *Materials Matter* is without doubt a valuable addition to the field of industrial materials, and it confirms what Ignacio Ramonet wrote in the January 1999 issue of *Le Monde Diplomatique*: "The new wealth of nations is built on brains, know-how, research and the capacity for innovation, and no longer on the production of raw materials."

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Xavier E. Gros, Ph.D. <[xgros@ieee.org](mailto:xgros@ieee.org)>, Mitsui Babcock Ltd., Technology Centre, Renfrew, Scotland.