FOREWORD

It was a moment of insight and creation that prompted Ed Cohen-Rosenthal to suggest that the world of work and labour should be brought together with the study of the natural environment. He was saying what others were beginning to recognise as well, that the old paradigm of jobs versus the environment was rapidly giving way to a new order that saw the possibility of reducing pollution and waste while simultaneously creating jobs and improving chances for business success. In fact, it is not simply possible but essential that we change our linear thinking about industrial production if we are to set human civilisation on a sustainable development path.

With the creation of the Work and Environment Initiative at Cornell University in 1994, and the founding of the National Center for Eco-Industrial Development in 2000, Ed Cohen-Rosenthal established himself as a leader in the new field of industrial ecology, and he continued to shape it in his own unique ways until his death in January 2002.

Ed Cohen Rosenthal's reputation was not just national but international. He was a US delegate to the United Nations General Assembly meeting on the Earth Summit +5. The last time I saw him, in the summer of 2001, we had just spent two days on a tour of the Kalundborg eco-industrial park in Denmark. That evening, we had dinner back in Copenhagen, and Ed kept up his rapid-fire thinking about the many fronts on which to continue promoting eco-industrial development. Ed was also a member of the Eco-Industrial Park Task Force of the President's Council on Sustainable Development and was a member of the faculty at Cornell, in the School of Industrial and Labour Relations.

One of the primary strategies for building an understanding of this new approach to industrial development was Ed's creation and leadership of the Eco-Industrial Development Roundtable in 1995. The group met three times a year, twice in communities where eco-industrial activities were under way, and once in Washington, DC, where we interacted with federal policy-makers and supporters of industrial ecology.

Ed did not seem like an academic himself and, in fact, was always more focused on how to build a better life for average people, having grown up in a working-class neighbourhood of Baltimore and having spent time as a staff member for the Bricklayers Union. And no doubt his concern for the health of the planet was influenced by his own long battle with the cancer that eventually took his life.

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However, this book is not a tribute to Ed, and he would not want it to be so. It is, rather, a collection of concepts, tools and case studies about eco-industrial development in the USA. Ed would have been pleased at its publication but he would have been more pleased with it as the work of many people at many levels and across several disciplines.

Industrial ecology, eco-industrial development, or industrial symbiosis had very little conscious application in the industrial nations of the world in 1994. The multidisciplinary approach to industrial development has since taken hold in Asia and across Europe, where it is being applied in ways that may create significant competitive advantages for businesses in these nations.

The importance of academic research in the field of industrial ecology cannot be underestimated, and it is reflected in these pages. Research will continue to develop measures of performance and refine analytical tools for use by practitioners. However, there is a recognition among the practitioners who were brought together by the programme at Cornell that the greatest contribution of eco-industrial development would be to make a real difference in communities that are struggling to remain competitive in a global marketplace. So, you will find an equal emphasis here on the application of academic thinking in real settings as an answer to actual problems.

It is also important to note that industrial ecology is much more than a network of waste and energy exchanges among businesses. The voluntary networks that distinguish eco-industrial development patterns from more traditional models of industrial activity will be most successful when they include ongoing dialogues and are conceived of in the context of their larger communities. And the real benefit of these networks may come through joint efforts addressing issues such as human resources and training, marketing or transportation logistics as well as materials and energy.

The fundamental principle of our approach is to think about industrial and related activities—not as separate and disconnected islands unto themselves but as an overall system much like an ecosystem that gives this field its name and defining mental model. The goals are for the industrial base to become stronger while it also becomes a better neighbour within the mixed land-use plan of a community.

The study and the practice of industrial ecology or eco-industrial development is still at an early stage, but it is advancing quickly in different ways in every corner of the planet. The contributors to this volume have much to offer in experience and ideas to those who are working to find those simultaneous benefits to businesses and communities. In memory of Ed Cohen-Rosenthal who was a pioneer and a teacher to many of us, we wish you well in your efforts.

Michael Krause
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