

# Preface

---

This book lies at the interface of the natural sciences, economics and philosophy. It builds on the results of a major research programme that has evolved over the last fifteen years in various strands, with the aim of providing conceptual foundations for ecological economics and for environmental policy.

As in any jointly authored book, each chapter has a different weight of contribution by the three authors. However, our collaboration in research and in writing this book was so extremely close that even when the original version of a chapter was drafted by only one or two of us, a significant influence of all three of us is present in every chapter. Furthermore, in writing various chapters of this book we have been very fortunate to enjoy the collaboration of a number of colleagues with backgrounds in business administration, chemistry, economics, engineering, mathematics, philosophy, physics. Each of them has made a unique and very different contribution, as acknowledged on pages vii–viii. As a result, this book is fundamentally interdisciplinary.

The University of Heidelberg's Interdisciplinary Institute for Environmental Economics provided an ideal platform for conducting this research. We are grateful for the opportunity to benefit from its environment of intellectual openness and scientific excellence. Indeed, all three authors, and most of the cooperating and contributing authors, have been associated with this institution in one way or another. We are also grateful for the comments and ideas that emerged from discussion with students when one of us (S.B.) taught courses on this material in Heidelberg in 2002/03 and 2004/05. In particular, we thank Christoph Heinzl, Eva Kiesele, Philipp Krohn, Karoline Rogge, Christian Traeger and Torsten Stein.

Over the years, we have received comments on the ideas and material presented here from a large number of colleagues. We are grateful for critical and constructive comments, as well as for stimulating discussions, to Frank Ackerman, Shmuel Amir, Peter Bernholz, Guido Bünstorf, Mick Common, John Coulter, Harald Dyckhoff, Bernhard Eckwert, John Ehrenfeld, Stefan Felder, Karin Frank, Manuel Frondel, Jörg Hüfner, Frank Jöst, Bernd Klauer, Andreas Lange, Reiner Kümmel,

Thomas Kuhn, Heinz D. Kurz, Markus Lehmann, Günter Liesegang, Reiner Manstetten, Georg Müller-Fürstenberger, Ulf Moslener, Jürg Niehans, Richard B. Norgaard, Charles Perrings, Rüdiger Pethig, Dan Phaneuf, John Proops, Clemens Puppe, Martin Quaas, Till Requate, Mario Schmidt, Armin Schmutzler, Jeroen van den Bergh, Ralph Winkler, Ulrich Witt, as well as anonymous reviewers of the journals *Ecological Economics*, *Economic Theory*, *Environmental and Resource Economics*, *Environmental Values*, *Journal of Environmental Economics and Management*, *Journal of Industrial Ecology*, *Resources, Conservation and Recycling*, *Resource and Energy Economics*, *Structural Change and Economic Dynamics* and *Zeitschrift für Politikwissenschaft*.

When preparing the final draft of the manuscript we very much appreciated the high-quality editorial support from Edward Elgar Publishing. Also, Dale Adams, Maximilian Mihm and Paul Ronning have helped improve language and style. Simone Bauer has helped editing the references.

We thank the following publishers for permission to use material from previously published articles, as indicated in the respective chapters. Elsevier Science for the use of material from

S. Baumgärtner (2004), 'Price ambivalence of secondary resources: Joint production, limits to substitution, and costly disposal', *Resources, Conservation and Recycling*, **43**(1), 95–117.

S. Baumgärtner, H. Dyckhoff, M. Faber, J.L.R. Proops and J. Schiller (2001), 'The concept of joint production and ecological economics', *Ecological Economics*, **36**, 365–372.

S. Baumgärtner, M. Faber and J. Proops (2002), 'How environmental concern influences the investment decision. An application of capital theory' in *Ecological Economics*, **40**(1), 1–12.

S. Baumgärtner and R. Winkler (2003), 'Markets, technology and environmental regulation: price ambivalence of waste paper in Germany', *Ecological Economics*, **47**(2–3), 183–195.

M. Faber, K. Frank, B. Klauer, R. Manstetten, J. Schiller and C. Wissel (2005), 'On the foundation of a general theory of stocks', *Ecological Economics*, **55**, 155–172.

R. Winkler (2005), 'Structural change with joint production of consumption and environmental pollution: a neo-Austrian approach', *Structural Change and Economic Dynamics*, **16**(1), 111–135.

MIT Press for the use of material from

S. Baumgärtner and J. de Swaan Arons (2003), 'Necessity and inefficiency in the generation of waste. A thermodynamic analysis', *Journal of Industrial Ecology* **7**(2), 113–123.

Springer-Verlag for the use of material from

S. Baumgärtner and F. Jöst (2000), 'Joint production, externalities, and the regulation of production networks', *Environmental and Resource Economics*, **16**(2), 229–251.

Last, not least, we are grateful for financial support from the German Research Foundation (Deutsche Forschungsgemeinschaft DFG) and from the Volkswagen Foundation for several research projects over the past fifteen years.

Heidelberg and Leipzig, June 2006  
Stefan Baumgärtner, Malte Faber, Johannes Schiller

