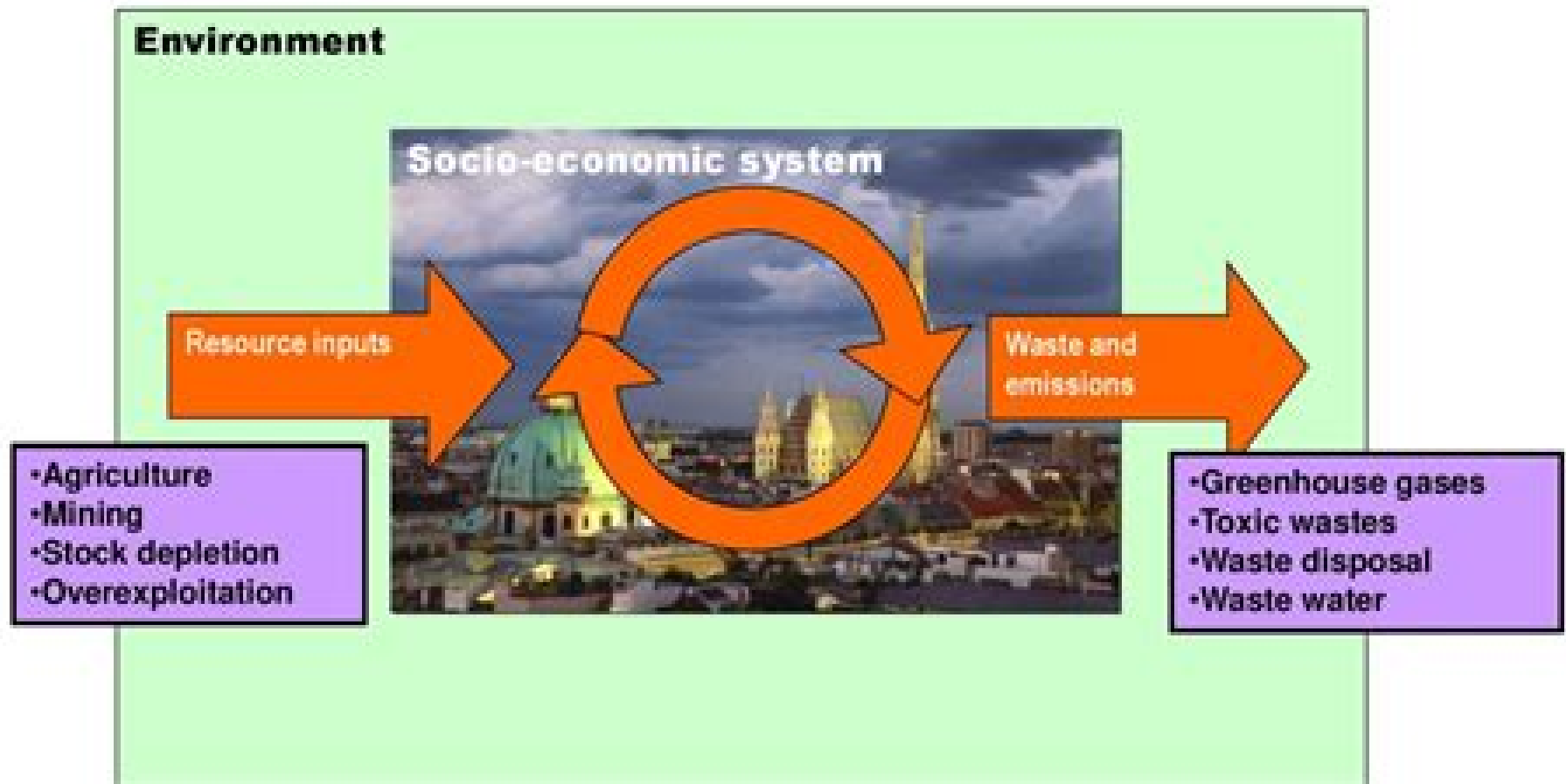


Socio-economic metabolism



Economic Metabolism

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Temper, Mariana Walter, Julien-
François Gerber**

Economic Metabolism:

The Economic Metabolism Wim Heijman, 2012-12-06 Students in Technical and Agricultural faculties spend only a limited amount of time on general economics environmental economics and resource economics However while their knowledge of economics may be limited they often have adequate mathematical skills The objective of *The Economic Metabolism* therefore is to present these three branches of economics in an integrated mathematically oriented way so that the subjects can be taught together without losing time on separate economics courses While the approach adopted is mathematical the mathematics used is certainly not too difficult for the target group university students in technical and or agricultural faculties will be used to far more difficult mathematics After studying the book the basic intermediate level student should be able to understand the basic principles of economics especially microeconomics understand the economic principles of environmental policy understand the economic principles of resource extraction apply the standards for efficiency and sustainability and apply the theory to practical problems

The Economic Metabolism Wim Heijman, 2011-09-29 Students in Technical and Agricultural faculties spend only a limited amount of time on general economics environmental economics and resource economics However while their knowledge of economics may be limited they often have adequate mathematical skills The objective of *The Economic Metabolism* therefore is to present these three branches of economics in an integrated mathematically oriented way so that the subjects can be taught together without losing time on separate economics courses While the approach adopted is mathematical the mathematics used is certainly not too difficult for the target group university students in technical and or agricultural faculties will be used to far more difficult mathematics After studying the book the basic intermediate level student should be able to understand the basic principles of economics especially microeconomics understand the economic principles of environmental policy understand the economic principles of resource extraction apply the standards for efficiency and sustainability and apply the theory to practical problems

Economic Futures Ruth Irwin, 2024-10-02 The life of our planet has reached a critical stage Its survival depends on our ability to rethink our relationship with ecology and create a new economy which does not rely on economic growth and supports care and sustainability for our planet This book examines histories of alternative economic theories to advocate for different ways of economic distribution that do not keep producing emissions It calls into question our philosophy of time our relationship with ecology and the original creation of debt interest and ways of avoiding exponential economic growth The author uses ideas from Maori philosophy Mesopotamian finance and quantum mechanics to set out a new basis for economic theory which is no longer set up on greedy individualism or a hierarchical trickle down effect or even overall economic growth Instead this new materialist philosophy emphasises the integration of humanity and the ecosystem and sets out to create a philosophy of economics built on interconnection and care

Economic Growth and the Environment Sander M. de Bruyn, 2012-12-06 Is economic growth good for the environment A number of economists have claimed that economic growth can benefit the

environment recruiting political support and finance for environmental policy measures This view has received increasing support since the early 1990s from empirical evidence that has challenged the traditional environmentalist s belief that economic growth degrades the environment This book reviews the theoretical and empirical literature on growth and the environment giving an in depth empirical treatment of the relationship between the two Various hypotheses are formulated and tested for a number of indicators of environmental pressure The test results indicate that alternative models and estimation methods should be used altering previous conclusions about the effect of economic growth on the environment and offering an insight into the forces driving emission reduction in developed countries *Historical Epistemology of Ecological Economics* Alberto Fragio,2022-03-05 This volume uses historical epistemology in order to address several topics in the history of economic thought with special emphasis on ecological economics environmental metaphors of scarcity and mathematical ecology Using the field of ecological economics as an anchor point the author reflects on the styles of reasoning in economics with a view towards understanding the nature of disagreement that stems from a failure of communication between rival approaches in economics A thorough inquiry into issues related to identity coherence pluralism and reception this volume will appeal to researchers and students interested in history of economic thought ecological economics and philosophy of the sciences

Ethical Principles and Economic Transformation - A Buddhist Approach Laszlo Zsolnai,2011-05-17 Buddhism points out that emphasizing individuality and promoting the greatest fulfillment of the desires of the individual conjointly lead to destruction The book promotes the basic value choices of Buddhism namely happiness peace and permanence Happiness research convincingly shows that not material wealth but the richness of personal relationships determines happiness Not things but people make people happy Western economics tries to provide people with happiness by supplying enormous quantities of things and today s dominating business models are based on and cultivates narrow self centeredness But what people need are caring relationships and generosity Buddhist economics makes these values accessible by direct provision Peace can be achieved in nonviolent ways Wanting less can substantially contribute to this endeavor and make it happen more easily Permanence or ecological sustainability requires a drastic cutback in the present level of consumption and production globally This reduction should not be an inconvenient exercise of self sacrifice In the noble ethos of reducing suffering it can be a positive development path for humanity *Routledge Handbook of Ecological Economics* Clive L. Spash,2017-04-07 Since becoming formally established with an international academic society in the late 1980s ecological economics has advanced understanding of the interactions between social and biophysical reality It initially combined questioning of the basis of mainstream economics with a concern for environmental degradation and limits to growth but has now advanced well beyond critique into theoretical analytical and policy alternatives Social ecological economics and transformation to an alternative future now form core ideas in an interdisciplinary approach combining insights from a range of disciplines including heterodox economics political ecology

sociology political science social psychology applied philosophy environmental ethics and a range of natural sciences This handbook edited by a leading figure in the field demonstrates the dynamism of ecological economics in a wide ranging collection of state of the art essays Containing contributions from an array of international researchers who are pushing the boundaries of the field the Routledge Handbook of Ecological Economics showcases the diversity of the field and points the way forward A critical analytical perspective is combined with realism about how economic systems operate and their essential connection to the natural world and society This provides a rich understanding of how biophysical reality relates to and integrates with social reality Chapters provide succinct overviews of the literature covering a range of subject areas including heterodox thought on the environment society power and politics markets and consumption value and ethics science and society methods for evaluation and policy analysis policy challenges and the future post growth society The rich contents dispel the myth of there being no alternatives to current economic thought and the political economy it supports The Routledge Handbook of Ecological Economics provides a guide to the literature on ecological economics in an informative and easily accessible form It is essential reading for those interested in exploring and understanding the interactions between the social ecological and economic and is an important resource for those interested in fields such as human ecology political ecology environmental politics human geography environmental management environmental evaluation future and transition studies environmental policy development studies and heterodox economics Ecological economics C.M. van der Heide, W.J.M. Heijman, J.H.J. Schaminee, 2025-07-21 A textbook about the nature of economics and the economics of nature Is economic growth the cause of or the solution for biodiversity loss Why do we keep drilling for oil and gas when green energy sources are cheaper And is it possible to protect nature without government intervention The answer to these and other questions lies in economic knowledge But in an age when the boundaries between nature and society are becoming increasingly vague ecology and economics are still worlds apart Not only should economists find out more about ecology ecologists should acquire a better understanding of economic principles and concepts from Adam Smith's invisible hand to the Gini coefficient and from diminishing marginal utility to the Hedonic Pricing method The aim of this book is to provide students with knowledge and an understanding of economic science and to offer them a mindset for tackling the important ecological issues of our time The book demonstrates that economic theories are sometimes part of an ecological problem but can also offer valuable insights in the search for a solution The textbook is intended for use on ecology courses at institutes for professional education and on science courses A strange combination at first glance but having read this book I am convinced of the inextricable link between ecology and economics This book is an eye opener not just for professional and science students but also for policymakers and land managers My interest increased with every page and my knowledge about the interfaces and connections between two interesting disciplines grew considerably Hans van Rooijen Former director of Woodland and Nature Conservation course Hogeschool Van Hall Larenstein the Netherlands

Old fashioned administrators and economists have a tendency to regard economics and ecology as counter forces And many nature conservationists don t think that nature should be discussed in terms of economic utility In all honesty both visions are fairly blinkered It goes without saying that nature has a value in itself which is why Natuurmonumenten has worked in this area for more than 110 years But nature also has economic significance and needn t be an obstacle to economic development It can even be an economic multiplier The thinking around synergies between economics and ecology must be intensified to make the world a better place This book can only help Marc van den Tweel Chief Executive Natuurmonumenten Dutch conservation organisation the Netherlands *Handbook of Input-Output Economics in Industrial Ecology* Sangwon Suh,2009-05-13 Industrial Ecology IE is an emerging multidisciplinary field University departments and higher education programs are being formed on the subject following the lead of Yale University The Norwegian University of Science and Technology NTNU Leiden University University of Michigan at Ann Arbor Carnegie Mellon University University of California at Berkeley Institute for Superior Technology in Lisbon Eidgen ssische Technische Hochschule ETH Z rich and The University of Tokyo IE deals with stocks and flows in interconnected networks of industry and the environment which relies on a basic framework for analysis Among others Input Output Analysis IOA is recognized as a key conceptual and analytical framework for IE A major challenge is that the field of IOA manifests a long history since the 1930s with two Nobel Prize Laureates in the field and requires considerable analytical rigor This led many instructors and researchers to call for a high quality publication on the subject which embraces both state of the art theory and principles as well as practical applications

Handbook of the Circular Economy Miguel Brandão,David Lazarevic,Göran Finnveden,2020-12-25 This crucial Handbook brings together the latest thinking on the circular economy an area that has increasingly caught global attention Contributors explore a broad range of themes such as recycling systems and new business models as well as consolidating the many ways in which the topic has been dealt with in research business and policy making The Handbook of the Circular Economy is not only relevant but also essential for students academics and policy makers trying to make sense of the plethora of ways in which the term has been applied and interpreted *Ecological Economics from the Ground Up* Hali Healy,Joan Martínez-Alier,Leah Temper,Mariana Walter,Julien-François Gerber,2013-02-15 Ecological Economics from the Ground Up takes a unique and much needed bottom up approach to teaching ecological economics and political ecology using case studies that focus on a wide range of internationally relevant topics to teach the principles concepts methods and tools of these fields which are seen as increasingly important in the context of the current triple social economic and environmental crisis This book provides learning materials which are grounded in the experience of Civil Society Organisations CSOs with case studies chosen by CSOs and developed collaboratively with leading ecological economists The case studies come from Europe India Latin America and Africa and are presented thematically along three lines 1 social metabolism and accounting methods 2 institutions and participation and 3 valuation and environmental policy tools Core

tools concepts and glossary terms are embedded in topics chosen as a matter of urgency by activist organizations related to mining and fossil fuel extraction integrated transport infrastructure development deforestation and agro fuel production sustainable tourism waste management wetlands and water management payments for ecosystem services natural disasters and hazards and corporate accountability Ecological Economics from the Ground Up has been designed to be an accessible learning aid for students of the sustainability sciences and for those CSOs that have recognised the value that ecological economics and political ecology tools and methods hold for their research and advocacy work *Methods of Sustainability Research in the Social Sciences* Frances Fahy, Henrike Rau, 2013-01-21 Sustainability is a key concept used by social scientists interested in interactions between human society and the environment This text offers a systematic and critical review of established and emerging methodological approaches as well as tools for the integrated investigation of sustainability questions Recognising the significance of scale for sustainability efforts and measurement its scope ranges from the local to the global Divided into five sections Part I examines the key challenges inherent to social scientific sustainability research focusing in particular on methodological questions that arise from recent efforts towards greater disciplinary integration Part II discusses methodologies aimed at the investigation of attitudes and behaviour observable at the local level from families and households to individual organisations within communities Part III focuses on comparative sustainability research across different levels of socio political organisation from cities and regions to nation states Part IV covers recent developments which recognise the significance of time for sustainability research and which offer innovative methodological approaches that focus on life events and long term outcome Part V offers a critical assessment of current and future trends in social scientific sustainability research Bringing together contributions from international social scientists this is the resource for academics and practitioners interested in sustainability research It will be a core teaching text for undergraduate and postgraduate courses in sustainability and sustainable development geography environmental sociology and the environmental sciences *The Just Economy* Richard Winfield, 2022-01-26 First Published in 1988 Richard Dien Winfield's *The Just Economy* investigates what the economy should be undertaking a normative inquiry ignored by contemporary economists Drawing upon Hegel's Philosophy of Right Winfield's book shows how justice lies in self determination how the economy can realize social freedom and how economic relations must be regulated to uphold family welfare equal economic opportunity and political autonomy Exposing the pitfalls in past attempts to conceive economic justice including those of ancient Greek philosophers social contract thinkers the classical political economists and Marx *The Just Economy* settles the controversy between capitalism socialism and communism It is crucial reading for thinkers and citizens the world over *Energizing Sustainable Cities* Arnulf Grübler, David J. Fisk, 2013 The twenty first century will be increasingly urban *Research Handbook on Global Climate Constitutionalism* Jordi Jaria-Manzano, Susana Borràs, 2019-12-27 Climate change is causing traditional political and legal concepts to be revisited The emergence of a

global polity through physical economic and social interaction demands global responses which should be founded upon new principles and which cannot simply be modelled on traditional constitutionalism centred on the nation state This Research Handbook explores how to build this climate constitutionalism at a global level starting from the narrative of Anthropocene and its implications for law It provides a critical approach to global environmental constitutionalism analysing the problems of sustainability and global equity which are entwined with the causes and consequences of climate change The Handbook explores how to develop constitutional discourses and strategies to address these issues and thereby tackle the negative effects of climate change whilst also advancing a more sustainable equitable and responsible global society

Carbon Sequestration in Urban Ecosystems Rattan Lal, Bruce Augustin, 2011-12-09 Urbanization drastically alters the ecosystems structure and functions disrupts cycling of C and other elements along with water It alters the energy balance and influences climate at local regional and global scales In 2008 urban population exceeded the rural population In 2050 70% of the world population will live in urban centers The number of megacities 10 million inhabitants increased from three in 1975 to 19 in 2007 and is projected to be 27 in 2025 Rapid urbanization is altering the ecosystem C budget Yet urban ecosystems have a large C sink capacity in soils and biota Judicious planning and effective management can enhance C pool in urban ecosystems and off set some of the anthropogenic emissions Principal components with regards to C sequestration include home lawns and turfs urban forests green roofs park and recreational sports facilities and urban agriculture

Environment Jules Pretty, 2006-06-23 This four volume set explores the locations where the environment matters most such as where people are poor where environments are under threat such as on frontiers where there are few natural resources remaining and where industrialization is rampant It will also explore these concerns at different system levels from local community to regional national and global It will also explore costs of damage to the very resources on which economies rely and the values of environmental goods and services and the controversies surrounding such valuations It is organized around environment people interactions livelihoods poverty income economic growth environment environment interactions do people matter and people people interactions collective action challenges institutions

Foundations of a Sustainable Economy Umar Burki, Toseef Azid, Robert Francis Dahlstrom, 2021-07-28 This book addresses current practices related to sustainable development its challenges and the future People belonging to different genders regardless of their age social class and education should be equal as citizens and individuals and identical in their rights and responsibilities The business sector authorities societies and religious circles have the potential to play a fundamental role in curbing social ills and the degradation of the environment in this modern world The authors of this book argue that without good governance the status of a human being is unlikely to improve They make the case that to achieve sustainability government society and the economy must ensure a platform for people to participate in decision making and benefit from the rights they are accorded By covering a range of perspectives across economic social and moral life the book will shed light on the problems and

possible solutions to sustainable development and the triple bottom line of people planet and profit under the umbrella of morals and divine law This will be a useful guide for undergraduate and postgraduate students across multiple disciplines such as economics religious studies business studies political science anthropology and sociology Taking Stock of Industrial Ecology Roland Clift,Angela Druckman,2015-12-11 How can we design more sustainable industrial and urban systems that reduce environmental impacts while supporting a high quality of life for everyone What progress has been made towards reducing resource use and waste and what are the prospects for more resilient material efficient economies What are the environmental and social impacts of global supply chains and how can they be measured and improved Such questions are at the heart of the emerging discipline of industrial ecology covered in Taking Stock of Industrial Ecology Leading authors researchers and practitioners review how far industrial ecology has developed and current issues and concerns with illustrations of what the industrial ecology paradigm has achieved in public policy corporate strategy and industrial practice It provides an introduction for students coming to industrial ecology and for professionals who wish to understand what industrial ecology can offer a reference for researchers and practitioners and a source of case studies for teachers Beyond GDP Matthew Kuperus Heun,Michael Carbajales-Dale,Becky Roselius Haney,2015-05-11 This book uses the metaphor The economy is society s metabolism as a springboard to develop a rigorous theoretical framework for a better system of national accounts which goes Beyond GDP and is relevant to the age of resource depletion Society is entering a new era in which biophysical limits related to natural resource extraction rates and the biosphere s waste assimilation capacity are becoming binding constraints on mature economies Unfortunately the data needed for policy makers to understand and manage economic growth in this new era are not universally available All stakeholders need a new way to understand our economy in the context of the biosphere s ability to provide essential natural capital and we suggest that detailed information about materials energy embodied energy and energy intensity should be routinely gathered analyzed and disseminated from a centralized location to provide markets and policymakers with a more comprehensive understanding of the biophysical economy However a firm theoretical foundation is needed before proceeding along this new path which this book is intended to provide After arguing that the stock of manufactured capital is an important driver of material and energy demands imposed upon the biosphere a new accounting framework is derived from the laws of thermodynamics to reflect the fact that material and embodied energy accumulate within the capital stock of economic sectors This framework extends the Energy Input Output EI O techniques first developed by Bullard Herendeen and others to estimate energy intensity of economic products Implications from the new framework are discussed including the value of economic metrics for policy making the need for physically based rather than product based EI O formulations a re assessment of the concept of economic growth and an evaluation of recycling reuse and dematerialization The framework also provides an opportunity to assess an array of definitions for Daly s steady state economy in relation to the ideal of a

sustainable economy The book ends with a list of steps to be taken in creating a more comprehensive system of national accounts National accounting agencies worldwide should develop and maintain balance sheets of both natural and manufactured capital in addition to national income statements All stocks and inter sector flows should be provided in physical as well as financial units In the US the Bureau for Economic Analysis BEA should restart detailed Capital Labor Energy Material and Services KLEMS reporting National accounting agencies should routinely estimate the energy intensity of economic products and all of the above should be estimated and disseminated on an annual basis

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