





Special Issue Reprint

Scenarios and Indicators for Sustainable Development-Towards A Critical Assessment of Achievements and Challenges

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Globalization and telecoupling are enhancing the complexity of the coupled socio-ecological system constituted by the interaction between the global ecosphere and the anthroposphere. As a result, the demand for tools to identify transformative innovations, assess future risks, and support precautionary decisions for sustainability is growing by the day in business and politics. Scenarios are a means of simplification, reducing the real-world complexity to a limited number of essential factors to analyze their interactions and support policy formulation, with indicators as communication and monitoring tools.

In particular, in a time of "fake news" and "alternative truths" a critical reflection amongst producers and users of scenarios and indicators is overdue—the capability for critical self-reflection is what distinguishes science from pseudo-science, and is a condition of trust.

The authors of this book test established measurement and modeling approaches against new challenges, assess the weaknesses of prevailing innovation theories and the political-ideological embedment of archetypical scenarios, highlight deficits in taking the physical basics into account, and the need to understand global interaction and the stepwise process of energy transitions, point out technical as well as conceptual weaknesses in data collection, harmonization and indicator generation, always with a view to solving problems.



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