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Martin Kowarsch

# A Pragmatist Orientation for the Social Sciences in Climate Policy

How to Make Integrated Economic  
Assessments Serve Society



Springer

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# Preface

The black and glutinous oil slicks swimming on the surface of the sea after a crash of an oil tanker and the image of thick dispersed oil around a drilling site have become common global scenes symbolising humankind's destruction of its own basis of life through environmental pollution. Consider, for example, the case of Nigeria where the oil industry is still contributing to extensive environmental pollution which began there in the late 1950s. Much damage has already been done to the mangroves and fish populations; the wetlands have been severely degraded, and in some places, people drink from water wells highly contaminated with benzene. These never-ending disasters, affecting human and non-human life, as well as many other cases of severe environmental degradation (such as large-scale deforestation or the explosion and core meltdown in Fukushima in 2011), are undoubtedly caused by human beings. Why do we jeopardise our very existence and that of future generations with these activities? Why do we destroy the life-sustaining richness and beauty of nature, with its wonderful life forms and recreational and spiritual value?

One could say it's the economy; economic interest and material well-being are the main reasons why oil is produced, rain forests are cleared and nuclear power plants are built. Environmentalists often criticise the economic rationales that lead to such environmental and social problems. However, to return to the Nigerian example, the oil industry provides jobs for thousands of people and meets the ever-increasing demand for worldwide affordable and reliable energy. In almost all modern economies in the world, fossil fuels are as important for creating wealth as blood is for the human body. This wealth has helped to overcome (and avoid) social crises and famines as well as stabilise democracies. Even if the social benefits were not so considerable, some still argue, in the libertarian tradition, that the individual liberty of a person, especially in terms of their economic activities, is ethically sacrosanct.

In political processes, such disputed points of view – presented above in an admittedly oversimplified manner – often function as arguments for or against particular public policy options. Yet, it is not so clear which arguments to accept or to reject and how an appropriate political regulation of economic activities should look considering their environmental and social consequences. There are complex trade-offs which are frequently neglected. To better understand the policy issue at stake

and its potential solutions, the political processes should be informed by the available expertise, including that from social sciences. For example, due to the complexity of the multidimensional field of climate change policy, the debate surrounding appropriate policy arguments is often partially transferred to the scientific arena – and sometimes even fully held in terms of scientific facts. When scientific expertise dominates the issue, the struggle between economic, social and environmental arguments is often continued in expert policy advice in a disguised manner, ignoring, for example, the value dimension of these arguments.

My motivation for writing this book was to contribute on a metalevel to the resolution of stubborn, often heated, yet essential political controversies on how to interpret, and react to, the grand challenges that societies are currently facing. This volume will not discuss how a reasonable policy, e.g. an appropriate climate change mitigation policy, should look in terms of economic, ethical or other arguments. Instead, it will develop a philosophical framework for an appropriate contribution of the indispensable social-science expertise, particularly economics, to the public evaluation of and reasoning about climate policy options. Roughly speaking, the idea will be to adequately and openly consider, evaluate and compare the variety of the pros and cons of different policy pathways in light of their practical consequences.

The philosophical underpinnings and resulting recommendations presented in this book may help the Intergovernmental Panel on Climate Change (IPCC) and other assessment bodies to present highly policy-relevant and scientifically sound insights, particularly regarding disputed, value-laden and highly complex socio-economic issues, without being policy prescriptive. The book aims to provide better orientation for both assessment practitioners and their critical observers. As an alternative to value dogmatism or technocracy in the sciences on the one hand of the spectrum and procedural liberalism regarding policy decisions on the other, this book will offer an assessment rationality that could indirectly promote true deliberative democracy. The framework may help to improve policy decisions and could enable the IPCC to regain legitimacy as well as trust after much criticism in recent years. Looking at it another way, it could help the democratic public regain sovereignty. This is at least what is hoped for in this work.

Producing this book was an audacious, though exciting, project. Writing about such a complex, broad and interdisciplinary topic has been a huge endeavour and challenge; it was not always possible to do full justice to every single philosophical aspect or other aspects of this topic. The issues addressed by the economics of climate change, however, are of the utmost relevance to all current and future societies, since they are about the material and physical basis of each society. Therefore, we should be determined to tackle the huge challenges of scientifically assessing the related, often disputed arguments.

## Acknowledgements

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I am grateful to Johannes Wallacher for all the academic and institutional opportunities he gave me, for all I have learned from him (particularly about the ethics of economics, with which he inspired me greatly) and for the very friendly and helpful supervision and support.

I also wish to express my sincere thanks to Ottmar Edenhofer to whom I owe, *inter alia*, so many invaluable lessons about (climate) policy and politics, society and the economics of climate change and particularly about scientific assessments. Edenhofer is a pioneer in the field of policy-relevant, integrated economic assessment-making. Many of the ideas on the science-policy interface presented in this volume are inspired by him and his practical experience with scientific assessment-making through the IPCC; he greatly encouraged me to address these swampy issues of the science-policy interface.

I also thank my colleagues in Munich (IGP), Potsdam (PIK) and Berlin (MCC), *inter alia*, for many helpful and clarifying discussions about the topics addressed in this volume. Last but by no means least, thanks go to my dear parents, my own family and my friends; they hopefully know how deeply grateful I am for all their kind support and patience.

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Martin Kowarsch





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# List of Acronyms

AR	IPCC Assessment Report (AR4 = the Fourth AR, 2007; AR5 = the Fifth AR, 2014)
CBA	Cost-benefit analysis
CCS	Carbon capture and storage/sequestration
CO <sub>2</sub>	Carbon dioxide (an important GHG)
COP	Conference of the Parties (UNFCCC, since 1995)
DICE	Dynamic Integrated Climate and Economy model (an IAM)
EMF	Energy Modeling Forum (of the IAM community)
EU	European Union
FAR	First IPCC Assessment Report (1990)
FCCC	<i>See UNFCCC; FCCC refers to the convention itself</i>
GDP	Gross domestic product (measuring a nation's economic output)
GHG	Greenhouse gas (such as CO <sub>2</sub> or methane)
IA	Integrated Assessment
IAC	InterAcademy Council (independent IPCC review in 2010)
IAM	Integrated assessment model
IIASA	International Institute for Applied Systems Analysis
IPCC	Intergovernmental Panel on Climate Change
MCC	Mercator Research Inst. on Global Commons and Climate Change
NGO	Non-governmental organisation
NRC	National Research Council (USA)
PAGE	Policy analysis of the greenhouse effect (an IAM)
PBL	Planbureau voor de Leefomgeving (Netherlands Environmental Assessment Agency)
R&D	Research and development (mostly referring to investments in technology)
(Re)MIND	(Refined) Model of Investments and Technological Development (an IAM)
RICE	<i>See DICE; RICE is the regionalised variant of DICE</i>
SAR	Second IPCC Assessment Report (1995)

SBSTA	Subsidiary Body for Scientific and Technological Advice (for the UNFCCC)
SPM	Summary for Policymakers
SRREN	IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation
TAR	Third IPCC Assessment Report (2001)
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WG	IPCC Working Group (WG III = working group on mitigation of climate change)
WMO	World Meteorological Organization



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