

## A CRITICAL ASSESSMENT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

The Intergovernmental Panel on Climate Change (IPCC) has become a hugely influential institution. It is the authoritative voice on the science on climate change, and an exemplar of an intergovernmental science–policy interface. This book introduces the IPCC as an institution, covering its origins, history, processes, participants, products and influence. Discussing its internal workings and operating principles, it shows how IPCC assessments are produced and how consensus is reached between scientific and policy experts from different institutions, countries and social groups. A variety of practices and discourses – epistemic, diplomatic, procedural, communicative – that make the institution function are critically assessed, allowing the reader to learn from its successes and failures. This volume is the go-to reference for researchers studying or active within the IPCC, as well as invaluable for students concerned with global environmental problems and climate governance. This title is also available as Open Access via Cambridge Core.

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Edited by Kari De Pryck , Mike Hulme  
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# A CRITICAL ASSESSMENT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

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## Foreword

The Intergovernmental Panel on Climate Change (IPCC) project is simultaneously indispensable and near impossible. Established over 30 years ago by governments to assess policy relevant knowledge, the IPCC is an essential bridge from science to policymaking. It is built on three emergent principles: holding the line between policy relevance and prescription, enlisting geographically diverse participants, and evolving a thicket of procedures to guard scientific credibility. Over three decades, its carefully calibrated and synthetic statements have provided the moorings for intergovernmental action.

Yet, in many ways, this is an impossible project and getting increasingly so. Three decades and counting into global climate change deliberations, the balance of global attention – and therefore the IPCC's role – has shifted. Instead of nailing down scientific certainty – is climate change real and how do we know? – the IPCC is now charged with informing concrete policy actions in diverse national contexts – how do we act, who acts and how fast? Yet, with its current construct, the IPCC project faces challenges in answering this call.

Tasked with informing fraught global negotiations, seemingly simple data tasks like presenting greenhouse gas emission trends are freighted with political meaning. Should emissions be sliced by regions, as conventionally done, or by income categories that shine a spotlight on political negotiation categories like 'developed' and 'developing' countries? Does it matter that a ton of emissions contributes far more to human welfare in poorer rather than richer countries, and how can this be represented in scientific assessments? These questions very nearly derailed an 'approval plenary' I was privileged to participate in as an author.

North–South politics also inflect the knowledge industry that underpins the IPCC. Research funds, editorial control of journals and subliminal signals of research authority disproportionately rest in North America and Western Europe. When not only the robustness of the answer matters, but also the way in which the question is framed, this imbalance threatens the perceived credibility of the IPCC.

Not least, the recognition that local policy and political context matters for how knowledge is authorised becomes a serious challenge for the IPCC's clipped synthesis-driven style of formulating and communicating knowledge. Informing policymaking for polities that have domestic consensus on the existential nature of the climate crisis is very different from finding ways to smuggle policies through politically divided contexts, or seeking 'co-benefits' where other concerns dominate. Advising well-functioning states on climate resilience is entirely different to informing those that already struggle to keep the lights on. The tried-and-tested high-level synthesis approach of the IPCC is ill-equipped to equally inform diverse national and local contexts. Yet, the global community cannot give up on trying to find a way through such challenges, and the IPCC remains our best chance of doing so.

For this reason, this new book – *A Critical Assessment of the Intergovernmental Panel on Climate Change* – is enormously important and, because of the IPCC's turn to solutions, extremely timely. Collectively, the chapters in this volume interrogate not only what the IPCC has achieved, but also how it has done so. This opens the door to exploring whether and how established IPCC objectives, norms and practices are up to the task of informing future policymaking. The 26 concise, yet substantive, chapters are organised around evocative keywords, grouped into five categories, which have been carefully chosen to cover both foundational IPCC ideas like 'peer review' and 'uncertainty', and probe emergent fault lines such as 'policy relevance and neutrality' and 'boundary objects'.

The editors bring both empirical and conceptual richness to this task. I have known Kari De Pryck through her meticulous work observing IPCC processes and interviewing authors as part of a pioneering multi-year research project. Through his work, Mike Hulme has unflinchingly shone a spotlight on how differing values and perspectives are central to *Why We Disagree About Climate Change?* – a book that has been foundational to my understanding of the topic. The contributing authors come from diverse disciplinary backgrounds, and draw on experience of either participating in or studying the IPCC. That the geographical mix of authors is perhaps a bit skewed to the Global North, mirroring the IPCC itself, is an indication of the deep structural nature of asymmetries in the knowledge economy.

At a moment when we still need the IPCC, but also need it to be better, this book delivers on its promise of a 'critical assessment'. And it does not pull its punches in doing so: diversity is described as a 'box-checking exercise' and the IPCC's response to past controversies is termed procedural and adaptive rather than reflexive and transformational.

But the book moves well beyond critique, to offer ideas that could help shake the existing cognitive lock-in on the role and functioning of this seminal knowledge institution. For example, prioritising relevance may require the IPCC to

push the boundaries of its traditional emphasis on neutrality: the IPCC may need to seek rather than avoid hot potatoes. While the authors don't name these, good examples might be allocation of future carbon budgets and the treatment of fossil fuel subsidies. Even more ambitious, various authors suggest the IPCC should focus less on being a 'maker of facts', and instead embrace the diversity within its ranks to facilitate dialogue and generate shared meaning. These suggestions go beyond incremental shifts, and will require a reorientation of hallowed IPCC norms and procedures. They offer the prospect of updating the IPCC to meet the changing requirements of international cooperation and national and local policymaking.

The IPCC remains necessary and salient. But it also requires a critical perspective and the injection of fresh thinking. This book, ably edited by Kari De Pryck and Mike Hulme, offers both.

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*February 2022*

## Acknowledgements

The idea for this book emerged through conversations between the two editors, during the period when Kari was a visiting scholar at the University of Cambridge in 2019/20. This stay was funded thanks to a postdoctoral fellowship from the Swiss National Science Foundation (SNSF), without which this book would not have been produced. We also acknowledge the financial support of the Department of Geography at the University of Cambridge. This support covered the book's open-access fee, enabled an author workshop held at Pembroke College, Cambridge, in December 2021 in the middle of the Omicron scare, and supported employment of a part-time editorial assistant. In this latter role, the editors are deeply indebted to the wonderful assistance provided by Maya Goel. Her organisational, literary and intellectual skills are many, and they were all put to excellent use through her liaison with editors and authors, with University and College officers, and with multiple Google Drive folders. At Cambridge University Press, we wish to thank Matt Lloyd for being enthusiastic about our proposal for this book and Sarah Lambert for her speedy and helpful answers to all of our many questions.

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The views expressed in Chapter 25 are the authors' own and do not necessarily represent the views of the IPCC.

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Abbreviations

AGGG	Advisory Group on Greenhouse Gases
AMIP	Atmospheric Model Intercomparison Project
AR	IPCC Assessment Report
AR1 (or FAR)	First Assessment Report (1990)
AR2 (or SAR)	Second Assessment Report (1996)
AR3 (or TAR)	Third Assessment Report (2001)
AR4	Fourth Assessment Report (2007)
AR5	Fifth Assessment Report (2013/14)
AR6	Sixth Assessment Report (2021/22)
BECCS	bioenergy with carbon capture and storage
BMPC	Brazilian Panel on Climate Change
BOG	Breakout Group
CBD	[United Nations] Convention on Biological Diversity
CLA	Coordinating Lead Author
CMIP	Coupled Model Intercomparison Project
COP	Conference of the Parties (to the UNFCCC)
DAI	dangerous anthropogenic interference
ECR	Early Career Researcher
ECS	equilibrium climate sensitivity
eLAM	electronic [virtual] Lead Author Meeting
EMIC	Earth System Model of Intermediate Complexity
EPA	Environmental Protection Agency
ESM	Earth System Model
EU	European Union
FAQ	frequently asked questions
FGD	Final Government Distribution
FOD	First Order Draft

GARP	Global Atmospheric Research Programme
GCC	Global Climate Coalition
GCM	General Circulation Model/Global Climate Model
GEA	global environmental assessment
GEO	Global Environmental Outlook
GHG	greenhouse gas
GWP	global warming potential
IAC	InterAcademy Council
IAM	Integrated Assessment Model(ling)
IAMC	Integrated Assessment Modelling Consortium
ICC	Inuit Circumpolar Council
ICSU	International Council for Science (was International Council of Scientific Unions)
IEA	International Energy Agency
IGY	International Geophysical Year
IIASA	International Institute for Applied Systems Analysis
IIPFCC	International Indigenous Peoples Forum on Climate Change
IISD	International Institute for Sustainable Development
IK	Indigenous knowledge
ILO	International Labour Organisation
IMAGE	Integrated Model for Assessing the Greenhouse Effect
INC	Intergovernmental Negotiating Committee
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IP	Indigenous Peoples
IPO	Indigenous Peoples' Organisation
IS92	IPCC Scenarios 1992
IUCN	International Union for the Conservation of Nature
LA	Lead Author
LAM	Lead Author Meeting
LCIPP	Local Communities and Indigenous Peoples Platform
LTGG	long-term global goal
MEA	Millennium Ecosystem Assessment
MIPs	Model Intercomparison Projects
NDCs	Nationally Determined Contributions
NETs	negative emission technologies
NFP	national focal point
NL	Netherlands
OAS	Organisation of American States



*List of Abbreviations*

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OECD	Organisation for Economic Cooperation and Development
OO	observer organisation
PBL	Netherlands Environmental Assessment Agency
PRSQs	policy-relevant scientific questions
RCP	Representative Concentration Pathway
RE	Review Editor
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (Dutch National institute for public health and the environment)
SBSTA	Subsidiary Body for Science and Technology Advice
SED	Structured Expert Dialogue
SLR	sea-level rise
SOA	solutions-oriented assessment
SOD	Second Order Draft
SPM	Summary for Policymakers
SR	(IPCC) Special Report
SR15	Special Report on Global Warming of 1.5 °C (2018)
SRCCCL	Special Report on Climate Change and Land (2019)
SRES	Special Report on Emission Scenarios (2000)
SREX	Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (2012)
SRLULUCF	Special Report on Land Use, Land Use Change and Forestry (2000)
SROCC	Special Report on the Ocean and Cryosphere in a Changing Climate (2019)
SSP	Shared Socioeconomic Pathway
STS	science and technology studies
SYR	Synthesis Report
TFI	Task Force on National Greenhouse Gas Inventories
TG-Data	Task Group on Data Support for Climate Change Assessments
TGICA	Task Group on Data and Scenario Support for Impacts and Climate Analysis
TS	Technical Summary
TSU	Technical Support Unit (for a Working Group, WG)
UNEP	UN Environment Programme
UNFCCC	UN Framework Convention on Climate Change
UNPFII	UN Permanent Forum on Indigenous Issues
VOSL	value of statistical life
WCRP	World Climate Research Programme
WG	(IPCC) Working Group

WGI	Working Group I (of the IPCC)
WGII	Working Group II (of the IPCC)
WGIII	Working Group III (of the IPCC)
WHO	World Health Organisation
WMO	World Meteorological Organisation
ZOD	Zero Order Draft