



Climate and Biodiversity : Interdisciplinary Workshop

Context and motivation: Climate change and biodiversity loss have emerged as key environmental challenges. They are often treated separately in academic research, although strong interlinkages have been identified: land use patterns affect both directly, biomass (both land and marine) is a key carbon sink, climate change is a likely booster of mass extinction, agro-food systems have strong impacts on biodiversity, on wild and raised animal welfare, and CO₂ emissions. An even deeper link between the two topics comes from the growing calls to shed the anthropocentric perspective and develop a valuation of ecosystem services in which non-human species are seen not as instruments to human welfare but as co-users of spaceship Earth.

This one-day workshop brings together specialists of climate policy, biodiversity, food and animal welfare from economics, philosophy and environmental sciences, to explore policy issues at the interface of climate change and biodiversity.

Organizing institutions: The « Opening Economics » Chair, Hermès-PSE and ENS-CERES : The « Opening Economics » Chair, Hermès-PSE supports the PSE Initiative to develop collaborative group projects that reach out to other disciplines, in order to foster cross-fertilization of research, and this workshop is based on a collaboration between the two groups “Economy - Philosophy” and “Society and Environment”.

ENS-CERES serves as a hub for ENS students and researchers interested in the environment and the related societal implications. This workshop, in particular, aims at fostering a productive exchange between economists, philosophers and environmental scientists.

Date: October 15, 2021

Venue: Paris School of Economics

48 Bd Jourdan, 75014 Paris (and online, Zoom)

Room : R2-21 **Format:** hybrid

Organizing Committee: M. Fleurbaey, F. Libois, K. Millock, S. Zuber

Schedule: Four sessions, containing three 20-min presentations, followed by discussion among speakers and with the audience for 30 min. A final keynote lecture (livestreamed).

Schedule:

8:45-9:00: Opening

Jean-Olivier Hairault, PSE director

Marc Fleurbaey, PSE and ENS-CERES

9:00-10:30 Climate

Hélène Ollivier

Is carbon pricing bad for competitiveness? The EU ETS

Simon Caney

Living justly within ecological limits

Jean-Pascal van Ypersele

Science of climate change: The latest IPCC assessment

Moderator: Katrin Millock

11:00-12:30 Biodiversity

Katheline Schubert

The value of biodiversity as an insurance device

Tatiana Visak

Considering non-human along with human welfare: some ethical challenges

Lucie Zinger

Hidden biodiversity and climate change in the ocean and on lands

Moderator: François Libois

Lunch break

14:00-15:30 Biodiversity

Ian Bateman

Bringing climate, biodiversity and other ecosystem services into economic decision making

Mark Budolfson

Quantifying animal welfare, and integrating with existing ecosystem models

Jocelyne Porcher

Domestic biodiversity, human work, animal work

Moderator: Marc Fleurbaey

16:00-17:30 Climate

Frances Moore

Use and non-use value of nature and the social cost of carbon

Kian Mintz-Woo

Biodiversity losses and damages

Robert Socolow

Can wilderness values survive renewable energy?

Moderator: Stéphane Zuber

18:00-19:00: Keynote: Corinne Le Quéré

Using land in the context of a changing climate and Net Zero targets

Moderator: Mouez Fodha

19:00: Closing

Alessandra Giannini, ENS-CERES director

Participants and moderators:

Ian Bateman, environmental economics, University of Exeter Business School

Ian Bateman, OBE, Director of the LEEP Institute at the University of Exeter, was made Fellow of the British Academy in 2020 and elected to US-NAS in 2021, for his work bringing environmental science into economic policy and decision making. He led the economics team for the UK National Ecosystem Assessment (UK-NEA) and was principal investigator of the NERC Valuing Nature Network and NERC RISE SWEEP programme working with over 200 private sector partners. A newly funded UKRI project, NetZeroPlus, will contribute to longer-term government decision-making on the most effective technologies to help the UK tackle climate change and reduce CO2 emissions. As a member of the HM Treasury & Defra Natural Capital Committee, he reports to the Chancellor of the Exchequer and advises the Secretary of State for the Environment on issues such as the Government's 25 Year Environment Plan (including its tree planting objectives), the Environment Bill (including the Office for Environmental Protection), the Agriculture Bill and Defra's Environmental Land Management initiative.

Mark Budolfson, philosophy, Rutgers University

Mark Budolfson works on interdisciplinary issues in ethics, economics, and public policy, often in connection with sustainable development, planetary health, and collective action problems such as climate change that arise with common resources and public goods. Recent work quantifies the socio-economic distribution of impacts of climate and air pollution policies, and updates estimates of optimal policy by taking those inequalities into account. He is the author and co-editor of numerous papers and edited volumes, including the Oxford University Press volumes Food, Ethics, and Society, the Oxford Handbook of Food Ethics, and Philosophy and Climate Change.

Simon Caney, political theory, University of Warwick

Simon Caney is Professor in Political Theory at the University of Warwick. He works on contemporary political philosophy, and in particular on global justice, environmental justice, and intergenerational justice. He is the author of Justice Beyond Borders (OUP, 2005) and co-editor of Climate Ethics (OUP, 2010 - with S.Gardiner, D.Jamieson and H.Shue). His research has been published in philosophy journals (such as Philosophy & Public Affairs, Journal of Political Philosophy and Politics, Philosophy & Economics) and climate journals (such as Nature Climate Change, WIREs Climate Change, and Climatic Change). He is currently completing two books - On Cosmopolitanism: Equality, Ecology and Emancipation (OUP) and Democracy and the Future: Addressing the Problem of Harmful Short-Termism.

Marc Fleurbaey, economics, Paris School of Economics and ENS-CERES

*Marc Fleurbaey is CNRS Researcher and Professor at Paris School of Economics, and co-director of ENS-CERES. Author of *Beyond GDP* (with Didier Blanchet, OUP 2013), *A Theory of Fairness and Social Welfare* (with François Maniquet, CUP 2011), and *Fairness, Responsibility and Welfare* (OUP, 2008), he contributed to IPCC AR5 as coordinating lead author, and is one of the initiators of the International Panel on Social Progress (IPSP). He is a former editor of *Social Choice and Welfare* and *Economics and Philosophy*.*

Mouez Fodha, economics, Paris School of Economics

*Mouez Fodha is professor of economics at the Paris School of Economics & University Paris 1 Panthéon-Sorbonne. He is currently Director of the Doctoral School of Economics "Economie Panthéon-Sorbonne" and co-director of the Master "International trade and the environment". His research focuses on the analysis of public policies, in line with demographic, environmental, fiscal and social issues. He has published in environmental and energy economics journals, such as *European Economic Review*, *Macroeconomic Dynamics*, *Journal of Environmental Economics and Management*, *Environmental and Resources Economics*, *Energy Economics*, *Energy Policy*. He holds a Ph.D in Economics (University Paris 1 Panthéon-Sorbonne).*

Corinne Le Quéré, climate change science, University of East Anglia

Corinne Le Quéré is Professor of Climate Change Science at the University of East Anglia and Chair of France's Haut conseil pour le climat. She authored several Assessment reports by the Intergovernmental Panel on Climate Change (IPCC), is former Director of the Tyndall Centre for Climate Change Research and member of the UK Academy of Sciences. She instigated and led for over a decade the annual update of the global carbon budget within the Global Carbon Project. She is a member of the UK Committee on Climate Change.

François Libois, economics, Paris School of Economics and INRAE

François Libois is INRAE researcher and professor at Paris School of Economics. His work lies at the intersection between development economics and environmental economics with a strong focus on institutions and natural resource management. Recently, he has been working on decentralized forest management in South Asia, on the competition between small-scale and industrial fishing fleet in Africa and on new ways to increase the added-value in the French small-scale fishing sector while reducing the impact of fishing on marine resources.

Katrin Millock, economics, Paris School of Economics

Katrin Millock is CNRS researcher, professor at Paris School of Economics and fellow of the French Collaborative Institute on Migration (IC Migrations). She holds a PhD in Agricultural and Resource Economics from the University of California, Berkeley. Her main research interests are in the field of environmental and resource economics, and public economics. Research topics include public policy evaluation, economic instrument choice for environmental policy and the role of information disclosure, technology adoption and diffusion. In recent years, her research has focused more on environment and development, in particular climate change and migration.

Kian Mintz-Woo, philosophy, University College Cork

Kian Mintz-Woo is a permanent lecturer at University College Cork. He works on moral and normative issues, both fundamental (in moral ontology and metaethics) and applied (in climate ethics and climate economics). Recently, he has been working on questions related to carbon prices including carbon taxes; global versus local social costs of carbon; loss and damage in the post-Paris climate policy space; the role of moral expertise; and modal robustness with respect to the provision of political and social goods.

Frances Moore, environmental economics and climate science, UC Davis

Frances C. Moore is an Assistant Professor in the Department of Environmental Science at Policy at the University of California Davis. She works at the intersection of environmental economics and climate science to better understand and quantify the implications of climate change for human well-being. Her research combines econometric methods for data analysis with structural modeling of the integrated climate-economic-social system. Her work has appeared in Nature Climate Change and the Proceedings of the National Academy of Sciences and she holds a PhD in Environment and Resources, a Masters in Economics from Stanford University, and a Masters in Environmental Science from Yale University.

Hélène Ollivier, economics, Paris School of Economics

Hélène Ollivier is CNRS Research Fellow in Economics and professor at Paris School of Economics. She holds a PhD from Ecole Polytechnique, and she was a postdoc fellow at the University of California, Berkeley. Her research lies at the intersection between environmental economics and international economics, with some additional interests on the political economy dimension (especially related to environmental policies). Her current research interests focus on the environmental effects of the Clean Development Mechanism in India, on the environmental effects of the European Union Emission Trading Scheme on French manufacturing firms, as well as on the effects of local pollution on productivity and health.

Jocelyne Porcher, sociology, INRAE

Jocelyne Porcher is a zootechnician and sociologist, research director at INRAE. Her research focuses on the working relationships between humans and animals. She is the author of a dozen books on this subject, including "Living with Animals. A utopia for the 21st century" (in French, translated into English, Italian and forthcoming in Spanish) and more recently from "Animal cause, cause of capital". Before becoming a researcher, she has worked as a breeder, an employee in industrial pig production and a technician in organic farming.

Katheline Schubert, economics, University Paris 1 and PSE

Katheline Schubert is a Professor at University Paris 1-Panthéon-Sorbonne and holds an associate chair at Paris School of Economics. She is a CESifo research fellow, and co-director of the Globalization, development and environment program at CEPREMAP. She is a member of the French High Council for Climate and the French Economic Council for Sustainable Development. She is also past-president of the French Economic Association. Her research interests are in environmental economics, natural resources economics, dynamic macroeconomics and sustainable growth. Her most recent works are on climate economics and on energy transition.

Robert Socolow, energy, Princeton University

Robert Socolow is professor emeritus, Department of Mechanical and Aerospace Engineering, Princeton University. Rob earned his Ph.D. from Harvard University in theoretical high-energy physics in 1964 and joined the Princeton University faculty in 1971. His interests include raising the level of ambition of the world's global climate research in the natural sciences, encouraging technological "leapfrogging" by developing countries, stimulating the deployment of carbon dioxide capture during fossil fuel use, and anticipating the dangers of climate-change "solutions" – notably nuclear weapons proliferation and misuse of the land. Rob is a member of the American Academy of Arts and Sciences. He was just appointed to the National Academies Committee to Advise the U.S. Global Change Research Program.

Tatjana Visak, philosophy, University of Mannheim

Dr. Tatjana Višak is an ethicist. Her work focuses on the topics of welfare and animal ethics. She is the author of Killing Happy Animals – Explorations in Utilitarian Ethics (Palgrave MacMillan 2013) and editor of The Ethics of Killing Animals (Oxford University Press 2016). Her current book project is about comparisons of welfare across species. She worked as a lecturer and researcher at various universities in the Netherlands, Australia and Germany over the past 20 years.

Jean-Pascal van Ypersele, geosciences, University of Louvain-la-Neuve

Jean-Pascal van Ypersele is full professor of climatology and sustainable development sciences at UCLouvain and member of the Académie royale de Belgique. A physicist and climate modeller who worked at NCAR (National Center for Atmospheric Research, USA), he has published with natural and social scientists about climate change and sustainable development at global and regional scales for forty years. He has been extensively involved in the IPCC since 1995, and was IPCC Vice-Chair from 2008 to 2015. He has participated to most UN conferences on climate issues since 1979, including almost all COPs. He regularly briefs Heads of State and Government and is occasionally consulted by Greta Thunberg. On Twitter: [@JPvanYpersele](https://twitter.com/JPvanYpersele). Web site: <http://www.climate.be/vanyp>.

Lucie Zinger, biology, Ecole normale supérieure-University Paris Sciences et Lettres

Dr. Lucie Zinger is Associate Professor at École Normale Supérieure, PSL University since 2016, where she teaches general Ecology. Zinger earned her PhD in microbial ecology in 2009 from Grenoble Université Alpes, and was a post-doc fellow at the Max Plank Institute and CNRS. Her research interests are at the interface between community ecology, macroecology, microbial ecology, trophic ecology, molecular biology, bioinformatics, and biostatistics. Her research aims at (i) developing tools based on environmental DNA for biodiversity research in order to (ii) better understand how aquatic and terrestrial microbial and invertebrates' communities respond to climate and land use changes.

Stéphane Zuber, economics, Paris School of Economics

Stéphane Zuber is a researcher (Directeur de Recherche) at CNRS, affiliated with Centre d'Economie de la Sorbonne (UMR 8174, CNRS and Université Paris 1). He is also a professor at Paris School of Economics (PSE). His primary research topics are economic theory, welfare theory and environmental economics. His current research is about intergenerational equity, fairness under risk and uncertainty and climate-related inequalities and population dynamics.