



Workshop on
**Transdisciplinary Research and Governance on
Climate-related Geoengineering**

International Civil Aviation Organization (ICAO) Headquarters,
Montreal, Canada

Sunday 17th December 2017, 9am – 5pm

AGENDA

- 09:00–09:10 **Welcome and introduction**
Janos Pasztor, C2G2 (Chair)
David Cooper, CBD Secretariat
- Part 1 - Expert Presentations
- 09:10–09:30 **Geoengineering research - the cutting edge:** Presenting cutting edge examples of emerging geoengineering technologies: a) Solar Radiation Management (SRM): Stratospheric Controlled Perturbation Experiment (SCoPEX); b) Carbon Dioxide Removal (CDR) (20 mins)
Frank Keutsch, Harvard University;
Wil Burns, Forum for Climate Engineering Assessment;
- 09:30–10:10 **Transdisciplinary research - the state of play:** Overview of what we know (and don't know) about impacts on biodiversity, ecosystem functions and services and socio-economic, cultural and ethical issues (40 mins)
Phil Williamson, UK Natural Science Research Council
Holly Buck, University of California Los Angeles
Silvia Ribiero, ETC Group
Yolanda Teran, IIFB
- 10:10–10:20 **Research governance - the state of play:** Overview of current state of play in geoengineering research governance (10 mins)
Anna-Maria Hubert, University of Calgary
- 10:20–10:30 **Geoengineering and the CBD:** Overview of CBD decisions on climate related geoengineering and its application (10 mins)
David Cooper, CBD Secretariat



- 10:30–10:40 **Geoengineering Governance - the big picture:** Overview of what is needed on global governance of geoengineering research and deployment (10 mins)
Janos Pasztor, C2G2
- 10:40–11:00 **Refreshment break** (20 mins)
- Part 2 – Discussion
- 11:00–12:30 **Breakout I: Transdisciplinary research gaps:** Group discussion exploring what new transdisciplinary research is needed in relation to climate related geoengineering relevant to the CBD (90 mins);
- 12:30–13:00 **Lunchbreak** (30 mins)
- 13:00–13:30 **Plenary I: Transdisciplinary research gaps:** Plenary group feedback and formulation of list of potential transdisciplinary research topics related to climate related geoengineering relevant to the CBD (30 mins)
- 13:30–15:00 **Breakout II: Regulatory options for governing geoengineering research:** Group discussion exploring what regulatory options exist for governing geoengineering research? (90 mins)
- 15:00–15:30 **Refreshment break** (30 mins)
- 15:30–16:00 **Plenary II: Regulatory options for governing geoengineering research:** Plenary group feedback and formulation of list of regulatory options for governing geoengineering research (30 mins)
- 16:00–16:30 **Next steps and recommendations:** proposals for further discussion of this matter under the Convention (30 mins)
- 16:30–17:00 **Conclusion:** Conclusions and closing remarks (20 mins)

Lunch and refreshments will be provided.



Carnegie Climate
Geoengineering Governance
Initiative

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C2G2CBD-1

About the speakers

Dr. Holly Buck, University of California Los Angeles, USA

Holly Jean Buck is a NatureNet Science Fellow at UCLA's Institute of the Environment and Sustainability. Her research interests include agroecology and climate-smart agriculture, energy landscapes, land use change, new media, and science and technology studies. At present, she is studying the socio-political feasibility of using solar geoengineering to scale up carbon removal. She has written on several aspects of climate engineering, including humanitarian and development approaches to geoengineering, gender considerations, and the social implications of scaling up negative emissions. She holds a doctorate in Development Sociology from Cornell University and a MSc in Human Ecology from Lund University, Sweden.

Dr. Wil Burns, Co-Executive Director, Forum for Climate Engineering Assessment

Wil Burns is a Founding Co-Executive Director of FCEA and is based in Berkeley, California. He also serves as a non-residential scholar at American University's School of International Service, a Fellow at the Center for Science, Technology and Medicine in Society at the University of California-Berkeley, and a Senior Scholar at the Centre for International Governance Innovation (CIGI) in Canada. He also serves as the Co-Chair of the International Environmental Law Committee of the American Branch of the International Law Association.

He previously served as the Director of the Energy Policy & Climate program at Johns Hopkins University in Washington, DC. He is also the former President of the Association for Environmental Studies & Sciences, and former Co-Chair of the International Environmental Law interest group of the American Society of International Law, and Chair of the International Wildlife Law Interest group of the Society. He has published over 80 articles and chapters in law, science, and policy journals and books, and has co-edited four books. He holds a Ph.D. in International Environmental Law from the University of Wales-Cardiff School of Law. Prior to becoming an academic, he served as Assistant Secretary of State for Public Affairs for the State of Wisconsin and worked in the non-governmental sector for twenty years, including as Executive Director of the Pacific Center for International Studies, a think-tank that focused on implementation of international wildlife treaty regimes, including the Convention on Biological Diversity and International Convention for the Regulation of Whaling. His current areas of research focus are: climate geoengineering; international climate change litigation; adaptation strategies to address climate change, with a focus on the potential role of micro-insurance; and the effectiveness of the European Union's Emissions Trading System.

Dr. David Cooper, Secretariat of the Convention on Biological Diversity

David Cooper is Deputy Executive Secretary, Convention on Biological Diversity. Previously in the Secretariat of the Convention he served as Director, Division for



Science, Assessment and Monitoring and led work to promote the implementation of the Strategic Plan for Biodiversity 2011-2020 and national biodiversity strategies and action plans. He was Secretary of the successful tenth meeting of the CBD Conference of the Parties, Nagoya, Japan, October 2010, which adopted the Strategic Plan and its twenty Aichi Biodiversity Targets. He also led the development of the Convention's Programme of Work on Agricultural Biodiversity and the Global Strategy for Plant Conservation. Earlier, Dr. Cooper worked at the Food and Agriculture Organization of the United Nations, for the non-governmental organization GRAIN and in the Agricultural Research Council of the United Kingdom.

Dr Cooper was a member of the Scientific Committee of DIVERSITAS, now part of FutureEarth. He was a lead author for the Biodiversity Synthesis of the Millennium Ecosystem Assessment as well as the chapters on food and agricultural ecosystems. He was part of the writing team for the second, third and fourth editions of the Global Biodiversity Outlook and the main author of the first report on the State of the World's Plant Genetic Resources for Food and Agriculture. He has edited four books on agricultural biodiversity and has written numerous papers on biodiversity science and policy.

Dr Cooper holds an MA in Agricultural and Forest Sciences and a D.Phil in Plant Physiology, both from the University of Oxford.

Dr. Anna-Maria Hubert, University of Calgary, Canada

Anna-Maria is an Assistant Professor of Law at the University of Calgary. She is also an Associate Fellow at the Institute for Science, Innovation and Society (InSIS) at the University of Oxford. Her research interests generally lie in the field of public international law, focusing on the law of the sea, international environmental law, and international law and policy relating to science and technology. In addition, she is currently completing her doctorate at the University of Bremen, where she was a research associate jointly in the Faculty of Law and the MARUM Centre for Marine Environmental Sciences from 2010 to 2013. Her research examines progressive developments in the regime for marine scientific research under the law of the sea, primarily with a view to understanding its legal and practical implications for progress on the protection and preservation of the marine environment. Previously, Anna-Maria was a research associate at the Institute for Advanced Sustainability Studies (IASS) in Potsdam, Germany, working in an interdisciplinary research group studying the implications geoengineering interventions in the global environment, mainly for the aim of counteracting climate change. In connection with her research examining the regulation and governance of this array of technological proposals, she has acted as a consultant and provided information and advice to government departments, treaty bodies and intergovernmental organisations, NGOs, and scientific institutions on this topic.



Janos Pasztor, Carnegie Climate Geoengineering Governance Initiative (C2G2)

Janos Pasztor is Carnegie Council Senior Fellow and Executive Director of the Carnegie Climate Geoengineering Governance Initiative (C2G2). He has over 35 years of work experience in the areas of energy, environment, climate change, and sustainable development. Before taking up his current assignment he was UN assistant secretary-general for climate change in New York under Secretary-General Ban Ki-moon. Earlier, he was acting executive director for conservation (2014) and policy and science director (2012-2014) at WWF International. He directed the UNSG's Climate Change Support Team (2008-2010) and later was executive secretary of the UNSG's High-level Panel on Global Sustainability (2010-2012). In 2007 he directed the Geneva-based UN Environment Management Group (EMG). During 1993-2006 he worked, and over time held many responsibilities at the Climate Change Secretariat (UNFCCC), initially in Geneva and later in Bonn. His other assignments included: in the Secretariat of the 1992 UN Conference on Environment and Development (Earth Summit '92); Stockholm Environment Institute; United Nations Environment Programme (UNEP); Secretariat of the World Commission on Environment and Development (Brundtland Commission); the Beijer Institute; and the World Council of Churches. He has BSc and MSc degrees from the Massachusetts Institute of Technology (MIT).

Prof. Frank Keutsch, Harvard University, USA

Frank Keutsch was born in Tübingen, Germany and received his Diplom in chemistry from the Technische Universität München, Germany, under the supervision of Vladimir E. Bondybej in 1997. He received his Ph.D. in physical chemistry from the University of California at Berkeley in 2001. His graduate research was conducted under the direction of Richard J. Saykally and focused on vibration-rotation-tunneling spectroscopy and hydrogen-bond-breaking dynamics in water clusters. After working on stratospheric chemistry in the Department of Chemistry and Chemical Biology at Harvard University under the direction of James G. Anderson he started his independent academic career in 2005 at the University of Wisconsin-Madison. He then moved to his current position as Stonington Professor of Engineering and Atmospheric Science at Harvard University. His research combines laboratory and field experiments with instrument development to investigate fundamental mechanisms of anthropogenic influence on atmospheric composition within the context of impacts on climate, humans and the environment.

Silvia Ribiero, Action Group on Erosion, Technology & Concentration (ETC Group)

Silvia Ribeiro is the Latin America Director for ETC Group. She is based in Mexico. She has a background as a journalist and environmental campaigner in Uruguay, Brazil and Sweden. She has extensive experience in social and environmental advocacy. As a civil society representative, she has attended and followed the negotiations of several of United Nations environmental treaties. She has also been an invited speaker at many civil society events around the world speaking on



transgenic and other new technologies, corporate concentration, intellectual property, indigenous and farmers' rights. Silvia has also produced a number of articles related to these issues, that have been published in Latin American, European and North American magazines and papers, as well as chapters in several books. She is a member of the editorial committee of the Latin American magazine "Biodiversidad, sustento y culturas", published by Alianza Biodiversidad: Grain, ETC Group (México), Acción Ecológica (Ecuador), Campaña Semillas (Colombia), La Vía Campesina, Campaña de la semilla (Chile), Centro Ecológico (Brazil), Sobrevivencia (Paraguay), Acción por la Biodiversidad (Argentina), Red de Coordinación en Biodiversidad (Costa Rica).

Dr. Yolanda Teran, Indigenous International Forum on Biodiversity (IIFB)

Yolanda Teran is from the Indigenous Kichwa nation of Ecuador. She holds B.A. in Museology at the Universidade do Rio de Janeiro, Brazil and an MSc. from the University of Leicester, UK. She was awarded a doctorate degree in Language, Literacy and Socio-Cultural Studies from the University of New Mexico. She is the Education and Culture Coordinator of Indigenous Women Network on Biodiversity from Latin America and the Caribbean, RMIB-LAC. She represents the views of Indigenous Peoples and Local Communities (IPLC) via the Indigenous International Forum on Biodiversity (IIFB).

Dr. Phil Williamson, UK Natural Environment Research Council (NERC)

Phil Williams works for the Natural Environment Research Council (NERC) as a programme Science Coordinator, based at the University of East Anglia, Norwich. He has been involved in the planning and implementation of multi-institute and multidisciplinary research initiatives since the mid-1980s, working for Plymouth Marine Laboratory, the International Geosphere-Biosphere Programme and NERC. Topics have included marine biogeochemistry, ocean-atmosphere interactions and climate geoengineering. Recent activities have included: leadership of the UK Ocean Acidification research programme (co-funded by NERC and two government departments, Defra and DECC) and the Shelf Sea Biogeochemistry programme (co-funded by NERC and Defra); authorship of reports on climate geoengineering for the Convention on Biological Diversity (CBD), on ocean fertilization for the Intergovernmental Oceanographic Commission (IOC-UNESCO), and on ocean acidification for OSPAR and the CBD. Phil has participated in several Conferences of Parties of the UN Framework Convention on Climate Change (UNFCCC), and is a lead author for the Special Report on Ocean, Cryosphere and Climate for the Intergovernmental Panel on Climate Change (IPCC). Phil's main current work is as Science Coordinator for the UK Greenhouse Gas Removal programme, co-funded by NERC, other Research Councils and the UK government (BEIS).