

Committee on Operationalizing Sustainable Development

Information Gathering Workshop 2: Global Strategies

Part 2: May 16-17, 2022

All times are US Eastern Daylight Time

Agenda

- **Workshop Objective:** Gather information on positive case studies for operationalizing sustainable development at a global level.

Day 1: Monday, May 16, 2022

- 10:00 am **Opening Remarks and Introductions**
E. William Colglazier, American Association for the Advancement of Science (Co-Chair)
Cherry Murray (NAS/NAE), University of Arizona (Co-Chair)
Franklin Carrero-Martínez, National Academies of Sciences, Engineering, and Medicine
- 10:05 am **Panel I: Decarbonization**
Moderator: Cherry Murray (NAS/NAE), University of Arizona (Co-Chair)
 - Erin Burns, Carbon180
 - Kathleen Draper, International Biochair Initiative
 - Prateek Bumb, Carbon Clean
 - Stephanie Arcusa, Arizona State University
- 11:25 am BREAK
- 11:40 am **Panel II: Science and Peace**
Moderator: Ilona Otto, University of Graz
 - Jannie Lilja, Stockholm International Peace Research Institute
 - Aparna Basnyat, United Nations Development Programme
 - Rachel Locke, University of San Diego
 - Roman Słowiński, Polish Academy of Sciences
- 1:00 pm Open Session Adjourns

Day 2: Tuesday, May 17, 2022

- 10:00 am **Opening Remarks and Introductions**
E. William Colglazier, American Association for the Advancement of Science (Co-Chair)
Cherry Murray (NAS/NAE), University of Arizona (Co-Chair)
Franklin Carrero-Martínez, National Academies of Sciences, Engineering, and Medicine
- 10:05 am **Panel III: Financing for Sustainable Development**
Moderator: Erin Bromaghim, City of Los Angeles
- Marianna Koval, New York University
 - Adam Roy Gordon, United Nations Global Compact
 - Lauren Muusse, World Benchmarking Alliance
- 11:30 am Open Session Adjourns

Operationalizing Sustainable Development: Global Strategies
May 16-17, 2022

Biographies of Speakers and Moderators

Panel I: Decarbonization

CHERRY MURRAY (NAS/NAE) (Committee Co-Chair and Moderator) is Professor of Physics and Deputy Director for Research, Biosphere 2 at The University of Arizona. Her current research interests include policy, research, development, education and innovation to sustain human civilization on future Earth. From 1978 to 2004, Dr. Murray held a number of research positions, which culminated in the Senior Vice Presidency of Physical and Wireless Research, at Bell Laboratories, Lucent Technologies, formerly AT&T Bell Laboratories and previously Bell Telephone Laboratories, Inc. She then served at Lawrence Livermore National Laboratory as Deputy Director for Science and Technology from 2004 to 2007, and as Principal Associate Director for Science and Technology from 2007 to 2009. She was dean of Harvard University's School of Engineering and Applied Sciences from 2009 to 2014. Dr. Murray served as the Director of the U.S. Department of Energy's Office of Science from 2015 until 2017. She served as president of the American Physical Society in 2009, on the National Commission on BP Deepwater Horizon Oil Spill and Offshore Drilling in 2010, has served on numerous National and American Academy, American Association for the Advancement of Science, American Physical Society, Department of Energy and Department of Commerce committees, and currently serves as chair of the board of the Okinawa Institute of Science and Technology Graduate University and as a director of the American Academy of Arts and Sciences. In 2019, she was elected, representing the U.S. National Academy of Sciences, as co-chair for science of the Inter Academy Partnership, a partnership of over 140 national and regional science, engineering and medical academies dedicated to providing independent and credible advice to policy makers and to strengthening the role of academies nationally, regionally and globally. In 2021 she was appointed co-chair of the Ten Member Group of the Technology Facilitation Mechanism of the United Nations. Dr. Murray received her B.S. and Ph.D. in Physics from the Massachusetts Institute of Technology.

ERIN BURNS is the Executive Director of Carbon180, a climate Nongovernmental Organization focused on the full range of carbon removal solutions. There she leads the organization in working with policymakers, entrepreneurs, and scientists to reach a just and equitable economy that removes more carbon than it emits. Previously, she worked in the Senate where she handled energy, environment, labor, and agricultural issues, including staffing for the Energy and Natural Resources Committee and the Public Lands Subcommittee. She also worked at Third Way, a DC-based think tank, managing carbon capture and removal, innovation, and other clean energy policy development and advocacy. A native of southern West Virginia, throughout her career she has worked on issues related to coal worker and coal community transitions. She holds a degree in Cultural Anthropology from Carnegie Mellon University.

KATHLEEN DRAPER is a member of the International Biochar Initiative (IBI) Board and Chair of IBI's Information Hub. She is also the U.S. Director of the Ithaka Institute for Carbon Intelligence. The Institute is an open source network focusing on beneficial carbon sequestration strategies which simultaneously provide economic development opportunities both in the developed and developing world. She is an editor and writer for *The Biochar Journal*, sponsored by the Ithaka Institute. Ms. Draper also works with various different universities and individuals on projects that are investigating the use of biochar in cement and other building and packaging products to develop products with lower embodied carbon which can be made from locally available organic waste. She has written extensively about various topics related to biochar and is a co-author of the book "Terra Preta: How the World's Most Fertile Soil Can Help Reverse Climate Change and Reduce World Hunger."

PRATEEK BUMB co-founded Carbon Clean with Aniruddha Sharma in 2009. Mr. Bumb is the principal innovator of carbon capture technologies. He is responsible for developing and delivering Carbon Clean's technology roadmap and leading its project engineering team. He is also a member of the Board. His expertise involves innovation and implementation of carbon capture technology from idea to commercial stage. To date, he has international patents on the carbon capture process and solvents and has published papers at several international conferences and in journals on carbon capture and storage technology. Mr. Bumb is skilled in areas such as gas, sustainable development, environmental issues, the Clean Development Mechanism, and environmental awareness. He is a strong entrepreneurship professional and graduated from Indian Institute of Technology, Kharagpur.

STEPHANIE ARCUSA is a postdoctoral researcher at the Center for Negative Carbon Emissions at Arizona State University. She received a Bachelor's degree in Earth Sciences from University College Cork, Ireland, a Master's degree in Climate Science from the University of Bern, Switzerland, and a doctorate in Climate and Environmental Change from Northern Arizona University, USA. As a paleoclimatologist, Dr. Arcusa reconstructed changes in the environment (e.g. wildfire, floods, dust) as it responds to climatic changes (e.g., temperature, precipitation) through time. In this work, Dr. Arcusa also saw the fingerprint of human activities on the climate and the environment and this has led her to decide to transition her career to help stop the change in climate occurring today due to human activities. Her work now consists of developing ways to halt climate change. Over her academic training, Dr. Arcusa has led or been part of various projects that further emission reduction at the local, city, and higher education levels. She is exploring three related ideas to closing the carbon loop and support the development of a new carbon economy. First, she is developing a framework for the certification of carbon sequestration by exploring what certificates are, how they work, and how they can guarantee safe, equitable, and successful sequestration. As part of the work, Dr. Arcusa is developing ways to include carbon intensive sectors of the economy into the framework so they can also transition to a circular carbon economy. Finally, Dr. Arcusa is taking part in an effort led by the Los Alamos National Laboratory to plan the decarbonization of the intermountain west region of the U.S. through a place-based approach focusing on hydrogen, biomass, and carbon capture technologies.

Panel II: Science and Peace

ILONA OTTO (Committee Member and Moderator) is a professor in societal impacts of climate change at the Wegener Center for Climate and Global Change at the University of Graz. She leads a research group focusing on social complexity and system transformation. The group's ambition is to use complex science theory and novel research methods to analyze social dynamic processes and interventions that are likely to spark rapid social changes necessary to radically transform the interactions of human societies with nature and ecosystem services in the next 30 years. Dr. Otto is a social scientist by training. She uses various research methods including social surveys, case studies, behavioral experiments, and simulations in analyzing problems related to global environment changes, development, adaptation, and sustainability. Dr. Otto is a principal investigator in an EU Horizon 2020 Project CASCADES: Cascading Climate Risks: Towards Adaptive and Resilient European Societies and in a Climate Knowledge and Innovation Community (KIC) Project REBOOST: A Boost for Rural Lignite Regions. She led a chapter on human health in the World Bank Report 'Turn Down the Heat: Confronting the New Climate Normal', she contributed to the 2020 UN Emission Gap Report, and she led the Report on Modelling the Impact of Climate Change on Poverty at a Subnational Scale that was contracted by the World Bank. Dr. Otto received her Ph.D. in Resource Economics from the Humboldt University of Berlin.

JANNIE LILJA is Director of Studies, Peace and Development at Stockholm International Peace Research Institute (SIPRI). Until recently she served as a senior fragility specialist with the World Bank's Fragility Conflict Violence Group. Prior to joining the World Bank she was a Swedish diplomat and

researcher with the Department of Peace and Conflict Research at Uppsala University. Her areas of expertise cover peacebuilding, war and peace dynamics, negotiations, and development in conflict settings. She has published several articles and book chapters on these topics. Dr. Lilja has contributed to the development of peacebuilding policy, including Sustainable Development Goal (SDG) 16, in her former capacity as lead on security and development in the Swedish Ministry for Foreign Affairs. She has also served as Swedish Delegate to the United Nations Human Rights Council in Geneva. Dr. Lilja received a B.S.c. and M.S.c. in International Economics and Business from Stockholm School of Economics, a M.S.c. in Development Studies from London School of Economics, and a Ph.D. in Peace and Conflict Research from Uppsala University.

APARNA BASNYAT is Senior Research and Policy Advisor, SDG16 at the United Nations Development Programme (UNDP). Ms. Basnyat has over 15 years of experience working on rule of law, human rights, and governance policy and programming at country, regional and global levels. She has supported UNDP country offices in the Asia Pacific and the Arab States regions, most recently as the Policy and Programme Specialist with the Rule of Law, Security and Human Rights Team in the Crisis Bureau where she focused on engagement on access to justice and SDG 16. She has advised on country programming on rule of law across different development settings, supported inter-agency cooperation and partnerships with civil society on access to justice as well as led research and policy development on justice and human rights. Ms. Basnyat holds a Masters in Development Studies from the London School of Economics and Political Science and an undergraduate degree in International Relations from Tufts University.

RACHEL LOCKE is Director of the Violence, Inequality and Power (VIP) Lab at the Kroc Institute for Peace and Justice (IPJ), University of San Diego. Ms. Locke has extensive experience delivering evidence-based violence prevention solutions to some of the most challenging contexts while simultaneously advancing policy for peace. Prior to joining IPJ, Ms. Locke was Head of Research for violence prevention with the Pathfinders for Peaceful, Just and Inclusive Societies at New York University's Center on International Cooperation. In this capacity, Ms. Locke led coalition building and evidence curation with the United Nations, bilateral governments, the African Union, civil society and others to explore the challenge of delivering the 2030 Agenda targets for peaceful societies (SDG 16.1). Earlier in her career, Ms. Locke served as Senior Policy Advisor with the U.S. Agency for International Development (USAID) where she developed and represented agency-wide policy on issues concerning conflict, violence and fragility. She also led USAID research and policy on crime, conflict, and fragility and worked extensively on program design, implementation and evaluation primarily in Africa. After leaving USAID, Ms. Locke launched a new area of work for the National Network for Safe Communities at John Jay College of Criminal Justice, bridging effective violence reduction approaches from the U.S. to municipalities globally. Among other initiatives, Ms. Locke launched a three-year effort across two states and five municipalities in Mexico at a time of exceptionally high violence. Ms. Locke holds a Master's in International Affairs from Columbia University, Graduate School of International and Public Affairs. She has also published a variety of articles and other works focusing on violence prevention, humanitarian aid, conflict and transnational organized crime.

ROMAN SŁOWIŃSKI is a Professor and Founding Chair of the Laboratory of Intelligent Decision Support Systems at Poznan University of Technology, Poland and Vice President of the Polish Academy of Sciences, elected for the term 2019-2022. Dr. Słowiński is a member of Academia Europaea and Fellow of IEEE (Institute of Electrical and Electronics Engineers), IRSS (International Rough Set Society), INFORMS (Institute for Operations Research and the Management Sciences) and IFIP (International Federation for Information Processing). In his research, he combines Operational Research and Artificial Intelligence for Decision Aiding. Recipient of the EURO Gold Medal by the European Association of Operational Research Societies (1991), and Doctor HC of Polytechnic Faculty of Mons (Belgium, 2000), University Paris Dauphine (France, 2001), and Technical University of Crete (Greece,

2008). In 2005 he received the Annual Prize of the Foundation for Polish Science—the highest scientific honor awarded in Poland. Since 1999, he is the principal editor of the European Journal of Operational Research (Elsevier), a premier journal in Operational Research.

Panel III: Financing for Sustainable Development

ERIN BROMAGHIM (Committee Member and Moderator) is the Director of Olympic and Paralympic Development in Los Angeles Mayor Eric Garcetti's Office of International Affairs. In this role, Ms. Bromaghim is focused on realizing the City's plans to make Los Angeles more sustainable, inclusive, resilient, and innovative ahead of the Olympic and Paralympic Games in 2028 and through the enduring legacy the Games will leave for all Angelenos. This legacy includes her work as the Conrad N. Hilton Foundation Fellow, using the framework of the United Nations Agenda 2030 to align, measure, and track the City's progress toward the 17 Sustainable Development Goals. She is also a Visiting Senior Fellow with the Truman Center for National Policy, where she leads their work on City and State Diplomacy. Ms. Bromaghim previously spent 14 years as a senior civilian with the U.S. Department of Defense, where she managed interagency defense, intelligence, special operations, and security reform efforts. Ms. Bromaghim entered federal civil service as a Presidential Management Fellow with the U.S. Navy, later working for the U.S. Air Force, the Office of the Secretary of Defense, and NATO. She holds degrees from Wake Forest University and Georgetown University, as well as a certificate in advanced project management from Stanford University.

MARIANNA KOVAL is the Director of the Invest NYC SDG Initiative at the New York University's (NYU's) Stern Center for Sustainable Business, where she manages a team that is engaging the private sector to drive financing toward creating a more sustainable, inclusive and resilient New York City. Together, using the United Nations SDGs as a guiding framework, the team is developing investable projects to advance NYC's sustainability goals in waste, food and health, climate resilience, renewable energy, the built environment, and sustainable mobility. A lawyer, with more than 30 years of experience working in environmental sustainability, public policy, and government in New York City, Ms. Koval has successfully taken on complex multi-stakeholder projects, difficult policy challenges, and brought conflicting interests together to create concrete projects. She served as the senior advisor to the Commissioner of NYC Environmental Protection, building green infrastructure policy and partnerships in a \$2.4 billion stormwater management program. She created the first NRDC-DEP partnership to develop a private market for green infrastructure, a project that she later managed from NYU Stern, Center for Sustainable Business, which produced an influential report, "Catalyzing Green Infrastructure on Private Property: Recommendations for a Green, Equitable, and Sustainable New York City." Ms. Koval was president of the Brooklyn Bridge Park Conservancy for more than a decade, where she helped develop the vision, attract the initial \$280 million in funding, and construction of this major city park. She holds an M.P.A. from the Kennedy School of Government at Harvard University, a J.D. from Fordham University Law School, and an A.B. from Princeton University.

ADAM ROY GORDON is Engagement Director for Global Compact Network USA and in this role leads the work of the United Nations Global Compact in the United States, including operations, participant management, and programming. He is a contributor to The Atlantic and was named to the Environment + Energy Leader 100 in 2019. Previously, Mr. Gordon worked at CDP, supporting the integration of climate change, water, and deforestation disclosure into corporate performance. He was an EDF Climate Corps Fellow at Colgate-Palmolive Company and has diverse experience in sustainability that ranges from advising the government of Montenegro on green building policy to founding NYC's first commercial composting waste hauler. He holds a B.A. from Oberlin College and a M.S. in Sustainability Management from Columbia University.

LAUREN MUUSSE co-leads the World Benchmarking Alliance's (WBA's) investor engagement strategy. She connects investors and investor-focused platforms to the work of the WBA. This expands to developing new modes of collaboration with other financial institutions and ESG (Environmental, Social, and Governance) service providers. She sees these actors as key catalysts for transformation across the Sustainable Development Goals. She is particularly interested in systems thinking, and connecting the dots across transformation areas to the work of the financial industry. Lauren also contributes in thinking and collaboration via different work streams within the WBA on the topic of human rights. Lauren previously lead the human rights work at ING Bank where she lead the human rights strategy that focused on the banks own work, and also broader engagement and collaboration in order to affect systems change on human rights due diligence. She holds an M.A. in Political Science and Indigenous Studies and a B.A. in Native Studies from the University of Alberta. She strives to bring what she has humbly learned about decolonisation to all her work.