Bonn AI & Climate Expert Meeting | 1 – 2 July 2024

Agenda

Venue: Wissenschaftszentrum

Ahrstraße 45, 53175 Bonn

Germany

Background

The UN Secretary-General has declared a race: a race to develop Artificial Intelligence (AI) for the greater good, which 'supercharges' climate action and propels the world towards the achievement of the Sustainable Development Goals. AI technologies have the potential to leapfrog climate solutions around the globe, transforming climate mitigation and adaptation approaches, including for frontline communities in developing countries. Yet skill gaps exist between AI providers, governments, and users of AI. Developing relevant products and algorithms will have to be done with users' preferences in mind. Ethical and safe use of AI for the climate will require strong enabling and regulatory frameworks. Equitable access to AI, especially for Least Developed Countries (LDCs), demands awareness of existing digital divides, data gaps, and biases. Lastly, making AI a meaningful climate technology also requires minimizing the emissions and resource impact of the technology itself.

The United Nations Framework Convention on Climate Change (UNFCCC) Technology Mechanism Initiative on AI for Climate Action explores the role of AI as a powerful technological tool for advancing and scaling up transformative climate solutions for mitigation and adaptation action in developing countries with a focus on LDCs and Small Island Developing States (SIDS), while also addressing the challenges and risks posed by AI, such as energy consumption, data security and the digital divide.[1] UNFCCC COP 28 requested the Technology Mechanism to implement its Initiative in a manner that gives special attention to the capacity needs of LDCs and SIDS. In 2024, the policy body of the Technology Mechanism, the UNFCCC Technology Executive Committee (TEC) is developing a technical paper on AI for climate action and conducting the AI Innovation Grand Challenge, a global competition to identify open-source AI-powered climate solutions from and for developing countries. Against this backdrop, UNU is hosting the Bonn AI & Climate Expert Meeting in partnership with the UNFCCC Technology Executive Committee. Experts, representatives, and decision-makers, especially from developing countries, including LDCs and SIDS, will join forces to achieve the following objectives:

1. **Understand the emerging solution space of AI for climate action and accelerate partnerships:**

   Promote the exchange of cutting-edge research, insights, and best practices in climate change mitigation and adaptation enabled by AI technologies. Equip decision makers and stakeholders with a future positive vision of AI. Bring together AI experts, especially from the Global South, to showcase innovative AI-driven solutions for climate challenges and highlight their potential to create partnerships to further sustainable development objectives. Support developing countries to use AI to create their own climate solutions.

[1] https://unfccc.int/ttclear/artificial_intelligence

2. **Explore governance and enabling regulation for equitable AI and climate:**

   Facilitate discussions between policymakers and AI experts to inform evidence-based climate policy decisions and strategies, especially in the context of LDCs and SIDS. Discuss global implications of AI and climate governance to maximize the impact and to minimize the risk of the technology.

3. **Understand direct and indirect leveraging points for greening AI technologies:**

   Explore ways to minimize direct emission from computing and avoid carbon leakage. Discuss strategies to reduce downstream emissions from AI applications.

4. **Inform the work of UNFCCC Technology Executive Committee on AI and climate action:**

   Prepare exchanges that provide input into the future work of the UNFCCC TEC on AI and climate action, including an upcoming technical paper on AI for climate action in LDCs and SIDS, including the risks and challenges of the use of AI.

Target Audience

The event will convene experts, scholars, representatives, decision-makers, and community leaders spanning diverse backgrounds. It will feature experts in various AI technologies and fields of climate action, representing its user cases. Dedicated funding is available targeting experts and representatives from LDCs. Virtual participation will be offered for plenary sessions and panel discussions.

Modality

The expert meeting will make use of a mix of high-level plenaries, and expert level seminars on issues related to AI and climate. Seminars will cover themes related to:

- AI technologies for climate action
- Use-cases for AI and climate action (incl. a focus on LDCs and SIDS)
- Governance and enabling regulation for AI & Climate
- Greening AI technologies

Individual sessions will culminate in a summary of tangible results for practice partnerships, and policy-making.

Agenda

DAY 1

Time (CEST)	Topic
08:30 – 09:30	Registration / Coffee
09:30 – 09:45	**Welcome** **Prof. Dr. Shen Xiaomeng**, Director of the United Nations University – Institute for Environment and Human Security (UNU-EHS); United Nations University Vice-Rector in Europe **Opening Keynote: Prof. Dr. Tshilidzi Marwala**, Rector of the United Nations University (UNU); Under-Secretary-General of the United Nations
09:45 – 10:45	**Framing Panel I: Harnessing AI Technologies for Climate Action** *The framing plenary session kicks off exploring the transformative potential of artificial intelligence (AI) in advancing climate solutions, particularly in developing countries, Least Developed Countries (LDCs), and Small Island Developing States (SIDS). We aim to understand the emerging AI-driven solution space for climate action, foster cross-sector partnerships, and discuss the governance frameworks and enabling conditions necessary for equitable AI in climate action. Particular emphasis lies on how climate change affected countries and communities can build their own AI driven climate solutions.* **Keynote 1: Mr. Simon Stiell**, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC) **Keynote 2: Mr. Dietram Oppelt**, Vice Chair of the UNFCCC, Technology Executive Committee (TEC) **Fireside Chat:** **Prof. Dr. Tshilidzi Marwala**, Rector of the United Nations University; Under-Secretary-General of the United Nations **Prof. Dr. Aimee van Wynsberghe**, Professor for Applied Ethics of Artificial Intelligence University of Bonn, Director Institute for Science & Ethics **Announcement of AI Innovation Grand Challenge:** **Mr. Bill Wright**, Founder of Enterprise Neurosystem

	Framing Panel II: Leave No One Behind in the AI Revolution *The framing plenary focuses on ensuring inclusive and equitable participation in the AI revolution. We will explore strategies to bridge existing digital divides, tackle current and emerging biases associated with AI-powered solutions, and empower marginalized communities to harness AI for sustainable development. Discussions will cover inclusive access to AI technologies, the need to foster capacity-building initiatives, and governance frameworks and safeguards that prioritize ethical and equitable AI deployment.*
10:50 – 11:50	**Keynote (video): Ms. Gabriela Ramos**, Assistant Director-General for the Social and Human Sciences of the United Nations Educational, Scientific and Cultural Organization (UNESCO) **Panel Discussion:** **Prof. Dr. Youba Sokona**, Former Vice-Chair of the Intergovernmental Panel on Climate Change (IPCC) **Dr. Seydina Moussa Ndiyae**, Directeur Programme FORCE-N, Université numérique Cheikh Hamidou Kane, Member of the UN convened High-Level Advisory Body on Artificial Intelligence **Ms. Bushra Ebadi**, Research Associate, UNU Operating Unit on Policy-driven Electronic Governance (UNU-EGOV)
12:00 – 13:00	Lunch Break:
	Townhall I: The Emerging AI & Climate Landscape *The townhall session will provide an overview of key concepts, models, and trends in AI technologies, detail important AI capabilities, and showcase relevant use cases for climate, nature, and sustainability actions. Discussions will focus on the special circumstances of developing countries and frontline communities facing climate change.*
13:00 – 14:00	**Panel Discussion:** **Ms. Geneva List**, Senior Staff Associate at the International Research Institute for Climate and Society (IRI) part of the Columbia Climate School **Dr. Rendani Mbuvha**, DeepMind Academic Fellow in Machine Learning, Queen Mary University **Dr. Grey Nearing**, Senior Research Scientist, Google Research **Dr. Amy Braverman**, Senior Research Scientist, Jet Propulsion Laboratory (JPL), NASA **Dr. Juan Carlos Villagran de Leon**, Head of Bonn Office, UN Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)
14:00 – 14:30	Coffee Break

14:45 – 15:30	**Seminar Sessions:** Theme 1 (webcast): Leveraging AI for Transformative Adaptation Theme 2: Bridging Climate Data in Africa Theme 3: Embracing the Future: Synergy of AI and Remote-Sensing Theme 4: Matchmaking for Climate Policy, Information and the Financing of AI Solutions Theme 5: Making AI Work for Inclusive Urban Climate Action
15:30 – 16:00	Coffee Break
16:00 – 16:45	**Seminar Sessions:** Theme 1 (webcast): Strengthening Equitable Early Warning for All through Artificial Intelligence Theme 2: Bridging Climate Data in Africa Theme 3: Assessing the Potential of AI-Powered Climate Risk Insurance Theme 4: Mapping Technological Trajectories for the Digital and Green Twin Transitions: Implications for Income Inequality Theme 5: Youth and Women Innovation and Entrepreneurship to drive Climate Actions using AI Theme 6: Foresight: Co-creating just (climate and digital) futures
17:00 – 18:00	**Townhall II: Data, Ethics & AI Governance** *The townhall session will discuss perspectives in necessary ethical considerations that arise from the widespread application of AI technology in the context of climate action. What are necessary safeguards, governance and policy options to minimize risks and negative outcomes from AI especially in developing countries?* **Panel Discussion:** **Dr. Eleonore Fournier-Tombs**, High-Level Advisory Body on AI, UNU Centre for Policy Research (UNU CPR) **Prof. Dr. David Rolnick**, Assistant Professor and Canada CIFAR AI Chair, McGill University and Mila – Quebec AI Institute **Dr. Megha Sud**, Senior Science Officer, International Science Council **Dr. Ivana Stepanovic**, Research Fellow and Lecturer, Institute of Advanced Studies Koszeg, University of Pannonia **Mr. El Hadji Diop**, Centre d'Etudes et de Recherches sur les Energies Renouvelables (CERER), CTCN NDE, Senegal
18:00	Reception and Closure of Day 1

DAY 2

Time (CEST)	Topic
09:30 – 10:30	**Townhall III: Green AI - Boom AI, Bust the Climate?** *The townhall session unpacks the emissions and resource implications of AI technologies and explores strategies for making AI more sustainable. Participants will gain a broad understanding of both the direct and indirect leveraging points for greening AI technologies and discuss necessary actions by the public and private sectors.* **Panel Discussion:** **Ms. Norela Constantinescu**, Deputy Director, Innovation and Technology Centre, International Renewable Energy Agency (IRENA) **Dr. Amy Luers**, Senior Global Director, Sustainability Science & Innovation, Microsoft **Dr. Bilel Jamoussi**, Deputy Director, International Telecommunication Union (ITU) **Dr. Marcel Dorsch**, Senior Expert, German Environment Agency (UBA), Digital Change and Sustainability Transformation / The Coalition for Digital Environmental Sustainability (CODES)
10:30 – 11:00	Coffee Break
11:15 – 12:00	**Seminar Sessions:** Theme 1 (webcast): AI Labs: Connect for Climate Innovation Theme 2: Capacity Building for Effective Use of AI for Climate Actions in Africa Theme 3: AI Voice for the Voiceless: Towards Inclusive and Participatory Climate Actions Theme 4: Indigenous Perspectives in AI and Climate Theme 5: AI Governance for Climate Action: Best Practices and Innovations
12:15 – 13:00	**Seminar Sessions:** Theme 1 (webcast): Leveraging AI Technologies for Water-Energy- Food Systems – AI Technologies for Climate Action Theme 2: Green Standards: Enhancing Environmental Efficiency in the Digital Age Theme 3: Mapping a Sustainable Future: Geographic Insights into AI and Green Technology Innovations Theme 4: Crossing the Data Divide: AI for Nature-based Solutions and Climate Action Theme 5: Harnessing Artificial Intelligence: Strategies Toward Enhancing (&) Disaster Response and Mental Health Support
13:00 – 14:00	Lunch Break
14:00 – 14:30	Report Back from the Seminars

14:30 – 15:30	**Way Forward I: Climate Action – Tapping into Innovation for AI** *The session focusses on tangible next steps, partnerships and technologies to advance AI applications for climate action especially in developing countries. Discussions are organized in a fish-bowl format, with representatives from different organizations focusing on relevant strategies. Meeting participants can join the debate.*
15:30 – 16:00	Coffee Break
16:00 – 17:00	**Way Forward II: Climate and AI – Enabling Environments and Governance** *The session focusses on next steps for international and national processes on AI governance that enable climate action. Discussions are organized in a fish-bowl format, with representatives identifying tangible action items to create necessary enabling environments. Meeting participants can join the debate.*
18:30	UNU-EHS 20th Anniversary Celebration (for registered participants)

--- END ---