### UN SCIENCE-POLICY-BUSINESS FORUM ON THE ENVIRONMENT

### **Third Global Session** 18-20 February 2021

Integrated Solutions #ForNature





### **Green Jobs and Green Entrepreneurship: The Future We Want**

Co-convened in partnership with the UNEP Major Group for Children and Youth, UNEP's Partnership for Action on Green Economy (PAGE) and the International Labor Organization (ILO) YOUTH SESSION

**FEB 18**<sup>th</sup> 11.00 - 12.30 EAT ONLINE

# YOUTH SESSION

#### On Green Jobs and the Green Economy

According to ILO, 'green jobs are decent jobs in any economic sector (e.g., agriculture, industry, services, administration) which contribute to preserving, restoring and enhancing environmental quality'.

Since the start of the pandemic, hundreds of millions of people have lost their jobs as a result of global economic downturn. Building back better means creating jobs that take our economies one step further towards the 2030 Agenda and Paris Agreement, by accelerating and scaling up sustainable consumption and production while creating green and decent jobs for a just transition.

Youth have been particularly affected by the ongoing pandemic with over 200 million students currently enrolled in the higher education system and 71 million unemployed. According to ILO, the transition to a green economy will add an estimated 60 million new jobs to the market by 2030, but these are conditional on the availability of relevant skills and training. To create green growth, the businesses, governments, local communities, NGOs must work with each other and higher education can act as a convener to encourage cross-sector collaboration. These partnerships hold the potential to produce the necessary financing, policies, market demand, training and education of the new and existing workforce as described in the UNEP Global Guidance for Education on Green Jobs.

#### **On Green Entrepreneurship**

Youth unemployment, underemployment, and decent jobs remain global challenges while we are witnessing rapid environmental degradation and climate change which pose serious threats to the future of our economies. According to ILO many of the jobs necessary to transition to a green economy do not exist and green entrepreneurs can contribute to create them.

Green entrepreneurship is instrumental in responding to those challenges as key drivers for starting and sustaining a green economy by providing green products and services, introducing greener production techniques, boosting demand for green products and services, and creating green jobs.

#### The session will examine the following key questions:

- What is required in terms of changing macro-economic policies to encourage green jobs?
- Why is the environment a driver for job creation?
- What policies and actions are needed to address skills shortages?
- What are the conditions required for creating and sustaining green jobs in a post covid world?
- What are the key challenges and opportunities of green entrepreneurship? How does green entrepreneurship address environmental and social challenges?



# YOUTH SESSION



Asad Naqvi Head of Secretariat UNEP Partnership for Action on Green Economy



Moustapha Kemal Gueye Coordinator Green Jobs Programme, ILO



Jaee Nikam GEO for Youth Author Research Associate at Stockholm Environment Institute Asia



**Cassandra Delage** Founder & CEO Plast'if



**Ullas Samrat Co-Founder** Triton Foodworks



**Steven Shutong Jiang Founder & CEO** Soarability

### Addressing E-waste through Tracking, Traceability and Circular Approach



Co-convened by the Secretariat of the Basel, Rotterdam and Stockholm Convention & UNEP's Private Sector Unit



**FEB 18**<sup>th</sup> 13.00 - 15.00 EAT ONLINE

### **E-WASTE** SESSION

In the past few decades, the consumption of electronics has penetrated nearly every aspect of our daily lives, so it is no surprise that the production and use of electronic products has sky-rocketed, leading to the generation of massive quantities of end-of-life electronics – e-waste. According to the UN's Global e-waste Monitor of 2020, only an estimated 17.4 per cent are currently collected and recycled of the 53.6 million metric tonnes (Mt) of e-waste generated worldwide in 2019 which increased up by 21% in just five years. Efforts to reverse this trend need our attention more than ever before.

Electronics contain valuable materials, including those of strategic value such as indium and palladium; and precious metals such as gold, copper and silver. These materials can be recovered and recycled, thereby serving as a valuable source of secondary raw materials, reducing pressure on scarce natural resources, as well as minimizing the overall environmental footprint.

The negative effects of e-waste on human health and the environment continues to be scientifically documented in many regions of the world. E-waste exported to developing countries can be subject to poor recycling techniques such as open burning leading to inhalation of toxic fumes loaded with persistent. organic chemicals (POPs) and other substances. This results in long-term contamination of nearby land and rivers, and consequently the food chain, and POPs may eventually end up as contaminants in foods destined for human consumption.

The environmentally sound management of e-waste and the transboundary movements of e-waste or used equipment may serve as a big lever in the direction of circularity by reducing the need for mining of materials of strategic value and increasing recycling and resource recovery as well as creating new market opportunities, jobs and sources of income.

The tracking and traceability of e-waste requires better implementation of policies, innovating systemic and technological solutions involving governments, private sector, academia and the civil society whereby the environmental sound management of e-waste is ensured, and a circular approach is encouraged without jeopardizing human health and the environment.

The session will demonstrate ongoing efforts by different stakeholder groups and explore innovative approaches to sustainable e-waste solutions.

#### The session will examine the following key questions:

E-waste has been an issue of concern for a number of years. Why is it still a problem despite numerous efforts by governments, industry, civil society and international organizations?

What are the main drivers of e-waste for becoming a global environmental challenge?

What policies and regulatory mechanisms are best suited to tackle e-waste? How to deal with the informal sector and informal practices to manage e-waste?

How does the sustainable management of e-waste contribute to the circular economy? How to avoid the loss of valuable resources?

Can regional cooperation provide solutions to support developing countries?

What role industry can play in dealing with e-waste in a sustainable way? Are there innovative solutions from the manufacturing /design perspective?



# **E-WASTE** SESSION



Rolph Payet Executive Secretary Secretariat of the Basel, Rotterdam and Stockholm Conventions



Michel Tschirren Senior Policy Advisor International Chemicals & Wastes Management Federal Office for the Environment, Switzerland



Pascal Leroy Director General WEEE Forum



**Carlos Silva Filho President** International Solid Waste Association



Olga Speranskaya Senior Advisor IPEN



**Cynthia Asare Bediako Chief Director** Ministry of Environment, Science, Technology &



Trisha Beejai Technical Officer Environmental Management Authority, Trinidad and Tobago



Larke Williams Foreign Affairs Officer US Department of State



Seika Sanno Deputy Director, Industrial & Hazardous Waste Management Ministry of Environment, Japan



Brendan Edgerton Director, Circular Economy World Business Council for Sustainable Development



Vanessa Gray Head of Environment and Emergency Telecommunication Int. Telecommunication Union



Bruce Anderson Managing Director for Global Electronics Industry



**Shalini Sharma Co-Founder & CEO** E-Waste Exchange

### **Big Data and Frontier Tech: Powering the Transition to a Sustainable Future**





For 68% of the environment-related SDG indicators there is not enough data to assess progress, according to UNEP studies which also found that towards all 12 of the SDGs targets related to the state of the environment, there is either no data or no progress made.

To achieve the environmental dimension of the SDGs, it is essential to scale up environmental action that is backed by adequate knowledge. A task that is only achievable through the deployment of the latest technologies, including earth observations, Artificial Intelligence, Machine Learning and the Internet of Things.

The Group on Earth Observations will report back on outcomes of the Earth Observations Indigenous Summit, with a focus on how satellite imagery can improve disaster risk management for indigenous communities. GEO will also provide an overview of its current work and future ambitions. In cooperation with the European Parliament's special committee on AI and the Green Deal, the session will explore elements related to legislation, equity, democracy and transparency transparency related to the technology use and the equitable sharing of Big Data products and services.

To date, over 20 Member States have voiced their support to establish a Data for the Environment Alliance (DEAL). The session, for the first time, will present how this work is shaping up and the opportunities it presents.

Key technology partners (including IBM, Microsoft, Amazon, Huawei, Google Earth Engine, Dassault Systèmes) will provide an overview of how their technologies are transforming our understanding of and actions for the planet. New initiatives and collaborations will be launched that directly contribute to UNEP's work and the vision presented in its Medium-Term Strategy.

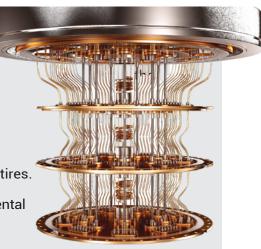
#### The session will examine the following key questions:

The opportunities exponential technologies offer to transform industry towards a sustainable path.

How to manage AI's environmental footprint.

How Technology can better support access to big data and knowledge for decision making, especially in developing countires.

The power of partnership: a review of UNEP and GEO environmental in partnership with top technology partners and innovators opportunities these partnerships offer to achieve the SDGs.



Equity, ethics, transparency, diversity and inclusion as enablers for a fair digital future.





Inger Andersen Executive Director UNEP



H.E. Hans Brattskar Special Envoy, UNEA

**Presidency** Ministry of Climate and Environment, Norway



**Petteri Taalas** Secretary-General WMO



Munir Akram President Economic and Social Council



Juliet Kabera Director General Rwanda Environment Management Authority



Laurent Durieux Head of Mission AI, Big Earth Data and SDGs The French Public Research Institute



Kathryn Guarini Chief Operating Office & Vice President Impact Science IBM Research



David Jensen Digital Transformation Taskforce Coordinator UNEP



Florence Verzelen Executive Vice President, Industry, Marketing and Sustainability Dassault Systèmes SE



Yousef Al-Ghamdi Head of Energy Sector Saudi Authority for Data and Artificial Intelligence (SDAIA)



Adam Smith Co-Founder and Head of Strategy Descartes Labs



Alessandro Curioni Vice President Europe and Africa IBM Research





Ray Amani Assistant Vice President of Investment Nasdag



Tamar Eilam IBM Fellow IBM Research



Jesarela López Director of Technical Coordination of Vice Presidency National Institute of Statistics and Geography of Mexico



Dilek Fraisl Citizen Science Researcher International Institute for Applied Systems Analysis



Meelis Munt Secretary General of the Ministry of Environment Estonia



**Alexandre Caldas Chief, Big Data Branch** UNEP



Pascal Peduzzi Director UNEP Grid-Geneva



**Thuraya al Hashimi Executive Director Digital Data Enabling Sector** AE Federal Competitiveness & Statistics Centre (FCSC)



**Prof. Guo Huadong** Director, Institute of Remote Sensing and Digital Earth Chinese Academy of Science



Laurence Monnoyer Smith Director of Sustainable Development Centre National d'Études Spatiales



Charlotte Bishop Senior Project Manager Norway International Climate and Forest Initiative (NICFI)



Bonnie Lei Head of Global Strategic Partnerships Al Microsoft





#### Maria Cecilia Londoño Murcia Researcher Alexander von Humboldt Biological Resources Research



Dr. Jonathan R. Everhart Chairman & CEO Global ReEnergy Holdings



Ana Pinheiro Privette Lead Amazon Sustainability Data Initiative (ASDI)

Institute



Rebecca Moore Director Google Earth Engine



Heidi Savelli Programme Management Officer, Global Partnership for Marine Litter UNEP



**Rafael Monge Vargas** Director National Geoenvironmental Information Center, Costa-Rica



Willem Clappaert Government Industry Solutions Leader IBM



**Kate Fickas** Founder NASA Ladies of Landsat







Diana Mastracci Sánchez Founder GEO Indigenous Alliance



Dragoş Tudorache Chair, Special Committee on Artificial Intelligence in a Digital Age European Parliament





Ado Lohmus Permanent Representative to UNEP and Initiative coordinator Estonia



Jian Liu **Director Science Division** UNFP





### Marine Litter and Microplastics Mitigation and Prevention

FEB 19<sup>th</sup> 13.00 - 14.30 EAT

ONLINE

Co-convened in partnership with the Global Partnership on Marine Litter (GPML)

# MARINE LITTER SESSION

As a pollutant without borders, marine litter and microplastics continue to choke the world's oceans, with a recent study revealing higher concentrations of plastic hidden beneath the surface of the Atlantic Ocean than anyone previously thought - 7,000 microplastic particles per cubic meter of seawater.

#### Plastics has even been found in human placentas, demonstrating the reach of this pollutant.

Found along the world's coastlines and estuaries to the remotest polar regions and down into the deepest ocean trenches, we are only just beginning to understand the true impact of marine litter and microplastics on the environment and society. To tackle plastics, the largest, most harmful and persistent fraction of marine litter, immediate action is needed.

Significantly reducing marine pollution by 2025, as envisaged by the Sustainable Development Goals, requires focused, accelerated action by multiple actors and sectors.

UNEA Resolution 3.7 on Marine Litter and Microplastics, stresses "the importance of long-term elimination of discharge of litter and microplastics to the oceans and of avoiding detriment to marine ecosystems and the human activities dependent on them from marine litter and microplastics".

#### The session will examine the following key questions:

What does the latest science tell us about the risks posed by marine litter and microplastics for ecosystems, human health and society ?

In order to manage and mitigate the risk of marine litter in our environment, what urgent policy action is required at the multi-lateral and national levels?

What part does innovation, technology and finance have to play?

What does multi-stakeholder cooperation offer in the management and mitigation of marine litter and microplastics related risk?





Leticia Carvalho Head of Marine and Freshwater Branch UNEP



**Prof. Jacqueline McGlade** Lead Author UNEP Global Assessment on Marine Litter and Microplastics



Melissa Wang Senior Scientist Greenpeace



**Tina Ngata** Environmental & Indigenous Rights Advocate Women Major Groups Representative



Gabriel Thoumi Director of the Plastics Programme and Financial Markets Planet Tracker



Juan Bofill Senior Engineer in the Water Management Division European Investment Bank



Patrick Labat Senior Executive Vice President, Northern Europe Veolia



Heidi Savelli Programme Management Officer, Global Partnership for Marine Litter UNEP



Saiful Ridwan Chief Enterprise Solutions UNEP



Nicholas Holmes Chief Technology Officer for Global Government, IBM Cloud and Cognitive Software



Audrey Hasson Head GEO Blue Planet European Office



H.E. Satoru Lino Deputy Director, Office of the Marine Environment Ministry of the Environment of Japan

### **Rethinking Cities: Bringing Nature to the Urban Environment**



Co-convened with the Sustainable Cities Impact Programme, the Integrated Urban Solutions Partnership and the Global Alliance for Building and Construction (Global ABC) FEB I9™ 15.00 - 18:00 EAT ONLINE

# GREEN CITIES SESSION

Close to 66% of global populations are expected to live in cities by 2050. The resource requirements of urban areas could grow to nearly 90 billion tonnes per year by 2050 with high demand for land, food supplies and raw materials that will far exceed the planet's threshold. Cities are already responsible for some 75% of greenhouse gas emissions. In and around cities, biodiversity and green areas provide ecosystem benefits and services increasing the resilience of cities and improving human health.

According to the report The Weight of Cities by the International Resources Panel (IRP), cities that become more resource-efficient in transport, commercial buildings, and building heating/ cooling could achieve reductions of between 36 to 54 percent in energy use, GHG emissions, metals, land and water use.

The argument has been made that urban planning, sector optimization, cross-sector optimization towards circularity and behavioural changes will together provide cumulative benefits far greater than the those provided by each of the four levers individually. Building Better in response to the COVID-19 pandemic is helping reimagine city concepts such as the "15-minute city", shifts to active mobility, shorter value chains, and an emphasis on bringing nature back into cities - not least by taking a hybrid approach to infrastructure, connecting the grey infrastructure with nature-based solutions.

#### An annual average of USD6.9 trillion in infrastructure investment up until 2030 is considered indispensable for the achievement of global development and climate agendas.

The bulk of this investment, according to the OECD, involves developing countries – including fragile low-income economies and emerging economies driven by population growth, increased income levels and rapid urbanization. However, developed countries will also require action to bridge infrastructure and capacity gaps, given the need to invest in retrofitting ageing infrastructure – particularly in light of renewed climate change mitigation and adaptation efforts.

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#### The session will examine the following key questions:

What strategies to redesign, rethink and transform cities, and the infrastructure that support them, will lead to the greatest efficiency, resilience and inclusion?

What policies, investments and multi-sector initiatives are required to implement these strategies at scale to achieve the SDGs?

With a view to supporting changes in present consumption and production patterns, what cross-cutting interlinkages in different infrastructure systems, including cross-sectoral infrastructure integration are essential?





Martina Otto Head of Cities UNEP



Julie Greenwalt Co-Chair GEO for Cities UNEP



Kobie Brand Vice President for Africa and Director ICLEI Cities Biodiversity Center (CBC)



Santiago Saura City Councillor for International Affairs and Cooperation Madrid, Spain



**Carlos Cadena Gaitán Secretary of Mobility** City of Medellin, Colombia



**Yvonne Aki-Sawyerr OBE Mayor of Freetown** Sierra Leone



**Dr. Li Zhang Secretary General** Society of Entrepreneurs for Ecology Foundation, China



**Anu Ramaswami Co-author** IRP report "The Weight of Cities"



Aniruddha Dasgupta Global Director WRI Ross Center for Sustainable Cities



**Carlos Manuel Rodriguez CEO** Global Environment Facility



**Emmanuelle Nasse Bridier** Head of Urban Resilience Initiative Meridiam



Martin Powell Head of Urban Development Siemens AG





Anton Koller President, District Energy Danfoss



Harry Verhaar Head of Global Public & Government Affairs Signify



**Ursula Hartenberger Researcher** Global Alliance for Buildings and Construction



**Paolo Falcioni** Director General APPLiA



**Robert Pinter** Green & Healthy Buildings Manager Europe International Copper Association



Dr. Wang Lan Deputy Dean, College of Architecture and Urban Planning Tongji University



Sarah O'Carroll Cities Lead The Ellen MacArthur Foundation



Maimunah Modh Sharif Executive Director UN Habitat



Abdalah Mokssit Secretary IPCC



H. E. Rodrigo Rodriguez Tornquist Secretary of Climate Change, Sustainable Development and Innovation Argentina



**Oliver Hillel Programme Officer** Secretariat of the Convention on Biodiversity

### Nature-positive Food Systems for a Healthy Planet and Healthy People



Convened in support of the 2021 Food Systems Summit and the UN Decade on Ecosystem Restoration



# FOOD SYSTEMS SESSION

Today, the world's food systems need to be transformed towards nature-positive patterns. The rebuilding of economies after the COVID-19 crisis offers a unique opportunity to transform the global food system and make it resilient to future shocks, while ensuring environmentally sustainable and healthy nutrition for all.

As agricultural systems form the foundation of our food systems, it is imperative that they are redesigned to restore and regenerate, rather than degrade, ecosystems — all while providing affordable and healthy diets for a global population estimated to reach 10 billion by 2050.

The question is less what we need to achieve, but "how" – how to induce behavioral change at scale to restore ecosystems and reverse the damage to planetary health? What policies, incentives and investments are needed to motivate responsible individual and collective action and capitalize on the synergistic opportunities that lie in food systems? Unless we redesign food systems and consumption patterns, greenhouse gas (GHG) emissions from global food production will continue to push the planet beyond the internationally agreed goal of limiting global warming to 1.5°C, even if we immediately halted all other emissions.

Food systems contribute up to 29 per cent of all GHG emissions, including 44 per cent of methane. Agriculture alone is responsible for up to 80 per cent of biodiversity loss and continues to overuse increasingly limited natural resources – including water, forests and land. Indeed, agriculture accounts for up to 70 per cent of all freshwater use and 80 per cent of all deforestation, and more than one-quarter of the energy used globally is expended on food production and supply.

The UN Decade on Ecosystem Restoration 2021 – 2030, led by UNEP and FAO, includes a focus on farmlands and other ecosystems vital for sustainable food systems.

#### The session will examine the following key questions:

Why a transformation of our food systems is integral for nature and economies?

How does Regenerative Agriculture connect us back to nature?

How can we promote Nutrient Use Efficiency with as much as 80% being lost to the environment?

How do we tackle food waste?

What targeted actions by public and private actors can support the required transformation?

FOOD SYSTEMS SESSION



James Lomax Advisor, Sustainable Food Systems and Agriculture UNEP



Philip Lymbery CEO Compassion in World Farming Organization



Emma Naluyima Private Veterinarian 2019 Africa Food Prize Recipient



Alzbeta Klein Director General



H. E. Mahindananda Aluthgamage State Minister of Agriculture Sri Lanka



Mark Sutton Professor UK Centre for Ecology & Hydrology



Maliha Malik Chief Operating Officer FFC Food Security and Agriculture Center of Excellence (FACE)



Anna Engleryd Chair, Executive Body, UNECE Convention Swedish Environmental Protection Agency



Martina Otto Head of Cities UNEP



H.E. Renato Alvarado Minister of Agriculture and Livestock Costa-Rica



Shirley Lu GEO Author Managing Director Asi ProVeg International



Marcus Gover CEO WRAP

FOOD SYSTEMS SESSION



Shirley Lu GEO Author Managing Director Asi ProVeg International



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Maria Carolina Duran Secretary of Economic Development City of Bogota, Colombia



Wilson Merino Director, Economic Promotion Agency Conquito City of Quito, Ecuador



**Ullas Samrat Co-Founder** Triton Foodworks



**Dr. Esau Galukande** Director, Gender and Community Service City of Kampala, Uganda



Jean-Marie Dembele Associate Professor of Computer Science Gaston Berger University. St-Louis, Senegal



**Peter Rylander Partner** IBM Global Business Services



Pal Oystein Stormorken VP Farm Ecosystems Yara International



Dr. Tarifa Alzaabi Acting Director General, Deputy Director General Bio Saline

# Making peace with nature: The defining task of the 21st century

### Multilateralism: Science, Policy, Innovation, Action!

**FEB 20**<sup>th</sup> 17:00 - 19:00 EAT ONLINE



### **CLOSING** SESSION

### Multilateralism: Science, Policy, Innovation, Action!

"We face a surplus of multilateral challenges and a deficit of multilateral solutions. Advancing the nature agenda will be a critical test for multilateralism."

#### António Guterres, UN Secretary General

In January, this year, the UN Secretary-General launched the UN@75 initiative, kick starting the world's largest conversation on global challenges, and the gap between 'the future we want' and where we are headed, if current trends continue. One million respondents reaffirmed the essential role of the United Nations in responding to global challenges, calling for more international cooperation, not less.

The survey also pointed to overwhelming concerns on the climate crisis and the destruction of our natural environment. Responding to these findings, Member States recommitted to a reinvigorated multilateralism, noting that the urgency for all countries to come together, to fulfil the promise of the nations united, has rarely been greater.

As we continue to address the global pandemic, as it rises and ebbs across the world – the three planetary crisis identified by UNEP's Medium Term Strategy: The climate crisis; the nature crisis and the pollution crisis – show no signs of dissipating. And this is because our patterns of unsustainable production and consumption are eroding at a relentless speed, the natural foundations on which life and prosperity depend.

We face three imperatives in addressing the climate crisis: first, we need to achieve global carbon neutrality within the next three decades. Second, we have to align global finance behind the Paris Agreement, the world's blueprint for climate action. Third, we must deliver a break-through on adaptation to protect the world – according to UNSG.

#### The closing session will look at the following thematics:

Making peace with nature is the defining task of the 21st century. Do we have the systems in place to 'make the peace' with the systems that sustain our very lives?

How can the world arrive at a networked, inclusive and effective environmental multilateralism – one that advances the nature agenda? How do we ensure that no one is left behind?

What transformative shifts are required to address the COVID19 and climate crises? How can technology and innovation play a part in this transformation?

Is the private sector on track in its decarbonization efforts? How do we measure success across economies and sectors?

# **CLOSING** SESSION



Inger Andersen Executive Director UNEP



H. E. Jeanne d'Arc Mujawamariya Minister of Environment Rwanda



**Carlos Manuel Rodriguez CEO** Global Environment Facility



H. E. Sveinung Rotevatn Minister of Environment & Climate Norway



H. E. Dr. Yasmine Fouad Minister of Environment Egypt



H. E. Fernando Coimbra Chair UNEP Comittee of Permanent Rpresentatives



Maria Ivanova Professor and Director Center for governance and sustainability, University of Massachusetts Boston



**Jim Whitehurst President** IBM



**Tina Birmpili Deputy Executive Director** UNCCD



Sir Bob Watson Environmental Scientist Former Chair IPBES



**Eric Rondolat Chief Executive Officer** Signify



H. E. Mohamed Mubarak Bin Daina Chief Executive Supreme Council for Environment, Bahrain



**Yugratna Srivastava Facilitator** UNEP Major Group of Children and Youth