



## **Concept Note (Draft)**

# **“Land-Solar Plus”: Integrated Solution combining Solar Powered Land Degradation Neutrality for Food, Water, and Energy Security, and Ecosystem Services**

Stakeholders Meeting, 10:00-13:00 Bonn (CET)

**16 and 17 September 2020**

### **Introduction**

“Land-Solar Plus” builds on the premise that integrated solutions linking sustainable land management with solar energy systems can effectively contribute to the achievement of land degradation neutrality, while offering multiple benefits in terms of enhanced food security, better water management, increased and improved agricultural productivity and creating access to sustainable energy services for provision of jobs and income generation activities.

In this stakeholder meeting, we will bring together experts, specialists, and policy makers from different regions and backgrounds to explore opportunities, challenges and synergies in relation to promoting solar powered sustainable land management practices and business models for achieving SDGs and climate action.

### **Land under pressure**

Land productivity and energy security are key for human survival and sustainable development. Increased population, improved income, and reduced poverty joining in the transformation of residential, diet and consumption, and production patterns have coincided with the growing demand for goods and services, such as food, water, and energy, which in turn has increased the pressure on land and intensified land use competition for the provision of food, feed, fibre fuel, and ecosystem conservation, which consequently accelerated land cover transformation and is leading to land degradation.

During the COVID-19 pandemic, sufficient food, balanced nutrients, clean water and secured energy supply are fundamental for maintaining human resilience, mitigating risk of transmission and operating effective treatment. Building back better a healthier, more resilient, and safer human society demands innovative and transformative change in managing land, water, and energy in an integrated and systematic way.

The Sustainable Development Goals (SDGs) set the framework pursuing integrated approach to preserve the planet, eradicate poverty, and secure prosperity. Land restoration and renewable energy are interlinked with almost all major land, energy and environmental challenges that the world faces today, and the related SDGs, including climate change, land degradation, food, water, and energy security and environmental sustainability.

### **What “Land-Solar Plus” can do?**

The “**Land-Solar Plus**” solutions, which integrate sustainable land management with solar energy applications and services for food production, cash crops cultivation, water harvesting and irrigation, agro-industries, aquaculture and livestock grazing, and provision of modern energy services have been piloted in vast areas affected by desertification, land degradation, and drought. These areas normally suffer from food insecurity, water deficiency and energy poverty due to limited productive land resources, intense water stress, and remoteness, while having great potential to use solar energy to mitigate impacts of the adverse arid conditions.

The land-solar plus solutions demonstrate the possibility to improve land productivity by promoting “less land to produce more”, and the great potential in increasing land productivity to sustain food, water, and energy security for local communities, while simultaneously contributing to biodiversity protection, and social development, value chain and green job creation, and harmonious rural and urban development. Moreover, solar energy farms enable degraded land set aside to rehabilitate through assisted natural regeneration over time, enhance carbon stocks, as well as adjusting the land surface temperature in a range of highly efficient of solar panels. Simultaneously these interventions create huge environmental benefits by improving biodiversity and enhance climate resilience through emission reduction and carbon capture.

### **Fostering partnerships and cooperation**

To facilitate the cooperation on the “Land-Solar Plus” model as an integrated solution towards land degradation neutrality for food, water, and energy security by fostering a broader partnership across sectors and including public and private stakeholders, the UNCCD Secretariat is organizing a stakeholders workshop on 16-17 September 2020, in collaboration with the Tsinghua University, Beijing, China.

The two-day virtual workshop aims at engaging policymakers and practitioners as well as research and academic institutes, enterprises, international organizations, and funding agencies working in the field of land, energy and water management sectors to share their experiences and contribute to the concept of “Land-Solar Plus” as an integrated solution contributing to Land Degradation Neutrality in land use planning and management. It is expected that the proposed workshop will facilitate in showcasing technical and business models of “Land-solar plus” as integrated solution for food, water and energy security as well as for value chain and green job creation. The participants will also analyze the gaps, and need for policy development, knowledge sharing, technical transfer and innovation, funding and partnership, and identify opportunities for scaling up and replication of the successful innovative pilot projects around the world.

### **Co-Organizers**

UNCCD secretariat in collaboration with the Energy Transition and Social Development Research Center of Tsinghua University.

### **Time and Venue:** (Virtual meeting)

- 16 September 2020: Opening Session, Introductory Presentation and Thematic Session 1 at 10.00-13:00 hrs. (Bonn Time)
- 17 September 2020: Thematic Sessions 2 and 3, and Closing Session at 10.00-13:00 hrs. (Bonn Time)

### **Anticipated Participants**

Policy makers, experts, researchers, and academics from both the land and energy sector will be invited, including UN agencies, international organizations and partners, research and educational institutes, enterprises, and solar companies. The expected number of participants will be around 50-60.

## **Methodology**

The meeting consists of Introductory presentation, thematic case studies (from Asia, Africa, and Europe) and panel discussions.

## **Expected outcome**

Recommendations and suggestions on potential policy development, capacity building of key stakeholders and identifying opportunities for scaling-up investment in “land-solar Plus” policies, projects and programmes.

## **Tentative Agenda**

**Day one: 10:00 h-13:00 h (CET) 16 September**

### **Opening Session 10:00-10:30**

Chaired by Johns Muleso Kharika, Chief of the Science, Technology and Innovation, Announcing opening and introduction of the participating stakeholders

- Opening address by Prof. Peng Kaiping, Dean of School of Social Sciences, Tsinghua University

**Keynote Address:** Dr. Pradeep Monga, Deputy Executive Secretary of UNCCD

**Introductory Presentation:** (10 mins) “Land-Solar Plus” as an integrated solution to contribute to Land Degradation Neutrality (by Xiaoxia Jia, UNCCD Science officer)

**Thematic Session 1 10:30-12:30.** “Land-Solar Plus” for Food, Water, Energy, and Ecosystem Services

Moderated by Dr. Uwe Fritsch, IINAS (5 mins)

- **Presentations** (10 mins each)



- Solar-powered hydrotechnics and its applications by Prof. Xu Zheng, Tsinghua University, Chief Engineer of Shenzhen SolarTech Renewable Energy Co., Ltd, China
- Agrivoltaics - R&D Results from Germany and Opportunities for Addressing the WEF-Nexus by Maximilian Trommsdorff- Fraunhofer, Institute for Solar Energy Systems (ISE), Germany
- Solar energy pumping groundwater and irrigation for agriculture projects (both big and small scales) in Thailand by Sakda Vicheansil, DG, Thailand Ministry of Natural Resources and Environment
- WOCAT Database to share cases linking renewable energy and land by Dr. Nicole Harari from *WOCAT*

- **Intervention from the audience (10 minutes)**

#### **Break 11:30-11:45**

- **Panel discussion:** 11:45-12:30

(Panelists: Dr. Yongping Zhai, Chief of Energy Sector Group, ADB, Rita-Roy Choudhury ASG, FICCI, Dr. Daniel Schroth, Advisor & Acting Director, Renewable Energy and Energy Efficiency Department, AfDB )

#### **Day two 10:00-13:00 Hrs. Bonn Time (CET) 17 September**

**Thematic session 2 10:00-11:15.** Solar Empowering Land Value Chain, Green Jobs, and Rural-Urban Development

Moderated by Dr. Jonathan Davies, Global Drylands Coordinator / Senior Agriculture Advisor, IUCN) summary of day 1 and introduction (5 mins):

- **Presentations (10 mins each)**
  - Solar empowering land restoration-ecological and economic benefits by Cao Hua
  - General Manager, Overseas Power Station Division of Chint New Energy, China



-Solar Energy for Income Enhancement in Rural Economy and MSMEs by Amit Kumar  
TERI -India

- People, Power, Water, Food and Land - Practical Solutions and New Policy Mandates for  
the Rural-Urban Nexus by Prof. Peter Droege, Director, Liechtenstein Institute for Strategic  
Development and Mr. Holger Johannes Schoenherr, SUN farming

- **Intervention from the audience (10 minutes)**
- **Panel Discussion (40 minutes)**

(Panelists: Jigmet Takpa, Joint Secretary, MoEF&CC, India, Yang Lei, Dean of the Energy  
Research Institute, Beijing University, IRENA (tbc)), Dr. N. P. Singh, UNIDO)

**Break 11:25-11:40**

**Thematic session 3 11:00-12:30** Challenge and Opportunities for Scaling-up Investments in “Land-  
Solar Plus” Model

*Moderated by Barron J. Orr. Lead Scientist of UNCCD*

- **Presentation**  
Land Degradation Neutrality Fund by Gautier Quéru, Head of LDN fund, Mirova (10 Mins)
- **Interactive intervention with the audience (10 mins)**
- **Panel discussion: (40 mins)**

(Panelists: Mr. K. S. Popli, Senior Advisor, International Solar Alliance (ISA), and Former CMD,  
IREDA, Mr. Maher Salman, Senior Programme Officer FAO, Dr. An Fengquan, Special Advisor to  
the Executive Director of the IEA)

**Closing session 12:30-13:00**

**Chaired by Dr. Pradeep Monga, Deputy Executive Secretary of UNCCD**



- Inviting selected speakers to make closing remarks
- Closing remarks by He Jijiang, Acting Deputy Director, Energy Transition and Social Development Center of Tsinghua University
- Closing remarks and wrap-up