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Technical Expert Meetings on Mitigation: Session Plan

Organized as part of Technical Examination Process on Mitigation

Organizer: SIWI and GIZ

Session I: Decarbonizing the primary food production phase of the agri-food chain

Date	Time	Venue
20 June 2019	11:30-13:00	Room GENF The World Conference Center Bonn

Agriculture contributes to around one third of today's greenhouse gas emissions and accounts for about 70 percent of all water withdrawals globally. Reducing agriculture's carbon footprint and improving agriculture's water management is thus central to limiting climate change and achieving sustainable development.

Climate and water wise solutions in food production contribute to several targets in the SDGs. Among them, targets in SDG 6 (clean water and sanitation), SDG 7 (affordable and clean energy), SDG 14 (sustainable consumption and production), SDG 14 (life below water), and SDG 15 (life on land) can be found. Those include 6.4 on water use efficiency across sectors, 7.A on energy efficiency, 12.2 on sustainable management of natural resources, 12.4 on responsible management of waste, 14.1 on reduction of marine pollutions from land-based activities, 15.1 on forest area, and 15.3 on the achievement of a land-degradation-neutral world.

This session is a part of the TEM-M 2019 workshop focused on **Energy – off-grid and decentralized energy solutions for smart energy and water use in the agri-food chain**. The aim of the session is to focus on various solutions aimed at decarbonizing the primary food production phrase through renewable energy, water efficiency, and innovations in the areas of technology, traditional know how's as well as policy, investments and capacity building.

Agriculture today is increasingly mechanized, for large industrialized farms and smallholder farms alike, relying on accelerated use of carbon fuel for tools such as motorized water pumps and the production of fertilizers. However, there is an opportunity for farmers to implement climate smart, water and food secure solutions. To this end, the first steps towards decarbonizing food production would be to irrigate sustainably with solar, wind, hydropower and low carbon fuels ; use smart inputs of water and fertilisers, both inorganic and organic, to maximize synergies of energy, water and land use; apply precision management at every stage of timely and adequate supply for best management, for instance, with the help of big data; support farmers when extremes occur building on traditional knowledge and techniques. To enable these actions and the accompanying technologies, it is imperative to consider innovations in the delivery of policy, investments and technical capacity.

This session, with the help of high-impact case studies/examples and input from a diverse range of experts, will analyse the opportunities presented by, but also factors limiting, technological solutions and innovative approaches. Participants are expected to discuss and share experiences on the necessary policy environment, best practices in fostering partnerships and need of capacity building and accessing financial resources for the replication and upscaling of solutions.

The 90-minute session will have two rounds of expert interventions, as described below, and each round will be followed by a moderated roundtable discussion. Participants are expected to contribute with their knowledge about specific barriers for a conducive enabling environment and how they can be overcome. They are also invited to complement the speakers' proposed solutions with additional insights.

05'	Opening, welcome of all participants and introduction of speakers by the moderator • **Ms. Marion Canute, Communication Specialist** Brief introduction of the session topic • **Prof. Jennie Barron, Professor, Agricultural Water Management at Swedish University of Agricultural Sciences (SLU)**
25'	**First round of the expert interventions on renewable energy and other technological innovations in agriculture** To set the scene for the session, the experts will be asked to address the below questions related to **where we are** regarding the current state of innovation in renewable energy sources and technologies in food production and where we can further innovate: • What is the opportunity that needs to be met by sustainable irrigation means and what savings in carbon does that mean in replacing fuels-driven irrigation? • What are some of the examples of big data enhancing precision and productivity in agriculture? • How does mobile technology continue to spur innovative practices and tools? **Expert contributors:** • **Ms. Melina Balderrama (In-person participation)**, Sustainable water management practitioner (Bolivia) and promoter of the Toolbox on Solar Powered Irrigation Systems • **Mr. Pratap Thapa (In-person participation)**, founder of Aqysta (river flow pump in Nepal) • **Mr. Daniel Paska (Remote-online participation),** Ericsson, to present the Ericsson Weather Data System which provides real-time rainfall with extremely granular time and spatial resolution and smarter use of fertilizers
15'	Interventions from other participants round the table, building up on the expert interventions, focusing on above-mentioned key guiding questions as well as addressing traditional knowledge and indigenous perspectives.
25'	**Second round of the expert interventions on capacity and financing related limitations to technology and innovation in decarbonizing agriculture** The second round of the expert interventions will discuss **how to advance technology and innovation** by analysing current barriers to scaling up and the ways in which they can be overcome. The experts will be asked to address the below questions: • What are the most salient capacity limitations that hinder smallholder farmers and local and national stakeholders in taking up new energy and water efficient technologies and practices in agriculture? • Where are the gaps in adequately financing climate and water wise practices? What kind of new financing mechanisms and institutions may be needed?

	• What are the ways forward and necessary actions to be taken by Parties, non-Party stakeholders and organizations to meet identified financial, technological and capacity needs for innovative solutions, including through regional mitigation initiatives/partnership? **Expert contributors:** • **Mr. Henrik Johansson (Remote-online participation),** Founder and CEO of Spowdi AB, a solar powered water distribution system. • **Mr. Gaurav Kumar (In-person participation),** Co-Founder & Director of Claroenergy (India) to present on an innovative Uber-like business model for small farm holders. • **Ms. Romina Cavatassi (In-person participation),** Senior Economist, International Fund for Agricultural Development (IFAD) on capacity development and access to credit and finance by smallholders.
15’	Interventions from other participants round the table, building up on the expert interventions and focusing on above-mentioned key guiding questions
5’	Final summary/wrap-up by the moderator