

## **Thematic Session 5 Submitted Key Messages**

### **Mr. Jan Minx (Germany), Professor, Mercator Research Institute**

- While CDR is necessary for achieving net-zero targets, it is up to individual countries to choose how to achieve them in term of CDR methods. There are different methods available ranging from land-based biological (afforestation, biochar), to ocean-based biological (blue carbon management), to geochemical (enhanced weathering) to chemical (DACCS). They all differ in their technological readiness, scaling potentials and characteristics as well as side-effects.
- There is no silver-bullet CDR technology. In policy terms, it will be all about the design of robust CDR technology portfolios over time taking in an iterative learning process.
- The world is lagging behind in the deployment and scaling of CDR technologies. It is key to get into application and fund demonstrators and promote technology development through demand pull. There is an urgent need for establishing agreement over what a removal (durability) and designing a robust framework for monitoring, reporting and verification of removals.

**Ms. Lee Kheng Heng, Section Head, the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture, International Atomic Energy Agency (IAEA)**

Here are some key points or messages from me:

- Agriculture is the victim as well as the source of climate change, yet it offers significant CDR, mitigation opportunities while providing food, renewable resources etc.
- Together with forestry, and other land uses, they account between 13-21% of global total anthropogenic GHG emissions but it's also a major carbon sink, absorbing around one third of anthropogenic CO<sub>2</sub> emissions.
- By adopting climate smart agricultural practices such as zero or reduced tillage, crop residue incorporation, biochar, cover crops, green manuring, crop rotations nutrient and water management, soil erosion control, etc and their combinations, it is possible to enhance C in plants to be sequestered in the soil. Currently soil contains 1500–2400 Gt of C compared to 829 Gt C in the atmosphere and 550 Gt C in vegetation. Soil therefore has a large capacity to store much more C.
- However, all these need to be looked at in the entire picture of related effects which also includes acceptance by stakeholders, as well as in the context of food security.
- It is the long-term balance between uptake and release that matters, and both processes need to be monitored and the effect of these agricultural practices on these two aspects should be investigated.
- Nuclear and isotopic techniques can play a major role in addressing these issues of global significance. They provide precise information on the processes, sources, pathways that produce GHGs, allowing researchers to target them for mitigation.

**Ms. Kathleen Draper (USA), Chair of the Board, Biochar Initiative; and Director, Ithaca Institute for Carbon Intelligence, NGO, USA**

- Biochar is likely the oldest anthropogenic carbon dioxide removal solution you've never heard of
- Biochar is safe, scalable and shovel-ready.
- Biochar may be able to help countries increase their climate ambition while supporting 12 of the UN SDGs
- We need your help to get the word out, to build markets for biochar, to showcase current projects or future possibilities, to secure funding for scaling and to encourage countries to develop biochar based decarbonization plans.