

## Institute for Governance & Sustainable Development

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## Non-CO<sub>2</sub> Agents Are Key Targets in Climate Change Fight

Bonn event emphasizes complementing  $CO_2$  cuts with reductions in black carbon, methane, and HFCs, along with bio-sequestration through biochar

Bonn, Germany – Although aggressively reducing CO<sub>2</sub> emissions remains the primary target for avoiding the long-term effects of climate change, panelists at a side event last week at the UNFCCC meetings in Bonn Germany, emphasized that the contribution of non-CO<sub>2</sub> climate forcers cannot be ignored and called for urgent action to reduce these forcers in order to avoid abrupt climate change.

"I think we sometimes forget that carbon dioxide is only half of what is causing climate change," said Cynthia Ehmes, head of delegation for the Federated States of Micronesia (FSM). Ehmes spoke at the event on behalf of Andrew Yatilman, the Director of the Office of Environment and Emergency Management for FSM. "The climate challenge is simply too immense to be solved by only addressing half of the problem."

FSM co-hosted the side event on "Targeting Non-CO<sub>2</sub> Climate Forcers for Fast Mitigation to Complement CO<sub>2</sub> Cuts" along with Sweden, and has also submitted a proposal to the UNFCCC for a Programme of Work for rapid climate mitigation. Ehmes was actively meeting with other delegates during the two weeks of negotiations in Bonn to build support for the proposal. "Acting fast is the only way to help us preserve our countries and our cultures," said Ehmes.

Not taking aggressive action means risking passing tipping points for abrupt climate change, including the collapse of the Greenland ice sheet, West Antarctic ice sheet, and the dieback of the Amazon rainforest, all of which are estimated to be approaching more quickly than anticipated. "There's no question that reducing  $CO_2$  emissions is absolutely essential and the number one target," said Durwood Zaelke, President of the Institute for Governance & Sustainable Development. "However, this does not mean we should ignore fast action strategies like reducing black carbon and HFC emissions that could help prevent near-term damage to vulnerable regions." Zaelke delivered a presentation on climate tipping points and also chaired the event.

Dr. Malte Meinshausen from the Potsdam Institute for Climate Impact Research also emphasized the importance of keeping the focus on CO<sub>2</sub>, but acknowledged the non-CO<sub>2</sub> contribution to global emissions and the need for reducing them, not only for climate but for other co-benefits as well.

Emissions of HFCs, a group of powerful short-lived greenhouse gases that can be up to 11,000 times more potent than CO<sub>2</sub> in warming the atmosphere, are quickly growing as refrigerator and air conditioner production increases.

"Phasing down HFCs under the Montreal Protocol or a similar type agreement would result in a significant amount of mitigation, in a quick and cost-effective manner," said Mack McFarland from DuPont Fluoroproducts. "To maximize climate benefits, we need to make progress now toward a global agreement on how to deal with this potent group of gases."

Zaelke added, "HFCs could be up to one-third of total climate emissions by 2040, under a CO<sub>2</sub> stabilization scenario." The Montreal Protocol ozone treaty, with its track record of 20+ years of success in phasing out over 97 percent of almost 100 ozone-depleting substances would be a possible framework for phasing down this potent greenhouse gas. Although HFCs are currently regulated under Kyoto, there are various ways that the two treaties could work together fore effective regulation. "HFC regulation under UNFCCC/Copenhagen with Montreal Protocol leveraging is a win-win situation," said Husamuddin Ahmadzai from the Swedish EPA. "The ozone treaty already possesses the necessary expertise and has a very high chance of being successful, which is the ultimate goal if we hope to avoid climate catastrophe."

The panel also discussed black carbon soot, now considered to be one of the major contributors to climate change as well as a significant threat to prominent ice masses in the Arctic and Asia; when it falls and darkens the snow and ice, the surface absorbs more heat instead of reflecting it, accelerating melting. It is also the cause of millions of pollution-related (both indoor and outdoor) deaths each year.

"While black carbon poses a serious threat to the world, the good news is that it can be reduced through fairly straightforward measures," said Dennis Clare, Senior Law Fellow at the Institute for Governance & Sustainable Development. With a very short atmospheric lifetime of several days to several weeks, black carbon is an ideal target for achieving almost immediate climate mitigation. Wider use of diesel filters in developed and developing countries and more efficient cookstoves for developing countries are two such strategies for cutting black carbon emissions.

Methane is another non-CO<sub>2</sub> short-lived climate forcer and a top contributor to climate change. "With a short atmospheric lifetime of about 12 years, methane presents an important opportunity to achieve significant near-term climate benefits," said Scott Bartos from the Climate Change Division at U.S. EPA.

In addition to these fast-action strategies, the panel discussed the potential benefits of biosequestration through biochar, charcoal produced from biomass, has the potential to permanently sequester large amounts of carbon, helping to draw down CO<sub>2</sub> concentrations. "Biochar is a very promising carbon-negative technology that could sequester a significant amount of CO<sub>2</sub> emissions if adopted globally," said Debbie Reed, Executive Director of the International Biochar Initiative. "It's another tool that we can use to help avoid the devastating effects of climate change, while improving food security by enhancing soils and crop productivity."

Faced with increasingly dire forecasts on climate, global action on these non-CO<sub>2</sub> forcers is

imperative. "We cannot overlook black carbon, HFCs, and other short-term forcers if we want to win on climate and avoid irreversible damage to the planet," said Zaelke. "These are strategies we can act on now with available technology to help pull the world back from the tipping points."

Note: presentations from this event are available on the UNFCCC side event page under "Targeting non-CO2 climate forcers for fast mitigation to complement CO2 cuts" (9 June): <a href="http://regserver.unfccc.int/seors/reports/events\_list.html">http://regserver.unfccc.int/seors/reports/events\_list.html</a>.

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