

A Special Report on Selected Side Events at the Fifteenth Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC) and Fifth Meeting of the Parties to the Kyoto Protocol (COP 15 and COP/MOP 5)

Published by the International Institute for Sustainable Development in cooperation with UNDP, UNEP, FAO, and UNFCCC

Online at <http://www.iisd.ca/climate/cop15/enbots/>



Issue #6 | UNFCCC COP 15 and COP/MOP 5 | 7-18 December 2009 | Copenhagen, Denmark | Monday, 14 December 2009

Events convened on Saturday, 12 December 2009

## Right to Sustainable Development: An Ethical Approach to Climate Change

Presented by The Energy and Resources Institute



Leena Srivastava, TERI, noted that the negotiations seem to be reaching an impasse due to different interpretations of equity, fairness and historical responsibility.

This event discussed the ethical dimensions of climate change, including a recent report from TERI, entitled "Right to Sustainable Development: An Ethical Approach to Climate Change."

During introductory remarks, Rajendra Pachauri, TERI, stressed that the right to sustainable development is increasingly important because of growing climate-induced disparities in areas such as water scarcity and food security. He called on any future agreement to explicitly target the removal of these disparities and to address inevitable impacts that will be borne by those with the least adaptive capacity.

Leena Srivastava, TERI, said the report calculates: historical and future equal per capita emission entitlements; individual countries' share in the global carbon budget; and financial obligations to a "World Climate Debt Fund" that accounts for historical responsibility. She highlighted that Annex I countries' actual emissions per human year from 1850-2010 is 13.97 tonnes of CO<sub>2</sub>, which far exceeds their calculated entitlements between 1850-2050 of 3.44 tonnes of CO<sub>2</sub> per human year.

Jennifer Morgan, World Resources Institute (WRI), stressed the need to internalize and understand climate change issues ethically, but said the per capita framework may not be the most equitable approach. She also emphasized the need for new and predictable finance.

Olav Kjørven, UNDP, stressed that we not only need a fair and equitable agreement, but that "speed is a moral imperative." He said a possible negative side effect of using a "climate debt-" based framework is that it implies that carbon is the "natural path" towards development.

Anil Markandya, Basque Centre for Climate Change (BC3): questioned whether there is enough "carbon space" for a convergence of living standards; and stressed that we need to begin planning for a transition to a zero carbon society immediately. He emphasized that the concept of justice must be invoked, not only in terms of carbon justice, but also in terms of sustainable development.

Prodipto Ghosh, TERI, discussed work that was presented during a recent workshop on historical responsibility, stressing that when considered in the context of rights to "environmental space," India and China have been part of the solution to climate change since 1850.

Participants discussed various issues related to incorporating ethical issues into climate change governance.

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## Carbon Capture and Storage (CCS): New Research Directions on Politics, Promises and Pitfalls of CCS

Presented by Lund University

This panel focused on the risks, challenges and benefits of CCS from a social science perspective. In presentations moderated by Michael Oppenheimer, Princeton University, US, panelists elaborated research from a pilot project funded by The Foundation for Strategic Environmental Research (Mistra). Karin Bäckstrand, Lund University, Sweden, outlined the project's main themes, namely: the role of CCS among other climate mitigation strategies; policy support, regulatory frameworks and social acceptability; and the international dimensions of CCS.

Heleen de Coninck, Energy Research Center, the Netherlands, provided an overview of CCS, pointing to the IPCC's 2005 CCS report for further information. She noted that while some forms of CCS are still in the research phase, others already have mature markets.

James Meadowcroft, Carleton University, Canada, presented results from a recent book, "Caching the Carbon: The Politics and Policy of Carbon Capture and Storage." He stated that CCS is not the only technological option, but that it may be critical politically to bring fossil-fuel dependent countries into the "climate coalition." Jennie Stephens, Clark University, US, described the politics of CCS learning. She cautioned that a misalignment of international community and public perceptions of CCS could lead to controversy, mistrust and skepticism, and suggested that demonstration projects should be transparent and enhance social learning.

Asbjørn Torvanger, Center for Environmental and Climate Research (CICERO), Norway, presented economic perspectives on CCS investment, focusing on: policy frameworks and public support; government investments in mitigation; the role of carbon prices in determining CCS viability; and whether CCS is "too little, too late." Philip Vergragt, Tellus Institute, US, said preliminary research findings suggest that CCS could lead to "fossil fuel lock-in." He noted that biomass CCS could help break this lock-in, although he emphasized that it should be considered a niche, rather than a central mitigation solution.



Heleen de Coninck, Energy Research Center, the Netherlands, highlighted the proliferation of international institutions around CCS.

### More information:

<http://www.ccs-politics.se>

[http://www.ipcc.ch/publications\\_and\\_data/publications\\_and\\_data\\_reports\\_carbon\\_dioxide.htm](http://www.ipcc.ch/publications_and_data/publications_and_data_reports_carbon_dioxide.htm)

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## Beyond the Deadlock: Rethinking Perspectives and Actions on Technology Diffusion

Presented by the Global Environmental Institute (GEI)

Jiaman Jin, GEI, stated that technology transfer has become embroiled in broader discussions about intellectual property rights. In response, she urged an increased focus on practical approaches to technology diffusion as a response to climate change. Douglas Whitehead, GEI, emphasized a need to provide rural energy production with short-term integrated solutions for developing mitigation options, and suggested that market mechanisms can accelerate technology diffusion.

A number of representatives from GEI then presented on various aspects of their work. They outlined, among other things, a Sri Lankan case study, which illustrated how the application of China's rural development programme related to biogas is assisting communities to mitigate climate change and generate other social and environmental benefits. They laid out the technical and financial barriers to increasing GHG-efficient light-emitting diode streetlights, and said GEI is responding by facilitating technology diffusion and partnerships.

Christine Tsang, Blue Moon Fund, introduced biochar as a means to mitigate climate change and generate multiple benefits, including reducing off-site pollution and waste, and improving soil quality. She looked ahead to carbon negative agriculture that will allow rural communities to access carbon markets. Thomas Peterson, Center for Climate Strategies, detailed how his organization is using macro-economic analysis to generate policy options, which illustrate that investment in solar power technologies and other renewable energy technologies lead to economic gains. He said State Climate Action Plans lead to technology diffusion, economic growth, job creation and income gains.

Participants discussed, among other things, China's historic GHG emissions, technology transfer to Africa, and CDM as a mechanism for facilitating technology diffusion.



Christine Tsang, Blue Moon Fund, stated that technology diffusion is critical to rapidly scaling up the implementation of biochar use.

### More information:

<http://www.geichina.org>

<http://www.blumoonfund.org>

<http://www.climatestrategies.us>

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## Biochar for Climate Mitigation and Adaptation with Food and Energy Security Benefits

Presented by the International Biochar Initiative and UNCCD

This event examined the role of biochar in dryland farming. Jim Fournier, Biochar Engineering, said the biochar community is driven by goodwill rather than corporate money, and stressed the importance of obtaining relevant information from peer-reviewed sources.

Sergio Zelaya, UNCCD Secretariat, highlighted the untapped potential of drylands for climate change mitigation and adaptation. He said the UNCCD is interested in joint collaboration to thematically assess biochar for soil enhancement in drylands.

Johannes Lehmann, Cornell University, US, provided an overview of biochar and its production. He highlighted biochar's potential benefits, noting that these vary across soils, crops and conditions. He addressed the linkages between biochar residence time in soils and the ability for biochar to yield significant emission reductions. Lehmann said there is sufficient scientific information to justify a full investigation of biochar, yet insufficient scientific information and experience for a "global roll-out," thus necessitating pilot projects with full and critical scientific monitoring, evaluation and documentation.

Guy Reinaud, Pro-Natura International, described how his organization produces biochar alongside green charcoal production in Senegal, using carbonized rice husks and reeds as inputs. He outlined preliminary results, showing that farmers growing onions and maize can increase their marginal profits by factors of 2.9-6.8 per hectare by applying biochar to their soils.

During discussions, panelists detailed how biochar can be produced at small scales, including from cooking stoves, and suggested that the benefits of carbon sequestration that result from biochar must be economically valued to demonstrate its additional value over biomass production. Participants: questioned the urgency of including biochar under the CDM; cautioned against plantations for biochar production; and questioned whether, over the short term, the benefits of biochar outweigh the emissions generated by producing it.



Johannes Lehmann, Cornell University, US, stressed the importance of developing sustainable biochar systems with full life-cycle emission reductions.

### More information:

<http://www.biochar-international.org>  
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## Mountains of the World: Addressing Climate Change Through Sustainable Mountain Development

Presented by Liechtenstein

This session highlighted the vulnerability of mountain regions and communities to climate change, and presented adaptation experiences and priorities from these regions. Felix Näsher, Liechtenstein, opened by noting his country's success with sustainable management practices in its vulnerable alpine environments. Anton Hilber, Swiss Agency for Development and Cooperation (SDC), noted that mountain regions are already experiencing the effects of climate change. Wilfried Haerberli, World Glacier Monitoring Service (WGMS), presented scientific findings of climate change impacts in alpine areas, stating that a "new science of disequilibria" is needed to model changes in the mountains. He underscored that emissions must be reduced.

Daniel Masserli, SDC, moderated the first panel, in which representatives from mountain communities in Peru, Nepal, Kyrgyzstan, Morocco and Switzerland shared their experiences with climate change and adaptation activities through statements and videos. Based on their comments that mountain communities observe changes to river levels, glaciers and agricultural productivity in their environments, several panelists emphasized that local communities have a right to know why these changes are occurring.

Gregory Greenwood, Mountain Research Initiative, moderated a second panel, where representatives from Peru, Italy and the World Bank responded to the previous panelists' comments. Eduardo Durand, Peru, emphasized the need for governments to work closely with local people and to draw on local knowledge and wisdom for coping with resource scarcity. Calling mountains a "global issue," Nicola Manduzio, Italy, noted the value of hearing experiences directly from those immediately affected by climate change. Walter Vergara, World Bank, encouraged increased capacity building, research and monitoring, and political will.

Participants discussed: technological support for adaptation efforts; interaction between science and traditional knowledge; the urgency of mitigation; and community adaptation strategies.



Francisca Angélica Canchumani Ricse, a mountain community representative from Peru, said the sacred mountains and Mother Earth, Pachamama, are sick.

### More information:

<http://www.mountainpartnership.org>  
<http://http://mri.scnatweb.ch>  
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# Livestock Sector Evolution: Trade-offs with Food, Feed and Biofuels and Solutions to Deforestation

Presented by the International Livestock Research Institute (ILRI) and National Wildlife Federation (NWF)

This event discussed the relationship between livestock and climate change, including a discussion of livestock emissions, livelihood concerns and national-level examples of livestock mitigation through avoided deforestation in Brazil.

Henning Steinfeld, FAO, opened the event, stressing that the world's poor will not be able to sustain themselves without livestock and explaining that the event would highlight the latest scientific insights and offer some thoughts on how to reduce emissions from the livestock sector.

Noting that the world's population would grow to almost nine billion people over the next 25 years, Carlos Seré, ILRI, overviewed the trade-offs associated with reducing emissions from the livestock sector. He detailed the linkage between livestock and livelihoods in developing countries, saying the sector employs at least 1.3 billion people and represents US\$1.4 trillion of global assets. Seré noted that livestock accounts for 18% of global GHG emissions, highlighting that emissions occur not only from livestock production but also from feed production and other activities in the production chain.

He described a variety of mitigation options for livestock, including: changes in demand for meat in developed countries; changes in animal species; feed alternatives; and reduced deforestation due to cattle ranch development. He concluded that: livestock presents a complex set of issues in the context of climate change; social benefits must be met along with environmental ones; and understanding trade-offs will require a "multi-currency" approach that may include things such as emissions, water and nutrients.

Noting that livestock is a complex sector that requires an integrated modeling framework, Peter Havlík, IIASA, presented a Global Biomass Optimization Model that covers forest, agriculture, bioenergy and land use sectors. On cropland, the Model estimates yields depending on different types of management and generates potential environmental effects. At a macro level, the model shows that where shifts in production methods are possible, rises in commodity prices and deforestation are minimized.

Barbara Bramble, NWF, introduced the next two speakers, noting that they would discuss Brazil's ability to promote GHG reductions from deforestation while maintaining cattle production levels.

Paulo Barreto, IMAZON, described opportunities in Brazil to reduce deforestation from cattle ranching. He detailed a recent law in his country that allows for the prosecution of people, such as retailers and banks, that fund ranchers and slaughterhouses and that purchase or support production of illegal products. He said as a result retailers have stopped buying illegal products.

Roberto Smeraldi, Amigos de Terra, reported on a study of estimated GHG emissions from cattle ranching in Brazil between 2003-2008. He said around half of Brazil's emissions come from deforestation, burning of pasture and methane emissions from herds. To mitigate the effects of cattle production, he suggested strong regulatory measures to reduce deforestation, eliminate the use of fire in agriculture and improve degraded areas. He agreed that REDD can contribute to reversing this situation.

Participants then discussed various aspects of the role of livestock in addressing climate change.



Carlos Seré, ILRI, highlighted the dramatic differences in consumption patterns between developed and developing countries, noting expected dramatic increases in milk and meat consumption patterns in years to come.

#### More information:

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Paulo Barreto, IMAZON, described opportunities in Brazil to reduce deforestation from cattle ranching, noting that transformation of the sector relies on coordination among various issues including land tenure, tracking, environmental licensing and auditing.