ENB on the side

A Special Report on Selected Side Events at the twenty-sixth sessions of the Subsidiary Bodies (SB 26) of the United Nations Framework Convention on Climate Change (UNFCCC)

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Events convened on Monday and Tuesday, 7 and 8 May 2007

Peatland degradation fuels climate change

Presented by Wetlands International and the Global Environment Centre (GEC)

Marcel Silvius, Wetlands International, explained that peatlands are the source of 8% of global carbon dioxide emissions.

Marcel Silvius, Wetlands International, outlined the drivers of peatland degradation, including the need for development, and in particular demand for biofuels including for palm oil. He suggested that addressing the degradation of peatlands calls for near-term action, and noted the cost-effectiveness of restoring peatlands in comparison to the investments currently being made to reduce carbon emissions in Europe.

Faizal Parish, Global Environment Centre, reinterated that the demand for biodiesel promotes the expansion of palm oil plantations and peatland drainage. He explained that the emissions from palm oil are substantial, particularly for palm oil produced on peatlands when considering the emissions resulting from peatland degradation. Parish encouraged, *inter alia*, improving the water and land management on existing peatland plantations and rehabilitating abandoned or degraded peatlands. He underscored the cost-effectiveness of conserving peatlands as a way of reducing carbon dioxide emissions.

Pieter van Eijk, Wetlands International, presented on alternative financial mechanisms for dealing with peat and climate issues. He highlighted the need to develop mechanisms that can target peatlands in South East Asia, noting that the Kyoto compliance market does not support the maintenance of below ground carbon sinks and that the voluntary market is still small. He outlined an envisioned wetlands, poverty and climate fund, including its potential funding sources and objectives. Emphasizing that a community-based approach would be critical to such a fund, he gave an overview of Wetlands International's "Bio-rights approach."

Participants focused their discussion on, *inter alia*, the extent of funding required to address peatland degradation, the urgency of the need for action, and how to block unsustainable biofuels.

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LULUCF projects under JI: Will they be impossible?

Presented by Joanneum Research

Bernhard Schlamadinger, Joanneum Research, highlighted land use, land-use change and forestry (LULUCF) under Joint Implementation (JI) and outlined possible project types under JI such as reducing emissions from deforestation, revegetation, and cropland, grazing land and forest management. He stressed the importance of focusing on projects that enhance carbon removal, but noted such projects are slower in sequestrating carbon.

He underlined possible projects that could improve forests management in existing forest by, e.g., enhancing regeneration, changing harvesting practices and switching to no-till management. On emissions from forestry, he noted projects on forest fire prevention and deforestation avoidance.

Schlamadinger said that LULUCF activities can either reduce emissions by addressing sources or promote removal via sinks, and explained that sinks do not always remove greenhouse gases (GHGs). He concluded that JI LULUCF projects will: start generating credits as late as 2014; depend on the ability of the country to meet JI Track 1 requirements; and depend on the ability of the country to generate removal units (RMUs).

Murray Ward, Global Climate Change Consultancy, recalled the negotiation process towards the first commitment period of the Kyoto Protocol. He noted that the Kyoto Protocol rules for JI were vague and said that JI Track 2 expanded the opportunity for good projects. He explained that the International Transaction Log (ITL) process allows for changes and improvements to be made.

Robert O'Sullivan, CLIMATEFOCUS, underscored possible legal interpretations of the Marrakesh Accords regarding JI Track 2 projects and ITL, and questioned whether the Accords allow conversion of RMUs to ERUs for LULUCF. He noted that Track 1 eligibility for JI has more requirements while Track 2 has three criteria, which are the need for: being a party to Kyoto Protocol; having calculated the country's assigned amount; and having a national registry in place for tracking the country's assigned amount. O'Sullivan noted that for accommodating JI LULUCF projects, parties need to re-examine the ITL rules and procedures.

Martin Burian, GFA Envest, outlined forest management projects in the Russian Federation. He said such projects allow for a conservative calculation of ERUs based on a solid baseline contained in forest management plans, and tackle leakage and permanence issues. Burian concluded that there is significant potential for forest projects in JI countries and they should not be bound to registered methodologies. In the ensuing discussion, participants debated: evidence of reduced deforestation and the generation of credits; submission of accounts under JI Track 2; and the need to use ERUs for LULUCF projects.

Bernhard Schlamadinger, Joanneum Research, explained options for potential LULUCF projects on Joint Implementation.

Martin Burian, GFA Envest, discussed land use, land-use change and forestry under Joint Implementation.

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L-R: Martin Burian, GFA Envest; Bernhard Schlamadinger, Joanneum Research; Murray Ward, Global Climate Change Consultancy; and Robert O'Sullivan, CLIMATEFOCUS

Connecting earth system science research to climate change policy

Presented by the Earth System Science Partnership

Carolina Vera, University of Buenos Aires, Argentina, discussed regional analysis of future climate projections. She said regional projections, based on compound information from numerous models, are needed but are limited by computing capacity. She discussed the World Climate Research Program's multi-model dataset developed for phase three of the Coupled Model Intercomparison Project (CMIP3), which was used to provide simulations for the Intergovernmental Panel on Climate Change Fourth Assessment Report. Vera said this dataset increased the reliability of projections, and provided a sound basis for the regional extreme event projections that are necessary as inputs into adaptation and planning strategies. She also discussed the techniques for refining models for local and regional projections, and the limitations of these techniques.

Hiroki Kondo, Japan Agency for Marine-Earth Science and Technology, presented on the Frontier Research Center for Global Change's involvement in developing super-high resolution models that nest regional and global models and allow for detection of biases and meaningful downscaling of climate projections. He emphasized the importance of regional projections for adaptation studies.

Ben Mathews, Université catholique de Louvain, noted that climate science and policy were currently disconnected, and emphasized the difficulty and importance of providing policymakers with information that allows them to understand the sensitivity of projections to various policy options. He underscored the need for a range of model complexities, with each level of complexity having an advantage depending on its use. Mathews presented his interactive "Java Climate Model," focused on stabilization scenarios, which aims to overcome the limitations of "back of the envelope" calculations by developing a transparent and flexible tool that is calibrated from more complex models, but also allows the user to adjust parameters and observe the changes in model outputs.

Martin Beniston, University of Geneva, Switzerland, discussed extremes in a warmer climate, with a focus on Europe and the Alps. He said that extreme events can be defined as "extreme" based on frequency, intensity and the extent of impacts, and noted the possible underlying causes and consequences of such events.

The subsequent discussion focused on how tools can incorporate the responses of extreme events to policy options, uncertainties in regional climate models, and the dangers of oversimplifying models.

Ben Mathews, Université catholique de Louvain, said that simple models can be used to explore options and risk parameters, but should not be used alone to draw conclusions.

More information:
http://www.essp.org/
http://wcrp.wmo.int
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Emission reductions from carbon capture and geological storage projects

Presented by International Petroleum Industry Environmental Conservation Association (IPIECA)

Dag Christensen, Hydro, discussed the potential for carbon dioxide capture and geological storage to contribute to climate change solutions globally. He explained that for carbon capture and storage (CCS) to become widespread, the costs need to be reduced through research and development (R&D) and policy, and that an enabling regulatory framework is needed and will require cooperation between business and government. Christensen outlined oil and gas industry experience in CCS, particularly in the arena of enhanced oil recovery, and the industry's resulting expertise in site characterization, monitoring and scientific understanding.

Karin Ritter, American Petroleum Institute, presented the Petroleum Industry Guidelines for CCS Emission Reductions. She introduced the general project guidelines, noting that their objectives were to identify, assess and develop candidate projects that would lead to credible emission reductions, and to develop a framework for assessing emission reductions associated with specific project families. Focusing in CCS in particular, she gave an overview of the CCS chain of processes, how to consider candidates for baseline scenarios, the concept of assessment boundary, and illustrative projects. Outlining the many monitoring techniques, she said that monitoring for CCS was important for risk assessment and in establishing the avoided amount

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More information:
http://www.ipieca.org
http://www.geocapacity.eu
http://www.gestco.eu
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Emission reductions from carbon capture and geological storage projects

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of greenhouse gas emissions, and that monitoring must be tailored to site specific characteristics.

Thomas Vangkilde-Pedersen, Geological Survey of Denmark and Greenland, discussed the state of knowledge regarding geological storage of carbon dioxide. He gave a brief overview of the options for geological storage, as outlined by the International Energy Agency Greenhouse Gas R&D Programme (IEA GHG), including unmined coal seams, depleted oil and gas fields and deep saline aquifers. He then summarized IEA GHG's conclusion that sufficient capacity existed to stabilize emissions but that additional efforts were needed to quantify storage capacity and to establish the integrity of deep saline aquifers. He also outlined efforts to map geological storage, focusing on efforts in Europe and noting that the result is maps that can be used for planning purposes and can enable "source-and-sink matching." Further, he emphasized that such mapping efforts must be accompanied by clear information regarding the level of detail entailed, and which of the different assessment types - theoretical, effective, practical or matched – were reflected by estimates.

Participants discussed the reactivity of carbon dioxide underground, and whether this indicated a declining potential for seepage, the costs implied by CCS and how they vary with the type of project under consideration, and whether the degree of acceptable risk was a scientific or a political consideration.

Karin Ritter, American Petroleum Institute, emphasized that in computing the net emissions reduction of CCS projects, one should consider emissions along the entire chain of processes.

Positive incentives to reduce emissions from deforestation

Presented by the University of East Anglia

Bernardo Strassburg, Centre for Social and Economic Research on the Global Environment (CSERGE), University of East Anglia, the UK, outlined the development of a new compensation mechanism that deals with analysis of deforestation incentives, including of the local, national and global benefits provided by forests.

He noted his research used 14 case studies that compare ecosystem benefits with benefits from alternative activities and classified these ecosystem benefits according to whether they are local, national or global. From examining these case studies, he concluded that when global benefits of the ecosystem are included in the analysis, the analysis favors conservation activities. Strassburg underscored that, for developed countries, conservation provides superior benefits even when only national ecosystem benefits are considered. For developing countries, he highlighted that national ecosystem benefits are still inferior to those from alternative uses, but that when global benefits are considered the balance tilts towards conservation. He said that if a country stays in the global equilibrium point, the country would lose, but the international community would gain from conservation. He pointed to the potential for a win-win solution if the international community compensates a given country in an amount between what the country would lose and what the international community would win. He showed an example of the "cross-scale dynamic approach" for the Brazilian Amazon and noted that the compensation mechanism aims to fix the scale-mismatch between natural and human systems by internalizing part of the global benefits provided by the ecosystem.

Strassburg concluded that positive incentives could, *inter alia*: connect the incentive paid by the international community to an actual reduction in emissions from deforestation and curb deforestation rates; attract the necessary funding; be "leakage proof," since assessment at the global level would guarantee that an emission reduction in one place would not be compensated by an emission increase elsewhere; avoid the need for historical national baselines; and foster positive behavior in developing countries.

Participants debated the calculation of conservation costs, the generation of "willingness to pay" estimates, and the use of the mechanism to compensate local communities rather than private landowners.

In answering one participant's concern about the possibility of the incentives causing a shortage of timber products, raising timber price, and thus increasing deforestation, Strassburg said that in the Brazilian case, he accounted for the production of timber in a sustainable way to meet demand for such products.

Bernardo Strassburg, CSERGE Researcher, University of East Anglia, said the compensation mechanism turns the forest sector into the first "leakage proof" sector under the UNFCCC.

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