CLIM-FO Climate Change & Forestry

Electronic Journal and Newsletter **April/2011**

FAO, Forest Management Division, Forest and Climate Change Team
Food and Agriculture Organization of the United Nations

CONTENTS

I. IN THE PRESS

27 April 2011 Nature

Seeing REDD

As 'REDD' projects to protect forests in developing countries gain pace, campaigners and other groups representing indigenous peoples have warned that the plans could offer little benefit to local communities that depend on the forests for their livelihoods.

20 April 2011 Mongabay

Forest carbon map released for the US

The Woods Hole Research Center (WHRC) has released the first hectare-scale map displaying aboveground woody biomass and forest carbon in US forests. The map, which also shows canopy heights, is known as the National Biomass and Carbon Dataset (NBCD).

18 April 2011 The Jakarta Post

Indonesian Ministry launches REDD website

Forestry Minister Zulkifli Hasan launched on Monday Indonesia's official Reducing Emissions from Deforestation and Forest Degradation (REDD) program website.

18 April 2011 Mongabay

Tropical countries aim for global forest pact

Representatives from more than 30 countries are expected to hammer out a formal agreement for future discussions on forest and climate issues when they meet next month in the Republic of Congo, reports the Wildlife Conservation Society

17 April 2011 Reuters

Sugarcane grown for fuel cools Brazil's climate

Sugarcane grown to power Brazil's cars and trucks as an alternative to climate-warming fossil fuels has a beneficial side effect: it also cools the local air temperature, scientists reported Sunday. Researchers warned that this does not mean replacing Amazon forest or other natural vegetation with sugarcane fields.

14 April 2011

Pro-deforestation group calls for weakening of U.S. law against illegal logging

A group that lobbies on behalf of forestry conglomerates in Indonesia and Malaysia is calling on the U.S. to roll back legislation intended to fight illegal logging.

12 April 2011 Scientific American

Looking down on deforestation: Brazil sharpens its eyes in the sky to snag illegal rainforest loggers

After reaching the lowest Amazon deforestation rate ever recorded, Brazil faces a its next hurdle: how to maximize the increasing resolution of satellite images to monitor small-scale forest destruction.

5 April 2011 Bretton Woods

World Bank ignoring forest communities?

The World Bank has come under fire for its Inspection Panel's decision not to investigate its forestry sector programme in Liberia, while new reports from civil society groups add to the backlog of criticism over the Bank's Forest Carbon Partnership Facility (FCPF).

4 April 2011 Transparency International

Are climate change measures corruption-proof?

Transparency International launches the Global Corruption Report: Climate Change, a comprehensive guide to corruption risks in measures to combat climate change. With no less than US$100 billion per year earmarked for climate change mitigation and adaptation from 2012-2020, this landmark publication highlights potential corruption red flags for policy makers and civil society.

1 April 2011 The Guardian

A historic move in the battle to save tropical rainforests

This week a further historic step is taken in the battle to hang on the world's remaining tropical rainforests. It is unlikely to make too many headlines, but on Friday two countries will take forward the kind of arrangement that many have talked about but few have had the boldness to actually do.

1 April 2011 Jakarta Post

Curb on Forest Use May Cost 3.5 Million New Jobs a Year

International aid programs intended to curb the expansion of forest-related industries in Indonesia will likely deprive the country of an opportunity to create 3.5 million new jobs annually and reduce export revenues, a new report claims.

II. UNFCCC NEGOTIATIONS AND RELATED DISCUSSIONS

United Nations Framework Convention on Climate Change

The first climate change talks after the Cancun meeting took place from 3–8 April 2011. The talks included the 16th session AWG-KP, the 14th session of the AWG-LCA 14 as well as workshops related to the Cancun Agreements. The one week meeting was the first part of the three week inter-sessional meeting that will continue 6 - 17 June 2011 in Bonn, Germany. The results will be taken to the meetings in Durban, South Africa 28 November – 9 December 2011, including the 17th Conference of the Parties.

The key outcome of the meeting in Bangkok was a road map for this year's UN climate change negotiations that will serve as a guideline for the working groups. The roadmap was adopted in the last minutes of the meeting. Executive secretary Ms. Figueres said "Parties to the UN Climate Change Convention agreed to an agenda to work towards a comprehensive and balanced outcome at the UN Climate Change Conference in Durban at the end of the year,"

Key issues discussed during the week was the future of the Kyoto Protocal as well as how to move on in the implementation of the Cancun Agreements. During the week developing countries put a stronger emphasis on resolving issues not agreed in Cancun, including the future of the Kyoto Protocol.

For the past three years, UNFCCC has been engaged in parallel-track negotiations under two *ad-hoc* working groups. One addresses actions of all Parties under the Convention, including on climate change mitigation, adaptation, financing, capacity building and technology transfer. The other focuses on further emission reduction commitments of Annex 1 countries under the Kyoto Protocol. The goals are to advance collective efforts to limit global warming to within 2° C above pre-industrial levels to avoid severe consequences of climate change and to promote adaptation to the inevitable consequences of climate change.

Issues related to forests

During the Bangkok meeting, issues on forest were discussed only behind closed doors and no major outcome was reported. Below please find the status on forest issues as they were after the December 2010 meeting in Cancun.

The issues addressed at Cancun focused on forests in particular were REDD+, forest management accounting rules for Annex 1 countries under the Kyoto Protocol, and discussions of including "forests in exhaustion" under the CDM.

REDD

The long-awaited decision on REDD+, under discussion for the past five years, confirms the scope of REDD+: reducing emissions from deforestation; reducing emissions from forest degradation, conservation of forest carbon stocks, sustainable management of forest; and enhancement of forest carbon stocks and outlines principles as well as safeguards against negative social and environmental impacts of REDD+ actions. Countries are requested to develop national strategies and action plans for REDD+, a national/sub-national forest (emissions) reference level(s), a national forest monitoring system for the monitoring and reporting on REDD+ activities, and a system for providing information on how the safeguards are being addressed and respected. A phased approach – from strategy development to pilot activities and finally to results-based actions – is adopted. SBSTA is requested to work on methodological issues on REDD+, including on methods to estimate emissions and removals from REDD+ activities and modalities for developing forest reference (emission) levels and a national forest monitoring system for monitoring and reporting on REDD+ activities and to report to COP17. The question of the REDD+ financing modality (e.g. fund-based, market-based or a mix) remains unresolved. The *ad-hoc* expert group will continue to discuss this and will report to COP17.

LULUCF

Agreement on revised LULUCF accounting rules for the second commitment period of the KP could influence the level of ER commitments Annex 1 Parties' are willing to make. The key issue is accounting rules for forest management, reporting on which was optional under the first commitment period. Agreement on this remains elusive. The areas of debate include whether a cap should be applied to emissions and removals from forest management, if and how emissions from extraordinary occurrences ("force majeure") would be accounted,

how to set a baseline or forest reference (emissions) level and how to factor out changes in forest carbon stocks not caused by human intervention. Allowing more offsets from forest management could provide the *ad-hoc* working group on the Kyoto Protocol will work to over the coming year to try to reach agreement on the rules for accounting for forest management.

The discussions under the KP negotiation track on carbon accounting rules for forest management -- a complex and controversial issue – have stimulated debates on what constitutes good forest management and how to incentivize it. Of relevance to the climate change community is how forests could contribute more to climate change mitigation; while of interest to foresters is whether incentives for better forest management will be forthcoming as a result of climate change decisions.

CDM

Discussions continued in SBSTA on the suggestion, tabled in the negotiations in Bonn in June, of the possible inclusion in the Clean Development Mechanism the replanting or restoration of "forests in exhaustion", i.e. forests no longer productive. SBSTA invited parties to submit by 28 March 2011 their views on the implications of including forests in exhaustion under the CDM. The SBSTA also requested the Secretariat to prepare a synthesis report of these views, and will continue considering the issue at SBSTA 35 in a year's time.

Summary after Cancun

In summary, forests figured prominently at Cancun in the negotiations and in events on the margin of the negotiations. There was huge political support for a REDD+ decision. Work on REDD+ is already going ahead on the ground, as evidenced by the many side events on REDD+ pilot activities supported by NGOs, bilateral agencies and multilateral partnerships (including UN-REDD and the Forest Carbon Partnership Facility). There were signs in Cancun that it was becoming clearer to those in the climate change community – a fact already well understood by the forestry community -- that forestry in general and REDD+ in particular is not necessarily an easy, fast and cheap mitigation option, as claimed by the Stern Review. Resolving conflicts and divergent priorities for managing forests, getting governance right, alleviating poverty, addressing drivers of deforestation from outside the sector, and developing robust monitoring, reporting and verification systems are some of the challenges facing REDD+ implementation. On the other hand, successful REDD+ programmes will bring additional livelihood benefits for forest dwellers and forest communities, for forest biodiversity, and for those who depend on forest ecosystem services.

The importance of forests to climate change mitigation has clearly raised the political profile of forests. The crucial role that forests play in climate change adaptation and in rural livelihoods has not yet received the same degree of attention, but this can be expected to come.

III. EVENTS & MEETINGS

Afforestation and Reforestation CDM Project Activities Working Group

9-11 May 2011, Bonn, Germany

The working group on afforestation and reforestation CDM project activities (A/R WG) was established to prepare recommendations on submitted proposals for new baseline and monitoring methodologies for A/R CDM project activities. The working group is expected to work in cooperation with the Meth Panel. More.

Summit of the Tropical Forest Basins

31 May, 2011 Brazzaville, Congo

This Summit aims to ensure sustainable management of forest ecosystems and to contribute to climate regulation by: establishing baseline data on the forest resources of the Basins (Amazon, Congo, and Borneo-Mekong); establishing a formal platform for mutual consultation and exchange on forest and environmental issues by signing a framework agreement between the Basins; and developing a shared position on REDD+ and the climate change agreement before COP 17. More.

Oslo REDD Exchange 2011

23–24 June, 2011, Oslo, Norway

The key target groups for the Oslo REDD Exchange 2011 are REDD+ practitioners and technical experts, the scientific community, non-governmental organizations and international organizations that are directly involved in "making REDD+ work". The Exchange will be informal and participants will attend in their personal capacities. We aim to ensure effective, open and transparent professional communication and exchange of views. The main focus of the workshop will be on modalities for ensuring that the most important cross-cutting issues are addressed in the most efficient way in REDD+ implementation globally. More.

UNFCCC Subsidiary Bodies

6-17 June 2011 Bonn, Germany

Sessions of SBSTA, SBI and the AWG-KP and AWG-LCA. More.

FAO European Forestry Commission and UNECE Timber Committee

10-14 October 2011, Antalya, Turkey

Six Regional Forestry Commissions were established by the FAO Conference between 1947 and 1959. Every two years, the Commissions bring together the Heads of Forestry in each major region of the world to address the most important forestry issues in the region. More.

FAO Asia-Pacific Forestry Commission

7-11 November 2011, Beijing, China

The Asia-Pacific Forestry Commission (APFC) is one of six FAO Regional Forestry Commissions that cover the world's major geographic regions. The APFC is a forum for advising and taking action on key forestry issues. It focuses on issues pertinent to Asia and the Pacific, a region characterized by its diversity and rapid changes, This year's theme is "New challenges – new opportunities". More.

Asia Pacific Forestry Week

7-11 November 2011, Beijing, China.

The Second Asia-Pacific Forestry Week, promises to be the most significant forestry event of the year in the Asia-Pacific region. More details will be available soon on the website of the Asia-Pacific Forestry Week. More.

IV. RESEARCH ARTICLES

Life cycle assessment tool for estimating net CO2 exchange of forest production

Antti Kilpelainen, Ashraful Alam, Harri Strandman and Seppo Kellomaki

GCB Bioenergy (2011), doi: 10.1111/j.1757-1707.2011.01101.x

The study describes an integrated impact assessment tool for the net carbon dioxide (CO_2) exchange in forest production. The components of the net carbon exchange include the uptake of carbon into biomass, the decomposition of litter and humus, emissions from forest management operations and carbon released from the combustion of biomass and degradation of wood-based products. The tool enables the allocation of the total carbon emissions to the timber and energy biomass and to the energy produced on the basis of biomass. In example computations, ecosystem model simulations were utilized as an input to the tool. We present results for traditional timber production (pulpwood and saw logs) and integrated timber and bioenergy production (logging residues, stumps and roots) for Norway spruce, in boreal conditions in Finland, with two climate scenarios over one rotation period. The results showed that the magnitude of management related emissions on net carbon exchange was smaller when compared with the total ecosystem fluxes; decomposition being the largest emission contributor. In addition, the effects of management and climate were higher on the decomposition of new humus compared with old humus. The results also showed that probable increased biomass growth, obtained under the changing climate (CC), could not compensate for decomposition and biomass combustion related carbon loss in southern Finland. In our examples, the emissions allocated for the energy from biomass in southern Finland were 172 and 188 $kgCO_2MWh_{-1}$ in the current climate and in a CC, respectively, and 199 and 157 kg CO_2MWh_{-1} in northern Finland. This study concludes that the tool is suitable for estimating the net carbon exchange of forest production. The tool also enables the allocation of direct and indirect carbon emissions, related to forest production over its life cycle, in different environmental conditions and for alternative time periods and land uses. Simulations of forest management regimes together with the CC give new insights into ecologically sustainable forest bioenergy and timber production, as well as climate change mitigation options in boreal forests.

Forests and Climate Change in Latin America: Linking Adaptation and Mitigation

Bruno Locatelli, Vanessa Evans, Andrew Wardell, Angela Andrade and Raffaele Vignola

Forests 2011, 2, 431-450; doi:10 . 3390/f2010431

Climate change can be addressed by mitigation (reducing the sources or enhancing the sinks of greenhouse gases) and adaptation (reducing the impacts of climate change). Mitigation and adaptation present two fundamentally dissimilar approaches whose differences are now well documented. Forest ecosystems play an important role in both adaptation and mitigation and there is a need to explore the linkages between these two options in order to understand their trade-offs and synergies. In forests, potential trade-offs can be observed between global ecosystem services, such as the carbon sequestration relevant for mitigation, and the local ecosystem services that are relevant for adaptation. In addition, mitigation projects can facilitate or hinder the adaptation of local people to climate change, whereas adaptation projects can affect ecosystems and their potential to sequester carbon. Linkages between adaptation and mitigation can also be observed in policies, but few climate change or forest policies have addressed these linkages in the forestry sector. This paper presents examples of linkages between adaptation and mitigation in Latin American forests. Through case studies, we investigate the approaches and reasons for integrating adaptation into mitigation projects or mitigation into adaptation projects. We also analyze the opportunities for mainstreaming adaptation–mitigation linkages into forest or climate change policies.

Climate change and forest diseases

Sturrock, R. N. Frankel, S. J. Brown, A. V. Hennon, P. E. Kliejunas, J. T. Lewis, K. J. Worrall, J. J. Woods, A. J.

Plant Pathology. 2011. 60: 1, 133-149

As climate changes, the effects of forest diseases on forest ecosystems will change. We review knowledge of relationships between climate variables and several forest diseases, as well as current evidence of how climate, host and pathogen interactions are responding or might respond to climate change. Many forests can be managed to both adapt to climate change and minimize the undesirable effects of expected increases in tree mortality. We discuss four types of forest and disease management tactics - monitoring, forecasting, planning and mitigation - and provide case studies of yellow-cedar decline and sudden aspen decline to illustrate how forest diseases might be managed in the face of climate change. The uncertainties inherent to climate change effects can be diminished by conducting research, assessing risks, and linking results to forest policy, planning and decision making.

Quantifying the effects of forest management strategies on the production of forest values: timber, carbon, oxygen, water, and soil.

Baskent, E. Z. Keles, S. Kadogullar, A. I. Bingol, O.
Environmental Modeling & Assessment. 2011. 16: 2, 145-152. 24 ref.

Forest management practices alter forest structure quantified with ecosystem characteristics and values. In this paper, we utilized a forest management simulation model to assess the effects of three forest management strategies focusing on timber production, carbon sequestration, oxygen production, soil erosion, and water production of a forest management unit in Turkey. A forest simulation model "ETCAPSimulasyon" was developed and used to project forest ecosystem development over 100 years under three forest management policies of timber-oriented forest management (TFM), multipurpose forest management (MFM), and no intervention (NI). The results showed that TFM strategy produced more timber and its net present value than MFM and NI strategies did. The amount of carbon sequestration and oxygen production potential was also found to be the highest with TFM strategy than with the MFM and NI strategies. Compared with the other strategies, however, NI strategy produced the highest amount of water production and soil losses over the planning horizon. The effects of a forest management strategy depend mainly on the initial forest structure, the rate of development and the level of forest management interventions. Therefore, forest dynamics under various management strategies should be explained before the final management decision. Understanding long-term effects of any management strategies on forest structure will provide the basis for better reaching the management objectives.

Spatial and temporal land use and carbon stock changes in Uganda: implications for a future REDD strategy

Nakakaawa, C. A. Vedeld, P. O. Aune, J. B.
Mitigation and Adaptation Strategies for Global Change. 2011. 16: 1, 25-62

Using a map overlay procedure in a Geographical Information System environment, we quantify and map major land use and land cover (LULC) change patterns in Uganda period 1990-2005 and determine whether the transitions were random or systematic. The analysis reveals that the most dominant systematic land use change processes were deforestation (woodland to subsistence farmland - 3.32%); forest degradation (woodland to bushland (4.01%) and grassland (4.08%) and bush/grassland conversion to cropland (5.5%)) all resulting in a net reduction in forests (6.1%). Applying an inductive approach based on logistic regression and trend analyses of observed changes we analyzed key drivers of LULC change. Significant predictors of forest land use change included protection status, market access, poverty, slope, soil quality and presence/absence of a stream network. Market access, poverty and population all decreased the log odds of retaining forests. In addition, poverty also increased the likelihood of degradation. An increase in slope decreased the likelihood of deforestation. Using the stock change and gain/loss approaches we estimated the change in forest carbon stocks and emissions from deforestation and forest degradation. Results indicate a negligible increase in forest carbon stocks (3,260 t C yr-1) in the period 1990-2005 when compared to the emissions due to deforestation and forest degradation (2.67 million t C yr-1). In light of the dominant forest land use change patterns, the drivers and change in carbon stocks, we discuss options which could be pursued to implement a future national REDD plus strategy which considers livelihood, biodiversity and climate change mitigation objectives.

Forest bioenergy or forest carbon? Assessing trade-offs in greenhouse gas mitigation with wood-based fuels

McKechnie, J. Colombo, S. Chen JiaXin Mabee, W. MacLean, H. L.
Environmental Science & Technology. 2011. 45: 2, 789-795.

The potential of forest-based bioenergy to reduce greenhouse gas (GHG) emissions when displacing fossil-based energy must be balanced with forest carbon implications related to biomass harvest. We integrate life cycle assessment (LCA) and forest carbon analysis to assess total GHG emissions of forest bioenergy over time. Application of the method to case studies of wood pellet and ethanol production from forest biomass reveals a substantial reduction in forest carbon due to bioenergy production. For all cases, harvest-related forest carbon reductions and associated GHG emissions initially exceed avoided fossil fuel-related emissions, temporarily increasing overall emissions. In the long term, electricity generation from pellets reduces overall emissions relative to coal, although forest carbon losses delay net GHG mitigation by 16-38 years, depending on biomass source (harvest residues/standing trees). Ethanol produced from standing trees increases overall emissions throughout 100 years of continuous production: ethanol from residues achieves reductions after a 74 year delay. Forest carbon more significantly affects bioenergy emissions when biomass is sourced from standing trees compared to residues and when less GHG-intensive fuels are displaced. In all cases, forest carbon dynamics are significant. Although study results are not generalizable to all forests, we suggest the integrated LCA/forest carbon approach be undertaken for bioenergy studies.

Forest sector carbon management, measurement and verification, and discussion of policy related to climate change

Law, B. E. Harmon, M. E.

Carbon Management. 2011. 2: 1, 73-84.

The objective of this review is to give ecologists, land managers and policy makers a better understanding of important issues related to forest sector carbon management, measurement and verification, as well as policy related to mitigation and the adaptation of forests to climate change. The focus is on carbon sequestration processes; appropriate measurements for international, regional and local scale assessment of net ecosystem carbon balance; and life cycle analysis, with special attention given to the concept of substitution of fossil fuels with bioenergy from forests. Given the slow dynamic of forest carbon, life cycle analysis needs to account for pre-existing forest conditions, since carbon neutrality (i.e., net ecosystem carbon balance of forests is zero) can take at least a century to achieve in many cases. The substitution of wood for more energy-intensive materials has probably been overestimated compared with cases in which additionality, permanence and saturation of wood building stores are considered. GHG emission policies will need to account for emissions associated with bioenergy, which is currently not considered internationally. Thus, GHG emissions resulting from substitution for fossil fuels will have to be more accurately represented if their true impact is to be understood.

A macroeconomic analysis of adaptation to climate change impacts on forests in India

Aaheim, Asbjcirn Gopalakrishnan, Ranjith Chaturvedi, Rajiv Kumar Ravindranath, N. H. Sagadevan, Anitha D. Sharma, Nitasha Wei, Taoyuan

Mitigation and adaptation strategies for global change. 2011 Feb. 16(2) p. 229-245.

We examine the potential for adaptation to climate change in Indian forests, and derive the macroeconomic implications of forest impacts and adaptation in India. The study is conducted by integrating results from the dynamic global vegetation model IBIS and the computable general equilibrium model GRACE-IN, which estimates macroeconomic implications for six zones of India. By comparing a reference scenario without climate change with a climate impact scenario based on the IPCC A2-scenario, we find major variations in the pattern of change across zones. Biomass stock increases in all zones but the Central zone. The increase in biomass growth is smaller, and declines in one more zone, South zone, despite higher stock. In the four zones with increases in biomass growth, harvest increases by only approximately 1/3 of the change in biomass growth. This is due to two market effects of increased biomass growth. One is that an increase in biomass growth encourages more harvest given other things being equal. The other is that more harvest leads to higher supply of timber, which lowers market prices. As a result, also the rent on forested land decreases. The lower prices and rent discourage more harvest even though they may induce higher demand, which increases the pressure on harvest. In a less perfect world than the model describes these two effects may contribute to an increase in the risk of deforestation because of higher biomass growth. Furthermore, higher harvest demands more labor and capital input in the forestry sector. Given total supply of labor and capital, this increases the cost of production in all the other sectors, although very little indeed. Forestry dependent communities with declining biomass growth may, however, experience local unemployment as a result.

Forest policies and programs affecting vulnerability and adaptation to climate change

Afreen, Shamama Sharma, Nitasha Chaturvedi, Rajiv K. Gopalakrishnan, Ranjith Ravindranath, N. H.

Mitigation and adaptation strategies for global change. 2011 Feb. 16(2) p. 177-197.

Due to large scale afforestation programs and forest conservation legislations, India's total forest area seems to have stabilized or even increased. In spite of such efforts, forest fragmentation and degradation continues, with forests being subject to increased pressure due to anthropogenic factors. Such fragmentation and degradation is leading to the forest cover to change from very dense to moderately dense and open forest and 253 km2 of very dense forest has been converted to moderately dense forest, open forest, scrub and non-forest (during 2005-2007). Similarly, there has been a degradation of 4,120 km2 of moderately dense forest to open forest, scrub and non-forest resulting in a net loss of 936 km2 of moderately dense forest. Additionally, 4,335 km2 of open forest have degraded to scrub and non-forest. Coupled with pressure due to anthropogenic factors, climate change is likely to be an added stress on forests. Forest sector programs and policies are major factors that determine the status of forests and potentially resilience to projected impacts of climate change. An attempt is made to review the forest policies and programs and their implications for the status of forests and for vulnerability of forests to projected climate change. The study concludes that forest conservation and development policies and programs need to be oriented to incorporate climate change impacts, vulnerability and adaptation.

The European wood pellet markets: current status and prospects for 2020

Sikkema, R., Steiner, M., Junginger, M., Hiegl, W., Hansen, M. T. and Faaij, A.

Biofuels, Bioproducts and Biorefining, 5: n/a. doi: 10.1002/bbb.277

The wood pellet market is booming in Europe. The EU 2020 policy targets for renewable energy sources and greenhouse gas (GHG) emissions reduction are among the main drivers. The aim of this analysis is to map current European national wood pellet demand and supplies, to provide a comprehensive overview of major market types and prices, and to discuss the future outlook in light of raw material supply. Approximately 650 pellet plants produced more than 10 million tonnes of pellets in 2009 in Europe. Total European consumption was about 9.8 million tonnes, of which some 9.2 million tonnes is within the EU-27, representing a modest 0.2% of Gross Energy Consumption (75 EJ level in 2008). The prices of most pellet types are increasing. While most markets of non-industrial pellets are largely self-sufficient, industrial pellet markets depend on the import of wood pellets from outside the EU-27. Industrial pellet markets are relatively mature, compared to non-industrial ones, because of their advanced storage facilities and long-term price-setting. However, industrial pellet markets are unstable, depending mainly on the establishment or the abolishment of public support schemes. Following our scenarios, additional 2020 demand for woody biomass varies from 105 million tonnes, based on market forecasts for pellets in the energy sector and a reference growth of the forest sector, to 305 million tonnes, based on maximum demand in energy and transport sectors and a rapid growth of the forest sector. Additional supply of woody biomass may vary from 45 million tonnes from increased harvest levels to 400 million tonnes after the recovery of slash via altered forest management, the recovery of waste wood via recycling, and the establishment of woody energy plantations in the future. Any short-term shortages within the EU-27 may be bridged via imports from nearby regions such as north west Russia or overseas.

V. PUBLICATIONS, REPORTS AND OTHER MEDIA

The context of REDD+ in Brazil: drivers, agents, and institutions

CIFOR

As part of CIFOR's 4-year Global Comparative Study on REDD+, nine countries in the study are being profiled at the national level to understand the contextual conditions that effect REDD+ policies. The publication.

Forests and climate change after Cancun

FAO and RECOFTC

After an expert consultation in February 2011 FAO and RECOFTC have published a booklet on the Asia-Pacific perspective on forests and climate change after the Cancun. Covered are REDD, and the role of conservation, sustainable management of forests and enhancement of carbon stocks; land use, land-use change, forestry; and the Green Climate Fund. The publication.

Standards and methods available for estimating project-level REDD+ carbon benefits

CIFOR

The aim of this reference guide is to identify and recommend best practices and methodological guidance to project developers on how to design robust methodologies to account for the carbon benefits of project activities included under the REDD+ umbrella. The guide.

REDD-plus Benefits: Biodiversity and Livelihoods

This brochure demonstrates how measures and policies can be shaped to simultaneously address climate change, biodiversity loss and poverty. It identifies opportunities for synergies and mutual enhancement of the objectives of international agreements, particularly the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD), as well as decisions taken by the United Nations (UN) General Assembly following the recommendations of the UN Forum on Forests (UNFF). More.

Estimating the Opportunity Costs of REDD+

FCPF and WBI

This training manual shares hands-on experiences from field programs and presents the essential practical and theoretical steps, methods and tools to estimate the opportunity costs of REDD+ at the national level. REDD stands for Reducing Emissions from Deforestation and forest Degradation. REDD+ additionally includes conservation, sustainable management of forests and enhancement of carbon stocks in developing countries. The manual.

The clean development mechanism: a review of the first international offset program

Pew Center

This paper compares and evaluates the CDM against standard criteria for high-quality offsets and reviews lessons learned, institutional changes that have been made, and ongoing challenges. The report.

REDD-plus paper for Bangkok climate change meeting

FIELD

A briefing paper on REDD-plus made ahead of the April UN climate change meeting in Bangkok. The aim of the paper is to assist developing country negotiators who are working on REDD-plus. The paper.

Guide for REDD-plus Negotiators – updated

FIELD

The purpose of this guide is to assist developing country negotiators and others who are working on REDD-plus. This is an updated version of the guide that was released in October 2010. The guide.

VI. JOBS

Forest and Carbon Monitoring Consultant (f/m)

Oesterreichische Bundesforste (Austrian Federal Forests)

The international consulting division of Österreichische Bundesforste AG (Austrian Federal Forest Joint Stock Company) is searching for an international "Forest and Carbon Monitoring Consultant", based in Purkersdorf near Vienna, Austria. The main tasks are: further development of forest carbon services, conduct international short-term and medium-term missions, preparation of studies and reports; data analysis and market research, preparation of project proposals and technical offers, networking with partners, clients, associated experts and relevant stakeholders. Link to the job description: **www.oebfconsulting.at/index.php?id=358**

Scientist, Global Comparative Study on REDD+

CIFOR

The Scientist's work will be integrated and supported by the GCS-REDD+ national REDD+ strategies component and will be attached to the Forests and Governance Programme. The Scientist will be responsible to the programme director and under the immediate supervision of the component leader. More.

Scientist, REDD-Carbon Monitoring

CIFOR

The Scientist will undertake a comparative research project on carbon monitoring in countries participating in REDD. More.

Natural Resources Officer, UN-REDD Secretariat

FAO

The officer will support the work of the UN-REDD Programme Secretariat, support the implementation and further development of the UN-REDD Global Programmes; facilitate the coordination and monitoring of inputs, activities and workplans of the UN Agencies for the implementation of the Global Programme etc. More.

VII. ANNOUNCEMENTS

Climate Change and Development - Scholarship for Commonwealth nationals

University of Sussex

Full scholarship for MSc in Climate Change and Development at University of Sussex/Institute for Development Studies, UK A full scholarship funded through the 'Commonwealth Shared Scholarship' scheme is available for applicants to the MSc in Climate Change and Development programme for entry October 2011. More.

"Planet Change" Highlights REDD, People and Climate Change Connections

The Nature Conservancy

Planet Change is a new blog designed to share stories about actions to fight carbon pollution, address impacts of climate change and help people see the connections between climate change and their daily lives. The blog.

Building REDD+ Capacity in Developing Countries

IISD/ASB-ICRAF

The International Institute for Sustainable Development (IISD) has partnered with the Alternatives to Slash and Burn Partnership for the Tropical Forest Margins at the World Agroforesty Centre (ASB-ICRAF) to build capacity for REDD+ negotiators and stakeholders in Africa and Asia, with a focus on countries with UN-REDD programs. The project aims to increase understanding of the REDD+ negotiations and provide information on experiences in the forestry sector to lay the technical and policy foundations for better REDD+ programs. The project encourages South-South exchange of information on REDD+, including this web-based platform, which enables sharing of knowledge and resources. The platform.

Forest Carbon Asia Launch Announcement

Forest Carbon Asia

The website aims to serve as an information and resource hub for forest carbon/REDD+ in Asia providing current news and views from the media, a categorized library of relevant publications, vacancy and event announcements, directories of forest carbon players and links to other useful resources for convenient reference and networking. It also provides regularly-updated synopses of the science, current global policy and financing developments, projects on the ground and quality standards. Website.

UN forms partnership with Mediterranean countries to save region's forests

FAO

In an effort to save forests in the Mediterranean region from damage exacerbated by the impact of climate change, the United Nations Food and Agriculture Organization (FAO) has formed a partnership that will tackle the threats facing the woodlands and draw attention to their value. The partnership brings together 12 institutions and organizations, including FAO, and will focus primarily on six countries in the southern and eastern Mediterranean – Morocco, Algeria, Tunisia, Syria, Lebanon and Turkey, the agency announced during the second Mediterranean Forest Week. More.

CLIM-FO INFORMATION

The **objective** of CLIM-FO-L is to compile and distribute recent information about climate change and forestry. CLIM-FO-L is issued monthly. Past issues of CLIM-FO-L are available on the website of ***FAO Forest and Climate Change***:

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The Newsletter is compiled by Jesper Tranberg and Susan Braatz.

We appreciate any comments or feedback.