



Contents lists available at ScienceDirect

Ecological Economics

journal homepage: www.elsevier.com/locate/ecocon

Book review

Climate Change and Forests, Emerging Policy and Market Opportunities, C. Streck, R. O'Sullivan, T. Janson-Smith, R. Tarasofsky (Eds.), Chatham House, Brookings Institution Press (2008), 346 pp. ISBN 978-0-8157-8192-9

The interest in using market-based mechanisms for the conservation of ecosystems and the services that they provide to human well-being has been steadily growing. By converting the beneficiaries of ecosystem services (e.g. electric power companies, water distribution companies, or tourists) into buyers of these services, incentives for the preservation of valuable ecosystems are offered to landowners and land users. The ecosystem services of the global forests are precious, but most of them have (due to their character as part of the global commons) been neither formally defined, nor quantified, nor priced. An outstanding service of forest ecosystems is their ability to regulate greenhouse gases by storing large amounts of carbon in soils and vegetation. But forests are facing deforestation and degradation in many parts of the world. Wouldn't it stand to reason to tap into the rapidly growing carbon markets and dedicate a share of their more than 60 billion US\$ (in 2007) market volume to forest conservation? After all, including forest conservation into international climate regimes, it is argued, would harmonize carbon mitigation with a set of additional benefits for biodiversity, soil, and water, and for the sustainable development of rural communities – in short, it would produce 'charismatic' carbon credits with an environmental and social value added.

During the climate negotiations for the Kyoto protocol of the United Nations Framework Convention on Climate Change (UNFCCC) the attempts to generate 'charismatic carbon' credits from the forestry sector found little support. The associated technical difficulties seemed overwhelming: Especially the issues of nonpermanence (i.e. the intrinsic reversibility of biogenic carbon sinks), carbon leakage (displacement effects outside project boundaries), and additionality (the precondition to credit only additional carbon stocks attributable to a specific project activity) were considered caveats almost impossible to resolve. In the end, numerous restrictions to forestry projects were imposed in the Kyoto agenda, and by 2008 there was just one single forestry project among the more than 900 registered projects within the Clean Development Mechanism. By this, deforestation, the most significant source of greenhouse gas emissions in many developing countries, remained largely unaddressed.

But forest conservation, now discussed under the label REDD (*Reducing Emissions from Deforestation and Degradation*), has been back on the agenda of UNFCCC negotiations since the 2007 Bali Conference of the Parties (COP). The unhalted conversion of natural forests in developing countries and its significant contribution to global warming have become too dramatic to be longer ignored by the community of states. Moreover, significant scientific progress has been made to overcome many of the methodological restrictions of carbon crediting through forestry projects. The explicit statement of the Stern Review that avoided deforestation is a highly cost-efficient option to mitigate climate change may also have advanced the issue.

The book 'Climate Change and Forests' has therefore been published at exactly the right time, in the year before the 2009 Copenhagen COP

where a global climate agreement for the post-Kyoto period from 2012 will be established. The book sums up the complex history of forestry and climate negotiations and develops pathways for a successful inclusion of the forestry sector into a post-Kyoto agreement. 'Climate Change and Forests' is a passionate pleading for a comprehensive consideration of land-use related greenhouse gas emissions and removals and most notably the establishment of mechanisms to reduce emissions from deforestation. With this goal in mind, the editors Charlotte Streck, Robert O'Sullivan, Toby Janson-Smith, and Richard Tarasofsky have assembled diverse contributions from distinguished experts in the field – university scholars, consultants, entrepreneurs, and representatives from NGOs, governments, and international institutions.

The book is divided into five sections: An introductory part on the basic relationship between climate change and forests is followed by a retrospect on the role of the land use sector in the Kyoto regime. 'Additionality', 'leakage', 'nonpermanence', and 'measuring/monitoring' are the key issues that thread throughout most chapters of the book and explain why it has been so difficult to operationalize land use-related measures in the climate regime. Part three teaches practical lessons from successful forestry projects that addressed these challenges and that lay ground for the subsequent part four. Here, specific suggestions for including avoided deforestation into an international climate regime are being made. A crediting system based on both national and project-level approaches (known as the 'nested approach') is presented as a promising way to tackle the problems that have so far hampered forestry-related mitigation efforts. The final part five sheds light on voluntary and national approaches from Australia, New Zealand, and the United States to the creation of carbon offsets. The 'top-down' perspective of the more theoretical chapters are accompanied by short 'bottom-up' case studies presenting carbon forestry projects in Africa, Oceania, and the Americas.

Other than might be expected from its catchy title and cover design, 'Forests and Climate Change' is not easily digestible for readers with limited previous knowledge – the Kyoto/post-Kyoto agendas constitute a very multifaceted and highly technical policy background. But the book is a valuable and well-structured reference manual and contains a wealth of up-to-date information that will prove useful for both an academic and non-academic audience. To synthesize the messages of the book in a concluding chapter might have helped the reader to navigate through the book. But despite the complexity of the covered issues, the book is successful in sketching both the enormous environmental and social benefits and the organizational pitfalls of conserving the global forest through the establishment of carbon markets.

Tobias Plieninger
Ecosystem Services Research Group,
Berlin-Brandenburg Academy of Sciences and Humanities,
Jägerstr. 22/23, 10117 Berlin, Germany
E-mail address: plieninger@bbaw.de

Available online xxx