Foreword

Mankind is faced with the long-term specter of global warming and its negative environmental and economic consequences. The need to respond effectively to this threat is now more widely accepted than ever before. However, on the eve of preparations to develop a successor to the Kyoto Protocol, another problem has come to the fore: namely the global economic recession which became apparent in 2008. It is expected to deepen and continue for some time and in the immediate future will influence government policies for addressing global warming. It has already done so in Australia's case. It seems likely that international negotiations at Copenhagen in December 2009 to plan a successor to the Kyoto Protocol will be affected by it; for example, emphasis may be on greenhouse gas measures that add to employment in the short-term, and policies that reduce employment are likely to be avoided.

Global warming is attributed by most scientists to the growing accumulation of greenhouse gases in the atmosphere as a result of anthropogenic activities, primarily economic activities. Carbon dioxide is the main greenhouse gas accumulating in the atmosphere. Continuing global deforestation is a significant contributor to carbon dioxide emissions, and other land-use changes (such as loss of other vegetation and organic matter in soil) also add to these emissions. Forests are 'doubly' important in fighting global warming: (1) on the one hand, deforestation adds CO₂ to the atmosphere as the carbon contained in the forest is burnt or decomposes, and (2) an increase in forest biomass (or more generally plant biomass) extracts CO₂ from the atmosphere and stores it. Trees and other plants (as well as some lower order organisms) that rely on photosynthesis for their continuing existence extract CO₂ from the atmosphere. There is biophysical evidence that the expansion of forests and tree cover can significantly help to reduce the rate at which CO₂ is accumulating in the atmosphere due the combustion of fossil fuels. Nevertheless, as Colin Hunt makes clear in this contribution, governments cannot rely just on biophysical relationships in developing policies to combat global warming, even though it is necessary to consider these relationships. The success of global warming policies and the contribution of forestry depend on the deepness of the global cuts in emissions agreed. Within countries, socioeconomic conditions and the formulation and execution

of these policies is considerably constrained by political considerations and institutional structures.

Colin Hunt's *Carbon Sinks and Climate Change: Forests in the Fight Against Global Warming* provides a timely and constructively critical analysis of the prospects for using forest policy to combat global warming. The initial focus in his book is on the use of economic instruments such as tradable carbon credits, market systems, subsidies and taxes and other economic measures to achieve desired goals. However, Hunt's findings in this regard are tempered by his consideration of the constraints on forest policy imposed by political structures and environments as well as the transaction costs involved in the implementation and monitoring of compliance. In addition, constraints generated by previous policy choices are considered. Thus some path-dependence is recognized in the development of global warming policies. Consequently, global warming policies based on neoclassical economic analysis (which has been center-stage) are modified by taking into account features of importance in both old and new institutional economics. There is overriding emphasis on the practicality of policies. A narrow economic approach is avoided. This is to be welcomed.

A feature of this book is its careful attention to current global warming policies affecting forestry. After providing a very useful overview of the subject matter of this book and an accessible general outline of carbon policies and forestry offsets, Hunt gives particular attention to forestry in the Kyoto Protocol and the development of voluntary carbon markets. However, optimal land use is not just about carbon sequestration. For example, forests have multiple attributes, of which their role as carbon sinks is just one. One important aspect of forests is their contribution to biodiversity conservation. As pointed out and discussed by Hunt, forest policy intended to moderate global warming needs to be modified to take this aspect into account. Further modifications may also be required to allow for local and regional environmental spillovers generated by forests.

Hunt also considers the problem of measuring the amount of carbon contained in forests as well as new challenges that are likely to arise in the future as forests start to be used to produce biofuels. As underlined by Hunt, many policies to produce biofuels add to greenhouse gas emissions rather than reduce these when the *whole* chain of production is taken into account. A large-scale switch out of food crops to growing plantations for carbon credits in developed countries needs to be monitored for its effect on global food prices and on emissions elsewhere.

At the personal level, Hunt has been actively involved for some years in afforestation and reforestation projects as a volunteer. He therefore values

such projects. At the same time, this passion has not blinded him to the socioeconomic obstacles to using forest policy to lower the rate of global warming. For example, he argues that Nicholas Stern has been overly optimistic in his assessment of the role that forest conservation can play in moderating global warming. One reason for Hunt's skepticism is that Stern has, in his view, underestimated the opportunity costs and transaction costs of sustaining forests in developing countries. Furthermore, in developing countries there are several important political constraints to the avoidance of deforestation. Hunt is relatively optimistic about the socioeconomic prospects of managing forests in developed countries as a way to offset greenhouse gas emissions and less so (to some extent pessimistic) about this happening in less developed countries. But he acknowledges that if developing countries such as India and China were to accept caps on their emissions (something that he believes necessary if emissions are to be reduced to a level that will avoid dangerous climate change), afforestation would likely become an important component of these countries' forestry policies.

This book will make a significant contribution to the debate about what type of policies should be adopted to combat global warming after the Kyoto Protocol expires in 2012.

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