A Comprehensive Approach to Land-use Emissions

Forests, food, biofuels and fiber production compete for a finite land area in developing nations. Tropical forest loss is driven by that competition as tropical forests are turned into farmlands and rangelands, or harvested for timber. While making broader policy recommendations about mitigating global emissions from agriculture and other land-use changes is outside the mandate of the Commission, it is essential for the President and Congress to be cognizant of how forest conservation incentives will affect other land uses and policy objectives, and vice versa.

Global demand for food is expected to double by 2050.[129] New forest conservation incentives, therefore, may need to be accompanied by equally large-scale efforts to increase yields on existing farmlands and to rehabilitate and restore productivity to degraded lands. Without further agricultural intensification, some parts of the world may experience heightened risks of hunger. Therefore, U.S. policies need to look at international land-use decisions comprehensively—balancing the need to feed the growing global population with the urgency of protecting forests.

There are also concerns that poorly designed biofuel policies could cause farmers to clear carbon-rich forests to plant new fuel crops, thereby increasing rather than reducing global emissions. The European Union has concluded that developed-country biofuel mandates have already accelerated tropical deforestation in Brazil, Malaysia and Indonesia. World Bank auditors have shown that their private sector arm, the International Finance Corporation's palm-oil lending program has led to deforestation in Southeast Asia.[130]

Recommendation: The United States should promote a global transition to full terrestrial greenhouse gas emission accounting. Reducing emissions from deforestation ultimately will require the world to meet competing land-use demands as efficiently as possible. Only a comprehensive approach—one that looks at changes in carbon stocks and flows in forests, rangelands, agriculture and all other major land-use categories—would capture how changes in one land-use affect emissions in another, correct for perverse incentives and encourage maximum emissions mitigation. Few countries are prepared to adopt comprehensive accounting now. Many nations lack the capacity to measure, monitor and verify their emissions in land-based sectors. The Obama Administration has proposed setting comprehensive terrestrial accounting as a global goal, but the U.S. proposal has attracted limited support on this point in global climate talks.

For now, the best way to begin the transition to comprehensive terrestrial carbon management is to focus on improving procedures for measuring, monitoring, and verifying carbon storage and emissions across all land-use types. This includes studying the impact of forest conservation policies on other commodities, as well as the impacts of agriculture and biofuels on forest conservation efforts. The United States should promote improved global capacity to analyze climate interactions among land-use policies and experiment with more comprehensive approaches. The challenges associated with these tasks should not be used as justification for inaction or delay in reducing tropical forest emissions quickly now. Many existing technologies are impressive and need to be deployed and adopted far more broadly. U.S. investments in satellites and remote sensing, for example, should account for those needs, and findings should be declassified as appropriate and made widely available. Early international efforts should focus on improving procedures for measuring, monitoring and verifying greenhouse gases across all land-use types, including in greenhouse gas rich peatlands lands and other soils. The challenges associated with these tasks should not be used as justification for inaction or delay in reducing tropical forest emissions quickly now.

Finding: Without careful attention, U.S. forest conservation policies could work against its international agriculture and biofuels policies, and vice versa.

Another strategy, endorsed previously in this report, could be to create extra financial incentives for activities that conserve high-value primary forests or reforest marginal lands not suitable for agriculture. Giving preference to these activities would discourage conversion of forests to agriculture and promote reforestation without harming

food security. Finally, the United States could increase funding for agricultural foreign assistance programs. A new "green revolution" in developing nations would reduce pressure on forests, increase food security and help developing nations adapt to climate change.

Included in the House climate bill is a directive for the National Academy of Sciences to study methodologies for accounting for indirect land-use emissions and report back to EPA and the Department of Agriculture, which must include these emissions in their biofuel policies after six years. [131] This provision was a final sticking point in the House debate and is also likely to be a point of contention in the Senate. Leading experts have also raised concerns that standard carbon accounting methodologies may underestimate emissions from biofuels. [132] More analysis and policy making on this issue is needed.