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An Analysis of Proposed Domestic Climate Warming Mitigation Program Impacts on International Forest Products Markets

John Perez-Garcia. 1994

Executive Summary

The possibility of global warming within the next several decades has prompted the U.S. Environmental Protection Agency to examine climatic change mitigation options within the forest sector. Among several options, an expansion in the forest land base and recycling are viewed as two potential programs that will increase the storage of carbon in biomass form.

Current restrictions on timber harvest on public forests in the Pacific Northwest impact the forest economy regionally, nationally and internationally. Any programs directed at climate change mitigation will need to address the changes the U.S. forest sector is currently undergoing.

The present study analyzes the impacts of planting and recycling programs on the global forest sector using an economic model of world forest products markets. The CINTRAFOR Global Trade Model (CGTM) Is employed to assess the impacts on prices, production, consumption and trade of forest products of increased land area plantings and recycling programs in the U.S.. The results of a recent analysis on the impacts of timber supply reductions in the Pacific Northwest and their implications for climate change mitigation are also discussed in this report.

Two major conclusions are drawn from the study.

1) The impacts from an expanded forest land base on U.S. forest products trade are felt mostly in Canada-the major exporter of lumber to the U.S.--since public planting program funding is directed largely towards the southern U.S. states where the majority of the productive marginal crop and pasture lands exists. A larger forest land base expands the production of forest products in the U.S. South by lowering log costs. This allows the region to substitute southern forest products for Canadian forest products in northern U.S. markets. As a result, lumber prices are also lower for U.S. consumers.

   The impacts from tree planting programs on the forest land base in the U.S. North and U.S. West regions are relatively small, where fewer acres of potentially program-acceptable crop and pasture land exist. There is no perceivable impact on U.S. forest products trade with countries around the Pacific Rim. There is no perceivable impact on U.S. trade with European markets.

2) Impacts from the recycling program are distributed across all U.S. regions. The largest impacts, however, occur in the U.S. South. Again, because of the trading position of Canada with respect to the U.S., the recycling program impacts the Canadian forest sector. The recycling program allows greater harvests of sawtimber in the South due to the decrease in pulpwood demand.

These two conclusions are sensitive to assumptions regarding the projected level of Canadian log harvest, particularly in British Columbia. Because of large inventories of accessible timber, harvests from the coastal and interior regions of British Columbia may expand during the 50 year period from 1990 to 2040, according to model projections. The harvest expansion produces a downward pressure on lumber prices in the U.S., a major consumer of Canadian lumber. As a result real lumber price projections show only modest growth in the U.S. after 2000.

There is growing evidence that the projected allowable cuts for Canada as forecast by the model are too optimistic. When Canadian harvests are constrained to decline slightly over the next ten years, additional timber production occurs in the U.S. South in the base scenario. However, the U.S. South offsets only 18 percent of the Canadian production. The reduction in Canadian harvest levels results in a permanent shut down of Canadian mill capacity, since log imports would not offset the decline in log production in Canada. Mill processing capacity expands in the U.S. South to offset previously-imported Canadian lumber.

Timberland withdrawal from the western percent forest land base adds additional harvesting pressure in the U.S. South. A 33 percent reduction in harvest levels in the western U.S. and Canada promotes greater harvests from regions around the globe. Since the harvest to offset the decline in timber production comes from less productive lands, larger areas are harvested in other regions to meet a lower timber demand. Timber demand declines 38 percent of the total reduction in harvests. The 38 percent reduction implies a decline of over 11 million cubic meters in mill processing capacity in the western U.S. and Canadian regions.

Planting program impacts will occur after much of the current restructuring in the forest sector takes place. Planting programs may help to alleviate the supply pressures for the U.S. southern regions in the future. However, only a small portion of the expanded inventory will enter the timber markets. The results suggest that carbon storage may increase as land enrollment programs expand. However, land management may decline if these areas do not enter the timber market. The implications for carbon storage in the long run are unclear.

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