

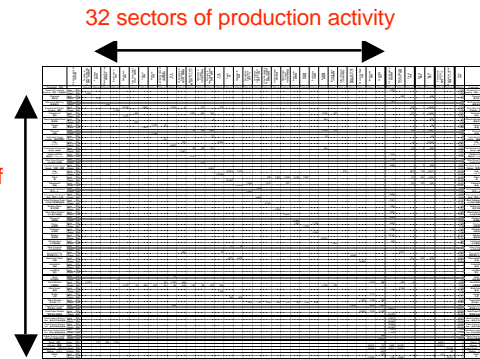
Carbon Flows of Harvested Wood in Japan

Data Base Development

Flows and stocks of harvested wood in Japan during the period from 1960 to 2000 were estimated by using many statistics and reports related to wood products. The results are presented in a matrix form which consists of 32 sectors of production activity (columns), and 48 sectors of products, byproducts, wastes, and resources (rows).

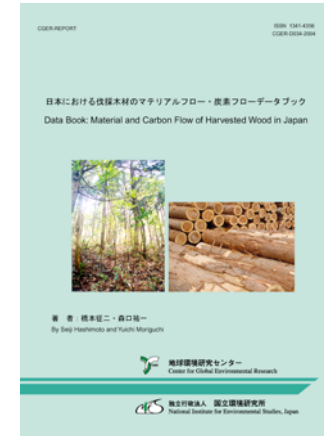


48 sectors of products, byproducts, wastes, and resources



Data Book: Material and Carbon Flow of Harvested Wood in Japan (CGER-REPORT No. D034-2004)

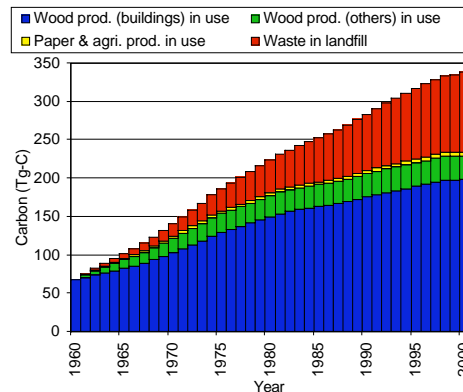
- Chapter 1 Overview
 - 1.1 The Significance of Grasping Material and Carbon Flow for Harvested Wood
 - 1.2 Estimated Flows, Method of Description of Flows, and Notes for Interpretation
 - 1.3 Summary of Material Flows
 - 1.4 Summary of Carbon Flows
- Chapter 2 Method of Estimation
 - 2.1 Summary
 - 2.2 Method for Production Activities
 - 2.3 Method for Product Stock and Disposal
 - 2.4 Method for Waste Management
- Chapter 3 Flow Charts (Extracts)
 - Material flows during 1960-2000
 - Carbon flows during 1960-2000



Full report is available at http://www-cger.nies.go.jp/cger-e/e_report/r_index-e.html

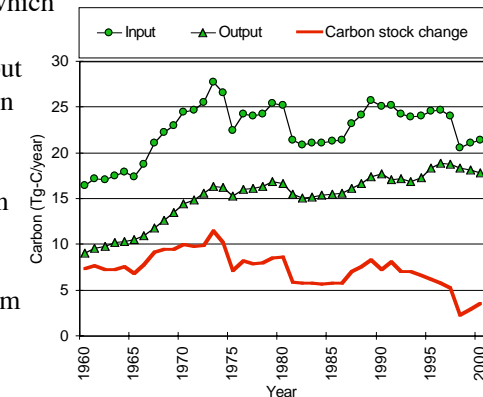
Carbon Stock

Carbon stock was estimated to be 284 Tg-C in 1990. Of the carbon stock in 1990, 209 Tg-C was wood and paper products in use, 2 Tg-C was agricultural products in use, and 73 Tg-C was wastes in landfill. Of 209 Tg-C wood and paper products in use, over 80% were buildings, and it is found that carbon stock in landfill is very large. Carbon stock in products and wastes in 1990 were equivalent to approx. 20% of the carbon stock in Japan's forest ecosystem (only vegetation).



Carbon Stock Change

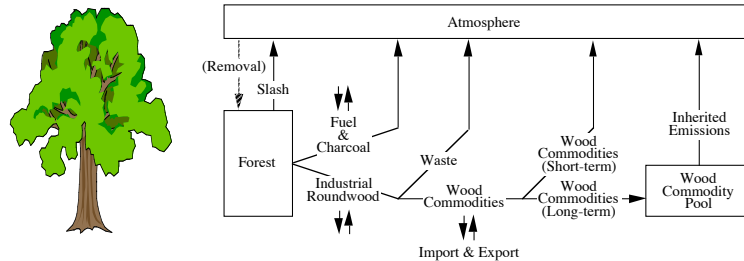
Changes in carbon stock was estimated to indicate an increase of 7.3 Tg-C/year in 1990. Of the increase in carbon stock in 1990, products in use accounted for 3.7 Tg-C/year, and wastes in landfill for 3.6 Tg-C/year. During the period which analyses were performed, carbon input exceeded output and there was an increase in the carbon stock, but this volume is declining year by year. Increase in carbon stock in 1990 was equivalent to approx. 2% of the carbon released from fossil fuels and cement production in 1990.



Wood Products in 16 Industrialized Countries

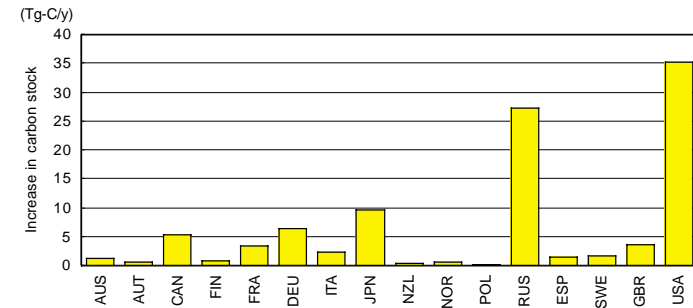
Estimation of Carbon Flows

Our developed method was used to estimate carbon flows of wood products for 16 industrialized countries during the period from 1990 to 2000. The FAO's data on production, import, and export were used for the years 1961 to 1999. Full paper is available: Hashimoto et al. "Wood products: potential carbon sequestration and impact on net carbon emissions of industrialized countries", Environmental Science and Policy, Vol.5, No.2, pp.183-193, 2002



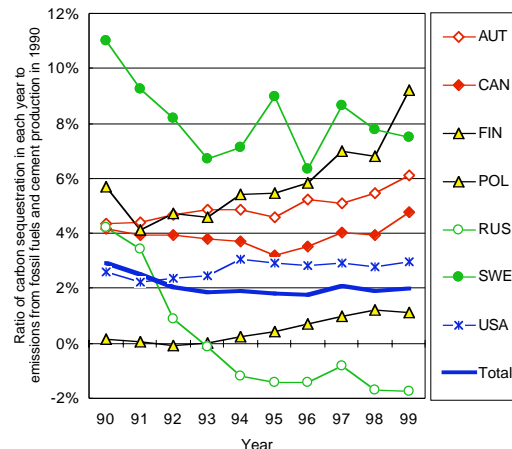
Potential Carbon Sequestration

Carbon sequestration in the wood commodity pool in 1990 varied from country to country.



Annual Carbon Sequestration

The annual carbon sequestrations correspond to a few % to 10% of 1990 base-year emissions depending on country and year, and have been increasing for some countries, but decreasing for others. For the analyzed countries as a whole, the annual carbon sequestration was around 2%.



Impacts on Net Carbon Emissions

The differences between the IPCC Default approach and the Stock-Change or Atmospheric-Flow approach correspond to a few % to 34% of emissions from fossil fuels and cement production, depending on country and approach. These percentages were especially large by the Atmospheric-flow approach in the wood-producing countries. The impact of the accounting approaches on net carbon emissions at the national level is significant. Therefore, policy implication must be carefully considered when one of these approaches is adopted.

