

A Study Concerning the Way Building Construction should be in the Era of “Low Carbon Emission”

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Summary

There are measures to restrict the carbon dioxide discharge like, “Thorough recycle and reuse”, “The development of measures to reduce the carbon dioxide discharge amount in the steel material manufacturing stage” (Direct Reduction method), but the most effective way is to extend the life span of buildings.

In this paper I focused on the issue of the “Structural Component”, which has the largest effect on carbon dioxide discharge in the construction stage of buildings, and examined the factors that have influence on the amount of the carbon dioxide discharge at the stage of structural component manufacturing, and the legal and social systems that have influence on the life span of building structures, and finally I would like to present the scenario to surely reduce the carbon dioxide discharge in the construction stage of buildings.

Keywords: Global warming issue, Reduction of carbon discharge, Building material, Construction stage, Life of the building.

1. Introduction

1.1 The latest state of the global warming issue

Various arguments concerning the global warming issue, especially the presentation of middle and long term scenarios and visions including the meteorological change countermeasures after 2013, are getting into stride, such as the start of the second year of the “first promised period” of the “Kyoto Protocol” and “COP15” to be held in December this year. The argument has been developed

for and against, concerning the relation between the rise of atmospheric concentration of greenhouse-effect gases and global warming. But by the exhibition of the “IPCC Fourth Report”, the existence of causal sequence between the rise of atmospheric concentration of greenhouse-effect gases and global warming is internationally acknowledged with no doubt.

The volume of artificially discharged greenhouse-effect gases and the natural absorption volume by forest and ocean must balance to maintain the healthiness of sustainable social and natural environment.

Definitely speaking, at least until 2050, global annual carbon dioxide discharge volume must be reduced to 50%, compared to that of present. July 2008, The Japanese Cabinet Council has decided the “Plan to create Low Carbon Society”. The plan shows the determination to reduce the

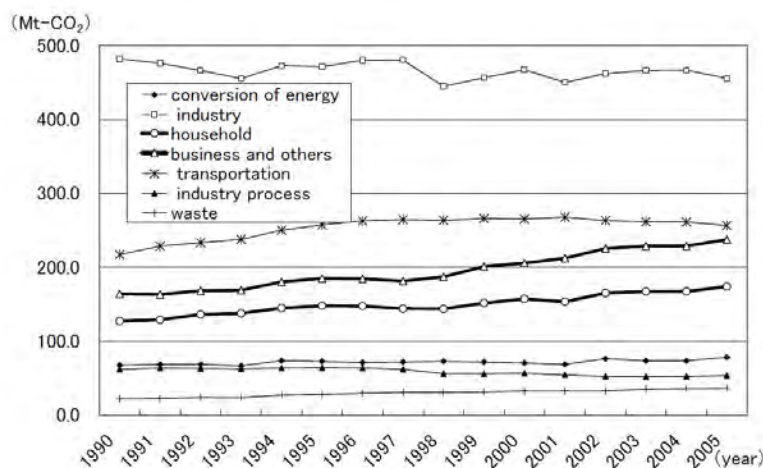


Fig.1: Transition of carbon dioxide discharge by group (Japan)
(The discharge volume by the electric power industry is distributed to each user group) Based on the Statistics of Ministry of the Environment