Thesis Title	CO_2 Emission from Power Generating Sector and Important Related Issue
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Abstract

Electricity generating causes emission of CO_2 which is one of the most important green house gas. Fuels used in electricity generating are fuel oil, diesel oil, natural gas, lignite and imported coal. If it is assumed that combustion of the fuels is complete, the amount of CO_2 emitted from electricity generating sector will be 24.841 and 64.967 million tons or 0.575 and 0.486 kg CO_2/kWh, respectively. CH_4 emission from production of natural gas and lignite is equivalent to CO_2 emission of 1.594 and 3.390 million tons in 1990 and 2010, respectively. Elimination of CO_2 by conservative forestation of tectona grandis costs 0.116 and 0.100 baht/kWh in 1990 and 2000, respectively. If the year 1990 is considered as the base year according to the United Nation Framework convention on climate change, the cost will be 0.047 baht/kWh for the year 2000. For the case of commercial forestation, there is no cost due to positive net benefit. If 80% of 1.264 million ha of casava cultivation area is planted with eucalyptus camaldulensis which is to be used fuel for generating electricity, it will help reduce 56.6% of lignite used in 2000 which will avoid CO_2 emission of 8.431 million tons or 11.6% of natural gas which will avoid CO_2 emission of 3.087 million tons. If 60% of 0.168 million ha of rhizophoraceae cultivation area is commercially managed for charcoal production, it will help reduce the use of LPG 47.7% used in 1996. Forest area would reduce in the future. Therefore, reduction of CO_2 by forestation may not be practical. Technology for reducing CO_2 may have to

be imported. Appropriate strategies should focus on : clean and high quality fuel, demand side management, renewable energy and nuclear energy.

Keywords : Carbondioxide / Cost CO_2 / Forestation / Greenhouse gas / Methane