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A Study on Climate Change Policy Options Scenarios in China and International Comparison

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[Abstract]

Key Words Climate change, Energy consumption, Greenhouse effect gas emission, China, Environmental policy

The purpose of this study is to promote scientific and interdisciplinary analysis on green house effect gases (GHGs) emissions as well as energy consumptions and to provide scientific knowledge for climate change policy in China.

In terms of energy consumption and GHGs emissions in China, detailed analyses on energy demand and supply at national and provincial levels are carried out. Future projections of energy consumption and carbon dioxide (CO_2) emissions by scenarios are estimated. The analyzed sectors are iron steel, cement and industries, urban and rural housing and non-domestic buildings (called public building in Chinese) by building type, and transportation sector. Future scenario analysis on energy consumption and emissions up to 2030 is promoted.

To obtain emission factors of elementary and black carbon (EC,BC), greenhouse effect aerosols, organic carbon (OC), and cooling effect aerosols, we carried out a biomass burning experiment by the use of a typical household stove (Kang) at Datong's rural area in China, and measured the concentration level of carbonaceous fine particles, which sized below 2.5 μm in aerodynamic diameter (PM2.5), emitted from various biomass combustion processes (such as cornstalk, corncob cellulose, and rice straw).

In the recent international negotiation under Kyoto Protocol of Conference of the Parties/ Meeting of the Parties (COP/MOP) in Copenhagen, China government has become one of the key players by the position of developing countries. We discussed on the Chinese position to post Kyoto Protocol and emission reduction target.

We developed an application methodology to evaluate environmental or climate change policy using environmental Kuznets curve and conducted an international and regional comparison of historical trend and future scenarios.