CHINA AND EUROPEAN UNION IN THE CONTEXT OF GLOBAL CLIMATE CHANGE: ANALYSIS OF CHANGING ECONOMIC STRUCTURES AND RELATED POLICIES (CHEC) 2012–2014
Finland Futures Research Centre

Location of the action: China, Finland

Total costs of the project: 733 000 €

Funded by: Academy of Finland

Length of the project: 1/2012–12/2014

Project partners: Research Centre for Sustainable Development (RCSD), Chinese Academy of Social Sciences (CASS), China

CHEC project concentrated on the very topical issue of climate change and its evident impacts on the economic structures especially in the context of China and the European Union. The objective of the research was to analyse the impacts of climate change on the global economic structures and financing mechanism from the point of view of China and EU. The spill over effects of these changes are relevant for assessing the accumulated impacts of climate change. These were profoundly analysed in the CHEC project.

The project relied on the following hypotheses; (i) climate change will have an impact on the global economic structures and financing mechanisms; (ii) the impacts depend on the mitigation and adaptation policies worldwide; (iii) climate change impacts in China and EU have impacts on the global economic structures and mechanisms, and vice versa; (iv) these can be studied using global system models; (v) better understanding of emission trends, driving forces and policies in both regions help to

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build cooperation and put forward international climate processes.

In this project, global scenarios for different climate change development paths were constructed using International Futures (IF) model. These are based on IPCC (Intergovernmental Panel on Climate Change) scenarios. IF is a large-scale, long-term, integrated global modelling system that represents demographic, economic, energy, agricultural, socio-political and environmental sub-systems for 183 countries interacting in the global system. The modelling results were supplemented with additional models and analysis on the China and EU context, and then different frameworks for international climate policies and their implications for China and EU were assessed. Also comparative studies were carried out on the EU and China's different approaches to deal with burden-sharing of emission reduction targets among member states in EU and provinces in China, and the linkages to economic changes. Other methods utilized in the project were Advanced Sustainability Analysis (ASA) and Trend Impact Analysis (TIA). The time horizon of the futures analyses was until the year 2050.

The project has built better understanding of the implications of climate change into global and regional economic structures, supportsustainable decision making and enhance institutional networking between EU and Chinese researchers.

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Luukkanen, J., Panula-Ontto, J., Vehmas, J., Liyon, Liu, Kaivo-oja, J., Auffermann, B. & L. Häyhä (2014) Structural change in Chinese economy: Impacts on energy use and CO2 emissions in the period 2013-2030. Technological Forecasting and Social Change. Accepted for publication (11/2014)

Kaivo-oja, J., Luukkanen, J., Panula-Ontto, J., Vehmas, J., Chen, Y., Mikkonen, S. and Auffermann, B. (2014) Are Structural Changes and Modernisation Leading to Convergence in the CO2 Economy? Decomposition Analysis of China, EU and USA. Energy 72(August 2014): 115–125.

Kaivo-oja, J., Panula-Ontto, J., Luukkanen, J. and Vehmas, J. (2014) Relationships of the dimensions of sustainability as measured by the Sustainable Society Index framework. International Journal of Sustainable Development & World Ecology 21(1):39–44.