

# Decomposition of Regional and Sectoral Economic Impacts of Climate Change under RCP and SSP Scenarios

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## Abstract

This study decomposes heterogeneous regional and sectoral impacts of climate change among countries under the Shared Socio-economic Pathways (SSP) and Representative Concentration Pathways (RCP) scenarios. It measures direct climate damages, CO<sub>2</sub> abatement costs and other effects using a dynamic version of Evaluation Model for Environmental Damage and Adaption (EMEDA) developed for simulating global economic impacts of climate change. Simulated EMEDA results indicate that: 1) comparing the SSP scenarios with the RCP scenarios, reduction of direct climate damages, mitigation costs and other effects are the most costly under the SSP3-RCP2.6 combination scenario; 2) mitigation costs tend to be the highest under the RCP2.6 scenario among all RCP scenarios, while Asian and African mitigation costs are lower than the costs of other effects; and 3) although mitigation costs in secondary industries are higher than in primary and tertiary industries, there is little difference in total impacts of climate change among these industries.

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