

## Assessment of Further Reduction of GHG Emissions in Asian Countries and Benefit to Japan by Assisting their Reduction Efforts

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### [Abstract]

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This study quantifies the greenhouse gas (GHG) emission pathways reflecting Nationally Determined Contributions (national greenhouse gas emission reduction targets) for 2030 and the long-term strategies toward 2050 for Asian countries such as Thailand, Indonesia and Vietnam. We assessed the GHG emissions and the air pollutant emission reduction as a co-benefit of climate change mitigation measures to achieve the 2° C target, and the GHG emission reduction potential by technology to achieve the 1.5° C target. Our analysis uses a technology selection model, AIM/Enduse. In addition, the economic impacts of GHG mitigation actions were also assessed using the national computable general equilibrium (CGE) model, AIM/CGE. These models were officially used to assess the long-term strategies in Indonesia, Thailand and Vietnam. This study also quantified the economic benefits to Japan if Japan were to provide the support for the reduction efforts in those countries. Using a global CGE model, which we have developed, we estimated the global GHG emission pathways and quantified indicators related to GHG emissions and energy systems in the world and Asia to achieve the global mitigation targets. In addition, using multiple definitions of effort-sharing reflecting various ideas on equity and the global GHG emission pathways, the necessary emission pathways for Asian countries were presented. Furthermore, we proposed a way for the future global scenario for IPCC AR6.

### [References]

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