

Extending Japan's contribution using AIM (Asia-Pacific Integrated Model) to ASEAN-wide assessment relevant for the second Global Stocktake

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Abstract

The Ministry of the Environment of Japan (MOEJ) has provided support for the formulation of long-term strategies utilising the AIM (Asia-Pacific Integrated Model) in Asian countries, as well as for the updating and implementation of NDCs and sector-specific plans. MOEJ has also provided training to the supported countries as it is crucial to foster the necessary capacity of using AIM in each country.

AIM is an integrated assessment model initially developed in 1990 by the National Institute for Environmental Studies (NIES), Kyoto University and the Mizuho Research Institute in collaboration with Asian researchers, and the various models from global to sub-national scales have been developed to analyse climate change and other environmental issues. Many of their results have been cited in the IPCC Assessment Reports. The models have been used to assess climate change mitigation measures at the national level, and to develop long-term strategies and update NDCs in Asian countries including Japan, Thailand, Indonesia and Viet Nam. For these purposes the AIM team uses three models, i.e. AIM/ExSS (Extended SnapShot tool) as a tool for discussing the goals of decarbonised societies with stakeholders, AIM/Enduse model as a model to assess technology combinations and their cost-effective pathways for achieving the target, and AIM/CGE (computable general equilibrium) model as a model to quantify the macroeconomic impact of introducing countermeasures. The results of the above three models are combined to develop quantitative future scenarios that are consistent in terms of technology, economics and policy.

The Institute for Global Environmental Strategies (IGES) has facilitated discussions between researchers and policymakers by using AIM through the Low Carbon Asia Research Network (LoCARNet), for which IGES serves as the secretariat. The scenarios developed by the AIM team will be updated through discussions with stakeholders, and this process will help to build consensus for climate policies that reflect future societal goals.

These AIM-based supporting activities to Asian countries are significant contributions based on Japan's experience and accumulated knowledge. In addition to extend the target countries, for example Bangladesh and Laos are now under consultation, a new AIM-based collaboration project contributing to the ASEAN-Japan report on "Growing toward Net-Zero", which will be an input to the second Global Stocktake (GST) in 2028, was recently commenced. The accumulated achievements of AIM-related activities in several ASEAN countries will provide an effective basis to conduct ASEAN-wide assessment that will contribute to raising the level of ambition under the Paris Agreement.