

Peer Review Report for IGES Long-term Perspective and Policy Integration Project (LTP) - Asia-Pacific Environmental Innovation Strategy/ Research on Innovative and Strategic Policy Options Second Phase (APEIS/RISPO-II)

The Peer Review of the APEIS/RISPO-II Project was held on 4 June 2008 at IGES Headquarters, Hayama, Kanagawa, Japan.

Reviewers: Dr. Shunsuke Managi, Associate Professor, Faculty of Business Administration, Yokohama National University
Dr. Jeong-In Kim, Professor, Department of Industrial Economics, Chung-Ang University

The peer reviewers thoroughly assessed, within the time available, the activities and outputs of LTP/RISPO-II based on the provided final report draft and intensive discussion at the peer review meeting. The peer reviewers submitted independent reports, which show general agreement in their conclusions.

The policy options and overall results of the research would be useful for policy-makers in developing environmental policies to accommodate risks. This is especially the case where environmental considerations are raised by East Asian countries. The main findings and comments of the report are described in the following paragraphs.

1. The report intends to provide policy-makers with strategic environmental policy options for promoting sustainable development in the context of regional economic integration in East Asia. The policy options they considered are a combination of environmental policy packages for environmental sustainability and reducing poverty.
2. The economy-wide policy analysis applies a computable general equilibrium (CGE) approach. The Regional Environmental Policy Assessment (REPA) model was developed as the main analytical tool. This is based on the GTAP-E model, which is an energy-environmental extended version of the Global Trade Analysis Project (GTAP) model.

The REPA model is used to assess environmental impacts of regional economic integration scenarios in the target year (2020) and to assess environmental, economic and social (poverty) impacts of the policy packages under regional economic integration scenarios. This enables the researchers to develop economy-wide strategic environmental policy options.

3. The REPA model covers several environmental policy instruments including (i) carbon tax; (ii) carbon emission trading; (iii) binding environmental standards for pollutant emissions and energy efficiency improvement; (iv) subsidies for abatement activities by firms, and (v) international financial cooperation financed by revenues from carbon tax and emission trading.

The included policy options are comprehensive and promising. Japan has been improving its energy efficiency by applying a top-runner approach. The third option of the REPA model is closest to this idea, although modeling requires several modifications. Currently, Japan's sector-by-sector approach to setting goals to reduce greenhouse gas emissions has been heavily discussed by policy-makers. Future research can include these options which make the policy package much more robust.

In addition, the CGE model seems to be assuming relatively stylised assumptions with exogenous variables. It would be interesting to know how the results are updated to create further models with many different institutional settings.

- In the future, the CGE model will focus on natural resources such as water resources and forestry resources, if the data is available. Water resources are very important for developing countries, in addition to raw materials.
 - It would be very beneficial for IGES to have the GTAP-E based REPA model from now on so that the Institute can apply it to many different policy situations with data modifications.
4. The analyses of the sector/issue specific policies include the examinations of the organic agricultural sector, renewable energy sector, and waste sector. Each sector's analysis includes a detailed review of policy and academic studies. Qualitative and quantitative analyses are then provided in a comprehensive manner followed by policy recommendations based on impact assessment of environmental policy package. Each recommendation is relevant to current policies.
 5. There are several concerns that could be included in future research. In the case of organic agricultural sector analysis, it is important to understand how much the market will be affected by removing subsidies to developed countries. Future studies can address the trade-off relationship for farmers regarding biofuel and food supply. In addition, it is interesting to know how much market potential exists using marketing methods and the driving forces for demand for organic food.

- Future study could include analysis of consumer behaviour and marketing channels for different income groups in order to promote stable demand in domestic and overseas markets.
 - Future study could also include evidence of good market opportunities from developing countries for the traditional farmers to shift their agricultural lands to organic farming.
6. In the analysis of the renewable energy sector, future work may need to include supply analysis of shifting conventional energy, including nuclear power, to renewable energy, giving consideration to the establishment of grid connections.
 7. In the analysis of the waste sector, it is important to include studies of resource utilisation and resource recovery with connections to country specific institutions. The capacity development and knowledge sharing of case studies in each country using survey methods might be helpful for a better understanding of the issue.

For the time being, it is difficult for IGES to obtain good and reliable data sources from developing countries. Therefore the analysis appropriately suggested that it is better to have step-wise approaches and policy options for the waste sector.

8. Overall, the studies are able to provide integrated analysis for several important detailed analyses. The analyses provide win-win-win cases so that suggestions are helpful to policy-makers. To strengthen the research outputs in future research, empirical studies such as econometric research might be helpful. This would be a good complement to the current studies.
9. In terms of the financial mechanism for the region, carbon offsetting or neutral approaches need to be considered in future studies. As an environmental policy suggestion, IGES could raise some issues regarding this and ask about the intentions of various stakeholders such as government, business sector, NGOs, and citizens.
10. In its draft report, IGES suggested many different policy recommendations to countries in the Asia-Pacific. Some of these policy recommendations are innovative and creative. However, policy recommendations need to be more country-specific, and try to keep to a simple policy design for the developing countries.
11. In future studies, poverty reduction and capital stock issues need to be discussed. However, this may require much time. International cooperation would also be a good solution to be developed through further research in this area.