

BIOFUELS PROJECT

MISSION AND BACKGROUND

Promoting sustainable production and utilisation of biofuels by developing win-win-win strategies and solutions to achieve energy security, environmental conservation and poverty reduction

Biofuels are now a priority policy topic in Asia, and many countries are rushing to promote them. Biofuels show great promise for their potential to contribute to several urgent problems such as energy security, greenhouse gas reduction, poverty reduction, and to help promote sustainable development.

However, there is the danger that if they are not implemented in a sustainable way, these benefits might not be realised. Biofuels could end up causing more problems than they solve by endangering food security and aggravating environmental problems brought by possible deforestation, biodiversity loss, land degradation and water pollution. There is also the possibility of increased poverty. Some countries are now beginning to recognise the potential pitfalls of biofuels, but there is no consensus yet on what is the best approach to take.



The goal of the Biofuels Project is to develop policy recommendations to ensure that biofuels are produced and consumed in a sustainable manner, and that their potential economic, environmental, and social benefits can be fully realised.

RESEARCH COMPONENTS



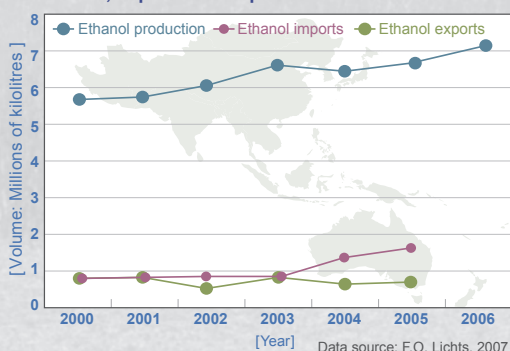
Identification of advantages and disadvantages of various forms of biofuels currently being produced and used in Asian countries

This component will address the debate about whether or not biofuels are environmentally, economically and socially beneficial. In particular, it will focus on biofuel feedstocks, production methods and consumption patterns in Asia. To what extent will biofuels help or harm the environment? To what extent will biofuels alleviate or worsen poverty? Many countries are already subsidising biofuels; what are they getting for their money? Understanding the advantages and disadvantages of different forms of biofuels is essential in order to develop appropriate policies.

Assessment of current policies relating to the production and consumption of biofuels in the Asian region

Many Asian countries already have national policies promoting biofuels. However, current policies are mainly focused on achieving energy security and economic development goals. Governments have only recently begun to consider the environmental implications of these policies. This component will survey and assess the economic, environmental and social effects of biofuel related policies in Asia. This analysis will be supplemented with a comparison with related policies elsewhere.

Production, imports and exports of ethanol in Asia-Pacific



Assessment of the environmental, social and economic impacts of biofuel trade in Asia

Initially, it was expected that developing countries would mainly export biofuels to developed countries, but now many developing countries plan to increase domestic consumption of biofuels. Biofuel trade is influenced by many policies in Asian countries, including import/export tariffs, subsidies and price regulations. This component will assess the effects of biofuel related policies on biofuel trade. It will also assess the environmental, social and economic impacts of biofuel trade.

☑ Formulation of policy options for the sustainable use of biofuels in transportation in Asia

Based on the results of the analysis of this study, this Project will develop policy recommendations to ensure that biofuels are produced and consumed sustainably. Possible policies that will be explored include labelling and certification systems, subsidy switching, technology transfer, fuel standards, inclusion of biofuels in the “environmental goods and services” negotiations at the WTO Doha Round, development and coordination of international standards, CDM, and integration of sustainable biofuel production strategies into national and regional developmental programmes.

COLLABORATIVE RESEARCH

Biofuel Use Strategies for Sustainable Development (BforSD) (Planned period: FY2008-2010)

IGES will implement joint research with the Integrated Research System for Sustainability Science (IR3S) of The University of Tokyo, National Agriculture and Food Research Organization (NARO), United Nations University/Institute of Advanced Studies (UNU/IAS) and Osaka University. This research is supported by the Ministry of the Environment, Japan through the Global Environment Research Fund.

Development of Environmental Management Technology for Sustainable Utilization of Biomass Resources (Planned period: FY2007-2009)

IGES is conducting joint research on assessment of the impacts of biofuel trade in Asia with Keio University and the National Institute for Environmental Studies. This research is supported by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan through the Special Coordination Funds for Promoting Science and Technology.

SELECTED PUBLICATIONS AND PRESENTATIONS

Book Chapter

- Elder, M., Prabhakar, S., Romero, J. & Matsumoto, N. (2008) Prospects and Challenges of Biofuels in Asia: Policy Implications. Chapter 5 in *Climate Change Policies in the Asia-Pacific: Re-Uniting Climate Change and Sustainable Development*. p105-131. IGES

Journal Articles

- Prabhakar, S. & Elder, M. (2009) Biofuels and Resource Use Efficiency in Developing Asia: Back to Basics. In *Applied Energy*. Volume 86, Nov. Supplement 1. S30-S36.
- Matsumoto, N., Sano, D. & Elder, M. (2009) Biofuel Initiatives in Japan: Strategies, Policies, and Future Potential. In *Applied Energy*. Volume 86, Nov. Supplement 1. S69-S76.
- Kojima, S., Sano, D. & Matsumoto, N. (2008) Ajia ni okeru jizokukanou na baio nenryo katsuyo no tameno seisaku kenkyu (Policy Research on Sustainable Biofuel Utilisation in Asia). In *Sangyo to Kankyo*. Jan. No.1, p29-32. (in Japanese)

Conference Papers and Presentations

- Romero, J. (2009) Sustainable Biofuel Development from the Perspective of Environmental Policy. At the World Renewable Energy Regional Congress and Exhibition II. Jakarta, Indonesia, Jun.17-19.
- Elder, M. (2009) Biofuels and Sustainability in Asia. At the Asia Regional Seminar for Sustainable Resource Management. Tokyo, Japan, Mar.10.
- Romero, J. (2009) Biofuels and CDM: An Assessment. At the 6th International Biofuels Conference, New Delhi, India, Mar. 4-5.
- Prabhakar, S. & Elder, M. (2008) CO₂ Reduction Potential of Biofuels in Asia: Issues and Policy Implications. At the International Conference on Energy Security and Climate Change: Issues, Strategies, and Options (ESCC 2008), Bangkok, Thailand, Aug. 6-8.

Workshop and Symposium

- IGES, International Forum for Sustainable Asia and the Pacific (ISAP2009) Open Session: Biofuels and Sustainability in Asia. Kanagawa, Japan, Jun. 26.
URL: http://www.iges.or.jp/en/news/event/isap2009/open_session1.html
- IGES & Co-operation for Development Europe (2009) Workshop Report: Research Workshop on Sustainable Biofuel Development in Indonesia. Jakarta, Indonesia, Feb. 4-5.
URL: <http://www.iges.or.jp/en/bf/activity20090204.html>

More information on publications is available from: URL: <http://www.iges.or.jp/en/bf/report.html>

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